Types of evidence

- Mostly evidence synthesis
- NICE:
  - methods research; prospective trials
  - no hierarchies of evidence (RCTs vs. claims data)
  - Conditional coverage and risk sharing
- IQWIG:
  - strong focus on published RCTs– Cochrane model
- OHTAC (Canada): prospective studies

Prospective studies: NICE

- Direct Access: 10-15 PCTs; registries and prospective cohorts between 2007-2008 from Research Recommendations (NIHR)
- Only In Research: conditional coverage to reduce uncertainty whist allowing access (NIHR; industry)
- Risk Sharing/Patient Access Schemes: pricing deals
- Value-based pricing
- More to come: diagnostics; surgery

Who pays for bringing the evidence together?

- IQWIG: providers/insurers
- NICE: tax-payers/manufacturers
- PBS: tax-payers/manufacturers
- OHTAC: tax-payers
- US : taxpayers

Appraisal

- Separate from evidence synthesis or generation in all agencies
- Multi stakeholder process
- Inclusiveness; transparency; regular review and contestability (appeal)
- Value judgments included to different extents and in different ways
  - CDR: strict threshold
  - NICE: additional considerations but high "fudge factor"
  - IQWIG: no threshold

Costs

- PBS (1993), NICE (1999), IQWIG (2008), HAS (2008)
- PBS, NICE: Reference Case: CEA, preferred outcome measure (QALY)
- IQWIG: efficiency frontier…
- Value for money matters! – cost-minimization not enough…

Dissemination

- PBS recommends to health ministry but a no is a no but a yes is a maybe
- IQWiG recommends to JFC
- NICE
  - Included in benefit package
  - Local health authorities must cover
  - May soon be part of rights of British citizens

US - unclear

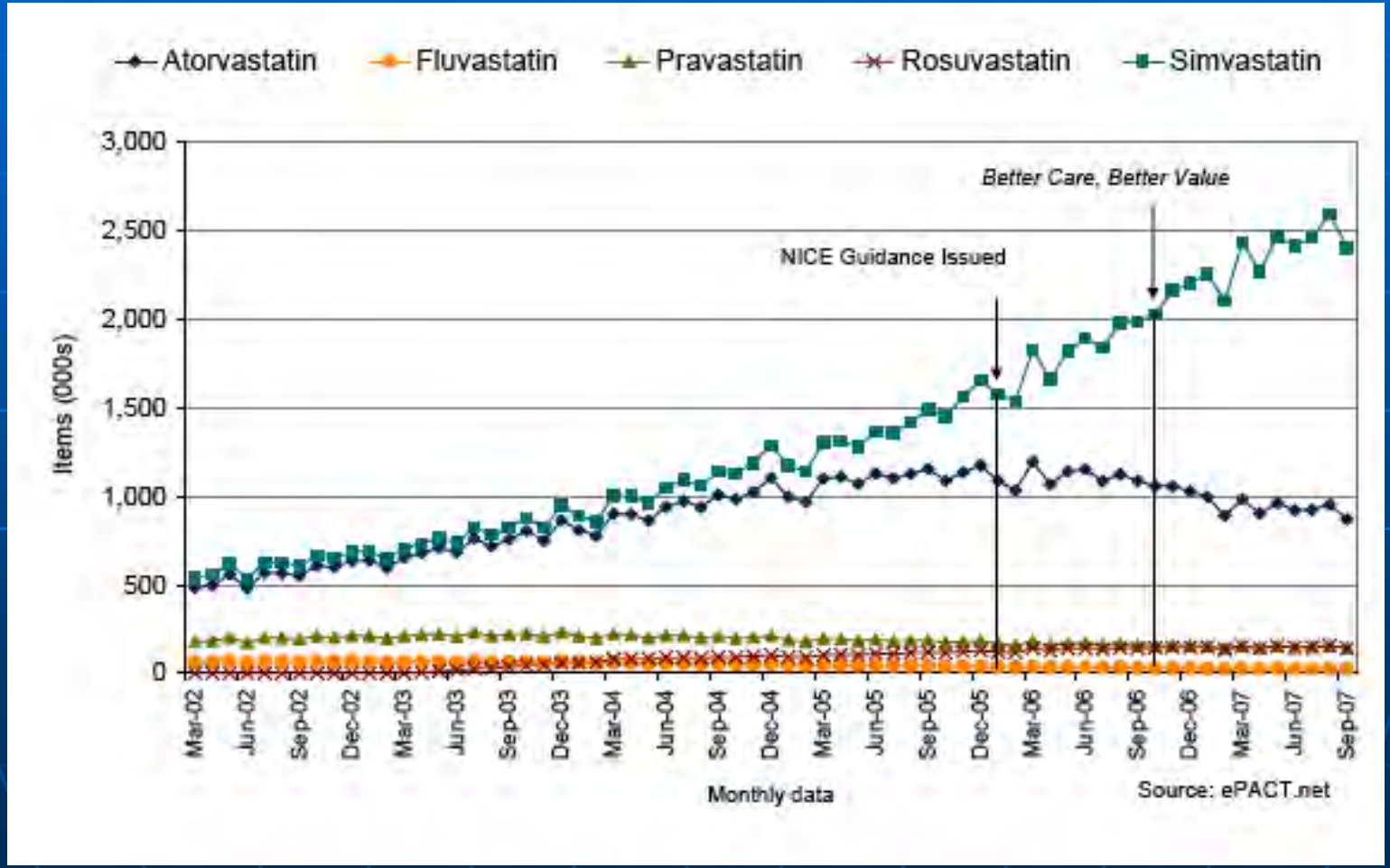
Impact

- Very difficult to assess – many moving parts
- None of them were designed to be cost saving
- NICE has shown some impact on compliance and reducing regional variation
- IQWiG greater transparency by sickness funds

Evidence of impact at NICE

- 50% increase in uptake of cancer drugs reviewed by NICE over 18 months; more than halving of variation in uptake across England
- 95% of hospitals compliant with NICE guidance in 2007; up from 84% in 2005
- 96% of academics working on NICE appraisals reported their work has an impact compared to 60% in control group

Statin uptake



Impact

How will we know if the CE entity in the US is working?

Federal Coordinating Council for Comparative Effectiveness Research

Report to the President and the Congress

June 30, 2009

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EXECUTIVE SUMMARY

Across the United States, clinicians and patients confront important health care decisions without adequate information. What is the best pain management regimen for disabling arthritis in an elderly African-American woman with heart disease? For neurologically impaired children with special health care needs, what care coordination approach is most effective at preventing hospital readmissions? What treatments are most beneficial for patients with depression who have other medical illnesses? Can physicians tailor therapy to specific groups of patients using their history or special diagnostic tests? What interventions work best to prevent obesity or tobacco use? Unfortunately, the answer to these types of comparative, patient-centered questions in health care is often, "We don't really know."

Thousands of health care decisions are made daily; patient-centered comparative effectiveness research focuses on filling gaps in evidence needed by clinicians and patients to make informed decisions. Physicians and other clinicians see patients every day with common ailments, and they sometimes are unsure of the best treatment because limited or no evidence comparing treatment options for the condition exists. As a result, patients seen by different clinicians may get different treatments and unknowingly be receiving less effective care. Patients and their caregivers search in vain on the Internet or elsewhere for evidence to help guide their decisions. They often fail to find this information either because it does not exist or because it has never been collected and synthesized to inform patients and/or their caregivers in patient-friendly language. When they do find information, it may be informed by marketing objectives, not the best evidence.[1]

Due to astonishing achievements in biomedical science, clinicians and patients often have a plethora of choices when making decisions about diagnosis, treatment, and prevention, but it is frequently unclear which therapeutic choice works best for whom, when, and in what circumstances. The purpose of comparative effectiveness research (CER) is to provide information that helps clinicians and patients choose which option best fits an individual patient's needs and preferences. It also can inform the health choices of those Americans who cannot or choose not to access the health care system.[2] Clinicians and patients need to know not only that a treatment works on average but also which interventions work best for specific types of patients (e.g. the elderly, racial and ethnic minorities). Policy makers and public health professionals need to know what approaches work to address the prevention needs of those Americans who do not access health care. This information is essential to translating new discoveries into better health outcomes for Americans, accelerating the application of beneficial innovations, and delivering the right treatment to the right patient at the right time.

Examples of successful CER include summaries of evidence from the Agency for Healthcare Research and Quality (AHRQ) on numerous conditions, such as prostate cancer and osteoporosis, as well as the National Institutes of Health (NIH) diabetes prevention trial that demonstrated lifestyle change was superior to metformin and placebo in preventing onset of type 2 diabetes. Additionally, the Veterans Affairs (VA) COURAGE trial demonstrated that patients treated with optimal medical therapy alone did just as well as patients who received percutaneous coronary intervention plus medical therapy in preventing heart attack and death. These exemplars show the power of CER to inform patient and clinician decisions and improve health outcomes.

Patients increasingly and appropriately want to take responsibility for their care. Therefore we have a responsibility to provide comparative information to enable informed decision-making. This patient-

[1] Lee TH, Brennan TA. N Engl J Med. 2002;346:529-531.
[2] Green LA, et al. N Engl J Med. 2001; 344:2021-5.

centered, pragmatic, "real world" research is a fundamental requirement for improving care for all Americans.

Comparative effectiveness differs from efficacy research because it is ultimately applicable to real-world needs and decisions faced by patients, clinicians, and other decision makers. In efficacy research, such as a drug trial for the U.S. Food and Drug Administration (FDA) approval, the question is typically whether the treatment is efficacious under ideal, rather than real-world, settings. The results of such studies are therefore not necessarily generalizable to any given patient or situation. But what patients and clinicians often need to know in practice is which treatment is the best choice for a particular patient. In this way, comparative effectiveness is much more patient-centered. Comparative effectiveness has even been called patient-centered health research or patient-centered outcomes research to illustrate its focus on patient needs.

The American Recovery and Reinvestment Act (ARRA) provided $1.1 billion for comparative effectiveness research. The Act allocated $400 million to the Office of the Secretary in the U.S. Department of Health and Human Services (HHS), $400 million to the National Institutes of Health (NIH), and $300 million to the HHS Agency for Healthcare Research and Quality. It also established the Federal Coordinating Council for Comparative Effectiveness Research (the Council) to foster optimum coordination of CER conducted or supported by Federal departments and agencies. Furthermore, the legislation indicated that "the Council shall submit to the President and the Congress a report containing information describing current Federal activities on comparative effectiveness research and recommendations for such research conducted or supported from funds made available for allotment by the Secretary for comparative effectiveness research in this Act" by June 30, 2009.

Transparent, Open Process Seeking Public Input

From the outset, the Council recognized the importance of establishing a transparent, collaborative process for making recommendations and sought the input of the American people on this important topic. The Council held three public listening sessions, two in the District of Columbia and one in Chicago. The Council also received comments for two months on its public Web site. Importantly, the open process allowed the Council to hear from hundreds of diverse stakeholders who represent views across the spectrum. Many patients expressed their need for this type of research; one of the most emotional and moving testimonies came from the mother of a child with a seizure disorder in Chicago who had struggled to find the best treatment for her child. A physician from the American Board of Orthopedics summarized many physicians' testimony by saying, "developing high quality, objective information will improve informed patient choice, shared decision-making, and the clinical effectiveness of physician treatment recommendations." The Council heard repeatedly at the listening sessions that the Federal Government must use this investment to lay the foundation for informing decisions and improving the quality of health care. In addition, the Council posted interim working documents for feedback, including the definition of CER, the prioritization criteria, and the strategic framework, and modified these based on the feedback. Comments from the listening sessions and via the Web site significantly influenced Council discussion and decisions. Indeed, this entire report is influenced by the public input—and Appendix A elaborates on the key themes that ran through the public comments.

Vision

The Council's vision for the investment in comparative effectiveness research focuses on laying the foundation for this type of research to develop and prosper so it can inform decisions by patients and clinicians. This research is critical to transforming our health care system to deliver higher quality and more value to all Americans. The Council specifically focused on recommendations for use of the

Office of Secretary (OS) funds to fill high priority gaps that were less likely to be funded by other organizations and therefore represent unique opportunities for these funds.

Early in the process, the Council set the following objectives consistent with ARRA:

1. Develop a definition, establish prioritization criteria, create a strategic framework, and identify priorities that lay the foundation for CER.

2. Foster optimum coordination of comparative effectiveness research conducted or supported by relevant Federal departments.

3. Formulate recommendations for investing the $400 million appropriated to the HHS Office of Secretary as part of this Report to Congress.

Definition and Criteria
The Council first established a definition, building on previous definitions, for comparative effectiveness research:

> Comparative effectiveness research is the conduct and synthesis of research comparing the benefits and harms of different interventions and strategies to prevent, diagnose, treat and monitor health conditions in "real world" settings. The purpose of this research is to improve health outcomes by developing and disseminating evidence-based information to patients, clinicians, and other decision-makers, responding to their expressed needs, about which interventions are most effective for which patients under specific circumstances.
>
> - To provide this information, comparative effectiveness research must assess a comprehensive array of health-related outcomes for diverse patient populations and sub-groups.
> - Defined interventions compared may include medications, procedures, medical and assistive devices and technologies, diagnostic testing, behavioral change, and delivery system strategies.
> - This research necessitates the development, expansion, and use of a variety of data sources and methods to assess comparative effectiveness and actively disseminate the results.

The Council needed explicit criteria to make recommendations for priorities. Therefore, the Council's second step was to establish minimum threshold criteria that must be met and prioritization criteria.

Minimum Threshold Criteria (i.e. must meet these to be considered):

- Included within statutory limits of Recovery Act and the Council's definition of CER
- Potential to inform decision-making by patients, clinicians, or other stakeholders
- Responsiveness to expressed needs of patients, clinicians, or other stakeholders
- Feasibility of research topic (including time necessary for research)

The prioritization criteria for scientifically meritorious research and investments are:

- Potential impact (based on prevalence of condition, burden of disease, variability in outcomes, costs, potential for increased patient benefit or decreased harm)

- Potential to evaluate comparative effectiveness in diverse populations and patient sub-groups and engage communities in research
- Uncertainty within the clinical and public health communities regarding management decisions and variability in practice
- Addresses need or gap unlikely to be addressed through other organizations
- Potential for multiplicative effect (e.g. lays foundation for future CER such as data infrastructure and methods development and training, or generates additional investment outside government)

Importance of Priority Populations and Patient Sub-Groups
One important consideration for comparative effectiveness research is addressing the needs of priority populations and sub-groups, i.e., those often underrepresented in research. The priority populations specifically include, but are not limited to, racial and ethnic minorities, persons with disabilities, children, the elderly, and patients with multiple chronic conditions. These groups have been traditionally under-represented in medical research.

In addition, comparative effectiveness should complement the trend in medicine to develop personalized medicine—the ability to customize a drug and dose based on individual patient and disease characteristics. One of the advantages of large comparative effectiveness studies is the power to investigate effects at the sub-group level that often cannot be determined in a randomized trial. This power needs to be harnessed so personalized medicine and comparative effectiveness complement each other.

Strategic Framework
After completing the draft definition and criteria for prioritization of potential CER investments, the Council recognized the need to develop a strategic framework for CER activity and investments to categorize current activity, identify gaps, and inform decisions on high-priority recommendations. This framework represents a comprehensive, coordinated approach to CER priorities. It is intended to support immediate decisions for investment in CER priorities and to provide a comprehensive foundation for longer-term strategic decisions on CER priorities and the related infrastructure. At the framework's core is responsiveness to expressed needs for comparative effectiveness research to inform health care decision-making by patients, clinicians, and others in the clinical and public health communities.

Types of CER investments and activities can be grouped into four major categories:

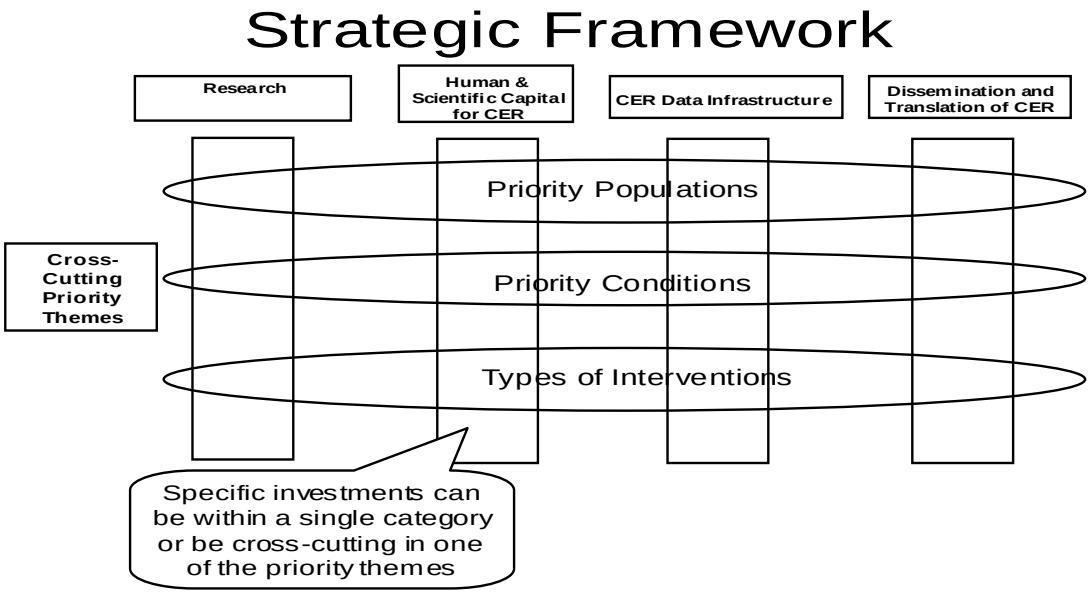
- **Research** (e.g., comparing medicines for a specific condition or discharge process A to discharge process B for readmissions)
- **Human and Scientific Capital** (e.g., training new researchers to conduct CER, developing CER methodology)
- **CER Data Infrastructure** (e.g., developing a distributed practice-based data network, longitudinal linked administrative or Electronic Health Record (EHR) databases, or patient registries)
- **Dissemination and Translation of CER** (e.g., building tools and methods to disseminate CER findings to clinicians and patients and translate CER into practice)

Furthermore, investments or activities related to a specific theme can cut across one or more categories and may include research, human and scientific capital, CER data infrastructure, and/or translation and adoption. These themes could include:

- **Conditions** (e.g., cancer, heart failure)
- **Patient populations** (e.g., elderly, minorities, children, persons with disabilities)
- **Type of intervention** (e.g., devices, behavioral change, delivery system)

Together, these activities and themes make up the "CER Strategic Framework" (Figure A)

Figure A



CER Inventory and Priority-Setting Process

The Council also conducted an inventory of CER and data infrastructure to help identify gaps in the current CER landscape. Maintaining that inventory and ongoing evaluation of government and private sector (where possible) CER investments and programs across these activities and themes is critical to this framework's value for decision-making. The first draft Federal Government inventory of CER and data infrastructure is included in this report, but it is critical to note that evaluation of current activities and the identification of gaps in order to inform priority-setting must be iterative and continue in the future.

As noted above, the Council's priority-setting process was informed by public input, and that input had a substantial influence on how the Council formulated its framework and priorities for CER. CER is an important mechanism to improve health and continued public input is vital for agenda setting.

Priority Recommendations

In developing its recommendations for how to invest the OS ARRA funding of $400 million, the Council sought to respond to patient and physician needs for CER, to balance achieving near-term results with building longer-term opportunities, and to capture the unique value that the Secretary's ARRA funds could play in filling gaps and building the foundation for future CER. The Council recommended that, among the four major activities and three cross-cutting themes in the CER

framework, the primary investment for this funding should be data infrastructure. Data infrastructure could include linking current data sources to enable answering CER questions, development of distributed electronic data networks and patient registries, and partnerships with the private sector.

Secondary areas of investment are dissemination and translation of CER findings, priority populations, and priority types of interventions. The priority populations identified that could be the focus of cross-cutting themes were racial and ethnic minorities, persons with disabilities, persons with multiple chronic conditions (including co-existing mental illness), the elderly, and children. CER will be an important tool to inform decisions for these populations and reduce health disparities. High-priority interventions for OS to consider supporting include medical and assistive devices, procedures/surgery, behavioral change, prevention, and delivery systems. For example, behavioral change and prevention have the potential to decrease obesity, decrease smoking rates, increase adherence to medical therapies, and improve many other factors that determine health. Delivery system interventions, such as comparing different discharge and transitions of care processes on hospital readmissions, community-based care models, or testing the effect of different medical home models on health have substantial potential to drive better health outcomes for patients.

The OS funds may also play a supporting role in research and human and scientific capital. Because the Council anticipates that AHRQ, NIH, and VA will likely continue to play a major role in these essential activities for the CER enterprise, OS funding would likely only fill gaps in these areas.

Longer-Term Outlook and Next Steps
This report and an Institute of Medicine report funded by the Department will inform the priority-setting process for CER-related funding. The most immediate next step will be the development of a specific plan, to be submitted by July 30, 2009, from the Secretary of Health and Human Services for the combined $1.1 billion of ARRA CER funding. In addition, an annual report from the Council is required under the ARRA legislation.

It will be important for this funding both to accomplish short-term successes and to build the foundation for future CER. The CER activity and investments should be coordinated across the Federal Government and avoid duplicative effort. In addition, the funding should complement and link to activities and funding in the private sector to maximize the benefits to the American people.

Clinicians, patients, and other stakeholders greatly need comparative effectiveness research to inform health care decisions. One private citizen unaffiliated with any health care group summarized, “It is more important than ever to engage in robust research on what treatments work and what do not. Doing so empowers doctors and patients, and helps make our practice of medicine more evidence-based.”

This is a unique opportunity to invest in the fundamental building blocks for transformation of health care in the United States to improve the quality and value of health care for all Americans. Physicians and patients deserve the best patient-centered evidence on what works, so Americans can have the highest quality care and achieve the best possible outcomes.

I. INTRODUCTION

The American Recovery and Reinvestment Act of 2009 (ARRA), Pub. L. 111-5, made available to the Department of Health and Human Services $1.1 billion for comparative effectiveness research (CER). Of this amount, $300 million was allocated to the Agency for Healthcare Research and Quality (AHRQ), $400 million to the National Institutes of Health (NIH), and $400 million was allocated to the Office of the Secretary (OS) for disbursement.

These and all Federal agencies distributing ARRA funds must do so in accordance with all nondiscrimination and equal opportunity statutes, regulations, and Executive Orders that apply to the distribution of funds under the Recovery Act. Agencies that grant funds also must ensure that their recipients comply with Title VI of the Civil Rights Act of 1964 (prohibiting race, color, and national origin discrimination), Section 504 of the Rehabilitation Act of 1973 (prohibiting disability discrimination), Title IX of the Education Amendments of 1972 (prohibiting sex discrimination in education and training programs), the Age Discrimination Act of 1975 (prohibiting age discrimination in the provision of services), and a variety of program-specific statues with nondiscrimination requirements.[3]

ARRA provides further guidance on how funds appropriated to the Office of the Secretary are to be allocated:

> … the funding appropriated in this paragraph shall be used to accelerate the development and dissemination of research assessing the comparative effectiveness of health care treatments and strategies, through efforts that: (1) conduct, support, or synthesize research that compares the clinical outcomes, effectiveness, and appropriateness of items, services, and procedures that are used to prevent, diagnose, or treat diseases, disorders, and other health conditions; and (2) encourage the development and use of clinical registries, clinical data networks, and other forms of electronic health data that can be used to generate or obtain outcomes data.

Section 804 of ARRA authorizes the establishment of the Federal Coordinating Council for Comparative Effectiveness Research (the Council). The Council is composed of senior Federal officials with responsibility for health-related programs. Most of the members are physicians and many have research expertise. The members represent not only the Department of Health and Human Services but also the Department of Veterans Affairs and the Department of Defense. Members of the Council come from a broad range of backgrounds, including the Office of Minority Health, the Office on Disability, community health centers, mental health, HIV and other infectious diseases, prevention, and others. The Council's purpose is to coordinate comparative effectiveness research and related health services research across the Federal Government with the intent of reducing duplication and encouraging the complementary use of resources. The Council is also charged with advising the President and Congress on strategies to address the infrastructure needs for CER within the Federal Government and organizational expenditures for CER by relevant Federal Departments and agencies.

[3] Memorandum from the Acting Assistant Attorney General for Civil Rights. 4 March 2009

The 15-member Council was announced by HHS via website on March 19, 2009, and has been meeting regularly since then.[4] One of the Council's responsibilities is to submit to the President and Congress an initial report describing current Federal activities on comparative effectiveness research and recommendations for CER conducted or otherwise supported from the $400 million made available for CER to be allocated by the Secretary. This report meets that requirement.

Rationale for Comparative Effectiveness Research

When patients ask clinicians about the evidence supporting one treatment choice, diagnostic plan, or prevention modality over another, the answer too often is that the evidence is unclear. Even when evidence exists, it is often from a trial that may not apply to the specific patient and/or situation under consideration, such as an elderly African-American woman with multiple comorbidities. When specific evidence is lacking, clinicians have to rely on their clinical experience to make the best treatment decisions possible. Nevertheless, these decisions can result in less than optimal, and sometimes inappropriate, treatment choices.

Due largely to government and scientific leadership accompanied by astonishing achievements in biomedical science, clinicians and patients often have a plethora of choices when making decisions about diagnosis, treatment, and prevention. Total investment in health services research, which includes CER, accounts for only 1.5 percent of medical research expenditures.[5] The Recovery Act greatly increased funding for CER and the prominence and important of such research. The purpose of CER is to provide information that helps clinicians and patients choose which option best fits an individual patient's needs and preferences. The amazing biomedical discoveries made in the United States to date can now support CER to routinely compare commonly used therapies or test which interventions work best for particular patients. This information is essential to translate new discoveries into better health outcomes for Americans.[6] We must generate this knowledge to be able to deliver the right treatment to the right patient at the right time. Patients increasingly and appropriately want to take responsibility for their care; therefore, we have an obligation to provide the comparative information that enables informed decisions.

No standardized Federal definition of comparative effectiveness research existed prior to the Council's definition. However, several government entities had developed individual definitions for CER. For example, the Congressional Budget Office has described comparative effectiveness research as "rigorous evaluation of the impact of different options that are available for treating a given medical condition for a particular set of patients." The Institute of Medicine refers to comparative effectiveness as "the extent to which a specific intervention, procedure, regimen, or service does what it is intended to do when it is used under real world circumstances." The Council's definition builds on these concepts and highlights key aspects of the ARRA CER provisions. The Council defined CER broadly, asserting that it is patient-centered, "real world" research that can help patients, clinicians, and other decision makers

[4] See Appendix D for Council membership.
[5] Moses III H, Dorsey EK, Matheson DHM, et al. Financial Anatomy of Biomedical Research. JAMA 2005; 294:1333-42
[6] Dougherty, D, Conway PH. The "3 T's" Roadmap to Transform U.S. Health Care: The "How" of High Quality Care. JAMA. 2008 May 21;299(19):2319-21

assess the relative benefits and harms of strategies to prevent, diagnose, treat, manage, or monitor health conditions and the systems in which they are made.[7] This definition will form the foundation of the common Federal definition.

The Department of Health and Human Services' ARRA appropriation for CER is a significant investment. CER and activities that support CER have been undertaken by a wide range of stakeholders both inside and outside the public sector. However, despite diverse activities across the Federal Government,[8] funds exclusively appropriated for CER have until now been funded under authorized by section 1013 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 for the Agency for Healthcare Research and Quality, which the Agency makes available for projects through its Effective Health Care Program. Since 2005, Congress has appropriated a total of $125 million for the program, including $50 million for comparative effectiveness in FY 2009.

The ARRA funding reflects the heightened interest in CER among the nation's clinicians, patients, policy makers and researchers and broader recognition of its potential to improve outcomes that matter to patients, including morbidity, mortality, and quality of life. CER has the ability to assess these very patient-centered outcomes in a comprehensive way. Furthermore, patients increasingly play an active role in their health care and expect to be active participants in decisions about their health care. These interests are rooted in the strong desire for better evidence upon which to make clinical and other health-related decisions at a time of heightened focus on the quality and variability of care delivered.

A health system guided by better information about "what works" would have benefits for all who have a stake in the nation's health system. Consumers and patients would develop more confidence that the increasingly complex array of treatments and interventions could be tailored to meet their individual needs; health professionals would have more certainty that their clinical decisions were evidence-based and serving patients well. Consequences of the lack of such information include wide geographic variations in treatments typically received for specific conditions and, with these variations, sizeable differences in related health care spending not accompanied by proportional differences in outcomes.

Noted medical author Dr. Atul Gawande recently summarized this issue, "In situations where the right thing to do is well established, physicians from high- and low-cost cities make the same decisions. But in cases where the science is more unclear, some physicians pursue the maximum possible amount of testing and procedures; some pursue the minimum. And what kind of doctor they are depends on where they came from. In case after uncertain case, more was not necessarily better… We will need to do in-depth research on what makes the best systems successful… and disseminate what we learn. Congress has provided vital funding for research that compares the effectiveness of different treatments, and this should help reduce uncertainty about which treatments are best. But we also need to fund research that compares the effectiveness of different systems of care—to reduce our uncertainty about which systems work best for communities. These are empirical, not ideological, questions."[9] This variation in care

[7] See Chapter 3 for the Council's definition of CER.
[8] See Chapter 6 for a comprehensive listing of CER activities across the Federal Government.
[9] Atul Gawande. "The Cost Conundrum." The New Yorker. June 1, 2009.

documented by Wennberg[10], Fisher[11] and others, means that Americans in one part of the country who are seeing particular clinicians may get vastly different care with potentially worse outcomes than Americans somewhere else. The health system can no longer produce highly variable results and tolerate low quality and inefficiency. The care delivered should be based on evidence and best practices, not on which physician a patient was referred to or where a patient lives. The Council believes that bringing to bear careful research across the continuum of care, from prevention, to diagnosis, to treatment, to delivery systems, will yield improved care for both individuals and for populations.

Current Comparative Effectiveness Research Landscape

In order to inform recommendations for comparative effectiveness research, the Council conducted an inventory of current CER activity. Section 6 summarizes CER activity in the Department of Health and Human Services, the Department of Veterans Affairs and the Department of Defense. Several examples of these activities are discussed below.

AHRQ has an established CER program as described above. As an example, an AHRQ Comparative Effectiveness Review in 2008 examined treatments for localized prostate cancer. There are a number of treatment options available for prostate cancer, each with its own potential for risks and benefits, so it is important that men understand what is known about the effectiveness of these treatments. Key findings from the report included:

- There is a lack of comparative studies across major modalities of treatment (e.g. surgery, radiation, watchful waiting).
- There were no randomized trials evaluating cryotherapy, laparascopic or robotic prostatectomy, primary androgen deprivation therapy, high-intensity focused ultrasound (HIFU), proton beam therapy, and intensity modulated radiation therapy (IMRT). While these therapies have become increasingly of interest for men considering treatments for prostate cancer, it is impossible to evaluate whether these therapies are more or less effective than other options.
- Of men who had surgery, those undergoing a radical prostatectomy were less likely to experience urinary incontinence and other complications if the operation was done by an experienced surgeon in a hospital that does many of the procedures.

NIH has funded numerous comparative trials with huge implications for the practice of medicine. For example, the Diabetes Prevention Program was a major multicenter trial to evaluate the comparative effectiveness of intensive lifestyle changes (diet and exercise), a pill for diabetes (Metformin), or a placebo in preventing the onset of type 2 diabetes in adults with pre-diabetes. This landmark trial found that while both lifestyle changes and Metformin reduced the risk of developing diabetes compared to a placebo, lifestyle changes were significantly more effective than Metformin. This effect was seen in men and women, and in all ethnic groups. With the increasing incidence of pre-diabetes in this country, the results of this trial were critical in informing patients and physicians about prevention strategies for diabetes. Similarly, the BARI

[10] Wennberg J, Gittelsohn A. Small area variations in health care delivery. Science. 1973; 182:1102-8.
[11] Fisher ES, Wennberg J. Health Care Quality, Geographic Variations, and the Challenge of Supply-Sensitive Care Perspectives in Biology and Medicine. 2003; 46(1): 69-79

2D trial compared optimal medical management with revascularization for preventing premature death in Type 2 diabetes and found medical management to deliver equivalent outcomes.[12]

VA also has a very strong history of conducting CER. For example, the COURAGE trial, published in 2007, compared the effectiveness of percutaneous coronary intervention (PCI, or angioplasty) plus optimal medical therapy with optimal medical therapy alone in the prevention of heart attack or death in veteran patients with stable heart disease. The results showed that patients treated with optimal medical therapy alone did just as well as patients who received PCI plus medical therapy. This trial can inform patients and clinicians about the most efficient use of PCI in patients with stable angina.

In addition to Federal activities, state level, private sector, and non-profit sector CER efforts are currently underway across the country.[13,14] For example, 14 states participate in the Drug Effectiveness Review Project (DERP), based at the Center for Evidence-Based Policy (EPC) at the Oregon Health & Science University. The project is a collaboration between the Oregon EPC and the Oregon Center for Evidence-Based Policy. Together, they produce evidence-based reviews of the comparative effectiveness and safety of drugs in many drug classes, and then make this information publicly available.

Large insurers and health organizations such as Aetna, CIGNA, UnitedHealthcare, and Humana have developed the capacity to conduct evidence reviews in-house. These payers may also commission external studies from entities such as the Blue Cross and Blue Shield Association Technology Evaluation Center, which has been conducting evidence-based technology assessments for more than thirty years. Pharmaceutical, biotechnology, and medical device companies may sponsor studies that share some of the attributes of CER. In the non-profit sector, organizations synthesize and publicize CER, rather than generating new evidence. For example, Consumers Union relies on DERP reports to provide information for its *Best Buy Drugs* Web site.

Although there are a number of institutions, both public and private, involved in CER, a number of challenges remain unaddressed. Much of the CER underway is fragmented, and not aligned with a common set of priorities or definition of what constitutes CER. Databases and patient registries that are invaluable for comparative effectiveness analysis are similarly fragmented and often limited in numbers of patients or of variable or unknown data quality. Some resources, such as privately maintained claims databases and Medicare claims data, are difficult for researchers to access due to licensing and cost issues. Furthermore, there are a number of gaps in the content of the research being conducted. Studies often do not include participants of sub-groups, such as racial minorities or people with disabilities, and generally focus on therapeutics at the expense of other types of interventions (e.g., devices or the delivery system). Many effective interventions for improving health are likely to involve prevention and community

[12] BARI 2D study group et al. N Engl J Med. 2009; 360(24):2570-2.

13 Academy Health. A First look at the Volume and Cost of Comparative Effectiveness Research in the United States. Available at: http://www.academyhealth.org/files/FileDownloads/AH_Monograph_09FINAL7.pdf. Accessed June 17, 2009.

[14] The following paragraphs draw on information contained in an environmental scan prepared by the Lewin Group for the Federal Coordinating Council on Comparative Effectiveness Research.

intervention, but these areas are currently understudied. CER should identify interventions that yield the most health improvement and represent the best value wherever and however the interventions are delivered.

The OS ARRA funds are a unique opportunity to address some of these gaps. The following box summarizes gaps in CER landscape:

Major Gaps in CER Landscape

- **Coordination across the CER framework**
  - Substantial CER assets exist across the Federal Government, but coordination is necessary to capture their full value
- **Research**
  - Many comparative, patient-centered research questions remain unanswered
- **Human and Scientific Capital**
  - CER methods development needed
  - Limited trained researchers for conducting CER
- **CER Data Infrastructure**
  - Fragmented data
  - Data sources limited in terms of clinical robustness of data and longitudinal data capture
  - Data capture and feedback loop at point of care often lacking
- **Dissemination and Translation of CER**
  - Suboptimal dissemination and translation of CER findings to patients and clinicians
  - Limited linkages between CER findings and directly improving patient outcomes
- **Priority populations**
  - Limited information on many priority populations and sub-groups
- **Priority Interventions**
  - Less information on certain comparative interventions such as behavioral change, procedures, devices, delivery system strategies, and prevention

<u>Opportunity Provided by ARRA Funds</u>

Within this context of national and international activity, the ARRA CER funds offer an extraordinary opportunity to complement ongoing research in the public and private sectors by establishing a solid infrastructure for future CER. Such investments could include development of data and methods, training of researchers who could accelerate the conduct of future studies, and rapid dissemination of results to patients and clinicians. For example, enhancing existing data resources and learning better how to maximize their utility could expand the types of questions addressed as well as identify high-impact opportunities for research. In addition, ARRA's investment in CER coincides with expected increases in the adoption of health information technology to improve health care quality and safety. That technology also offers the promise of including care delivery in the conduct of research (what some have termed a "learning health care system") and offering a platform for rapid dissemination of results to the

point of care to inform physician and patient decisions.[15] The field of CER is not entirely new, but increased availability of clinical electronic data resulting from diffusion of information technology demands improved methods and a cadre of researchers ready to take advantage of these expanding data resources.

As CER becomes a more integrated resource for health care decision-making, we must assure public trust by ensuring the privacy and security of health information and by maintaining access to appropriate care options. CER should not be used as a sole criterion for denying or awarding care or as justification for making care choices based on cost without consideration of effectiveness, safety, and convenience for an individual patient. CER has the potential to offer tremendous benefits to Americans so long as we apply its conclusions appropriately and protect the individual health information that informs it.

The Council believes that there is much to be learned about how research results can be incorporated into the everyday practice of medicine and inform consumer health care choices. The Council's hope is that ARRA funding has the potential to form a firm base for the Federal Government's future investments in CER and lay the foundation for a productive CER enterprise that improves care for all Americans.

II. VISION AND COUNCIL OBJECTIVES

Comparative effectiveness research has the potential to catalyze a patient-centered transformation of the U.S. health care system. By equipping patients and clinicians with the information needed to make joint medical decisions, and by optimizing the system in which the patient/clinician team makes these decisions, CER can improve the quality, safety, and value of care delivered while increasing patient satisfaction.[16] By passing ARRA, Congress recognized this vision and the need for CER, and also highlighted the need for an unbiased, cross-functional Council to "foster optimum coordination" of the Federal Government's CER efforts.

Given the Council's distinct role and the unprecedented resources available to the Secretary, the Council has a unique opportunity to begin working toward this vision for CER. The Council sees the following as potential accomplishments at the end of the ARRA funding period:

1. Establishment of a process for CER priority-setting that maximizes the value of Federal investments in CER through responsiveness to patient and other stakeholder needs, transparency, and effective coordination.

2. Development of a robust, foundational infrastructure for CER.

3. Implementation of a strategy to support rapid, systematic dissemination of CER results to empower patients, clinicians, and other stakeholders to make more informed decisions and increase the quality of care.

[15] Conway PH, Clancy C. Transformation of Health Care at the Front Line. JAMA. 2009 Feb 18;301(7):763-5.
[16] Naik AD, Peterson LA. The Neglected Purpose of Comparative Effectiveness Research. NEJM. 2009 May 7; 360(19):1929-31.

To accomplish this vision, the Council outlined three specific, near-term objectives that build on those established in ARRA:

1. Develop a definition, establish prioritization criteria, create a strategic framework, and identify priorities that lay the foundation for CER.

2. Foster optimum coordination of comparative effectiveness research conducted or supported by relevant Federal departments.

3. Formulate recommendations for investing the $400 million appropriated to the HHS Office of Secretary as part of this Report to Congress.

III. COMPARATIVE EFFECTIVENESS RESEARCH DEFINITION AND CRITERIA

One of the first activities of the Council was to build on previous definitions of comparative effectiveness research, including IOM, CBO, and others, to develop a definition of comparative effectiveness research for the Council. After much discussion and sharing with the public for feedback, the Council established the following definition.

Definition

Comparative effectiveness research is the conduct and synthesis of research comparing the benefits and harms of different interventions and strategies to prevent, diagnose, treat and monitor health conditions in "real world" settings. The purpose of this research is to improve health outcomes by developing and disseminating evidence-based information to patients, clinicians, and other decision-makers, responding to their expressed needs, about which interventions are most effective for which patients under specific circumstances.

- *To provide this information, comparative effectiveness research must assess a comprehensive array of health-related outcomes for diverse patient populations and sub-groups.*
- *Defined interventions compared may include medications, procedures, medical and assistive devices and technologies, diagnostic testing, behavioral change, and delivery system strategies.*
- *This research necessitates the development, expansion, and use of a variety of data sources and methods to assess comparative effectiveness and actively disseminate the results.*

The definition above is not meant to exclude randomized trials; however, these trials would need comparator arms other than placebo and be representative of populations seen in "real world" practice.

Once a definition was established, the Council drafted threshold criteria for consideration and prioritization criteria for comparative effectiveness research and related investment. These criteria were posted on a public Web site, feedback was received, and modifications were made. The following are the current Council criteria.

Prioritization Criteria for Comparative Effectiveness Research Related Investments

Minimum Threshold Criteria (i.e. must meet these to be considered):

- Included within statutory limits of Recovery Act and FCC definition of CER
- Potential to inform decision-making by patients, clinicians, or other stakeholders
- Responsiveness to expressed needs of patients, clinicians, or other stakeholders
- Feasibility of research topic (including time necessary for research)

The prioritization criteria for scientifically meritorious research and investments are:

- Potential impact (based on prevalence of condition, burden of disease, variability in outcomes, costs, potential for increased patient benefit or decreased harm)
- Potential to evaluate comparative effectiveness in diverse populations and patient sub-groups and engage communities in research
- Uncertainty within the clinical and public health communities regarding management decisions and variability in practice
- Addresses need or gap unlikely to be addressed through other organizations
- Potential for multiplicative effect (e.g. lays foundation for future CER such as data infrastructure and methods development and training, or generates additional investment outside government)

This definition and criteria guided the Council as it considered potential priority recommendations for the OS funds and will guide AHRQ and NIH in allocating their CER funds.

IV. IMPORTANCE OF PRIORITY POPULATIONS AND SUB-GROUP ANALYSIS

As the United States has grown in its diversity, there has remained a persistent under-representation of women, the elderly, persons with disabilities, and racial and ethnic minorities in clinical and other research studies. While the NIH has a policy of inclusion of women and racial and ethnic minorities in all NIH-funded clinical trials,[17] the majority of research conducted in the U.S. does not require the inclusion of these and other priority populations. The lack of adequate representation of important patient populations in many research studies presents a major challenge in applying the results of these studies to important populations and sub-groups. In recognition of this fact, the ARRA legislation notes that "research conducted with funds appropriated shall be consistent with Departmental policies related to the inclusion of women and minorities." This criterion is critically important for ensuring that information gained from comparative effectiveness research improves the quality of care for all Americans.

[17] http://grants.nih.gov/grants/funding/women_min/guidelines_amended_10_2001.htm

Indeed, focused attention is needed on priority populations,[18] including racial and ethnic minorities, individuals with disabilities, children, persons with multiple chronic conditions, and the elderly, not only because of their under-representation in current research but also because of the increased disease burden and health disparities faced by these sub-groups.

The following sections highlight some of the challenges facing our health system as it relates to priority populations. Disparities in health care and health outcomes for these populations persist, affecting an ever-increasing proportion of residents of the United States. Also outlined are some of the research challenges that exist for priority populations, followed by recommendations to address these issues.

Growth in Priority Populations

Priority populations not only account for a large proportion of current health services utilization, but their numbers are growing; their need for health care services will likewise continue to grow. The most recent U.S. Census Bureau data reveal that over 100 million people living in the United States belong to a racial or ethnic minority group; this equates to 34 percent of the total U.S. population, and these minorities will likely become the majority of the U.S. population within 30 years.[19] Similarly, the number of elderly Americans is growing, with that segment of the population expected to increase from 35 million today to 71 million by 2030— or nearly 20 percent of the overall U.S. population. The population over the age of 85 is projected to grow from 5.3 million today to 21 million by 2050.

Health Disparities

A number of important reports have highlighted disparate disease prevalence, progression, and health outcomes for racial and ethnic minorities, elderly Americans, individuals with disabilities people of low socioeconomic status, people with mental illness, and others.[20,21] In this context, health disparities are defined as significant gaps or differences in the overall rate of disease incidence, prevalence, morbidity, mortality, or survival rates in the priority population as compared to the health status of the general population.[22] For example, African-American women are 34 percent more likely to die from breast cancer, even though they are diagnosed with the disease 10 percent less frequently than white women; Hispanics in the U.S. are 50 percent more likely than whites to suffer from diabetes; and the incidence of diabetes among

[18] Priority populations are defined in Sec. 901 of the Healthcare Research Act of 1999, S. 580.
[19] U.S. Census Bureau. Minority Population Tops 100 Million: Press Release. Available at: *http://www.census.gov/Press-Release/www/releases/archives/population/010048.html*. Accessed April 1, 2009.

[20] Report of the Secretary's Task Force on Black and Minority Health. U.S. Department of Health and Human Services. 1985.

[21] Brown ER et al. Racial and Ethnic Disparities in Access to Health Insurance and Health Care. UCLA Center for Health Policy Research and the Henry J Kaiser Family Foundation. 2000.

[22] Minority Health and Health Disparities Research and Education Act of 2000. Public Law 106-525. November 20, 2008.

Native Americans is more than twice that for whites. Elderly Americans also face particular health challenges, from greater susceptibility to multiple chronic conditions to a lower likelihood of obtaining preventive treatments, including mammograms and immunizations. In addition, approximately 42 percent of individuals over the age of 65 report a functional limitation.[23]

Persons with Disabilities

According to the 2007 Institute of Medicine report *The Future of Disability in America,* from 40 to 54 million people in the United States have disabilities. These numbers will grow considerably in coming decades as baby boomers age and as new medical interventions extend the lives of young persons with significant impairments who would once otherwise have died. Although rates are lower in children, disability prevalence is rising at younger ages. According to figures from the National Health Interview Survey, childhood disability has risen by 350 percent during the last 40 years, with the largest increase occurring during the past decade.

Across the lifespan, disabilities are clinically and functionally heterogeneous, encompassing diverse cognitive, sensory, physical, and mental health impairments. Traditionally patients with disabilities have been excluded from clinical trials, yet they have the same risk for diseases as non-disabled persons. Future clinical trials should exclude persons with disabilities only if there are clear and compelling reasons to do so.

Comparative effectiveness research relating to persons with disabilities is important in a number of areas.

First, research would be beneficial about the most effective interventions to prevent or mitigate disability and the disabling effects of chronic diseases. All research including comparative effectiveness research relating to disability should include outcome measures that address functional abilities, people's abilities to participate in daily activities, and quality of life. This is critical as the world's population is growing older at a very fast pace and this has serious implications due to expected increasing rates of chronic conditions. Moreover, with the advances in science and technology, lifespan has increased considerably; this is also true for persons with disabilities.

Second, future comparative effectiveness research should look into community-based models of care for persons with disabilities. Following the Supreme Court *Olmstead v. L.C. ex rel. Zimring, 527 U.S. 581 (1999) Decision,* traditionally institutionalized individuals with disabilities or those at risk of being placed in institutions are increasingly being cared for in their own homes and/or communities. Underscored by the *Olmstead Decision* states now have to consider civil rights when developing their programs. Effective care coordination/care management is critical to help persons with disabilities live independently in their communities with added years of quality life. Care coordination/care management is even more important for those individuals with multiple chronic conditions, which are often associated with certain levels of disability. While care

[23] Federal Interagency Forum on Aging-Related Statistics. Older Americans 2008: Key Indicators of Well Being. Federal Interagency Forum on Aging-Related Statistics. Washington, DC: U.S. Government Printing Office. March 2008

coordination/care management is the current state-of-the-art, it is still considered to be in its early stage. This represents a major opportunity for building the infrastructure to support future CER studies. In addition, because the definition of care coordination varies according to settings and models of care, its effectiveness has not been clearly established, particularly as it relates to the role support services play and how better integration of health and support services can lead to improved health outcomes for persons with disabilities and reduced health care costs for our nation.

Third, persons with disabilities are at increased risk for developing secondary conditions that are associated with their primary disabling condition. For example, without preventive measures, individuals with spinal cord injuries may acquire a number of adverse health conditions, including cardiovascular disease, genitourinary tract disorders, depression, obesity, and pressure sores. Comparative effectiveness studies should determine which interventions are most likely to prevent secondary conditions or ameliorate their consequences.

Fourth, studies should investigate the comparative effectiveness of rehabilitation interventions to restore or maintain functioning or minimize its loss. For example, much more research is needed to identify effective speech-language, physical, and occupational therapy interventions. This research could include a comparison of conventional treatments to newer interventions or a comparison of various systems of care. More research is also required about various assistive devices, medical equipment, and technologies, including technologies addressing sensory deficits, communication impairments, and physical and motor limitations.

Fifth, comparative effectiveness studies of therapeutic and preventive interventions need to address explicitly the needs of children with disabilities and be sensitive to the developmental stage of the child. For many children with disabilities and complex health care needs, the transitions through adolescence and into adulthood are complicated by the absence of comprehensive care programs that fully address their needs. Comparative effectiveness studies should examine different care models to determine which ones offer the best care coordination and generate the greatest patient and family satisfaction and health outcomes.

Other underrepresented populations

Children represent another group that can benefit tremendously from comparative effectiveness research. Evidence cannot simply be extrapolated from adults to the pediatric population. There is a dearth of information to inform decisions by children and their families, especially since outcomes, such as quality of life and functioning, are often more subtle. In addition, comparative preventive interventions (e.g. for obesity) will often have the most long-term effects if started in the pediatric population.

At the other end of the continuum, the elderly represent another group for which there exists little information about best care practices. As our population ages, knowledge about the best and most effective treatments for this group will become essential. Other important areas of focus for the elderly include home health care strategies and optimal approaches to delivery of care within nursing facilities.

Veterans and service members often have many conditions for which CER could be informative. They have a number of special considerations in deployment-related illness such as post traumatic stress disorder, traumatic brain injury, exposures, infectious diseases, disabilities and others. CER provides a vital opportunity to glean additional information necessary for clinicians to make informed decisions about particular veterans needs and information to assist veterans in their participation in care decisions.

Finally, research to compare the effectiveness of prevention strategies, treatments, diagnostics, and care delivery for patients with multiple chronic conditions is essential. Again, as our population ages, patients increasingly have several comorbidities which may impact their response to treatment. The majority of clinical research to date excludes such patients, so the applicability of "standard" treatments to this population is unclear. A physician advising a 45-year-old woman with asthma and HIV about treatment for breast cancer simply does not have the evidence necessary to factor her comorbidities into her patient's treatment decision. By utilizing varied and robust research methodologies, CER affords the opportunity to target treatments and other interventions to improve the quality of life and overall health of this important group of patients.

Personalized Medicine and Patient Sub-groups

The need to identify and address the needs of emerging patient sub-groups, and indeed the very concept of sub-categories of conditions to which medical products are applied, is expected to change and grow as our understanding of genomics and molecular medicine increases and becomes an integral part of health care. Better understanding of an individual's genomic and other individual biological characteristics will enable us to recognize and respond to human variability with a new degree of specificity. Understanding biological differences at the molecular level promises a significant leap in our ability to use and develop medical technologies more effectively, targeting interventions at more defined groups of individuals with greater precision. This potential, sometimes referred to as personalized medicine, has strong bearing on comparative effectiveness research.[24] Many drugs prescribed in the United States today are effective in fewer than 60 percent of treated patients. This is not a fault of the drugs, but reflects the variability of metabolism or other factors from person to person.[25]

Unfortunately, it remains common medical practice to follow a trial-and-error approach in selecting medical interventions for patients to achieve a satisfactory therapeutic outcome. In the case of breast cancer, for example, while chemotherapy can be an important positive treatment for some patients, we have few tools today to successfully predict which patients will benefit– and the result is that many women who are treated with chemotherapy today are receiving treatments that may not be effective for their condition.

Personalized medicine aims to make medical care more precise and effective. Increased understanding of our individual genomic profiles and other individual biological characteristics

[24] Willard HW: Organization, Variation and Expression of the Human Genome as a Foundation of Genomic and Personalized Medicine. In *Genomic and Personalized Medicine. Volume 1.* Edited by Willard HW and Ginsburg GS. London: Academic Press; 2009:4-21.
[25] Spear BB, Heath-Chiozzi M, Huff J. Trends Mol Med. 2001 May; 7(5):201-4.

will enable us both to use more effectively the therapies we have now and to identify significant areas where research and development of new products may be needed. Pharmacogenomics, the use of genetic information or other biomarkers to assist in accurate medical therapy decision-making, is expected to be a hallmark of this approach.

CER can be an important partner in helping to bring about this new level of medical effectiveness, personalization, and innovation. At the same time that CER is being used to identify which interventions and strategies work best on average, it can also help to identify different responses by different groups of patients. In some cases, different existing therapies may be identified as most effective for specific sub-groups. In other cases, CER may help to identify significant sub-groups for whom effective therapies do not yet exist. CER may also help steer research efforts toward the development of products and strategies for areas of significant need.

Research Challenges

Multiple research challenges exist for priority populations. Examples include a need for increased diversity in research populations, expanded data sources for evidence-based studies in diverse populations, enhanced collection of racial and ethnic health data, a better understanding of the effectiveness of interventions in the context of comorbidities, and a greater focus on implementation research.

Generalizations that result from comparative effectiveness research that fail to consider sub-groups and individual differences may have limited applicability. Currently there are gaps in knowledge about whether specific treatment strategies work across different sub-groups under a variety of circumstances. Recognizing that there might be variations in the effectiveness of specific interventions in the elderly, racial and ethnic minorities, individuals with disabilities, and other priority populations is key to designing evidence-based strategies to successfully improve the quality of care that is delivered. Infrastructure investments that capture priority populations and patient sub-groups will be critical to overcoming these challenges.

Strategies to Strengthen Comparative Effectiveness Research for Priority Populations

In light of the aforementioned challenges, comparative effectiveness research presents an opportunity to be more inclusive of minorities, the elderly, persons with disabilities, and other priority populations. This feature of CER is especially true in the context of conducting specific studies that take into account health conditions and linguistic and cultural attributes in order to develop the most appropriate and effective interventions.

Investments in CER can be used to address the needs of priority populations by doing the following:

Evaluating and identifying interventions that are tailored for priority populations. To explore which interventions are most effective for addressing the needs of priority populations, specific studies are needed to look at interventions that target diseases with a high prevalence in racial and ethnic minority communities, the elderly, and individuals with disabilities. These

studies may need to simultaneously address several diseases/conditions, or assess combinations of interventions (e.g., behavioral and physical treatments/interventions) that are most effective in promoting desired outcomes for these populations. Studies examining care delivery interventions tailored for priority populations are also needed in order to ensure that care is delivered to these individuals through effective approaches that are targeted to their needs. To ensure effective communication with the priority populations both in conducting the research and implementing its results, investigators should ensure that those language and communication services are available for those with limited English proficiency or disabilities.

Creating and enhancing potential databases looking at interventions in priority populations. Successfully examining and evaluating a range of interventions that are effective for priority populations will require a broad range of potential data sources and infrastructure investments. In addition to traditional patient registries and systematic reviews, the inclusion of distributed data networks that utilize community-based infrastructure, such as Federally Qualified Health Centers, will be an important asset in broadening the tools to evaluate effectiveness in various priority populations. CER studies should routinely perform and report sub-group analyses to examine possible differences in effectiveness for important racial and ethnic groups, and should over-sample such groups whenever there is existing evidence to suggest differences in effects or outcomes in any priority population. Standardized reporting and analysis of priority population sub-groups will also permit pooling of research results across studies to explore sub-group differences.

In addition, efforts should be made to build capacity and infrastructure within traditionally underserved racial/ethnic communities to allow for standardization of data collection and to enable the seamless integration of such data with larger databases/systems currently in use by the research community. This will allow for more accurate downstream comparisons to pre-existing and future majority data sets, producing more comprehensive and reliable CER study results.

Finally, this infrastructure for CER in priority populations is particularly important for developing and implementing Clinical Preventive Services Guidelines and recommendations for the U.S. Preventive Services Task Force. According to the IOM, CER data on priority populations is often unavailable for developing guidelines, and what information is available is often insufficient for making conclusions on how to treat priority populations.

Increasing the number of community-based studies, including community-based participatory research (CBPR) studies. CBPR is defined as a collaborative research approach in which communities and researchers are equally involved in the design and conduct of research that is conducted in their communities. Successful and effective CBPR studies result in the development of research tools, strategies, and interventions that are effective in creating sustainable and positive behavior changes and outcomes among priority populations within communities. Because CBPR studies are conducted with substantial input from the community, interventions are typically tailored to fit the needs and characteristics of the community. Furthermore, communities become “owners” of the research, which results in sustainable research outcomes.

Increasing cultural competency. Understanding the linguistic, cultural, social, and environmental attributes of priority populations is essential in designing interventions and promoting strategies that are effective in addressing the needs of these populations. Specifically, doing so allows for the development of culturally and linguistically appropriate interventions. For example, an obesity/diabetes intervention involving diet and/or physical activity would require an understanding and assessment of the populations' cultural attributes (e.g., food preferences), social attributes (e.g., competing family and work demands), and environmental attributes (e.g., access to 'healthy' foods and safe walkways) that support or inhibit adhering to a diet and/or physical activity intervention.

Building workforce capacity. Racial/ethnic minorities, individuals with disabilities, and women are underrepresented in the research and medical communities. The lack of a diverse and linguistically competent scientific workforce adds to disparities in research development, service delivery, and quality of care. Initial CER investments in workforce capacity could create opportunities to engage researchers and providers from diverse backgrounds. For example, 90 percent of minority physicians educated at Historically Black Medical Colleges live and serve in minority communities. Hispanic-Serving Institutions (HSIs) also play a major role in educating Hispanics researchers. Approximately 49 percent of all Hispanic students attend an HSI. A special focus on priority populations could provide an avenue for engaging Historically Black Colleges and Universities and HSIs in the conduct of CER among priority populations.

Developing and implementing outreach strategies to various racial, ethnic, and health disparity populations for participation in research protocols. In order to strengthen CER, effective outreach strategies must be developed and implemented that will increase the participation of priority populations in clinical research protocols. Developing appropriate strategies to reach out to various priority communities requires an understanding of the history of these populations in research and the identification and recruitment of trusted community members who can champion the research benefits and inform communities about risks. Community health workers can be important partners in addressing and advocating for the needs and concerns of priority populations. In addition, clinicians and providers will need to be educated on the benefits and implications of CER and the utilization of evidence-based interventions.

Dissemination, translation and adoption of research results is one of the biggest challenges within comparative effectiveness research, particularly as applied to priority populations, but also as applied to the population as a whole. The young science of implementation research focuses on the acceleration of translation of evidence into everyday care, and affords an opportunity to build a more coordinated approach to improving the quality of health care of priority populations. This is not a one-way transfer of knowledge. Racial and ethnic minorities, persons with disabilities, children, and the elderly, can offer insights into how best to engage their communities. Active listening and thoughtful planning of the dissemination process can create better health outcomes for all Americans.

Making CER investments that are responsive to the needs of priority populations and sub-groups is critical to ensuring that the benefits of CER reach those with the greatest needs. Such

investments, however, can also benefit the population as a whole by validating new strategies and approaches for comparative research and implementation.

V. STRATEGIC FRAMEWORK FOR CER

There are countless opportunities for action and investment in CER. Many Federal, state, and private institutions are already involved in CER and have made choices about which of these activities and investments to pursue. After completing the draft definition and criteria for prioritization of potential CER investments, the Council recognized the need to develop a strategic framework for CER activity and investments to categorize current activity, identify gaps, and inform decisions on high-priority recommendations.

This framework represents a comprehensive, coordinated approach to CER priorities. It is intended to support immediate decisions for investment in CER priorities and to provide a comprehensive foundation for longer-term strategic decisions on CER priorities and the related infrastructure. At the framework's core is responsiveness to expressed needs for comparative effectiveness research to inform health care decision-making by patients, clinicians, and others in the clinical and public health communities. The framework will be supported by detailed inventories of Federal CER activities and research/data infrastructure, and a priority-setting approach. This organizing framework fosters consideration of the balance of activities and priority themes, focuses on the most pressing needs expressed by patients and clinicians, and allows for identifying and addressing gaps in the current landscape of CER.

CER activities and investments made by the government or other institutions can be grouped into four major Core Categories:

- **Research** includes activities or investments in primary research or meta-analysis. Organizations involved in this group of activities may be funding research, conducting research themselves, or helping to establish a common set of research priorities to create momentum around the most critical research topics.

- **Human and Scientific Capital** includes activities or investments that enhance the United States' capacity for CER by expanding and strengthening relevant research skills or by advancing CER approaches and methodologies. Organizations involved in this group of activities may be directly involved in training and workforce development, developing new CER methods, validating results of CER, or driving consensus on valid approaches to CER.

- **CER Data Infrastructure** includes activities or investments that develop, build, or maintain data infrastructure, systems, or tools. These investments could include the creation of new research data sets and repositories, aggregation of existing data sources, development of new tools to query and analyze existing data sets, or creation of standards for new data collection.

• **Dissemination and Translation of CER** includes activities or investments that disseminate CER findings and put them into practice. Activities and investments range from dissemination and distribution of CER information to improving processes and outcomes in health care and public health delivery systems through CER translation and adoption.

Table 1
Example Activities in Each Major Category

Activity	Examples
Research	Comparing outcomes of treatments or care delivery for a specific condition
Human & Scientific Capital	Training new researchers to conduct CER or developing CER methodology and standards
CER Data Infrastructure	Developing a distributed practice-based data network, linked administrative or EHR databases, or patient registries
Dissemination and Translation of CER	Building tools and methods to disseminate findings and translate CER into practice to improve health outcomes for patients

Furthermore, investments or activities focused on a specific priority theme can cut across these categories. The potential themes include:

•**Conditions.** Organizing investments and activities around a condition or disease state is common in research and reflects the organization of medical practice. Focusing on a single disease state across all four major categories of activity (e.g., funding primary CER in oncology, developing new methodologies for CER in palliative care settings, expanding the Surveillance, Epidemiology, and End Result database (SEER), and partnering with an academic cancer center to pilot CER implementation strategies) could result in significantly improved patient-centered outcomes in that disease area.

•**Patient populations.** While clinical research is relevant to the patient population it is designed to address, it often provides little information relevant to patient groups not typically enrolled in clinical studies. In private-sector-funded trials, this often includes the elderly, racial and ethnic minorities, children, and persons with disabilities. The NIH, however, already requires that all publicly funded trials include appropriate numbers of women and racial and ethnic minorities. Cross-cutting activities and investments that facilitate studies responsive to the needs of these populations can ensure that all Americans benefit from CER.

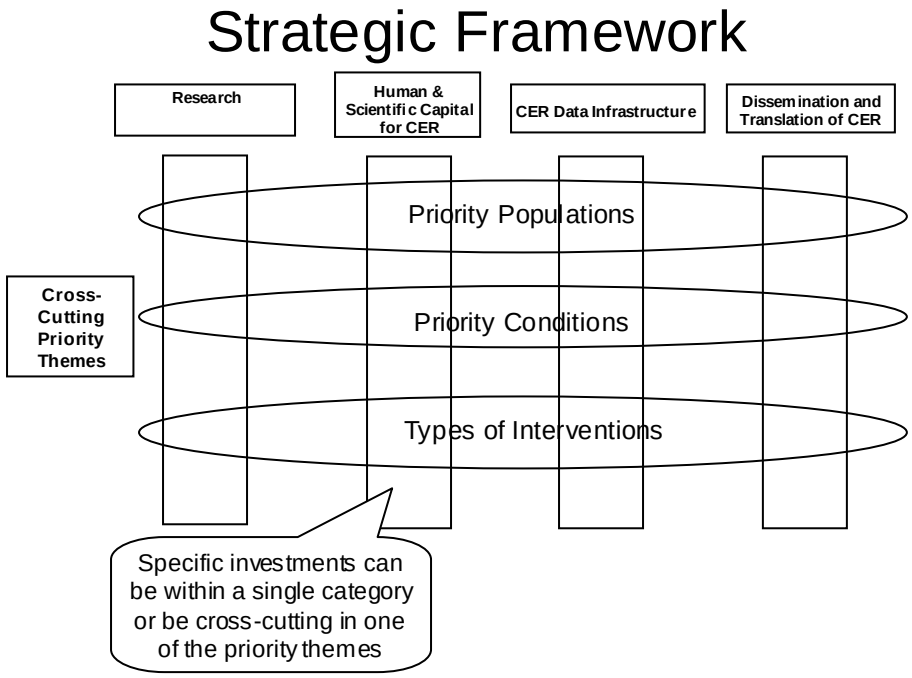
•**Type of intervention.** Several potential areas of focus emerge from studying interventions by type. In defining CER, the Council specifically included the following types of interventions: medications, medical and assistive devices, procedures, behavioral change, diagnostic testing, and delivery system strategies. Each of these has unique opportunities for coordinated investment in data infrastructure, research, building

research capacity, and translation. In addition, one could focus on interventions at a stage of the disease (i.e., prevention, diagnosis, treatment, and management).

Together, these activities and themes make up the CER strategic framework (Figure 1).

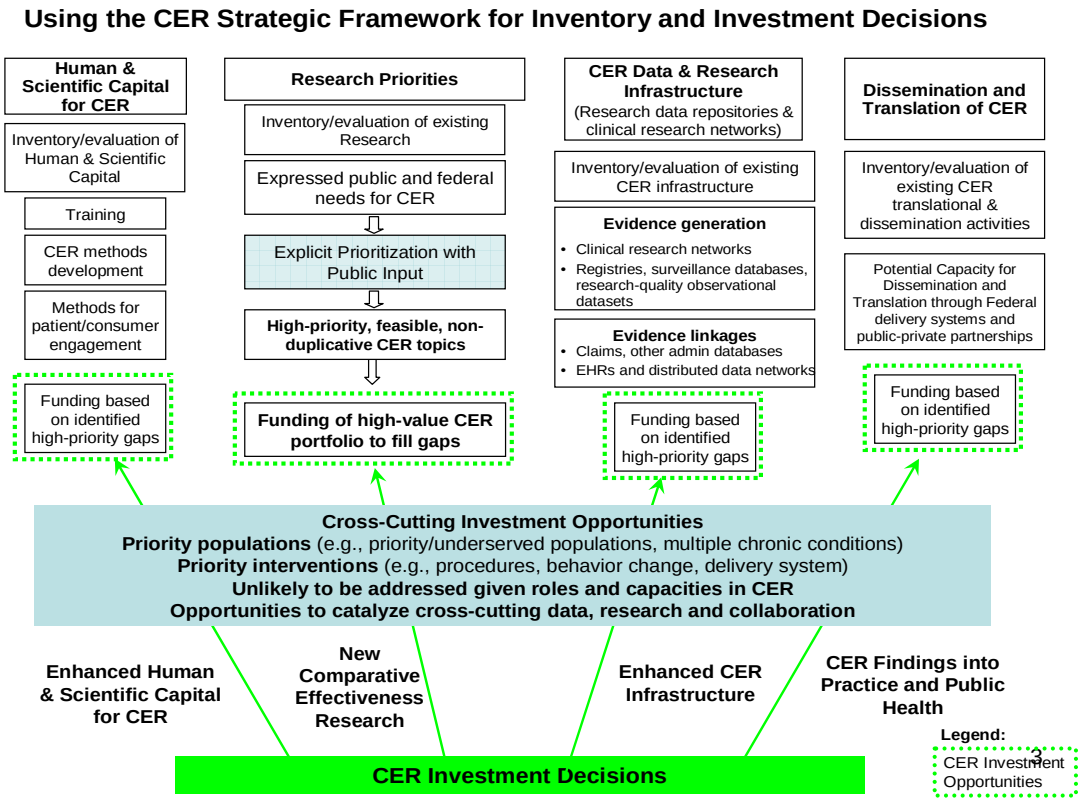
Agencies or organizations that are engaged in CER will often make investments in one group of activities or across multiple groups within a cross-cutting theme. The pattern of activity and investment for a single organization highlights its strategy. For example, a medical information database company may concentrate its CER activities in data infrastructure, whereas the National Cancer Institute is involved in multiple types of activities with a focus on cancer. When patterns of activity for the most critical agencies and organizations involved in CER are viewed in aggregate, the CER framework reveals gaps in CER activities and investments. These gaps are potential areas of opportunity and impact for the Secretary's ARRA funds. As such, the framework is useful for determining what investments are appropriate for ARRA funds and for future Federal investments in CER, as well as for codifying the ongoing activities of Federal agencies involved in comparative effectiveness research.

Figure 1



Creating and maintaining an inventory summarizing current and past Federal efforts across the CER framework is critical to its value in decision-making. This inventory of Federally-sponsored CER activities will also be a critical component of future Council annual reports. This process of inventory-taking, gap analysis, and establishing priorities for investment should be iterative. The process for developing the inventory and aligning findings from that process with CER investment decisions is outlined in Figure 2.

Figure 2



Overall, the CER framework is a useful strategic and analytic tool to help organize ongoing CER activities of Federal agencies, to facilitate development of a strategy for the Secretary's ARRA investments, and to continually monitor progress in CER across the different dimensions of the framework.

VI. CURRENT CER INVENTORY AND CER DATA INFRASTRUCTURE

The following CER inventory and data infrastructure was collected for the first time and on a very short timeline. The counts of CER studies are based primarily on electronically accessible sources, informed in part by interviews of senior agency staff. Attributes of the research reported here (study designs, types of interventions studied, etc.) were determined from study summaries or abstracts rather than inspection of full-text reports of these studies.

As described below, providing a high-confidence estimate of the number of Federally-funded CER studies underway for a given fiscal year is not currently feasible. Prospective identification of CER studies using keywords or other "tagging" in one or more readily searchable electronic databases would enable tracking of completed and ongoing CER. Therefore, this preliminary inventory is informed by a convenience sample and should be viewed as a rough estimate of what will be an iterative process going forward.

Although ARRA is the first coordinated Federal CER effort, several Federal agencies have been conducting comparative effectiveness research and maintaining data and infrastructure for CER. Most of this activity has been conducted independently within the given agency. The agencies most active in CER include AHRQ, NIH, and the Veterans Health Administration (VHA). But many other agencies conduct or have resources related to CER to a lesser degree, such as comparative effectiveness research studies, related data infrastructure, or the potential to be effector arms for research dissemination and translation. Finally, it is important to note that this inventory does not include CER conducted by private or not-for-profit organizations.

CER Inventory

Table 2 provides information about the numbers of studies for these agencies. There is no standard, systematic means of reporting on CER studies and funding across Federal agencies. It is not possible at this time to estimate the total number of primary or secondary CER studies conducted by the Federal Government. Other than AHRQ, by virtue of its dedicated Effective Health Care Program, agencies have limited ability to track CER studies and spending, reflecting that CER is a relatively new field of inquiry, has no standard definition, and is not "tagged" or readily searchable in biomedical or health services research databases. AHRQ tracks its funding and number of studies by fiscal year. Funding for CER studies for AHRQ ranges from 12 million to 35 million per fiscal year since FY 2006, with 12-18 studies funded per year. Estimates for the number of CER studies and funding for DoD and VHA are approximations per year rather than specific numbers for particular years. For example, DoD estimates its funding to be approximately $125,000 to $500,000 per year for 5-10 studies per year; the VHA estimates are 50 million to 70 million per year for 40-50 studies per year.

As part of its large portfolio of biomedical research, the CER funded by NIH makes that agency the single largest sponsor of primary comparative effectiveness research. These studies are difficult to identify, however, as they are not "tagged" or otherwise readily searchable as CER in such databases as ClinicalTrials.gov or CRISP (Computer Retrieval of Information on Scientific Projects, a database of biomedical research funded by NIH).

For purposes of this pilot inventory, a keyword search of ClinicalTrials.gov yielded an initial set of 1,800 NIH-funded trials during the years 2006-2009 that were candidates for CER. Subsequently, in cooperation with NIH, a sample set of 463 NIH CER studies for 2008 was identified, starting with a new searching process under development by NIH to track CER studies and spending.[26]

[26] NIH recently developed an initial process involving a keyword searching software algorithm based on consensus among several experts regarding which studies from among those funded by NIH qualify as CER. NIH applied this algorithm to all studies funded by NIH in 2008, which yielded more than 800 studies with a score above a certain threshold—tagging them as potential CER. Inspection of all of the records of all of these studies in CRISP by staff supporting the Coordinating Council identified the set of 443 that appeared to qualify as CER. This set of 443 does not necessarily represent the full set of CER studies funded by NIH in 2008.

Table 2: Estimated CER Grant/Study Counts FY 2006 – FY 2009[1]

Agency	CER Grants/Studies FY2006-FY 2009 (YTD)
AHRQ	144
DoD	25
VHA	96
NIH[2]	463

[1]As of June 2009, based on review of agency/department websites and agency/department generated lists

[2]NIH is in process of cataloging CER. This primarily represents FY 2008.

CER studies conducted or sponsored by VHA and DoD often focus on the particular populations they serve. These include CER studies involving patient groups that fall within designated U.S. priority populations (e.g., the elderly, racial and ethnic minorities, patients with multiple chronic conditions, persons with disabilities).

The main findings from analyses of Federal CER for fiscal years 2006-2009 include the following:

- In this initial compilation, the inventory of CER that could be confirmed independently for those agencies that perform or sponsor it was generally comparable to the inventory as described in interviews with agency staff. The main exception was NIH, where the volume of CER is acknowledged to be large yet remains to be quantified.
- Other than that for AHRQ, agency budgets for CER are not well defined. Agency staff typically described rough percentages of total research budgets or approximate ranges of annual expenditures on CER, but generally could not cite budget amounts allocated to CER (e.g., by Federal fiscal year).
- Excluding AHRQ, which could cite studies in its Effective Health Care program as at least a core set of CER, agency staff could not specify the number of CER studies conducted per year or other period. Three main factors account for this. First, there has not been a standard definition of CER. Second, while agencies may have a sense of expenditures or relative emphasis of CER, individual studies are typically not titled, given keywords, or otherwise "tagged" in a manner for identification as CER. Third, the time frame for CER study counts is not standardized; some agencies provided counts in terms of studies underway during a given year, others provided counts of studies initiated in a given year. Thus, providing a high-confidence estimate of the number of Federally-funded CER studies underway for a given fiscal year is currently not feasible. Clear identification of CER studies, particularly prospectively, would better enable tracking of completed and ongoing CER.
- Combined Federal CER is broadly distributed across study types (i.e., primary versus secondary studies). The volume of primary CER sponsored by NIH, particularly Randomized Controlled Trials (RCTs) and other trials, accounts for the largest general type of CER.
- The greatest concentrations of Federal CER are systematic reviews by AHRQ, RCTs by NIH, and RCTs by VHA (Table 3).

- Most AHRQ CER comprises secondary research (i.e., systematic reviews and other syntheses) and VHA supports secondary research through its Evidence-based Synthesis Program. Otherwise there is little emphasis on secondary research. Moreover, mathematical modeling is infrequently used in Federal CER (Table 3).
- Most primary research is done through RCTs (Table 3).
- Without careful inspection on a trial-by-trial basis, reliable detection of "practical" (or "pragmatic") trials among the primary CER studies is not possible. As a group, the VHA trials appear to have more such "practical" characteristics than trials sponsored by other agencies.
- Relative to the RCT volume from NIH and VHA, the use of observational analyses, including those involving large patient-level databases, is relatively infrequent.
- The locus of research varies by agency. All CER funded by VHA and most by DoD is intramural. Most CER funded by AHRQ is extramural. Although NIH conducts some intramural primary research, most CER is done extramurally.
- The interventions studied most often in Federal CER are pharmacologic, which account for the majority of the interventions studied by AHRQ and NIH. These are followed by studies of the health care delivery system, led by VHA, and behavioral interventions (which are often compared to pharmacologic interventions), led by NIH and VHA (Table 4).
- Roughly 86 percent of the CER studies in this sample across agencies focus on at least one priority disease/condition. The leading categories among these are depression and other mental health disorders, substance abuse, cardiovascular disease, and diabetes (Appendix C).
- The distribution of priority diseases/conditions studied by DoD and VHA largely reflects the respective populations they serve. For DoD, they are cancer, functional limitations and disability, and depression and other mental health disorders. For VHA, they are cardiovascular disease, and depression and other mental health disorders (Appendix C).

Table 3: Estimated Types of CER by Agency/Department

Study Type[1]	AHRQ	NIH[2]	DoD	VHA	Total
Primary Research					
Randomized Controlled Trial	11%	79%	0%	77%	60%
Practical/Pragmatic Controlled Trial[3]	3%	1%	16%	1%	2%
Other Non-Randomized Controlled Trial	2%	2%	32%	0%	3%
Observational Study (natural experiment)	1%	2%	0%	4%	2%
Observational Study (Prospective/Registry)	4%	3%	16%	6%	4%
Observational Study (Retrospective)	9%	5%	6%	4%	6%
Secondary Research					
Systematic Review	58%	0%	13%	0%	14%
Meta-Analysis	3%	0%	0%	0%	1%
Mathematical Model	4%	3%	3%	3%	3%
Research Training	n/a[4]	0%	13%	0%	1%
Other Capacity Building	n/a[4]	0%	0%	1%	0%
Other	2%	2%	0%	3%	2%

[1] Some studies include more than one study design, totals may not equal 100% due to rounding.
[2] NIH 2008 (based on sample of 443 studies) plus NIH multi-year (based on 30 studies across years).
[3] Rough estimate given no standard definition for pragmatic trial.
[4]AHRQ has been heavily involved in development of human and scientific capital for CER. It provides career development (K) grants for CER as well as a T and R grant for CER capability building. It also has funded numerous methodology studies for CER. These will be more fully quantified in the completed inventory.

Table 4: Estimated Types of Interventions Included in Studies

Study Intervention Type[1]	AHRQ	NIH[2]	DoD	VHA	Total
Pharmacologic Treatment	35%	68%	24%	10%	34%
Biologic Treatment	1%	1%	10%	4%	4%
Alternative Medicine	2%		8%	1%	2%
Medical Device/Equipment	17%	6%	0%	7%	11%
Surgical Procedure	11%		3%	9%	9%
Behavioral Intervention	11%	24%	11%	24%	16%
Public Health Intervention	2%	1%	17%	3%	3%
Delivery System	11%		19%	41%	20%
Other	10%		8%	1%	2%

[1] Some studies include multiple types of interventions and may not total 100% due to rounding
[2] NIH multi-year. Will need to be updated once inventory based on types of NIH interventions is complete.

The involvement of priority populations in CER sponsored by Federal agencies is varied. While several studies do not explicitly focus on a priority population, investigators sometimes report on analyses of one or more specific sub-groups:

- About half of CER studies across these Federal agencies involve a priority population, with nearly 60 percent of VHA studies doing so. Many studies focus on more than one population group. In part consistent with their respective missions, the agencies exhibit different distributions of emphasis on priority populations.
- Among those studies that do involve priority populations, those involving patients requiring chronic care, and those who are elderly are the most common. While no studies specifically indicate a focus on low-income groups, such individuals often comprise some of the patients studied, including the elderly, those with multiple chronic conditions, and minority groups.
- Studies vary as to whether there is sufficient representation of one or more priority groups in the study population to enable sub-group analysis, even if the study does not focus on a priority population as a principal objective. Particularly at AHRQ, in cases where studies do not have as their primary focus a priority population, sufficient numbers of members of priority groups may not be present for sub-group analyses, especially in the case of systematic reviews.
- Future iterations of the inventory will need to drill down on the representation of priority populations in studies.

CER Data Infrastructure

Substantial Federal and private sector infrastructures exist that could be used to identify potential CER priorities, to support the conduct and improve the productivity of CER, and to enable the translation of research findings into actionable information. However, the current infrastructure for CER is fragmented, and it is not coordinated or mobilized in a way that would enable providing coherent and targeted support for CER.

Patient-level Databases and Databases to Support Researchers

Federal agencies support or have access to substantial patient- and person-level databases that could support CER. Additional databases in the private sector can also deliver specialized content for CER. For example, these Federal and private sector databases can support or enable:

- Analyses preparatory to CER, such as.:
    - Disease prevalence and burden to help determine priority areas for comparative effectiveness research.
    - Utilization and distribution (e.g., geographic) of alternative interventions to help identify variations in practice and candidate interventions for CER.

    - Patient characteristics, socioeconomic attributes, comorbidities, and so forth, to determine the availability of certain patient populations for clinical trials, registries, and other person-level studies.
- Observational studies and retrospective data analysis (e.g., mining data from natural experiments).
- Support for prospective studies, including efficient development of registries and objective collection of treatment detail.

Important considerations for investing in and applying patient/person level databases to CER include:

- Potential to link to other databases that enrich the person/patient view, such as databases containing socioeconomic characteristics of individuals and mortality information (e.g., the Social Security Deathmaster or the CDC National Death Index).
- Potential to link databases that contain clinical information to those with transactional information (e.g., linking claims databases that have chemotherapy detail on cancer patients to electronic health records or registries for the same patients that have clinical data such as cancer stage, histology, and patient status).
- Research readiness of the databases (e.g., requiring minimal time on the part of the researcher to learn database attributes and develop special programs for data clean-up and access).
- Requirement to maintain security and privacy for any personally identifiable health information.

Appendix C lists some key patient-level databases with potential applications for CER. Among the ones available through Federal agencies are the major administrative databases maintained by CMS, the medical records databases at VHA, targeted databases maintained by AHRQ and NIH focused on service areas (e.g., HCUP on hospital-based care), and the NIH's SEER cancer registry.

Key private sector databases for CER include large administrative databases with longitudinal health care detail on millions of patients, and consolidated databases on EHRs. To the extent that these repositories can be linked (for which many have the potential), they can be highly valuable assets for CER, particularly because they account for commercially insured populations that are not captured in Federal and state databases.

In supporting research activities, the following Federal data infrastructure assets can speed communication among researchers and expedite identification of researchers with special skills:

- AHRQ: the DEcIDE Network, the CERTs (Centers for Education & Research on Therapeutics), and group of EPCs (Evidence-Based Practice Centers).
- NIH Clinical Translational Research Awards (CTSAs) recipients.
- CDC: Evaluation of Genomic Applications in Practice and Prevention (EGAPP) workgroup.
- HRSA research networks: Pediatric Research in Office Settings (PROS) and Emergency Medical Services for Children (EMSC) groups, among others

- SAMHSA: National Child Traumatic Stress Network
- VA Research Center of Excellence

Other databases for supporting researchers include:

- ClinicalTrials.gov (Federally and privately supported clinical trials).
- MEDLINE/PubMed (biomedical journal literature), HSRProj (Health Services Research Projects in Progress).
- CRISP (biomedical research funded by NIH, including clinical trials and other studies).
- Disease-oriented databases, surveys and Web sites, including the Longitudinal Studies on Aging (NCHS and NIA) and the Cardiovascular Health Study (NHLBI).
- Survey of Mental Health Organizations, General Hospitals Mental Health Services, and Managed Care Organizations (SAMHSA).
- Numerous CDC disease and research data assets and sites, including the NCHS surveillance systems, cancer registries, and vaccine registries.

None of these databases with actual or potential applications in CER were developed for the explicit purpose of comparative effectiveness research. Furthermore, they generally have not been organized or indexed to enable searching for CER. For example, careful record-by-record inspection of such research study databases as ClinicalTrials.gov and CRISP is required to identify CER. In order to assess current gaps and support translation and adoption of CER findings efficiently, these databases would require "tagging" of records or related searching functions that would enable accurate identification of CER.[27]

Dissemination and Translation Infrastructure

A few agencies, notably AHRQ, VHA, NIH, and SAMHSA, have capacities to translate CER into actionable information for practitioners, patients, and other target audiences. The VHA's capabilities for translation and adoption are inherent in its integration of research and patient care at VHA treatment centers. Additional agencies also have capabilities for disseminating information to segments of consumers and practitioners. All of these agencies have the potential to influence adoption of CER findings.

There are, however, minimal formal mechanisms to disseminate and translate CER from research agencies such as AHRQ and NIH into the delivery system side of HHS (e.g., HRSA, IHS, SAMHSA, CMS QIO's). In addition, given the current expansion of CER and the increased emphasis on achieving impact from its findings, the current dissemination and translation capacity of the relevant agencies involved in CER is likely to be insufficient for achieving CER's potential.

Some of the key elements that can be leveraged in a comprehensive and articulated CER dissemination and translation strategy are outlined below.

[27] In MEDLINE, for example, indexing tags for particular "publication types," such as Randomized Controlled Trial, Clinical Trial, Phase III, Meta-Analysis, and Review, would readily enable searching for journal articles that report such studies.

- AHRQ
  - CER methods guides, tools, and resources made available via the AHRQ Web site, Web conferences, public service announcements, advertising campaigns, online audio guides available to public, and other means for informing consumers, clinicians, and policymakers.
  - The John M. Eisenberg Clinical Decisions and Communications Science Center, which focuses on translation of research to various target audiences.
  - AHRQ Publications Clearinghouse.
  - AHRQ dissemination partnerships, including with health professional societies, patient advocate groups, and non-profit organizations focused on particular diseases/conditions.
  - Effective Health Care Program Stakeholder Group, which helps to identify important information gaps, ensure transparency, and provide feedback on reports.

- CDC
  - Information to monitor the adoption of CER recommendations and to track the effects from changes in clinical practices and policies on the following process and outcomes measures: clinical management of specific conditions, including the use of medications and other specific services, and intermediate health-related outcomes, such as test results; incidence and prevalence of specific conditions; personal behaviors, health status, and functioning; and births and deaths.
  - Public use data from NCHS surveys available through the CDC/NCHS Web site and internal confidential data available for researchers through the NCHS Research Data Centers.
  - NCHS/CDC reports, including Data Briefs and E-Stats, and other analyses available through the Web site, and articles in the peer-reviewed literature.
  - Dissemination by and with collaborators, including sponsors of specific data collection and analysis.

- DoD
  - Searchable publication libraries, including the Military Health System Publication Search.
  - DeployMed Research Link, which informs Service members, researchers, health care providers, military leaders, and others about DoD and other Federally funded medical research related to deployments since 1990.

- NIH
  - Clinical and Translational Science Awards (CTSAs), which are NIH-funded academic centers that translate research into practice.
  - Nation Cancer Institute's Physician Data Query, an online database that summarizes study results in prevention, screening and management of cancer in versions appropriate for physicians and for patients.
  - Research databases, including MEDLINE/PubMed, HSRProj, CRISP, and ClinicalTrials.gov.

- Public health campaigns, such as Red Dress (women's heart health) and Small Steps Big Rewards (weight loss).
- NIH Consensus Development Conference program, which summarizes knowledge about a variety of clinical and public health interventions.

- VHA
  - QUERI (Quality Enhancement Research Initiative) program for enhancing the uptake of evidence within VHA.
  - Periodic research summaries and issues briefs for senior VHA clinical and policy leaders, and related research results disseminated to researchers.
  - CME programs for nurses and other health professionals that incorporate recent research findings.
  - Print and online patient education tools, including the MyHealthE Vet Web site, for dissemination to patients.
  - Point-of-service decision-support tools and reminders to clinicians within the VHA EHR system guiding practice toward the most effective treatment, including a Web portal for clinicians to access clinical practice guidelines.

- SAMHSA
  - National Registry of Evidence-based Programs and Practices (NREPP) and the Technical Assistance Centers can serve as translation vehicles. NREPP is a searchable online registry of approximately 140 mental health and substance abuse interventions and targeted outcomes; it provides quality of research and "readiness for dissemination" ratings.
  - The Addiction Technology Transfer Center (ATTC) Network is comprised of 14 Regional Centers and a national office which facilitates alliances among providers, administrators, and recovery and treatment communities, and connects them to the latest research and information through activities such as skills training, academic education, online and distance education, conferences, workshops, and publications.
  - The National Centers for the Application of Prevention Technologies (CAPT) work to bring research to practice by assisting States/Jurisdictions and community-based organizations in the application of the latest evidence-based knowledge to their substance abuse prevention programs, practices, and policies.
  - The SAMHSA Health Information Network (SHIN) provides a one-stop, quick access point that connects the behavioral health workforce and the general public with the latest information on the prevention and treatment of mental and substance abuse disorders.

- FDA
  - Web site provides news and other information to physicians and consumers on drugs, biologics, and devices.

- Office of Public Health and Science (OPHS)
  - Comprises 12 core public health offices and the Commissioned Corps, some of whom work with population and community-based networks to disseminate health information (e.g., Office of Disease Prevention and Health Promotion, Office of

- Office of the National Coordinator for Health Information Technology (ONC)
  - Efforts to develop and implement a nationwide, interoperable health information technology infrastructure could provide a means for incorporating CER into decision-support systems for clinicians and other applications in health care.

- HRSA
  - Among multiple dissemination vehicles, the AIDS Education and Training Centers Program and the Ryan White HIV/AIDS Program support a network of 11 regional centers and more than 130 associated sites that conduct targeted, multidisciplinary education and training programs for health care providers treating people living with HIV/AIDS.
  - HRSA's Maternal and Child Health Bureau disseminates information using cooperative agreements with professional organizations and academic institutions, and funds grants for continuing education to academic centers across the country, specifically for the purpose of translating research into practice.

There is virtually no capacity to track the impact of CER dissemination, translation, and adoption activities. As a result, this limits the ability to measure the impact of CER and to conduct research on effective approaches. Claims databases could be one resource for tracking changes in practice over time and their impact.

Human and Scientific Capital

The future workforce engaged in CER should include experts from a wide array of disciplines, including biostatistics, epidemiology, mathematics, economics, and ethics. To date, however, there has been little focus on human and scientific capital infrastructure for CER. The principal exception is the close affiliation of certain AHRQ activities involving academic centers and other organizations, including the DEcIDE network, CERTs, EPCs, the Eisenberg Center, and various awards to researchers. AHRQ funding of DEcIDE network members and EPCs supports research trainees at those organizations. AHRQ also provides career development (K) grants focusing on generation of new scientific evidence and analytic tools that enable the prioritization of evidence-based services and goals for patients with multiple comorbidities.[28] In addition, AHRQ has sponsored other scientific and methodological activities, including development of methods guides, training seminars, and related events (e.g., at AcademyHealth and other professional conferences), and various workshops and support materials on MEPS, HCUP, and other data sets.

NIH provides significant training opportunities that could incorporate CER, including support for medical students interested in research, clinical fellowships, workshops for researchers, training grants, and consensus conferences. The CTSA program at NIH provides translational development support at academic and other research centers, some of which addresses evidence-

[28] http://grants.nih.gov/grants/guide/notice-files/NOT-HS-08-004.html.

based medicine approaches, if not CER in particular. The NIH K30 Clinical Research Curriculum Awards support training in design of clinical research projects, hypothesis development, biostatistics, epidemiology, disease mechanisms, medical technology, human genetics, and the legal, ethical, and regulatory issues related to clinical research.[29]

Although DoD has an extensive training and professional education infrastructure, it does not focus on CER.

A small number of training programs at academic centers focus on areas that address methodologies and study designs related to CER. Among these are the Clinical Research Training (CREST) program at Boston University, which provides training in clinical research that includes epidemiology, clinical epidemiology, health services research, biobehavioral research, and translational research,[30] and the Duke Clinical Research Training Program, which provides training in quantitative and methodological principles of clinical research, including research design, research management, medical genomics, and statistical analysis.[31]

Several agencies draw on the considerable scientific and methodological expertise resident in the FDA, but there is little emphasis on comparative effectiveness research at that agency. These informal links to scientific expertise could be formalized; also, specific CER expertise could be housed in selected agencies with an expectation of a cross-agency role. FDA expertise would be of exceptional value in, for example, understanding the respective merits of alternative study designs for assessing efficacy vs. effectiveness and for collecting and assessing adverse event data, strengths and limitations of using surrogate endpoints and other biomarkers in CER, incorporation of genomics and other aspects of personalized medicine into CER. Phase III and phase IV studies could also generate evidence on comparative effectiveness, as well as on other scientific and methodological aspects of CER.

Despite the promise of "practical" or "pragmatic" trials for CER, methodological gaps and threats to internal and external validity remain. Real world trials must deal with confounders, including confounding by indication and presence of comorbidities, selection bias, and other factors that impede the assessment of cause and effect. Focused research to improve the validity of practical trials and interpretation of their findings could enhance the use of these study designs.

Further development of mathematical modeling approaches and retrospective data analysis capabilities would also provide alternative means of analyzing comparative effectiveness, as well as generating viable research hypotheses and providing input for designing primary and secondary CER.

Gaps in the Current CER Landscape and Investment Opportunities

The inventories of CER and CER data and research infrastructure reveal gaps and other challenges for achieving the potential of comparative effectiveness research.

[29] http://grants.nih.gov/training/K30.htm.
[30] http://www.bumc.bu.edu/clinepi/crest/general-info/
[31] http://crtp.mc.duke.edu/content.asp?page=about

Coordination across the CER framework: Substantial CER assets exist across the Federal Government, but coordination is necessary to capture their full value. Several challenges exist in achieving this:

- Prior to this report, there was no standardized Federal definition for CER; aligning organizations around this definition will be necessary for identifying, cataloging, and disseminating CER in a coordinated manner
- Difficulty in setting national CER priorities.
- Structural barriers that limit collaborations among agencies.
- Limited coordination with private sector CER efforts. This includes lack of integration of existing data sets across payers, suboptimal development of CER data infrastructure, an inability to track populations and treatments across payers, and suboptimal translation and adoption of CER findings.
- Unrealized benefits of stakeholder involvement. Greater involvement of stakeholders (e.g., patient advocates, health professionals, researchers, technology manufacturers, payers) in CER processes can help to achieve the goals of CER, including more informed priority setting, input on certain aspects of study design (e.g., identification of important subgroups and patient-centered outcomes), and identification of target audiences for CER and strategies to reach them.

Research: Despite the comparative effectiveness research to date, there are many unanswered questions.

- Those who sponsor and design clinical trials continue to face challenges in tradeoffs between internal validity of CER for causal effects of interventions on outcomes and external validity of CER to heterogeneous patient groups and routine health care settings.
- Increased emphasis on well-conducted pragmatic trials could increase acceptance of CER findings.
- May research questions for important clinical health care decisions remain unanswered

Human and scientific capital: Due in part to the increasing interest in comparative effectiveness research, continued investment in human and scientific capital for the field is needed.

- Greater investment is needed in developing education and training programs to support the development of professional talent, the development of methods for linking and using databases for CER, the development of new methodologies for pragmatic trials, effective translation and adoption of CER findings into practice, modeling approaches for CER, and evaluation of the impact of CER
- More methods work is needed to advance the state-of-the-art for pragmatic trials and to provide training for using these study designs.
- Recent growth in training for the related fields of health technology assessment, outcomes research, and health economics, among others, has helped to yield a cohort of researchers who are well-positioned to become more expert in CER, along with

CER Data Infrastructure: The scope and scale of CER requires data infrastructure that may outstrip current capabilities.

- Current data sources are fragmented and limited in terms of clinical robustness and longitudinal data capture.
- An evolving inventory of CER data infrastructure is needed to track the capacity of this infrastructure and provide a basis for its further development; this inventory should include observational databases, registries, claims and other administrative data, pharmacy and laboratory data, adverse events registries, EHR networks, and other health information technology.
- In addition to one or more inventories, greater understanding is needed regarding the strengths and limitations of these data sources, and areas for their further development. An example of a relevant resource is the 2007 *Registries for Evaluating Patient Outcomes: A User's Guide*, produced by the AHRQ's DEcIDE Research Center.
- Investment in linking such data sources is more likely to be realized by establishing clear information policies and technical standards, standardized terminology, improved platform capability, novel search algorithms, mechanisms to maintain patient privacy, and controls to access data, and by reducing and coordinating data processing times.[32]
- There are few searchable electronic inventories or related databases of CER and CER infrastructure. While sources like ClinicalTrials.gov, CRISP, MEDLINE, and HSRProj contain information about completed and ongoing CER, but they are not presently configured or linked to serve the needs of CER.
- Absence of an inventory of CER limits the ability to assess the magnitude and nature of the current portfolio of completed and ongoing CER, to identify CER on particular topics, and to inform priority-setting for CER.
- A comprehensive inventory of CER infrastructure would improve the ability to conduct CER and to allocate resources to develop the national capacity to conduct CER.

CER Dissemination and Translation: Many findings to date from CER have not yet been fully integrated into clinical practice or made accessible to patients in easy-to-understand language.

- Certain effective dissemination avenues are in place, including among some of the agencies engaged in CER. Except for AHRQ, however, these agencies are not yet oriented to CER and do not adequately extend beyond dissemination alone to translation and adoption of CER into practice.
- Tools and mechanisms to support clinicians and patients in incorporating available CER information are lacking. This information needs to be delivered to the front line of care where health decisions are made and results measured.

[32] See, for example: Diamond CC, Mostashari F, Shirky C. Collecting and sharing data for population health: a new paradigm. Health Aff (Millwood) 2009;28(2):454-66.

Priority populations and other sub-groups: At present, the agencies have largely separate approaches to addressing these groups. A better-coordinated Federal approach is needed to address priority populations and priority conditions, including sub-groups with multiple chronic conditions.

- Greater attention on designing studies with sufficient power to discern treatment effects and other impacts of interventions among patient sub-groups (e.g. accounting for heterogeneity of treatment effects) will better serve clinical decision-making, enabling more individualized, patient-specific care.
- Improved partnerships with Federal grantees serving priority populations, such as Community Health Centers, will enhance their engagement with CER.
- Improved access to and utilization of Federally sponsored databases that include priority populations can significantly enhance the inclusion of sub-groups into CER.

Types of interventions: To date, CER has been disproportionately focused on pharmacologic treatments rather than the full spectrum of intervention types. This likely derives in part because of the relative emphases of the research agendas of agencies that sponsor CER and the focus of the private sector is primarily on new drugs and biologics. The emphasis on pharmacologic treatments has meant fewer resources for other interventions, including behavioral, procedures, prevention, and delivery system interventions, that can have major impacts on health outcomes.

VII. PRIORITY-SETTING PROCESS

The Council actively sought public input throughout this process, and this input significantly influenced all Council decisions. To help guide the Council's deliberations on the definition, framework, and priorities for comparative effectiveness research, the Council held three listening sessions and solicited additional public comments online. The Council heard from over 300 stakeholders representing health care associations; consumer, community, and advocacy organizations; academia and think tanks; patients; providers; hospitals and hospital systems; payers; pharmaceutical companies; foundations, public health entities; and private sector companies engaged in the health care field. One U.S. Senator also submitted comments.

Several respondents honed in directly on the reason why investments in CER are important. One person, for example, said that CER is crucial to reforming the practice of medicine to increase the quality, safety, value, and effectiveness of what providers bring to patients on a daily basis. Other respondents addressed a wide range of interrelated issues, including priorities for the research agenda, collaboration, infrastructure development, research methodology, transparency, care delivery, cost, and knowledge transfer. Many patients expressed their need for this type of research; one of the most emotional and moving testimonies came from the mother of a child with a seizure disorder in Chicago who had struggled to find the best treatment for her child. A physician from the American Board of Orthopedics summarized many physicians' testimony by saying, "developing high quality, objective information will improve informed patient choice, shared decision-making, and the clinical effectiveness of physician treatment recommendations."

The public input has been extremely valuable in informing the Council's deliberations, and many of the major thematic threads that run thought the public comments are reflected in the strategic framework, focus, and recommendations for priorities for OS CER funds. Details about what the public had to say are contained in Appendix A.

The Council also conducted a first draft inventory of CER and data infrastructure (outlined above) to help identify gaps in the current CER landscape. For the Office of Secretary funding recommendations, the Council proceeded through structured deliberations informed by public input, developed an inventory of current activities, established prioritization criteria and a strategic framework, and discussed the unique role for OS funds to fill gaps and build the foundation for future CER. In the future, the Council should continually and actively engage stakeholders inside and outside the government, including patients, providers, payers, employers, industry, academia, and others. This critical component of the priority-setting process could take the form of even more active participation by external stakeholders in the future.

VIII. PRIORITY RECOMMENDATIONS FOR OFFICE OF SECRETARY CER FUNDS

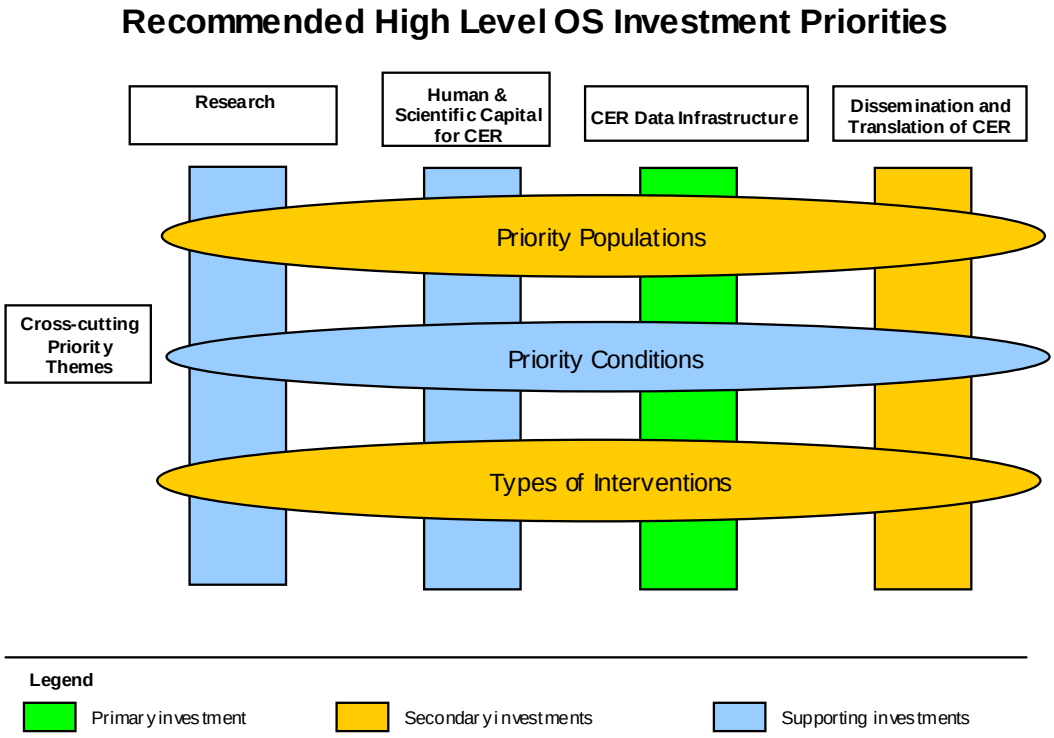
Using the strategic framework for CER discussed in Section V, and taking into consideration the unique role that OS funds can play in addressing high priority gaps, the Council developed a recommended high-level investment strategy for the use of the OS ARRA funds. The strategy has three different levels of priority recommendations for OS fund investments in the Core Activities and Cross-cutting Priority Themes in the CER framework (Figure 3).

- **Primary investment.** This area of investment should represent a large portion of the OS funds. It best fulfills the full range of prioritization criteria and requires scaled investment in order to be successful. The Council recommends that CER Data Infrastructure be the primary investment.

- **Secondary investments.** These areas should also receive significant investment. They are as critical to success in CER as the primary focus, but individually may require a smaller amount of funding to be successful. The Council recommends that Dissemination and Translation of CER, Priority Populations, and Priority Types of Intervention be secondary investments.

- **Supporting investments.** These areas should not be the major focus of OS funding as they do not fulfill the prioritization criteria as well as primary and secondary investments, but some funding may be necessary to support and enable investments in higher priority areas and fill identified gaps. The Council recommends that Human and Scientific Capital, Research, and Conditions receive supporting investments. It is important to note that these recommendations pertain only to OS funds; AHRQ, NIH, and VA have a history of significant investments in Research, Human and Scientific Capital, and Conditions.

Figure 3



The Council believes that this strategy and distribution of investments will best position the Secretary to:

- Respond to patient and physician demand for CER.
- Balance achieving near-term results with building longer-term opportunities.
- Capture the distinctive value of the Secretary's ARRA funds.

While it is the responsibility of the Office of the Secretary to operationalize this strategy, the Council's rationale for these recommendations is designed to help guide the Secretary in making specific investment decisions. The Council based its rationale for each level of investment in the strategy on the prioritization criteria described above, as well as representative examples of investment in each area proposed through the public comment process and by Federal agencies.

Primary investment

CER data infrastructure development is the most distinctive opportunity for OS ARRA funding. It requires a large, up-front infusion of capital to be successful that is unlikely to come from any source other than OS ARRA funds, making it ideal for this funding mechanism. It has broad potential impact, with the ability for resulting research to address conditions and populations captured in the primary data. Given the absence of comprehensive databases and data evaluation

tools (See Section VI), there is significant demand from the patient, clinical, and public health communities for new, expanded data infrastructure and data access to support decision-making. Finally, investments in data infrastructure have the potential to generate significant additional investments in two ways. First, some of these investments could take the form of public-private partnerships. Second, data infrastructure is a tool that, once developed, will result in new research conducted and/or funded by entities such as biomedical research organizations, payers, foundations, and health care providers.

The Council received proposals on a number of potentially promising initiatives related to data infrastructure, including but not limited to:

- Building, expanding, and linking longitudinal administrative claims databases.
- Linking administrative data with EHR-based or registry data.
- Expanding high-impact patient registries, (e.g., collaborations with specialty organizations, SEER).
- Distributed data networks populated by EHRs in practice and provider settings.
- Expanding analysis of FDA and private sector data on drug and device trials and safety.

As the Office of the Secretary identifies specific opportunities in data infrastructure, the Council recommends that it consider most carefully those that:

- Expand access to existing resources, especially those currently managed by Federal agencies.
- Create scaled platforms by leveraging existing data and capabilities in the private sector.
- Capitalize on linkages between health IT investments and the potential for CER infrastructure to develop evidence to inform decision-making.
- Ensure that infrastructure is responsive to needs of patients, providers, and other decision-makers—and not driven by what is most feasible.

The Council appreciates the relationship and need for coordination between CER and health IT (e.g. through a distributed network of EHRs) investments. As the Secretary develops HHS's full portfolio of ARRA investments, it will be critical to consider both CER and health IT holistically, not as policy silos, recognizing that success in CER is largely dependent on success in health IT and vice versa.

With all data infrastructure investments, the government will need to ensure data security and privacy. Protecting security and privacy is key to maintaining the public's trust.

Secondary investments
Secondary investments include a core area of investment—Dissemination and Translation of CER—and two cross-cutting themes—Priority Populations and Types of Intervention.

Dissemination, translation and adoption of CER is about realizing the benefits that comparative effectiveness research has to offer both patients and providers. While the breadth and depth of the near-term impact depends on what types of pilot programs the OS supports, the lessons and tools for translation developed by those pilots will be relevant to all.

The lack of reliable success in disseminating findings from CER in ways that translate into better health outcomes highlights the uncertainty and difficulty of this enterprise. However, dissemination and translation is essential to improving outcomes for patients and the link between evidence production and how best to get this information to physicians and patients in a way they understand is critical to capitalizing on the CER investment. Despite important efforts by the Federal Government, especially AHRQ, NIH, VA and DoD, the majority of current funding goes to building evidence as opposed to ensuring that the existing evidence base is utilized in patient care and health systems management. This creates a unique role for OS ARRA funding. Investments in dissemination and translation programs also have the potential to generate additional investments, especially from providers, if private institutions elect to implement similar efforts or partner with the Federal Government on translation efforts.

There are a wide range of potential dissemination, translation and adoption programs that the OS could support, including:

- Investing in dissemination and translation of CER findings throughout the Federal delivery system.
- Dissemination and translation through partnerships with provider and/or patient organizations.
- Decision support and shared decision-making tools to provide information to clinicians and patients at the point of care.
- Developing standards for communication tools for patients and providers, (e.g., a patient-friendly simple scoring system).
- Partnering with an existing consumer media channel (e.g., Internet search engine or health information site) to expand patient access to existing CER data.
- Creating a National Patient Library with a primary focus on providing evidence to patients in easy-to-use and understandable formats.

The Council recommends that the Office of the Secretary consider the following in making investments in dissemination and translation:

- Investing in better understanding the most effective methods to disseminate and translate research findings to improve patient outcomes.
- Identifying opportunities both to develop tools for translation and to pilot implementation of these tools.
- Partnering with provider organizations in Federal agencies, as well as in states and the private sector.
- Accounting for potential surrogate decision-makers (e.g., families) and the context for decisions in patient-focused tools.
- Ensuring that programs address a specific need articulated by the implementing organization or the partner to ensure success and the sustainability of dissemination activities.
- Focusing on developing standards for communication.
- Increasing understanding of the most effective methods to disseminate findings to clinicians and patients to inform decision-making

From an operational perspective, investments in the cross-cutting themes are somewhat distinct from investments in the core areas. Whereas funding for a core area might go to a project or organization focused on a specific activity, funding for a cross-cutting theme requires multiple coordinated investments and activities to be successful. Investments in these themes could cover some or all of the four core activities: research, data infrastructure, human and scientific capital, and dissemination and translation. These investments could involve a coordinated investment across HHS or the Federal Government, or they could be focused in academic centers, integrated delivery system organizations, private industry, or other non-governmental entities. Collaborative efforts to inform and transform care will be essential to achieving meaningful impact across these cross-cutting themes.

Investments in specific populations, meanwhile, will help ensure that the benefits of CER are available to all. It can also focus CER efforts on populations with existing health disparities and worse outcomes. CER has the potential in some populations, such as racial and ethnic minorities, to fill critical gaps that, historically, efficacy research has left unaddressed.

The Council identified several populations for whom the Secretary should consider allocating CER funds:

- Racial and ethnic minorities
- Persons with disabilities
- Elderly
- Children
- Patients with multiple chronic conditions

Investment in specific types of interventions in a cross-cutting manner also presents a unique opportunity for the nation's health system. The Council has identified six specific interventions for the Secretary to consider that address large and varied populations, resulting in high potential impact, are areas of high clinical uncertainty, and are not being adequately addressed by other entities. They are:

- Medical and assistive devices (e.g., comparing rehabilitative devices).
- Procedures and surgery (e.g., evaluating surgical options or surgery versus medical management).
- Diagnostic Testing (e.g. comparing imaging modalities for evaluating certain types of cancer)
- Behavioral change (e.g., developing and assessing smoking cessation programs).
- Delivery system strategies (e.g., testing two different discharge process care models on readmission rates or testing two different medical home models on preventing hospital admissions and improving quality of life).
- Prevention (e.g., comparing two interventions to prevent or decrease obesity, comparing strategies for reaching populations that do not access the health care system with prevention efforts).

Furthermore, the Council recommends that the Office of the Secretary consider the following in making investments in the cross-cutting themes of priority populations and types of interventions:

- Focusing on immediate, specific patient needs that can generate results.
- Concentrating on areas with cross-cutting gaps in research, data infrastructure, scientific capital, and/or translation.
- Building on promising systems and practices already in place, both within the government and in the private sector, and measuring results when scaled up and disseminated.
- Strongly encouraging coordination across the government and with entities outside of the government.

Supporting investments

The Council recommends that the OS reserve some ARRA funding for Research, Human & Scientific Capital, and the Conditions cross-cutting theme. Because these investments and topics are the major foci of CER activities at NIH and AHRQ, both of which will likely utilize ARRA funds administered by those organizations for these purposes, they do not represent distinctive investment for OS funds. However, there will likely be targeted investments in these areas that could support other OS ARRA efforts, such as training new researchers in CER methods or addressing gaps not addressed elsewhere in the Federal Government.

In making these targeted investments, the Council recommends the Office of the Secretary consider:

- Focusing on areas that maximize the value of the Secretary's investments in other areas.
- Avoiding duplication of efforts with other agencies.

For all of the above investments, the Council recommends that the Office of the Secretary consider the portfolio of investments and where synergies exist to leverage one investment into multiple areas. For example, a data infrastructure investment that can also be used for a cross-cutting priority theme would be of higher value than an investment that has more limited applications. Doing so will help to ensure that the funds allocated to the Office of the Secretary for CER will have a significant positive impact on the quality of patient care in the near term, and lay the foundations for continued improvements going forward.

IX. LONGER-TERM OUTLOOK AND NEXT STEPS

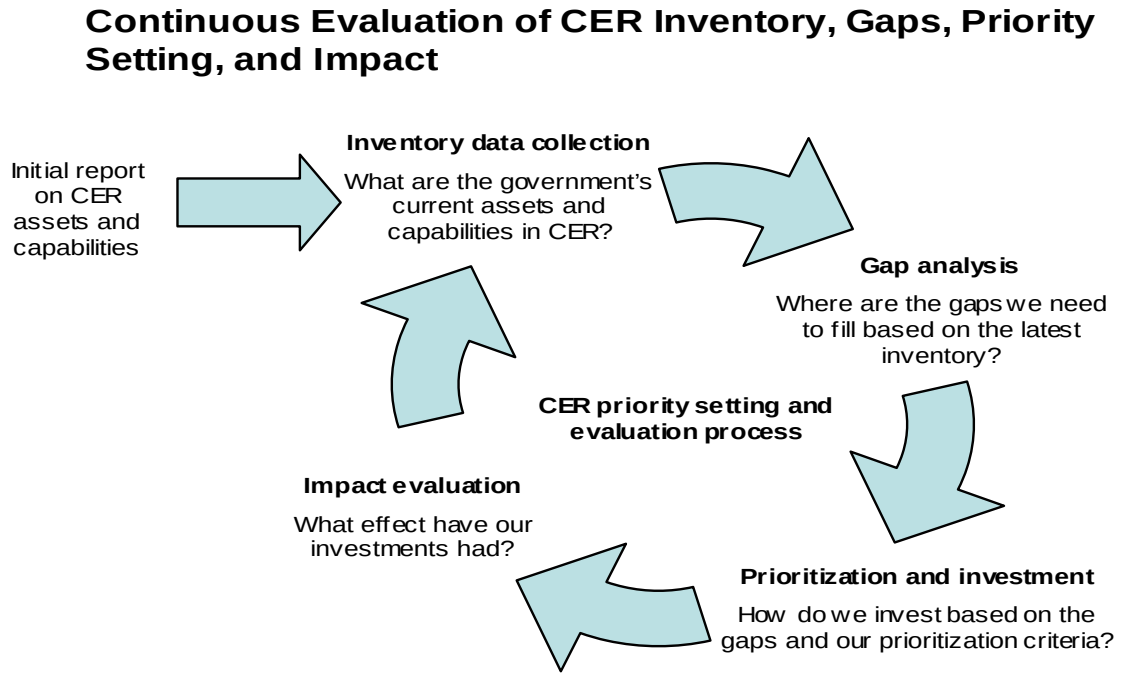
Outlook

The CER investment strategy recommended in the previous section, if implemented successfully, has the potential to further a number of elements of the Council's vision for improved patient care. In the near term:

- CER dissemination and translation pilots in Federal health care delivery systems could help empower patients and their physicians to make better decisions now about their care and serve as models for expansion to private delivery systems. Moreover, a time limited investment can support establishment of a systematic strategy for translating the products of all relevant research to benefit patients served by Federal programs.
- An increased emphasis on CER for priority populations could ensure that all will benefit from comparative effectiveness research.
- Improved access for researchers to existing Federal data sources, and development and enhancement of distributed data networks and patient registries outside of the Federal Government, could jump-start a new wave of CER in the areas that matter most to patients.
- The inventory of Federal activities in CER will help reduce duplicative or uncoordinated investments among Federal agencies and help create transparency for patients.

It will be essential that a continuous cycle of CER priority-setting and evaluation of impact take place. The four critical steps in this cycle are inventory of CER and infrastructure; gap analysis; priority setting; and evaluation of impact. Figure 4 below depicts this process.

Figure 4



The strategic framework for comparative effectiveness research is intended to lay the groundwork for longer-term initiatives, such as innovative public-private partnerships to build data infrastructure and conduct CER. The goal of this investment is to generate some near-term results and momentum for the future. This strategy allows the government to facilitate the building of needed infrastructure, to expand access to existing infrastructure, and to demonstrate proof of concept for implementation efforts. These efforts are only a first step, however, to

achieving the vision of improved quality, safety, efficiency, equity, and patient satisfaction through improved medical decision-making and an optimized health care delivery system.

Indeed, a number of clear issues and challenges will remain for Federal CER efforts in the near term:

- **Listening and Engaging External Stakeholders.** While the Council has worked to create transparency and responsiveness in this process to date, it is critical that it continue to have a patient-centered focus going forward. In the future, the Federal Government may want to consider the options of listening and engaging stakeholders with representatives including, at minimum, patients, providers, payers, employers, and industry representatives, to guide CER or broader patient-centered outcome efforts.
- **Continued Coordination.** The Council laid the groundwork for coordination, but coordination will need to become embedded across the Federal Government. As the government makes investments in CER, there must be a mechanism in place to track and coordinate these investments and avoid duplication of efforts.
- **Building Scientific and Human Capital.** To maximize the potential benefit of investments in CER, the nation needs more researchers trained in the applicable research methods and further development of these methodologies. This presents both a short-term and a long-term challenge.
- **Maintaining Gains.** These investments represent only the beginning of CER efforts. New research findings will need to be disseminated and successful translation of evidence efforts should be expanded. New databases and data sets need to be maintained and kept current, and the catalog of Federal activities and data infrastructure in CER needs to become a living document.
- **Building Leverage.** The Federal Government is now a major funding source of CER, but the private sector still represents a majority of the investment in biomedical research. The government needs to find innovative ways of partnering with the private sector to leverage government investments and help private-sector investment better serve patients.
- **Keeping it Current.** There are no widely accepted and applied common standards or approaches for periodically re-evaluating CER to ensure that previous conclusions still hold. A system must be developed to ensure that the conclusions from CER remain valid over time.

These issues reflect both the fact that comparative effectiveness research remains in its infancy and that it must be seen as a continuous and iterative process that needs to constantly evolve based on the changing needs of the patient.

Next steps

There are a number of next steps leading to the Secretary's integrated strategy and spend plan for CER on July 30, 2009, and several requirements for the success in implementation of that strategy. Most importantly, it is critical to the success of CER and health care transformation that the plan is coordinated across the ARRA CER funding allocated to the Secretary, AHRQ, and NIH. Furthermore, the Secretary should develop the plan as part of HHS's broader portfolio of ARRA investments, not as a stand-alone program.

The following steps are needed to finalize the CER operational strategy prior to the July 30 deadline mandated by Congress:

- Integrate IOM and Council strategic recommendations and leverage the investments, resources, and capacity identified through the initial inventory effort.
- Provide more specific recommendations for a portfolio of initiatives for all of HHS' ARRA funds within the framework outlined in the report.
- Define metrics for evaluating success.
- Coordinate the submission of the CER ARRA spend plans to ensure that they cover the gaps in CER outlined in this report, and that the agencies' investments leverage the strengths of each agency and are complementary, not duplicative.
- Maintain transparency and engagement with the public.

The Federal Government will need to continue its work to coordinate CER investments and assure Americans that these resources are being invested wisely. ARRA required that the Council submit an annual report regarding its activities and recommendations concerning the infrastructure needs, organizational expenditures, and opportunities for better coordination of comparative effectiveness research by relevant Federal departments and agencies. The first annual report will likely be in June 2010.

Comparative effectiveness research is being considered as a key piece of health reform, and the Federal Government must demonstrate its capability to coordinate that investment, achieve impact, and measure the results. This report outlines the priorities and path forward. Now the Federal Government must make progress and deliver results for the American people.

APPENDICES

Appendix A. LISTENING SESSIONS AND PUBLIC COMMENT SUMMARY

Overview

In order to help guide the Council's thinking on the definition, framework, and priorities for comparative effectiveness research (CER), the Council held three listening sessions (April 14 in Washington, D.C.; May 13 in Chicago; and June 10 in Washington, D.C.) and solicited public comments through the hhs.gov/recovery Web site. The response was strong:

- 92 panelists testified
- Greater than 300 individuals and organizations submitted comments

A breakdown of the responses by stakeholder type reveals that over half of the comments came from three groups: health care associations; academia and think tanks; and consumer, community-based, and advocacy organizations. Additional comments were received from patients, providers, payers, hospital and health systems, pharmaceutical companies, foundations, public health entities, and private sector companies in the health care field. One U.S. Senator also submitted comments.

More important than the diversity of respondents is what individuals and organizations had to say. Respondents provided a wide range of opinions and offered recommendations on everything from stakeholder participation to how to prioritize investments in CER to specific areas of focus to knowledge transfer and dissemination.

Without question, the public input has been extremely valuable in informing the Council's deliberations; many of the major thematic threads that run through the public comments are reflected in the Council's strategic framework, focus, and recommendations for priorities for OS CER funds. Of particular value to the Council was the opportunity to engage with panelists at the listening sessions. This back-and-forth discussion enabled Council members to refine their ideas and solicit further feedback.

Before summarizing the key themes, it is useful to note that several respondents honed in directly on the reason why investments in comparative effectiveness research are important—CER matters. For example, one respondent talked about the value of and application of CER for everyone's health and health care. Another talked about how funding is crucial to reforming the practice of medicine to increase the quality, safety, cost benefits, and real world effectiveness of what providers bring to patients on a daily basis.

One theme that wove through many of the comments was the need for greater collaboration among Federal agencies, among organizations at the Federal, state and local levels, and between the public and private sectors. One respondent stated that because expertise on comparative effectiveness research resides in both public and private entities, every effort should be made to encourage public-private collaboration in the design, conduct, analysis, and reporting of CER. This discussion about collaboration dovetailed with the question of stakeholder input, including the need to ensure that patients have a defined and central role in the CER process.

Key Themes

Some respondents recommended targeted research topics; these ranged from testing the total effects of medication on the frail elderly, to testing the efficacy of a diet to treat children with seizures, to informing prescribing physicians on a wide range of what does and doesn't work well for patients with various complex conditions.

Most of the comments, however, fell into several broad categories—prioritizing the agenda, infrastructure development, research methodology and conduct, care delivery, knowledge transfer, cost, and health disparities and personalized medicine. A number of key themes and specific comments are summarized below.

Prioritizing the Agenda

A number of respondents tried to step back and look broadly at the question of how to prioritize the agenda for comparative effectiveness research and what criteria should guide decision-making in this arena. An overarching theme that echoed through many of these comments was the need to think big and look system-wide. One respondent stated that CER that is localized to a single disease may be less of a priority than questions that cross over diseases. Another talked about the need for CER to be undertaken for quality, efficiency, effectiveness, and other appropriate dimensions for health care delivery systems along the entire spectrum of systems integration, adding that the spectrum should include integrated delivery systems, multi-specialty group practices, single-specialty groups, "virtual" groups, and small medical practices.

A number of recommended areas of focus emerged. Many respondents talked about focusing on areas of major clinical significance and the greatest impact on health care delivery, including chronic conditions. One respondent specifically noted that CER on chronic diseases should focus on all relevant health care services, including medical and surgical procedures, diagnostics, and medical devices. Another respondent said that more attention is needed in the areas of post-acute and long-term care. Still others talked about the need for comparative effectiveness research on emergency care processes, and CER to evaluate regional differences in trauma care. A few people talked about studying the role of alternative treatments, including homeopathic treatments for chronic and acute disease states. Several respondents also talked about looking at conditions with the greatest impact on morbidity, and a few about doing research on conditions with the greatest impact on cost.

A few respondents discussed the need to ensure that the priorities of state and local jurisdictions be given consideration in evaluating various CER strategies. For example, one participant noted that many jurisdictions have on-going investigative agendas designed to improve program effectiveness that can be considerably amplified by Federal support, adding that such efforts would extend beyond purely clinical protocols to include the evaluation of public health, community-based, and behavioral strategies that may enhance the effectiveness of public programs.

One respondent suggested that significant resources be devoted to population-level interventions as well as patient-level effectiveness. Another respondent talked about the need for comparative effectiveness priority research areas to include critical cross-cutting research questions and cited

several examples (clinical decision-making, human-technology partnership, team coordination and continuity of care).

In addition, respondents talked about the need for Federal investments in CER to focus on health disparities and understudied sub-groups. Many of the respondents who addressed this topic talked about under-sampling of minorities in clinical trials and stressed the need for research that looks at the impact of various treatments on specific sub-groups, including women, minorities, people in rural communities, persons with disabilities, and children.

Infrastructure Development

A number of respondents honed in on the need to scale up the capacity to do comparative effectiveness research. As one respondent put it: "All healthcare reform proposals are predicated on the presumption that a robust and well-developed quality infrastructure exists. However, this is not uniformly the case."

Infrastructure capacity, as framed by the public comments, incorporates three components: human and scientific capital, organizational capacity, and data capacity.

Regarding human and scientific capital, respondents said that investments are greatly needed to enhance the skills, supply, and diversity of the research work force. One respondent pointed specifically to a dearth of researchers focused on mental health and substance abuse and treatment. Another respondent talked specifically about the need to increase the number of Hispanic health professional researchers, and suggested that HHS target Hispanic health professional, students, residents, and graduate students interested in serving in their communities.

Regarding organizational capacity, many of the comments focused on building capacity at the regional and local level. For example, one respondent talked about the role that health improvement collaboratives and chartered value exchanges can play in maintaining patient registries and other databases, and about using the information for performance reporting. A second respondent talked about the role that more community organizations could play in helping to address racial and ethnic health disparities were they to have the appropriate infrastructure and capacity.

The third critical subset of infrastructure development is data. A number of respondents talked about the need for both better data and access to data for comparative effectiveness research and decision-making. They urged the Council to access as much available data as possible, including clinical trials data, electronic health record systems, health care claims systems, administrative data, and Federal health data (including data from Medicare and Medicaid and that collected by the Veterans Health Administration). Respondents also talked about the need to invest in a coordinated effort to link public and private sector databases, as well as the need for standardized data available from the point of patient care.

Several respondents also talked about the value of registries, and the need to link data sets in order to provide valuable sources of data to examine appropriate use, effectiveness of care, cost of care, value-based health care, and other criteria. Another respondent stressed the need for

research that involves collaboration in different data environments and research that explores the use of different types of electronic health care data.

Research Methodology and Conduct

How should CER be undertaken? This is another theme that ran through many of the comments. Those who tackled this question addressed key issues that ranged from the enterprise level to guidance on study design. At the broader level, one respondent talked about the need for a broad Federal CER enterprise that spans treatment, prevention, promotion, and health-determinant interventions designed for both people and populations. Another respondent recommended adopting value of information principles and tools to prioritize CER investments on those studies where there is a greater likelihood that the research will lead to changes in practice. A third person spoke about the opportunity to fund research into "the science of CER" to build a foundation for this work.

Others talked about the scope of CER, noting that much of the research is conducted in single settings of care. One respondent, for example, noted that this poses a challenge for "generalizability," and suggested that many of the questions that remain unanswered relate to uncommon conditions or outcomes that have proven challenging to study. He recommended the use of multi-center research networks to address this issue.

Looking more closely at study design, one respondent noted that CER should continue to use a variety of study designs to generate evidence about the comparative effectiveness, comparative safety, and cost effectiveness of medical interventions. A second respondent talked about the limitations of randomized clinical trials, suggesting that the Council should also consider designs that are more common for evaluating comprehensive population-focused interventions, such as observational cross-sectional studies, quasi-experimental designs, and time series analyses. Another respondent stressed that clinical trial design and CER infrastructures must accommodate the goal of addressing health disparities. Another respondent pointed out that comparative effectiveness can at times be determined by assessing technology and using quantitative metrics rather than via an expensive and sometimes-lengthy clinical trial. A fourth respondent talked about the need to include utilization of laboratory services in order to effectively compare treatments and outcomes for major chronic disease cost drivers.

Several respondents also addressed the need for greater transparency throughout the process. They talked about the critical importance of transparency for reducing bias and rebuilding trust, and they recommended that researchers show results prior to adjustments as well as adjusted results. Respondents who tackled the issue of transparency also talked about the need to disclose in detail the methods and metrics used in any research. One respondent stressed that patients and providers need to know all the inputs that go into a research analysis so that they can weigh the costs, safety, and quality issues appropriately in each instance.

A corollary to transparency is addressing potential conflicts of interest. Respondents talked about the need to develop a strong and clear policy for conflicts of interest in both research and publishing, and suggested that funding decisions for CER should favor researchers and institutions that are focused on the public interest and do not have current conflicts. They also talked about the need for 100-percent disclosure and transparency at the outset of all conflicts by

individual researchers and institutions. One respondent specifically said that the ARRA expenditures on CER offer an opportunity to move to a platform where research funding is completely independent of other sources of funds in order to get to research that is independent, unbiased, untainted, and neither methodologically flawed nor influenced by industry.

Care Delivery

Several respondents pointed out that care delivery is critical, and that investments in CER are needed to look at how the health care delivery system should be organized and the best models for delivering care to patients. One respondent recommended that the Council invest in research that looks at optimal practice models for delivering patient care along with strategies for using information technology and clinical decision support tools to implement research findings into clinical practice. Another respondent suggested that CER is needed to look at the organization, design, and management of patient care. A third said that CER should focus on medical delivery systems and operations, resulting in information that can be leveraged to foster better clinical and cost outcomes.

Much of the discussion on care delivery was focused on people with one or more chronic conditions (e.g., diabetes). One respondent, for example, talked about the need for CER studies that compare current, more traditional models of chronic care delivery with team-based, patient-centers models that include patient education and self-care. Another respondent emphasized the need to focus research on the impact of non-medical services (e.g., providing housing) on cost-effective and clinical outcomes for chronically medically ill populations. A third person talked about CER around the role of support services (e.g., case management) in the health outcomes of people with HIV/AIDS; a fourth, about the need for CER on crisis residential services as an alternative to psychiatric hospitalization. Yet another respondent talked about the need to study the cost-effectiveness of community health worker interventions.

One respondent talked about the need to study care models that integrate primary and tertiary care. Another respondent suggested that there was a need for research into how to deliver care in a way that helps patients get the care they need, adhere to proposed treatment regimes, and prevent subsequent untoward effects of chronic diseases. Regarding adherence to treatment regimes, one respondent specifically noted that patient compliance is a seldom-accounted-for variable in CER, and he talked about the value of electronic verification devices to track compliance. Another respondent talked about the need to compare palliative care models to understand which processes of care and specific program interventions and models are the most effective.

One respondent noted that much of the literature on the impact of electronic medical records is anecdotal, and he expressed concern that people are considering the value of electronic health records without understanding the totality of what an effective system does for health care delivery. As a result, he urged that research be done to evaluate the comparative effectiveness of different types of EHR-mediated interventions. A second respondent likewise talked about the needs for research on how health information technology and EHR exchanges can be used to create more robust data sources and to help evaluate comparative effectiveness issues across a broader range of settings.

Knowledge Transfer

A number of respondents pointed out that all the data is meaningless if the information is not disseminated effectively. One respondent, for example, stressed that knowledge translation research must not be overlooked, while another respondent pointed out that both research and dissemination of research findings are essential to realizing the quality improvements and returns-on-investment that are integral to the success of comparative effectiveness research.

While respondents had different recommendations for how to approach knowledge transfer, there was a consensus that this work is critical. One respondent noted that the evidence base that is developed around clinical comparative effectiveness offers a substantial opportunity to improve value in health care if the information is disseminated and applied by physicians and patients. Others talked about the need to identify what approaches and incentives to dissemination and adoption are most effective (and under what circumstances), and when dissemination should target change at the organizational level, the community level, or the individual level. One respondent talked about cultural competence and health literacy research, and the need for both in order to change behaviors and improve lifestyles.

One respondent noted that while technology (including electronic health records) is one avenue for dissemination, other effective dissemination and translation techniques are also needed. She noted that while many strategies have been used to enhance the rate and extent of adoption of evidence-based best practices (including clinical guidelines, continuing education for health care professionals, patient education tools, and academic detailing), the approaches have not been well studied and the results are variable.

One respondent suggested that an independent body be established to disseminate comparative effectiveness research findings; others took the approach that everyone—including providers, payers, consumers, and employers—has a role to play in disseminating research results. Another respondent suggested creating a national citizens' advisory board to help HHS better understand the perspectives and values of the general public when designing and disseminating CER. Another respondent talked about the need not only to provide the evidence base for best disease prevention, health promotion, and/or clinical interventions, but also to look at how these findings can be implemented in "real-world, complex organizational settings."

Cost

Two distinct opinions about cost emerged: (1) that it should be a factor in comparative effectiveness research or (2) that it has no place in the discussion.

Those opposed to factoring cost into CER expressed concern that too often people put cost into a separate silo and make decisions without regard to efficacy, and they suggested that a focus on costs could lead to limiting access and benefits. For example, one respondent said that comparative effectiveness research should not be focused on looking for cheaper treatments, and it should not be the basis for coverage decisions. Another talked about the fear that CER results might impact physician reimbursement rates. Several respondents also expressed concern that CER could be used to restrict access to care, to deny coverage, or to reduce payments for interventions, thus undermining physician/patient decision-making and limiting patient access to treatment options.

On the flip side, other respondents felt equally strongly that cost was an integral component of informed decision-making. For example, one respondent said that information about costs enables understanding not only of the direct differences in terms of clinical outcomes but also of the value of interventions and whether they represent an efficient use of resources. Another respondent suggested that, if costs are not considered, the tradeoff in terms of lost health benefits would be too steep. Others stressed that a wide range of stakeholders—including employers, policymakers, and state and local public health departments—have said that they need cost information to make decisions.

Health Disparities and Personalized Medicine

Several respondents spoke about the related topics of the need to address health disparities within CER and support for the growth of personalized medicine. Inclusion of and attention to underrepresented sub-groups was spoken of as a means to address the problem of disparities in care. Others spoke of the importance of fostering the application of personalized medicine.

Respondents cited the need for more CER in the areas of preventive care, pediatric care and children's health, behavioral health interventions, addiction, mental disorders, and suicide prevention. One respondent pointed out that CER is needed to understand the cost and quality implications to the overall health system of continuing to under-treat conditions in systems that are siloed and distinct from mainstream health and health care. Another respondent specifically noted that the aim of personalized medicine and the mapping of the human genome is to achieve disease interventions much earlier (ideally at the point of preventing the disease from ever taking hold, he said).

One respondent stressed that CER must be mobilized to improve the health outcomes of various racial and ethnic minorities in order to close the gap that exists between the health status of some minority populations and other Americans. Others warned about relying on small, narrowly focused studies, suggesting that understanding and addressing health disparities requires a broader approach; conversely, respondents also cautioned against "one-size-fits-all" approaches that could decrease access to treatments. One respondent specifically talked about the need for research that examines health intervention outcomes across the lifespan, and for different minority and gender groups, in order to understand the effectiveness of interventions within and between population groups.

Several people talked about the need to design studies that appropriately include minority populations (see also *Prioritizing the Agenda*, above). For example, one respondent said that the design of studies must reflect the diversity of patient populations, including racial and ethnic diversity, and must communicate results in ways that reflect the differences in individual patient needs. Another respondent stressed that clinical trial design and CER infrastructures must accommodate the goal of addressing health disparities. There was also discussion more broadly about the need to build the infrastructure to address health disparities relating to people of color.

One respondent pointed to the dichotomy between studying populations and the promise of personalized medicine, asking: How can CER at a broad population level be balanced with the

goals and rapid scientific advancements in the area of personalized and stratified medicine in order to encourage the development of targeted therapies for sub-groups?

One respondent talking about personalized medicine recommended that CER studies include the evaluation of approaches to health care delivery and care management that foster the effective application of personalized medicine.

Appendix B: SUMMARY OF THE COUNCIL'S MEETINGS AND DELIBERATIONS

The following contains a summary of the Council's deliberations as they unfolded once the Council was officially convened.

April 10, 2009

The Council was presented with background information on comparative effectiveness research and briefed on CER activity at AHRQ, NIH, and VA. The Council also discussed the scope of their work and objectives.

Next, the Council began discussion of the components of the definition of CER and potential criteria for prioritization. The Council also discussed how CER and data infrastructure for CER might be categorized. Finally, the Council reviewed the timeline and discussed plan for listening sessions, including the first listening session on April 14, 2009.

April 22, 2009

The Council met to discuss what they had heard at the April 14 listening session. Members identified several key themes, including the need to outline a clear, well-delineated definition of comparative effectiveness research. They noted that participants had also talked about the need to prioritize methodology, and the fact that CER should be inclusive of all components of medical care.

Council members also noted that they had heard, loud and clear, that the Council's governance and processes must be transparent, and that the Council must incorporate input from all stakeholders to gain credibility and build trust.

Other themes that emerged from the listening session include the need to focus on patients and outcomes; the importance of incorporating diverse populations and multiple research methods; and the need for investments in infrastructure. Regarding the focus on patients and outcomes, Council members noted that participants had talked about the importance of considering patient input from the start and the fact that the results must be framed and disseminated in ways that are relevant to patients and providers. Regarding diverse populations, Council members observed that there was discussion about the need to include sub-groups with multiple chronic conditions, and the need more broadly to make CER relevant to sub-groups. Members also noted that participants had talked about the need to use a multitude of different research methodologies (not just randomized clinical trials), and to look at the Department of Veterans Affairs' experience using registries.

Regarding infrastructure, Council members observed that participants had stressed there was a need to expand, improve, and build on existing information and registries, and that perhaps this investment could lay the foundation for distributed data networks with the capability to answer many future CER questions. Members also noted that there had been discussion about the need to make data monitoring easier and more routine.

Finally, Council members talked about how they could tweak the listening session format to allow for a more robust conversation with participants.

May 1, 2009

The Council looked at the timetable for its work and the due dates for its key deliverable. The Report to Congress is due June 30, and the preliminary timetable builds in time for HHS and OMB clearance, comments, and suggested edits. The Council also briefly discussed the upcoming second listening session, slated for May 13 in Chicago.

Next, the Council briefly discussed the process for compiling the CER and data infrastructure inventories, and agreed that members would identify primary contacts in their division or agency who can work with the contractor to drive that process.

The Council's next goal was to arrive at consensus on a draft definition of comparative effectiveness research, prioritization criteria, and a categorization framework for CER. Once complete, the Council agreed to post the draft language on the hhs.gov/recovery Web site and to solicit public feedback.

To begin that work, the Council tackled the draft definition. There was considerable discussion about what the definition of CER should be. Members expressed the belief that the definition needed to be inclusive of the multiple stakeholders in the health care arena, including communities, and they also looked at what types of interventions should be called out. The Council ultimately came to consensus that they wanted a definition that was broad-based and inclusive, but that was not so detailed as to inadvertently narrow the scope of comparative effectiveness research.

The Council next turned its attention to the prioritization criteria. Before doing so, however, the Council first wrestled with the question of whether the criteria should be focused broadly or more narrowly targeted to provide guidance to the Office of the Secretary in allocating its Recovery Act funds. The Council generally felt that the criteria should be broad enough to allow the Council to make recommendations on overall funding and funding criteria.

Next, Council members discussed how to prioritize the CER criteria, including whether impact should be listed first, with feasibility and scientific merit second. One person spoke out about the need to keep the criterion on diverse populations and patient sub-groups within the top five. There was also discussion about whether knowledge gap was a criterion, or whether it should perhaps be wrapped into the criterion on impact.

The Council also looked at several potential frameworks for comparative effectiveness research, including categorization by type of CER investment, by patient sub-groups, by condition, and by type of intervention. The aim of developing a framework was to help categorize current CER activity and to identify gaps for potential future investments in CER. Council members also discussed CER centers, and agreed that Recovery Act funding could be used to support this work. One member suggested that the Council, at a future date, should discuss how to coordinate interest in CER centers across agencies.

Finally, the Council received a presentation on enhancing the inclusion of minority and other underserved populations in comparative effectiveness research. As a result, the Council agreed to establish a small workgroup co-led by NIH, AHRQ, the HHS Office of Minority Health, and the HHS Office on Disability. The workgroup will have two key tasks: (1) to develop recommendations for the inclusion of minority and other underrepresented populations in the expanded comparative effectiveness research agenda, and (2) to receive input from non-Federal groups on targeted actions.

May 8, 2009

The Council reviewed a revised definition of comparative effectiveness research and agreed to post the definition on the hhs.gov/recovery Web site on or about May 15.

Next, the Council resumed its discussion of the prioritization criteria. There was considerable discussion about whether "scientific rigor and validity" needed to be included in the threshold minimal criteria, with some members saying that it was implicit (and something already being done) and others expressing concerned about including a yes/no component to the threshold minimal criteria. The consensus of the Council was that scientific rigor and validity be included as part of a concept statement.

The Council then looked at a first draft outline of the Report to Congress. It included (1) Introduction, (2) Objectives, (3) Definition and Criteria, (4) Framework for CER, (5) Current CER and CER data infrastructure, (6) Recommendations for Priorities for OS CER Funds, and (7) Longer-term Vision and Opportunities.

Council members discussed a number of items that they believed needed to either be included or called out in the report, including concrete examples of what CER is and why it matters as well as a discussion about the full range of CER activities (and not just randomized clinical trials). There was also discussion about having a stand-alone section on high level priorities; the need to call out the roll of public/private partnerships; including a sub-section on the need for CER data to be synthesized and operationalized, along with some mechanisms for achieving this outcome; and the need to add language on sub-groups. Members also agreed to add a new section, Summary of the Listening Sessions, and to include a high-level Executive Summary.

Next, the Council began its discussion of CER priorities. To frame their discussion, members looked at four categories: primary research, dissemination of results, data infrastructure, and cross-cutting coordinated investments. One member asked, "What are the gaps that no one else can fill?" The Council agreed to continue its discussion at its next meeting.

May 22, 2009

The Council opened its meeting with a debrief from the May 13 listening session in Chicago. Members said they found the meeting both useful and exciting, and cited some themes they had heard that particularly struck them. These included the need to study chronic diseases (and to include sex, ethnicity, and race in the analysis); the idea of using theoretical models to assess how to approach a study (and to ensure the information is useable); the inclusion of mental health as a priority area; the importance of CER on pediatric populations; the importance of CER on prevention; and the need for training, and for starting to build the pipeline early.

The Council then briefly addressed next steps on the Report to Congress, including the fact that certain members would be assigned to draft specific sections of the report.

Next, the Council resumed its discussion of CER priorities where it had left off: looking at research, dissemination, data infrastructure, and cross-cutting investments. There was general consensus that OS funds should focus primarily on the latter three areas (as AHRQ and NIH are likely to make CER investments in research); there was also discussion about how to frame the priorities, including whether they should be framed around the type of CER investment or around types of diseases (e.g., people with multiple chronic illnesses, or people with disabilities and chronic illnesses). There was also specific discussion about the need to improve dissemination of research results—and a related topic, impacting practice. "If we just talk about dissemination," said one Council member, "we won't get anywhere. We need to look at the best methods for impacting practice."

There was also discussion around the question of how the Council should think about structuring its Report to Congress. At issue was whether the report should focus primarily on guidance to the HHS Secretary on how to allocate the $400 million in OS funds. In addition, the Council discussed the research time horizon, and whether ARRA monies could be used to fund projects that will have a time horizon longer than two years. One member suggested that one way to think about the question was to reframe it and ask, "Can we think about creating research centers that will be great resources into the future?"

Council members also stressed the need for the Council to address in its report the *process* for its deliberations and its recommendations, including making clear that CER investments are weighted to public health needs and responsive to the needs of decision makers. Council members suggested that some of the discussion about impacting practice might be linked to the discussion about data infrastructure investments.

May 29, 2009

The Council honed in on the details of the strategic framework for comparative effectiveness research, and the fact that it represents a comprehensive, coordinated approach to Federal investment in CER priorities that is intended to support immediate decisions for investments in CER priorities and to provide a comprehensive basis for longer-term CER investment decisions.

The Council discussed a framework that includes four major categories of activity (research, human and scientific capital, data and research infrastructure, and translation and adoption). The framework is designed to allow for investments within a single category or to cross-cut priority

themes. The Council agreed upon the categories. The Council's next step will be to determine the recommended mix among the major activities for OS funds.

The Council agreed to post on the hhs.gov/recovery Web site a copy of the broad framework diagram as well as a more detailed version to inform the public and to seek feedback on the strategic framework.

Next, the Council looked at some examples of the types of investments that might be made in the areas of infrastructure and translation and adoption. The idea of the discussion was to enable members to think about what types of projects might address gaps and further the CER enterprise.

The Council also looked briefly at an updated draft outline for the Report to Congress, and then members heard a presentation on three possible categories for investments in disability comparative effectiveness research.

June 5, 2009

The Council discussed the first draft of the Report to Congress. There was consensus that the Executive Summary needed to better frame the conversation around the value of CER to inform patients, clinicians, and other stakeholders. There was also discussion about setting out, early in the body of the report, why CER matters and how it matters to each stakeholder group. In addition, the Council agreed to add an additional appendix that contains a summary of its meetings and deliberations.

Next, the Council took up its recommendations for priorities. The discussion revolved around four key issues: the balance in spending priorities among the major activities versus cross-cutting themes; the distribution of spend priorities across the four major activities; what themes should be prioritized (and what the distribution of spend priorities should be across those themes); and whether the overall distribution makes sense vis-à-vis the prioritization criteria.

Regarding the distribution of spend priorities across the four major activities, Council members generally agreed that the majority of funding (e.g. 60 percent) should be spent on activities rather than themes. At the same time, there were lingering questions about the need to identify research gaps, implementation gaps, or both.

Regarding the distribution of spend priorities across the four major activities, the Council supported a breakdown that focuses the bulk of the funding in the areas of infrastructure (e.g. 60 percent) and translation (e.g. 20 percent). Members noted that there is a unique opportunity with ARRA funds to make significant investments in infrastructure.

Regarding potential priorities, members looked at draft lists of both priority populations and types of interventions. On the populations side, one Council member said that all of the proposed priority populations share in common that they have not traditionally been enrolled in clinical trials. There was also discussion about the need to include veterans as well as people with co-occurrence of mental health disorders along with physical comorbidities. On the interventions side, there was some discussion about the inclusion of delivery systems, and that

CER on delivery systems offers an opportunity to look at promising practices and how they might be scaled up and disseminated.

Finally, the Council was divided as to whether the bulk of OS funds should be used primarily for investments in populations or in interventions—or whether they should be equally important priorities.

June 12, 2009

The Council debriefed on what was heard in the third listening session. This generated enhancement to the common themes and some new information to be incorporated. The Council then revised the definition, threshold and prioritization criteria, and strategic framework based on the feedback from the session and the feedback received online. The Council then further discussed priority recommendations and the Report to Congress. The Council suggested edits for the Report prior to it going into clearance the next week.

Appendix C. PRELIMINARY DATA INFRASTRUCTURE AND CER BY CONDITION

The following is a preliminary inventory of examples of CER data infrastructure and CER by condition.

Person-Level Health Care Research Databases from First Inventory

Database	Owner	Data Type	No. Lives	Disease Area	Data Linkable at Patient Level	Data Linkable to External Data	Researcher Ready
US Federal							
Healthcare Cost and Utilization Project (HCUP)	AHRQ	Hospital information system	—	All	Y	N	Y
HIV Cost and Services Utilization Study (HCSUS)	AHRQ	Surevy & records abatsraction	2,864	HIV	Y	N	Y
AIDS Cost and Services Utilization Study (ACSUS)	AHRQ	Hospital information system	1,900	AIDS	Y	N	Y
National Vital Statistics	CDC	Surveillance program/registry data	—	All	n/a	N	N

Database	Owner	Data Type	No. Lives	Disease Area	Data Linkable at Patient Level	Data Linkable to External Data	Researcher Ready
National Vital Statistics—Natality	CDC	Surveillance program/registry data	4 million	All	n/a	N	Y
National Health Interview Survey	CDC	Survey	87,000	All	n/a	Y	Y
National Health and Nutrition Examination Survey	CDC	Survey	5,000	All	n/a	Y	Y
National Ambulatory Medical Care Survey	CDC	Survey and records abstraction	n/a	All	N	Y	Y
National Hospital Ambulatory Medical Care Survey	CDC	Survey and records abstraction	n/a	All	N	Y	Y
National Hospital Discharge Survey	CDC	Survey and records abstraction	n/a	All	N	Y	Y
National Nursing Home Survey	CDC	Survey and records abstraction	13,507	All	N	Y	Y
National Home and Hospice Care Survey	CDC	Survey and records abstraction	9,416	All	N	Y	Y
Chronic Condition Data Warehouse	CMS	Administrative claims database, enrollment data, health assessment data, prescription drug event data	45 million	All	Y	Y	Y
Hospice Standard Analytical File (Hospice SAF)	CMS	Administrative claims database	—	All	Y	Y	?

Database	Owner	Data Type	No. Lives	Disease Area	Data Linkable at Patient Level	Data Linkable to External Data	Researcher Ready
Medicaid Statistical Information System Personal Summary File (MSIS Personal Summary File)	CMS	Administrative claims database, EMR/EHR system	—	All	Y	Y	Y
National Claims History (NCH) 100% Nearline Fil	CMS	Administrative claims database	—	All	Y	Y	?
MEDPAR Claims Data	CMS	Administrative claims database	—	All	Y	Y	Y
MMA Part D Claims Data	CMS	Pharmacy claims database	25 million	All	Y	Y	Y
Sentinel System	FDA	Surveillance program/registry data	N/A	n/a	N	Y	N
SEER (Surveillance Epidemiology and End Results)	NCI	Surveillance program/registry data	11.4 million	Cancer	Y	N	Y
SEER-Medicare database	NCI, CMS	Administrative claims database, Surveillance program/registry data	3.3 million	Cancer	Y	Y	N
Cancer Research Network (CRN)	NCI, AHRQ	Administrative claims database, EMR/EHR system	—	Cancer	Y	Y	N
Computerized Patient Record System (CPRS)	VA	EMR/EHR system	4.2 million	All	Y	N	N
Diabetes Epidemi-ology Cohort	VA	Surveillance program/registry data	> 4,800	Diabetes	Y	Y	Y

Database	Owner	Data Type	No. Lives	Disease Area	Data Linkable at Patient Level	Data Linkable to External Data	Researcher Ready
Hepatitis C Registry	VA	Surveillance program/registry data	>60 K	Hepatitis C	Y	N	Y
Immunological Case Registry	VA	Surveillance program/registry data	>15 K	HIV	Y	N	Y
Dementia Registry	VA	Surveillance program/registry data	>150 K	Dementia	Y	N	N
National Surgery Quality Improvement Program	VA	Surveillance program/registry data	>1 Million	All major surgery	Y	Y	Y
Scientific Registry of Transplant Recipients (SRTR)	HRSA	Transplant registry and outcomes data		Organ specific	Y	Y	Y
Pediatric Emergency Care Applied Research Network (PECARN) CDMCC*	HRSA	Emergency medical services for children	800,000 + patients	Emergency Services to Children	Y	Y	Y
AIDS Drug Assistance Program (ADAP)	HRSA	Care Program Registry Data	—	HIV/AIDS	Y	Y	N
US Private Sector							
National Oncologic PET Registry (NOPR)	Academy of Molecular Imaging	Intervention program data	>100,000	Cancer	Y	Y	?
Cerner Health Facts Database	Cerner	EMR/EHR system	—	All	Y	Y	Y
GE Centricity	GE	EMR/EHR system	10 million	All	Y	N	Y

* Central Data Management and Coordinating Center

Database	Owner	Data Type	No. Lives	Disease Area	Data Linkable at Patient Level	Data Linkable to External Data	Researcher Ready
Ingenix Research Data Mart (RDM) Database	Ingenix	Administrative claims database	>39 million	All	Y	Y	Y
Premier Perspective Data Warehouse	Premier	Administrative claims database	—	All	Y	Y	Y
MarketScan Data Warehouse	Thomson-Reuters	EMR/EHR system	—	All	Y	N	N
International Databases							
General Practice Research Database (GPRD)	NHS (UK)	EMR/EHR system	> 3.6 million	All	Y	Y	Y
NHS Care Records Service (CRS)	NHS (UK)	EMR/EHR system	2 million	All	Y	N	Y
The Health Improvement Network (THIN)	INPS and EPIC (UK)	EMR/EHR system	—	All	Y	Y	Y

Priority Diseases/Conditions in CER

Priority Diseases/Conditions	AHRQ (n=178)	NIH (n=513)	DoD (n=26)	VHA (n=106)	Total (n=823)
Arthritis and non-traumatic joint disorders	6%	1%	0%	3%	**2%**
Cancer	10%	7%	23%	7%	**8%**
Cardiovascular disease, including stroke and hypertension	20%	10%	4%	23%	**13%**
Dementia, including Alzheimer's Disease	1%	1%	0%	3%	**1%**
Depression and other mental health disorders	8%	16%	8%	18%	**14%**
Developmental delays, attention-deficit hyperactivity disorder, and autism	4%	1%	0%	0%	**1%**
Diabetes mellitus	11%	11%	0%	8%	**10%**

Functional limitations and disability	8%	4%	15%	7%	**5%**
Infectious diseases including HIV/AIDS	3%	11%	0%	6%	**8%**
Obesity	1%	3%	0%	2%	**3%**
Peptic ulcer disease and dyspepsia	0%	0%	0%	0%	**0%**
Pregnancy, including preterm birth	1%	4%	0%	0%	**2%**
Pulmonary disease/asthma	5%	3%	0%	4%	**3%**
Substance abuse	2%	19%	0%	9%	**14%**
Other	20%	11%	50%	12%	**14%**

*Studies focusing on patients with more than one priority disease or condition are counted in applicable rows..
**NIH 2008 plus NIH multi-year sample.

Appendix D. COUNCIL LIST AND STAFF SUPPORT

1. Carolyn Clancy, MD — AHRQ
2. Peter Delaney, PhD, LCSW-C — SAMHSA
3. Ezekiel Emanuel, MD, PhD — OMB
4. Jesse Goodman, MD, MPH — FDA
5. Garth Graham, MD, MPH — Office of Minority Health
6. Anne Haddix, PhD — CDC
7. Deborah Hopson, PhD, RN — HRSA
8. David Hunt, MD — ONC
9. Michael Kilpatrick, MD — Dept of Defense
10. Joel Kupersmith, MD — Dept of VA
11. Michael Marge, Ed.D. — Office of Disability
12. Elizabeth Nabel, MD — NIH
13. James Scanlon, PhD — ASPE
14. Neera Tanden, JD — Office of the Secretary
15. Tom Valuck, MD, MHSA, JD — CMS

Executive Director: Patrick Conway, MD, MSc
Deputy Executive Director: Cecilia Rivera Casale, PhD

Alternates to the Council participating: Kelley Brix, Margaret Cary, Rosaly Correa-de-Araujo (replaced Michael Marge on Council June 12th), Elisabeth Handley, Lynn Hudson, Michael Millman

Contributors to Council and Report: Kate Goodrich, Lauren Hunt, John Poelman, Daria Steigman, Caroline Taplin, Jordan VanLare.

Appendix E. THE AMERICAN RECOVERY AND REINVESTMENT ACT STATUTE RELATED TO CER AND COUNCIL

Appropriations

For an additional amount for 'Healthcare Research and Quality' to carry out titles III and IX of the Public Health Service Act, part A of title XI of the Social Security Act, and section 1013 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, $700,000,000 for comparative effectiveness research: *Provided,* That of the amount appropriated in this paragraph, $400,000,000 shall be transferred to the Office of the Director of the National Institutes of Health ('Office of the Director') to conduct or support comparative effectiveness research under section 301 and title IV of the Public Health Service Act: *Provided further,* That funds transferred to the Office of the Director may be transferred to the Institutes and Centers of the National Institutes of Health and to the Common Fund established under section 402A(c)(1) of the Public Health Service Act: *Provided further,* That this transfer authority is in addition to any other transfer authority available to the National Institutes of Health: *Provided further,* That within the amount available in this paragraph for the Agency for Healthcare Research and Quality, not more than 1 percent shall be made available for additional full-time equivalents.

In addition, $400,000,000 shall be available for comparative effectiveness research to be allocated at the discretion of the Secretary of Health and Human Services ('Secretary'): *Provided,* That the funding appropriated in this paragraph shall be used to accelerate the development and dissemination of research assessing the comparative effectiveness of health care treatments and strategies, through efforts that: (1) conduct, support, or synthesize research that compares the clinical outcomes, effectiveness, and appropriateness of items, services, and procedures that are used to prevent, diagnose, or treat diseases, disorders, and other health conditions; and (2) encourage the development and use of clinical registries, clinical data networks, and other forms of electronic health data that can be used to generate or obtain outcomes data: *Provided further,* That the Secretary shall enter into a contract with the Institute of Medicine, for which no more than $1,500,000 shall be made available from funds provided in this paragraph, to produce and submit a report to the Congress and the Secretary by not later than June 30, 2009, that includes recommendations on the national priorities for comparative effectiveness research to be conducted or supported with the funds provided in this paragraph and that considers input from stakeholders: *Provided further,* That the Secretary shall consider any recommendations of the Federal Coordinating Council for Comparative Effectiveness Research established by section 804 of this Act and any recommendations included in the Institute of Medicine report pursuant to the preceding proviso in designating activities to receive funds provided in this paragraph and may make grants and contracts with appropriate entities, which may include agencies within the Department of Health and Human Services and other governmental agencies, as well as private sector entities, that have demonstrated experience and capacity to achieve the goals of comparative effectiveness research: *Provided further,* That the Secretary shall publish information on grants and contracts awarded with the funds provided under this heading within a reasonable time of the obligation of funds for such grants and contracts and shall disseminate research findings from such grants and contracts to clinicians, patients, and the general public, as appropriate: *Provided further,* That, to the extent feasible, the Secretary shall ensure that the recipients of the funds provided by this paragraph offer an opportunity for public comment on

the research: *Provided further,* That research conducted with funds appropriated under this paragraph shall be consistent with Departmental policies relating to the inclusion of women and minorities in research: *Provided further,* That the Secretary shall provide the Committees on Appropriations of the House of Representatives and the Senate, the Committee on Energy and Commerce and the Committee on Ways and Means of the House of Representatives, and the Committee on Health, Education, Labor, and Pensions and the Committee on Finance of the Senate with an annual report on the research conducted or supported through the funds provided under this heading: *Provided further,* That the Secretary, jointly with the Directors of the Agency for Healthcare Research and Quality and the National Institutes of Health, shall provide the Committees on Appropriations of the House of Representatives and the Senate a fiscal year 2009 operating plan for the funds appropriated under this heading prior to making any Federal obligations of such funds in fiscal year 2009, but not later than July 30, 2009, and a fiscal year 2010 operating plan for such funds prior to making any Federal obligations of such funds in fiscal year 2010, but not later than November 1, 2009, that detail the type of research being conducted or supported, including the priority conditions addressed; and specify the allocation of resources within the Department of Health and Human Services: *Provided further,* That the Secretary, jointly with the Directors of the Agency for Healthcare Research and Quality and the National Institutes of Health, shall provide to the Committees on Appropriations of the House of Representatives and the Senate a report on the actual obligations, expenditures, and unobligated balances for each activity funded under this heading not later than November 1, 2009, and every 6 months thereafter as long as funding provided under this heading is available for obligation or expenditure.

Sec. 804. Federal Coordinating Council for Comparative Effectiveness Research

(a) ESTABLISHMENT— There is hereby established a Federal Coordinating Council for Comparative Effectiveness Research (in this section referred to as the 'Council').

(b) PURPOSE— The Council shall foster optimum coordination of comparative effectiveness and related health services research conducted or supported by relevant Federal departments and agencies, with the goal of reducing duplicative efforts and encouraging coordinated and complementary use of resources.

(c) DUTIES— The Council shall—

(1) assist the offices and agencies of the Federal Government, including the Departments of Health and Human Services, Veterans Affairs, and Defense, and other Federal departments or agencies, to coordinate the conduct or support of comparative effectiveness and related health services research; and

(2) advise the President and Congress on—
(A) strategies with respect to the infrastructure needs of comparative effectiveness research within the Federal Government; and
(B) organizational expenditures for comparative effectiveness research by relevant Federal departments and agencies.

(d) MEMBERSHIP—

(1) NUMBER AND APPOINTMENT— The Council shall be composed of not more than 15 members, all of whom are senior Federal officers or employees with responsibility for health-related programs, appointed by the President, acting through the Secretary of Health and Human Services (in this section referred to as the 'Secretary'). Members shall first be appointed to the Council not later than 30 days after the date of the enactment of this Act.

(2) MEMBERS—
(A) IN GENERAL— The members of the Council shall include one senior officer or employee from each of the following agencies:
(i) The Agency for Healthcare Research and Quality.
(ii) The Centers for Medicare and Medicaid Services.
(iii) The National Institutes of Health.
(iv) The Office of the National Coordinator for Health Information Technology.
(v) The Food and Drug Administration.
(vi) The Veterans Health Administration within the Department of Veterans Affairs.
(vii) The office within the Department of Defense responsible for management of the Department of Defense Military Health Care System.
(B) QUALIFICATIONS— At least half of the members of the Council shall be physicians or other experts with clinical expertise.
(3) CHAIRMAN; VICE CHAIRMAN— The Secretary shall serve as Chairman of the Council and shall designate a member to serve as Vice Chairman.

(e) REPORTS—

(1) INITIAL REPORT— Not later than June 30, 2009, the Council shall submit to the President and the Congress a report containing information describing current Federal activities on comparative effectiveness research and recommendations for such research conducted or supported from funds made available for allotment by the Secretary for comparative effectiveness research in this Act.

(2) ANNUAL REPORT— The Council shall submit to the President and Congress an annual report regarding its activities and recommendations concerning the infrastructure needs, organizational expenditures and opportunities for better coordination of comparative effectiveness research by relevant Federal departments and agencies.

(f) STAFFING; SUPPORT— From funds made available for allotment by the Secretary for comparative effectiveness research in this Act, the Secretary shall make available not more than 1 percent to the Council for staff and administrative support.

(g) RULES OF CONSTRUCTION—

(1) COVERAGE— Nothing in this section shall be construed to permit the Council to mandate coverage, reimbursement, or other policies for any public or private payer.

(2) REPORTS AND RECOMMENDATIONS— None of the reports submitted under this section or recommendations made by the Council shall be construed as mandates or clinical guidelines for payment, coverage, or treatment.

Title VIII—Departments of Labor, Health And Human Services, and Education, and Related Agencies

VA Comparative Effectiveness Research

Veterans Health Administration
R&D
www.research.va.gov

Joel Kupersmith, MD
Chief Research & Development Officer

VA Mission

Veterans Health Administration
R&D
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- **VA Mission**

"…to care for him who shall have borne the battle and for his widow, and his orphan"

A. Lincoln, 2nd Inaugural

- **VA Research Mission:**

"To discover knowledge and create innovations that advance the health and care of veterans and the nation."

- Veterans first and always in all we do

Attributes for Comparative Effectiveness Research

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- **VA attributes for Comparative Effectiveness Research for the benefit of veterans**
  - Large healthcare system
  - Outstanding research program embedded in healthcare system - "Intramural"
  - Infrastructure for clinical trials
  - Vehicles for translation and implementation of research into the health care system

Large Healthcare System

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- **Large system**
  - 5.5 million patients/yr, 7.8 million enrollees
  - >1200 Sites of Care
    - 153 Medical Centers
    - 737 Community-based Outpatient Clinics
    - 225 Readjustment Counseling Centers
- **Intramural research system - a unique strength**
- **Electronic Health Record**
- **117 VAMCs have Federal Wide Assurances for research**
- **Community of ≈3000 VA researchers**
  - Published 46,149 articles in past 7 years in the best journals
- **≈2100 VA funded projects**

Rich 60 Year History

Veterans Health Administration
R&D
www.research.va.gov

- **3 Nobel Laureates, 6 Lasker Award Winners**
- **Many important discoveries and inventions**
  - Cardiac Pacemaker, First liver transplant, Radioimmunoassay, CT Scanner
- ***Clinical Trials***
  - First large scale clinical trial – TB
  - Cooperative Studies Program

VA Programs in Comparative Effectiveness Research

Comparative Effectiveness Research

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- **Definition**
  - CBO: "…a rigorous evaluation of the impact of different options that are available for treating a given medical treatment for a given set of patients."

- **Speaker's previous interest in the topic**
  - Kupersmith at al, Journal of Investigative Medicine, 2005

VA Comparative Effectiveness Research

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- **Research**
  - Cooperative Studies Program
    - Clinical trials
  - Health Services Research – health system oriented research
  - Rehabilitation
- **Implementation**
  - Quality Enhancement Research Initiative program
  - Evidence Based Synthesis program

VA Cooperative Studies Program

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- **Large VA clinical trials program**
  - **Major vehicle for Comparative Effectiveness Research**
- **Method of funding projects**
  - Letter of intent submitted
    - Ideas based on clinical practice observations, gaps in literature, etc
  - *Project review by experts who collaborate with the proposer*
    - Include clinicians, clinical researchers, trialists, biostaticians, pharmacists, others

VA Cooperative Studies Program

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- **Review considerations include clinical and policy considerations**
  - Clinical relevance and importance to VHA population, methodology, feasibility (testable hypothesis, sample size), ethics, resources needed, investigator qualifications
- **After approval, steps in a procedure to**
  - *Central IRB approval*
  - Form study Committees, Coordinating Center, etc
  - Local Medical Center approvals
  - Other
- **Collaboration with NIH and others in many trials**

VA Cooperative Studies Program -- Examples

Veterans Health Administration
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- **Computerized Tomography vs Positron Emission Tomography in solitary pulmonary nodule (PET better)**
  - Journal of Nuclear Medicine, 2008
- **Sotolol vs Amiodarone in atrial fibrillation (similar)**
  - New England Journal of Medicine, May 5, 2005
- **Standard care with & without Phlebotomy in stable peripheral artery disease (no sign difference)**
  - Journal of the American Medical Association, February 14, 2007
- **Medical therapy vs Coronary revascularization prophylaxis prior to elective vascular surgery (no sign difference)**
  - New England Journal of Medicine, December 30, 2004

VA Cooperative Studies Program -- Examples

Veterans Health Administration
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- **Percutaneous coronary intervention/optimal medical therapy *vs* Optimal medical therapy alone (COURAGE) (no sign difference)**
  - New England Journal of Medicine, March 27, 2007
- **Open mesh *vs* Laparoscopic mesh repair for inguinal hernia (open mesh better)**
  - New England Journal of Medicine, April 29, 2004
- **Care model (patient's self-management, continuity of care, information via nurse care coordinator) *vs* Standard care in Bipolar Disorder (care model better for most end points)**
  - Psychiatric Services, July 2006
- **Intensive *vs* Less Intensive Renal Support in Critically Ill Patients with Acute Kidney Injury (no sign difference)**
  - New England Journal of Medicine, July 8, 2008
- **Prolonged Exposure Therapy *vs* Patient-Centered therapy in PTSD (PET better)**
  - Journal of the American Medical Association, Feb 28, 2007

VA Cooperative Studies Program - Ongoing

Veterans Health Administration
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- **Radical Prostatectomy vs Palliative Expectant Management for localized Prostate Cancer**
- **Intensive vs Standard glycemic control in diabetes**
- **Home monitoring vs "High quality" anti-coagulation clinic in atrial fibrillation and/or mechanical heart valve**
- **CABG vs Percutaneous coronary intervention with stents in diabetes**
- **Robotic assisted training in upper extremity movement *vs* Intensive stretching and range of motion exercise via trained therapist *vs* Usual care in stroke**
- **Self-management (education, action plan & case management) *vs* Standardized care in severe Chronic Obstructive Lung Disease**

Health Services Research - Ongoing

Veterans Health Administration
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- **Health systems oriented projects**
- **Laboratory based *vs* Home evaluation of sleep apnea**
- **Examples of studies *vs* "usual care" control**
  - Collaborative care model for depression
    - Site randomization of Outpatient Clinics (CBOCs)
  - Plain language decision aid for patient decision making in prostate cancer
  - Collaborative care using primary care physician, RN and PharmD for hypertension/diabetes to implement strike risk management
  - Patient preference tailored information concerning colon cancer screening
  - Training caregivers with a Home Safety Toolkit in Alzheimer's

Analysis of Electronic Health Record

Veterans Health Administration
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- **Besides clinical trials, analysis of EHR represents an approach to Comparative Effectiveness Research**
  - Compare treatments and approaches to care in *clinically rich* data in EHR
- **Using EHR data provides**
  - Immediacy of results
  - Less costly studies
  - However, there are methodologic issues
    - E.g. are groups comparable?
    - Text recognition

Analysis of Electronic Health Record

Veterans Health Administration
R&D
www.research.va.gov

- **VA examples**
  - EHR diabetes cohort database shows no difference in mortality among oral antidiabetic drugs
    - Diabetes Care, July 2007
  - Blood trasfusion in surgical cases
    - NSQIP database in VA Patients (National Surgery Quality Improvement Program)
  - Comparison of obesity care practices
  - NSAID prescription strategies
  - Carvedilol *vs* Controlled-release Metropolol in heart failure

Implementation/Translation

Quality Enhancement Research Initiative

Evidence Synthesis Program

Quality Enhancement Research Initiative

QUERI Program

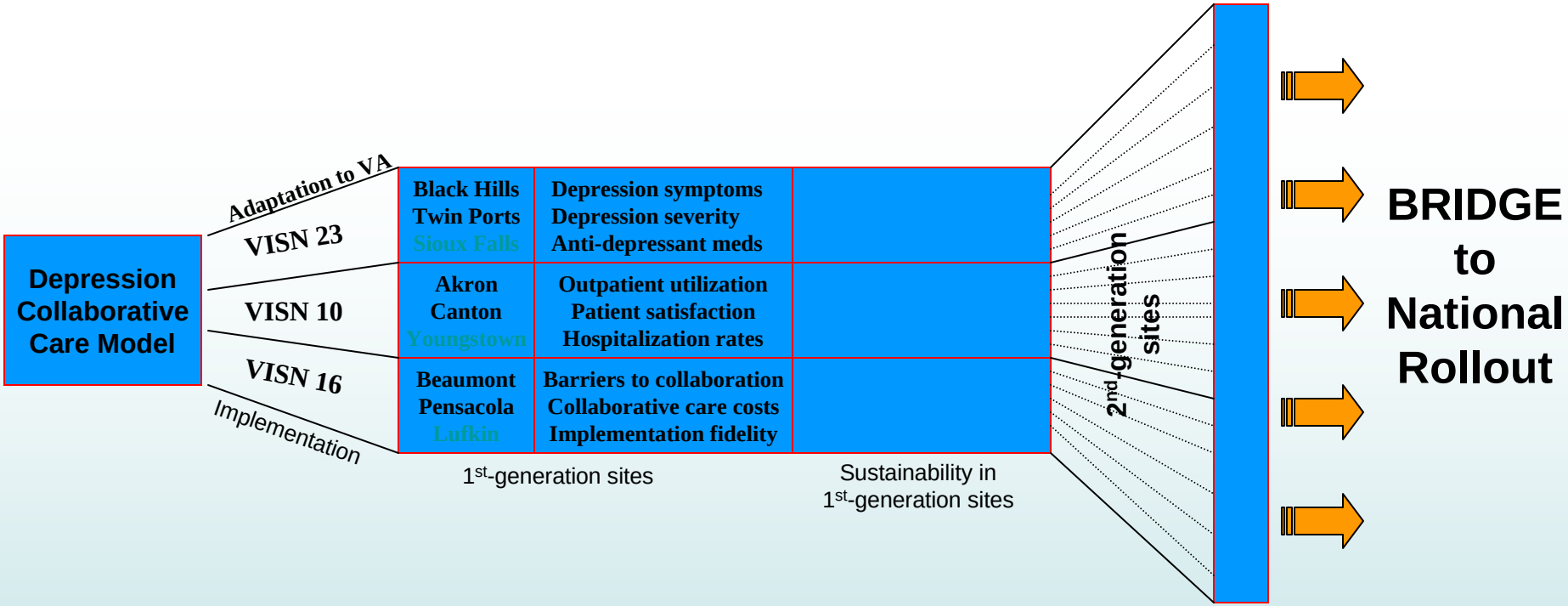
QUERI Program

Veterans Health Administration
R&D
www.research.va.gov

- ***Mission* -** Systematically implement/ translate evidence-based clinical practices & research findings into routine clinical practice

- **Steps in QUERI process**
  - Identify gap in Evidence Based Practice
  - Develop and implement a strategy for change
  - Test strategy
    - Single site pilot
    - Small scale implementation pilot
    - Large scale, multi-region implementation trial
    - System-wide roll-out
  - Document system improvements
  - Document outcomes & QOL improvements

Implementation of System Change Collaborative Care of Depression



Single site

3 VISNs 9 sites

18-30 sites 4 VISNs

National Rollout

Spinal Court Injury
National Vaccination Project

	VA performance measures: SCI		Veterans w/SCI Survey	
	Flu	PPV	Flu	PPV
1997	25%	20%	NA	NA
1998	26%	25%	NA	NA
2000	28%	40%	NA	NA
2001	33%	50%	57%	NA
2002	62%	78%	62%	60%
2003	61%	79%	68%	75%
2004	68%	88%	79%	82%
2005	65%	82%	72%	NA

VA Evidence Based Synthesis Program

VA Evidence Based Synthesis Program

Veterans Health Administration
R&D
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- **Reviewing the evidence on a topic**
- ***Policy oriented* synthesis of evidence to inform medical practice and health systems planning**
  - *Informed by policy considerations* with input by Patient Care Services
- **Recent topics**
  - Drug management of BPH – Led to Formulary change
  - Osteoporosis – Incorporated into Guideline on screening male veterans
  - Pain in Polytrauma – Need more research

Conclusions

Veterans Health Administration
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- **VA has many attributes to *undertake* and *implement* Comparative Effectiveness Research**
  - Intramural research program in a large healthcare system
  - Infrastructure for clinical studies
- **VA has a strong ongoing program and many accomplishments *in the service of veterans* in Comparative Effectiveness Research**
- **Besides clinical trials, analysis of the Electronic Health Record will be an approach to Comparative Effectiveness Research**

VA Research:
Improving Veterans' Lives

Thank You

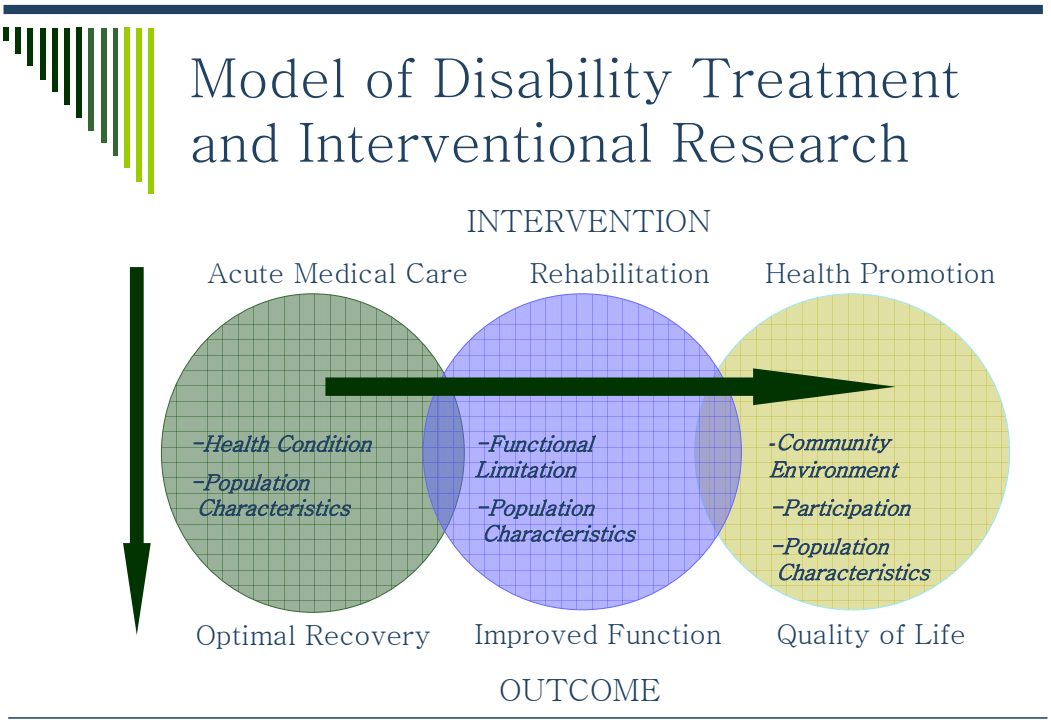
PROPOSAL FOR A DISABILITY COMPARATIVE EFFECTIVENESS RESEARCH PROGRAM

Disability and Health Intervention Research Organizational Framework

The ideal outcome for a comprehensive healthcare system is good health-related quality of life (HRQOL) for all participants. Medical and Public Health research over the past 100 years has led to enormous gains in health-related quality of life around the world.

For the 54 million Americans with disability, the gold standard of HRQOL is participation in community life. The World Health Organization's International Classification of Function, Disability, and Health (ICF) specifies this outcome as a result of an interaction between the individual with a disability and his or her environment. Three practice disciplines with scientific foundations address the dimensions of the ICF, including medicine, rehabilitation, and health promotion. Each addresses the individual and the environment at different levels.

The figure below depicts a conceptual continuum of intervention research in disability and rehabilitation that encompasses interventions at both the individual and environmental levels. It begins with acute medical services and shows linkages through rehabilitation to health promotion and quality of life. Notice the areas of overlap where research may address questions that encompass both Acute Medical Care and Rehabilitation Treatments and Therapies. The model may be used to organize the development of comparative effectiveness research in disability and rehabilitation that leads to improved health-related quality of life.



Reading the diagram from left to right, medical research examines treatment of acute conditions. The outcome of these experimental medical procedures is a function of patient characteristics such as existing health condition and population characteristics (e.g., age, gender, race). When medical interventions are 100% effective, individuals are returned to full health and pre-intervention levels of participation and quality of life. Of course, not all medical procedures lead to 100% recovery, or cure.

The value of medical interventions is determined by the interaction of effect by cost. For example, the cost-effectiveness of treating a broken leg is not debated as these treatments are nearly 100% effective and relatively inexpensive. On the other hand, the cost of some late stage cancer treatment is debated. These debates are often framed in terms of quality adjusted life years, a metric of life expectancy by expected quality. However, use of this metric for medical procedures is flawed. Future quality of life following an acute medical procedure is related to a variety of factors beyond the intervention itself. These factors are addressed in the next two circles of the framework.

When medical outcomes do not lead to full recovery, rehabilitation interventions may be used to improve functional outcome for accessing the community. These interventions range from increasing the function of particular body structures (e.g., vocal cords via speech therapy) through the use of assistive technology like wheelchairs. Again, the outcome from rehabilitation procedures is considered a function of patient characteristics (i.e. impairment type and age). Disciplines involved in rehabilitation include medicine, psychology, physical and occupational therapy, social work, engineering, and speech.

When rehabilitation outcomes are100% effective the patient has regained full function to participate in the community. Using the best available rehabilitation technology, full function could be a common rehabilitation outcome. However, like medical interventions, rehabilitation outcomes have a range of cost-effectiveness. Often, the cost of providing assistive technology for accessing the environment is prohibitive. This can be viewed as either a technological or an environmental problem. Accessible environments require less expensive rehabilitation equipment for participation. For example, the Ibot, an expensive wheelchair that can climb stairs, is unnecessary in ramp and lift equipped environments. Likewise, adequately structured work environments require less job coaching for people with intellectual disabilities.

The last block of the framework picks up where the previous two blocks end. Ultimately, the translation of medical and rehabilitative procedures into health-related quality of life depends on the behavioral choices available to the individual. These choices occur at the intersection of the individual in interaction with his or her environment; the richer and more accessible the environment, the greater the, opportunity to participate in community life. Traditionally, health promotion interventions aim to reduce health risk factors and increase health protective factors to reduce morbidity and mortality. When considering health-related quality of life outcomes for people with functional loss, health-related quality of life also must include features of the environment that facilitate or impede participation. From this perspective, the absence of participation opportunities is a health risk factor.

The outcomes of experimental health promotion interventions to increase health-related quality of life for people with functional loss result from the interaction of personal and environmental characteristics, an interaction effect exemplified by the International Classification of Functioning, Disability, and Health (WHO, 2001). More importantly, in a comprehensive

healthcare system, health promotion engages medical and rehabilitation patients to maximize functional outcome via personal and environmental interventions. For example, the symptom presentation from many chronic illnesses interrupts participation through both functional limitations due to untreatable symptoms and from the demands of rigorous medical and self-management procedures. For these individuals, health promotion supports self-management of the disease process as well as participation in community life. Health-related quality of life and other factors associated with HRQOL also may be addressed by interventions that focus at the systems level, as well as the individual level. For example, a health promotion intervention might target the establishment of programs or polices that increase the accessibility of the built environment (such as trails or public places) or address social environments (such as modifying negative attitudes).

Three Categories of Recommended Disability Comparative Effectiveness Research:

Category I: Rehabilitation Therapies and Treatments

Rehabilitation is a concept that has at its core, the promotion of the highest health, physical, psychologic, cognitive, vocational, educational, avocational, and social function possible consistent with the physiologic or anatomic impairment or environmental barriers for those with disabilities. There is a dynamic interplay among the many components of rehabilitation (e.g. medical and pharmacologic interventions, nursing, speech-language/occupational and physical therapies, education, orthotics and prosthetics, counseling, social service support, durable medical equipment, spiritual support, and vocational counseling), as the individual's condition stabilizes and skills develop. Realistic and practical goals are established, and usually change over the course of the disability evolution and the individual's lifetime. There may be a variety of sites of service and components of rehabilitation, based on medical and functional needs, which also change with time.

Rehabilitation and disability research has expanded the measurement instruments used to identify impairment and function levels (e.g. classification of spinal cord injury [ASIA], NIH Stroke Scale); burden of care (e.g. functional independence measure [FIM™]); barriers to

function, social interaction, or work involvement; and outcome measurements in the context of health, function, and societal participation. It has also become clear that people with disabilities assess their health, quality of life, and satisfaction within a different context than do those without disabilities (Drum et al, 2008; Palsbo, 2007).

Rehabilitation intervention research typically examines either very broad (e.g. timing of rehabilitation initiation, care settings, organizational milieus, the full array of rehabilitation care) or very specific intervention strategies (e.g. constraint induced therapy, intrathecal baclofen pump medication delivery, body weight support therapy, use of floor reaction ankle foot orthoses, neuromuscular electrical stimulation). It is difficult to assess discreet interventions, their timing or dosing, when they are delivered within a multidisciplinary, comprehensive program. However, efforts are now being made to examine individual services within the context of the full range of rehabilitation programs (LivnehH, 1989; DejongG et al, 2004). Also medical informatics offers a means to assess the benefit of individual services within the context of a multiple service program through the analysis of very large databases.

An area of rehabilitation intervention that is often overlooked is the dynamic rehabilitation medical demands in early or acute phases of disability onset or diagnosis, or in progressive or chronic conditions. These interventions focus on optimizing physiologic function (e.g. treatment of evolving agitation after brain injury, management of changing spasticity and tone with cerebral palsy) and addressing ongoing co-morbidities (e.g. hypertension and diabetes management following stroke) and medical issues (e.g. infection, neurogenic bladder, nutritional management with dysphagia) while supporting participation in the function-restorative rehabilitation process. People with lifelong disabilities should anticipate aging changes and susceptibility to secondary conditions, that may require acute and ongoing rehabilitation interventions. There are also transitions of care that require facilitation through the rehabilitation process. Those with acute onset disabilities or adults with childhood onset disabilities require support, education, and empowerment to be able to effectively manage their care or to determine someone with capacity to partner in achieving ongoing care.

Rehabilitation and disability science has established a sufficient core of knowledge during the past two decades, such that comparative effective research is now warranted.

Examples of suggested areas of CER are found in Appendix A.

Category II: Environmental Interventions: Assistive Devices and Technologies

Examination of the effectiveness of environmental modifications or interventions is needed to improve the health, physical function and participation of people with disabilities. Categories of environmental interventions include but are not limited to provision of assistive technologies, personal assistants, home modifications and community access.

The narrow focus on restorative rather than compensatory care is a well documented problem for people with chronic diseases and disabilities despite a growing consensus that the primary outcome measure of rehabilitation effectiveness is community participation. For millions of Americans with disabilities, assistive technologies (AT) are key environmental factors in helping them to return to or remain in their homes and communities. AT has been defined as "any item, piece of equipment, or product system whether acquired commercially or off the shelf, modified, or customized that is used to increase, maintain, or improve functional capabilities of people with disabilities" (Technology-Related Assistance for Individuals with Disabilities Act, 1988). Studies have found that provision of AT can enhance performance of self care activities, independent communication, work skills, mobility and community participation. However, comparative analyses of the differential effectiveness are limited since few currently used measurements assess AT use even for prevention of health conditions (e.g. skin ulcers, shoulder injuries, obesity, urinary tract infections, scoliosis).

Studies of different approaches to the provision of AT that enhances performance (e.g. advanced communication devices, lightweight manual wheelchairs, multifunction power wheelchairs, pressure sensitive seating cushions and advanced prosthetics) could provide guidance on the most effective approach to enabling people with significant disabilities to live in their homes and communities instead of in costly nursing homes. Advanced AT may help to reduce secondary conditions, improve the rate of people who return to work and allow people to remain in their homes. Assistive technology holds promise as a means of improving self-care and may reduce the need for both paid and unpaid help.

Examples of suggested areas of research for Category II are found in Appendix B.

Category III: Health Promotion and Wellness Interventions for People with Disabilities

It is only within the last decade or so that contemporary public health efforts such as the International Classification of Functioning, Disability and Health (WHO 2001) and the Surgeon General's Call to Action to Improve the Health and Wellness of Persons with Disabilities (USDHHS 2005) have resulted in broader recognition that disability is **not** equivalent to ill health and that people can experience disability and good quality health. Traditionally, public health approaches measure health outcomes in terms of reducing cases and symptoms of disease (reducing morbidity rates) and avoiding early deaths (reducing mortality rates). For example, children born with genetic or congenital anomalies and adults acquiring disabilities through injury or chronic disease are tallied within a morbidity count. Health promotion in this context focuses on primary prevention and views disability as incompatible with health and the ability to achieve health.

What is health promotion and does it differ in the context of disability? Last (2007, p. 159) defines health promotion as "The policies and processes that enable people to increase control over and improve their health. These address the needs of the population as a whole in the context of their daily lives, rather than focusing on people at risk for specific diseases, and are directed toward action on the determinants or causes of health." According to the Ottawa Charter for Health Promotion (World Health Organization, 1986), health promotion is the process of enabling people to increase control over, and to improve, their health. As adopted by the *(American Journal of Health Promotion (1989),*"Health promotion is the science and art of helping people change their lifestyle to move toward a state of optimal health. Optimal health is defined as a balance of physical, emotional, social, spiritual, and intellectual health. Lifestyle change can be facilitated through a combination of efforts to enhance awareness, change behavior and create environments that support good health practices. Of the three, supportive environments will probably have the greatest impact in producing lasting change."

These contemporary definitions of health promotion seem to have been developed precisely for people with disabilities rather than as a means of excluding them. Compared to the general population, people with disabilities experience important health differences such as lower levels of general health, higher levels of unmet health care needs, lower levels of preventive services,

and higher levels of preventable secondary conditions, chronic conditions, and early mortality. There are also recognized differences in health behaviors, including higher rates of cigarette smoking and lower participation in physical activity and exercise than the general adult population. It is also evident that the social determinants of health differentially impact people with disabilities, including socioeconomic determinants (e.g., education, income, and employment); psychosocial determinants (e.g., stress, social isolation, and level of control); and community and societal determinants (e.g., social support, community participation, and income inequality).

The challenge for health promotion in the context of people borne with or who acquire disabilities is to develop a better understanding of the reasons why people with disabilities experience health differences and to develop individual, systems, and policy level interventions that are effective in addressing the determinants of health.
Examples of suggested studies under Category III are found in Appendix C.

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APPENDIX A

Examples of CER in the area of Rehabilitation Therapies and Treatments

Attention Deficits in TBI: Methylphenidate vs. Attention Process Training

Nature of Problem or Research Question: Attention deficits are common after TBI across the spectrum of severity. There have been several behavioral/experiential approaches taken to attention retraining, and there has been considerable pharmacologic research. However, the multifaceted nature of attention and attention deficits and the small sizes of the studies conducted to date make it difficult to assess the differential effects of these approaches or the wisdom of combining them.

Impact/Utilization: Subtle attention deficits are among the most frequent complaints after mild TBI, and clinically obvious attention deficits are characteristic in moderate to severe injury. The most clearly described problems are slowness of information processing, difficulty with divided attention, and difficulty in maintaining attention to task in ongoing performance environments such as work.

Nominated Intervention (1): Methylphenidate

Summary of Research Findings to date: Methylphenidate is, of course, the leading agent for treatment of Attention Deficit (Hyperactivity) Disorder, and its benefit in that setting has been repeatedly replicated. The literature in TBI is smaller, with no large multicenter parallel group trials conducted to date. However, there have been several small but well controlled studies by Whyte, et al, and Willmott et al, with very consistent findings of efficacy in particular subdomains. In particular, speed of processing, caregiver ratings of attentiveness, and individual work productivity, have been seen to respond to drug in these studies.

Nominated Intervention (2): Attention Process Training

Summary of Research Findings to date: Attention Process Training is the most well described and extensively studied behavioral/experiential treatment of attention deficits after TBI. Developed by Sohlberg and Mateer and distilled into a treatment manual, the treatment focuses on exercises that "stress" specific attentional domains, but also includes a considerable amount of "metacognitive coaching" from the therapist to help the patient identify situations that are susceptible to attentional lapses and strategic compensations to be employed. APT has been evaluated in several pre-post designs, and impact appears to be less when compared to an untreated control group. However, there do appear to be process-specific benefits. That is, APT appears to have greater impact on strategic aspects of "Executive Attention" than simple vigilance or processing speed domains.

In summary, there is moderately strong support for both forms of attention treatment, but a suggestion that their primary impacts may appear in different facets of the complex array of attentional functions. Ultimate clinical recommendations, therefore, may be in the form of

defining which outcomes are most powerfully affected by which treatment in which patient subgroups.

Proposed Study Design:

Design: Parallel 3-group design with an APT group, a medication group, and a combined medication and APT group. Further discussion is needed regarding the control condition(s). It would be very difficult and expensive to create a “sham APT” treatment, since the treatment would need to be plausible to patients and therapists, distilled into a manual, and yet unlikely to have positive effects on attentional function. The best compromise may be to use placebo and active methylphenidate, but to have “open-label” APT.

Sample (include target disability group, age group) Adults with self-reported or clinician-reported attention deficits and a history of moderate to severe TBI .

Inclusion/Exclusion: Individuals with moderate to severe TBI > 6 months post-injury with persistent complaints related to attention. Individuals would be excluded for significant cardiac disease or uncontrolled hypertension that would make treatment with methylphenidate unwise, for a history of stimulant abuse, for concurrent treatment with drugs that would antagonize the effects of methylphenidate or make its administration unsafe, for language comprehension deficits that would preclude active participation in APT, for severe memory impairment that precludes retention of learned strategies, or for severe behavior problems that prevent participation in treatment.

Timeline: Depends on how many centers included. Subjects would be treated in 8 week blocks, but would have an additional follow up assessment at 12 weeks (i.e., 1 month follow up).

Data Collection Plan Anticipated: Subjects screened and enrolled in 8-week program. APT program delivered in 2-hour blocks 3X/week in an outpatient setting. Methylphenidate given at dose of .3 mg/kg BID. Baseline assessment conducted with a neuropsychological test battery of attention and speed of processing measures, as well as observational rating scales (Rating Scale of Attentional Behavior, Moss Attention Rating Scale, and the Cognitive Failures Questionnaire). Follow up at 4 weeks, 8 weeks, and 12 weeks (4 weeks after completing treatment).

Data Analysis Plan Anticipated: Primary outcome would be a composite score (average of ranks across measures or average of z scores across meausures) based on the attentional rating scales, since these ratings bear the strongest relationship to real-world benefits. This would be Kruskal-Wallis comparison of the 3 treatment groups. Secondary analyses would involve assessment of treatment effects and effect sizes in each of the neuropsychological measures, as well as drop outs and adverse events, with particular attention to the possibility of differential domains of maximal treatment response for the 2 treatments. Specifically, we would predict that the drug may produce greater effects on speed of processing, whereas the APT may produce

greater benefits in executive attention measures and specific improvement on the Cognitive Failures Questionnaire.

Feasibility Assessment:

Threats to Implementation: subject recruitment, hiring and/or training therapists to deliver the APT.

Threats to study completion: subject recruitment

Potential Threats to Generalizability: exclusion of patients on many medications, patients with coexisting impairments.

Comparison of Compensatory and Restorative Remediation for Attention Deficits after Traumatic Brain Injury

Impact/Utilization: The proposed research will evaluate interventions derived from two different theoretical models proposed to underly the rehabilitation of cognitive impairments after TBI. The research will impact the field on several levels: (1) comparison of theoretical models of improvement based on either compensation / adaptation to deficits vs. neuroplasticity / restoration of function. (2) comparison of different instructional components based on increasing metacognitive regulation and strategy use through distributed learning and error management, versus reliance on massed practice and errorless learning. (3) comparison of different service models, requiring specialty trained therapists versus automated, computerized interventions with minimal therapist involvement. The study will have implications for understanding the mechanisms of action of treatment as well as practical issues related to portability and service delivery.

Nominated Intervention (1): Compensatory attention and metacognitive strategy training.

Summary of Research Findings to date: A combination of direct attention training and metacognitive training to develop compensatory strategies for attention deficits after traumatic brain injury (TBI) is currently considered a "practice standard" within the field of cognitive rehabilitation. Sohlberg et al [1] used a crossover design to compare the effectiveness of "attention process training" (APT) brain injury education and support for 14 patients with acquired brain injury. Self-reported changes in attention and memory functioning as well as improvement on neuropsychological measures of attention-executive functioning were greater following APT than following therapeutic support. Another RCT [2] investigated the effectiveness of APT and cognitive-behavioral psychotherapy for participants with persisting complaints after mild or moderate TBI. Participants in the active treatment group demonstrated improved performance on a measure of complex attention and reduced emotional distress compared with the no-treatment control group, although there was no effect of treatment on community integration. Another RCT [3] taught 22 patients with severe TBI to compensate for slowed information processing and the experience of "information overload" in daily tasks. Participants were randomly assigned to receive either "Time Pressure Management" (TPM) or an alternative treatment of generic "concentration" training. Participants receiving TPM showed significantly greater use of self-management strategies and greater improvement of attention and memory functioning compared with participants who received the alternative treatment. Several observational studies have reported success in the use of interventions developed to address the central executive component (CE) of working memory. [4, 5] Both of these latter studies emphasize the development of compensatory strategies to manage processing demands, and training in the application of this intervention approach to participants everyday functioning. Thus, although the precise nature of

the interventions in all of these studies differ, they share a common emphasis on the combination of direct attention training and metacognitive training, and the development of strategies to compensate for residual cognitive deficits ("strategy training") rather than attempting to directly restore the underlying impaired function ("restorative training").

Nominated Intervention (2): Computerized, restorative attaining training.

Summary of Research Findings to date: There is an emerging science and body of evidence documenting neuroplasticity in the adult brain, and a corresponding interest in developing and evaluating cognitive interventions that promote neuroplasticity as a means of restoring function. One small RCT developed also interventions based on the central executive operations of working memory, and compared this with a general stimulation approach. [6] Improvements in cognitive functions dependent on the CE as well as reduced cognitive symptoms were noted after CE training but not general stimulation. These gains were attributed to the effects of "massive practice" on CE tasks and the recovery of the underlying attentional functions, which then generalized to related cognitive operations and daily functioning. Another RCT used automated, computerized training on various working memory tasks to treat the cognitive deficits of 18 adults after stroke. [7] The intervention was based on intense, systematic practice with minimal therapist involvement, [8] under the assumption that the training leads to increased cortical activation and restoration of the underlying function. [9] This study again demonstrated gains on several measures of working memory as well as a reduction in cognitive symptoms.

Proposed Study Design:

Design: RCT

Sample (include target disability group, age group) Adults with TBI, 18 to 60 years old, minimum 6 months post injury

Inclusion/Exclusion: will include formal assessment of pre-treatment cognitive functioning. Treatment compliance will be assessed as a study variable.

Timeline. 8 week intervention period with 3 month follow-up.

Data Collection Plan Anticipated. Pre-post and follow-up testing of cognitive functioning to include working memory storage and working memory manipulation tasks; other attention, memory and executive tasks; subjective complaints. Potential for subset of participants to be evaluated with fMRI.

Data Analysis Plan Anticipated. Mixed model MANOVA

Feasibility Assessment:

Threats to Implementation. Recruitment of appropriate subjects; ability to control for other simultaneous treatments received.

Threats to study completion. Recruitment and retention of subjects

Potential Threats to Generalizability: Intervention arms may be conducted within specialized rehabilitation research centers.

Comparative Effectiveness Research Proposal for Autism Interventions

Nature of Problem or Research Question

There is empirical support demonstrating the efficacy of a range of approaches for enhancing the communication skills of individuals with autism spectrum disorders (ASD) (Dawson & Osterling, 1997; NRC, 2001; Prizant & Wetherby, 1998; Rogers, 1998). However, there are no large-scale studies directly comparing the effectiveness of different approaches using randomly assigned, matched control samples with sufficient sample sizes and adequate statistical power. Therefore, evidence that any one approach is more effective than another approach is not available to date. The proposed research question offers a comparison of different intervention approaches and suggests outcome measures that are ecologically valid. Specifically, they measure meaningful changes within natural learning environments and across natural communication partners and address the core deficits of autism—communication and social interaction (National Research Council, 2001):

> **Compare the effectiveness of social interaction approaches versus highly structured behavioral approaches on the verbal, social and nonverbal functional communication skills of preschool children with autism spectrum disorders, in terms of (a) gains made in the frequency of self-initiated spontaneous communication during functional activities and (b) the generalization of gains made across activities, interactants, and environments.**

Impact/Utilization

Comparative effective research should deepen our understanding of the types of intervention approaches that provide the most meaningful communication and social interaction outcomes for with young children with autism. Given that the core features of ASD revolve around social communication and language use, the field of speech-language pathology has much to contribute to future research evaluating the comparative effectiveness of approaches to treating social, communication, and cognitive impairments in ASD.

Nominated Intervention

There are many different intervention approaches that have been used for individuals with ASD. Programs differ in how goals are prioritized and the techniques used to target goals. Some programs rely heavily on singular strategies, while others are more comprehensive or eclectic. Most important is how the environment and instructional strategies support individualized goals and objectives for the individual with ASD and his or her family and other communication partners (NRC, 2001).

The major approaches currently in use are highly structured behavioral approaches (e.g., Applied Behavioral Analysis approaches) and more social interactive developmental approaches, such as (e.g., Social Communication Emotional Regulation Transactional Supports (SCERTS) and Developmental, Individual Differences, Relationship Based approach (DIR).

Summary of Research Findings to Date

Massed discrete trial methods, based on the theory of applied behavioral analysis (ABA) have been used with children with autism to teach verbal behavior (Lovaas, 1987; see summary by Koegel, 1995). Applied behavior intervention is intensive, with 30 to 40 hours of one-on-one intervention recommended on a weekly basis. Recently, a systematic review of the efficacy of applied behavior intervention was conducted with preschool children (18 months to 6 years) with autism. Outcome measures were cognition, language, and adaptive behavior (Spreckey & Boyd, 2009). Four studies had adequate data and were of sufficient quality to be included in a meta-analysis. Results of the meta-analysis did not demonstrate significant improvements in any of the outcome measures compared to other interventions for preschool children with autism. A clear need for more controlled clinical trials with additional outcomes (e.g., addressing family functioning) was demonstrated.

A major limitation of a discrete trial approach for language acquisition is the lack of spontaneity and generalization. More contemporary behavioral approaches use more naturalistic teaching methods for teaching speech, language, and communication, such as natural language paradigm (R. L. Koegel, O'Dell, & Koegel, 1987), incidental teaching (Hart, 1985; McGee, Krantz, & McClannahan, 1985; McGee, Morrier, & Daly, 1999), time delay and milieu intervention (Charlop, Schreibman, & Thibodeau, 1985; Charlop & Trasowech, 1991; Hwang & Hughes, 2000b; Kaiser, 1993; Kaiser, Yoder, & Keetz, 1992), and pivotal response training (L. K. Koegel, 1995; R. L. Koegel, Camarata, Koegel, Ben-Tall, & Smith, 1998; Whalon & Schreibman, 2003).

There are only a few studies, all using single-subject design, that have compared traditional discrete trial with naturalistic behavioral approaches. These studies have reported that naturalistic approaches are more effective at leading to generalization of language gains to natural contexts (R. L. Koegel et al., 1998; R. L. Koegel, Koegel, & Surratt, 1992; McGee et al., 1985).

Other intervention approaches also incorporate naturalistic behavior approaches and are more comprehensive and are consistent with a social interactive and developmental approach to intervention: Social Communication Emotional Regulation Transactional Supports comprehensive educational model for children with ASD (Prizant, Wetherby, Rubin, Laurent, & Rydell, 2003, 2006) and Developmental, Individual Differences, Relationship Based approach (DIR). Although the empirical support for developmental approaches is more limited than for behavioral approaches, there are a growing number of research studies that provide support for using developmental strategies (Aldred, Green, & Adams, 2004; Hwang & Hughes, 2000b; Lewy & Dawson, 1992; Mahoney & Perales, 2005; Rogers & DiLalla, 1991; Rogers & Lewis, 1989), and there are many case studies, with Greenspan and Wieder (1997) being the largest case

review. Developmental approaches share many components of contemporary naturalistic behavioral approaches and are compatible along most dimensions (Prizant & Wetherby, 1998).

Proposed Study Designs

- Single-subject cross-over designs to further investigate efficacy in specific populations not previously studied*
- Group designs comparing these approaches to further investigate generalization in specific populations not previously studied
- Random assignment, matched control samples, double-blind clinical trial

*Single-subject designs may be provide evidence of efficacy or effectiveness through multiple replications (Odom, Brown, Frey, Karasu, Smith-Canter, & Strain, 2003).

Inclusion Criteria
Preschool children with ASD

Exclusion Criteria
Preschool children with ASD with significant intellectual/cognitive challenges

Timeline
Two-to-Five years

Feasibility Assessment
The literature already contains investigations attesting to feasibility but further feasibility efforts may be needed for some sub-groups of pre-school children with autism.

Threats to implementation
Ensuring treatment fidelity (as well as collecting data to evaluate treatment fidelity)

Threats to study completion
Recruitment and retention of subjects
Requires agreement to participate by parents. Requires randomization to different treatment approaches.

Potential Threats to Generalization
Heterogeneity of population
May not generalize to older population

Comparative Effectiveness Research Proposal for Oropharyngeal Dysphagia

Nature of Problem or Research Question

Many patients with neurological conditions experience dysphagia as a result of neurologic illnesses or injuries such as traumatic brain injury, stroke or Parkinson's disease [1-3]. Speech-language pathologists (SLPs) trained in dysphagia management play an integral role in the evaluation and treatment of swallowing disorders for adults with neurologically induced dysphagia. The type of treatments provided by SLPs to improve swallowing function depends on the cause, type and severity of dysphagia as well as other factors such as the extent to which the patient can attend, follow directions, and comply with the SLPs instructions, especially when eating alone. Evidence concerning the efficacy of behavioral treatment approaches for individuals with neurologically-induced dysphagia is accumulating but much more research is needed to determine the best interventions for each of the various patient groups as determined by the etiology, dysphagia symptoms, and other case mix factors. Although at present, there are a limited number of studies, there is some positive evidence for the efficacy of these treatments on various swallowing outcomes. Treatment to improve disordered oropharyngeal deglutition has traditionally centered on behavioral interventions, with the intended purpose of facilitating safe and efficient oral feeding. Behavioral therapeutic approaches have been used clinically by SLPs trained in dysphagia management [4] for over 20 years and include posturing of the head and neck, physical maneuvers altering oral and pharyngeal physiology, tactile, thermal and electrical stimulation, oral and facial exercises, and diet modifications [5]. The goal of postural treatments is to alter the flow of the bolus by repositioning the body, head and/or neck prior to the onset of the pharyngeal phase of the swallow, with maintenance of the position until the swallow was completed. Postures included the *side lying* posture, *chin tuck*, or neck flexion posture, and the *head rotation* posture. Maneuvers were defined as volitional movement of the oral, pharyngeal, or laryngeal structures before or during the pharyngeal phase of the swallow that are intended to increase swallow force, or alter airway protection mechanisms. Maneuvers included in the present proposal include the *effortful swallow* maneuver, the *Mendelsohn* maneuver, *supraglottic* maneuver, and the *super supraglottic* maneuver. In constructing the clinical questions, various outcomes should be considered. Outcomes can be classified in terms of effects on *swallow physiology* (e.g. timing, efficiency, pressure and elimination of aspiration); *functional swallow ability* (e.g. oral feeding and quality of life); and *health* outcomes (e.g., weight and nutritional status, and the incidence of adverse outcomes such as aspiration pneumonia and immunocompromised health conditions).

To date, there have been a number of published guidelines and evidence-based systematic reviews (EBSRs) focusing on dysphagia within various populations and treatment settings [6-9]. The seven behavioral treatments being proposed as the focus of this comparative effectiveness proposal are three postural interventions (side lying, chin tuck and head rotation) and four

swallowing maneuvers (effortful swallow, Mendelsohn maneuver, supraglottic swallow and super supraglottic swallow).

The specific question to be addressed is:

For patients with neurological disorders and evidence of oropharyngeal dysphagia, what is the comparative effectiveness of postural techniques (i.e. the *side lying* posture, *chin tuck*, or neck flexion posture, and the *head rotation* posture) versus volitional swallowing maneuvers (i.e., effortful swallow, the Mendelsohn maneuver, supraglottic swallow or super supraglottic swallow) as delivered by SLPs trained in dysphagia management on swallowing physiology, functional swallow ability, and health outcomes?

Impact/Utilization

Common etiologies of dysphagia include cerebrovascular accidents (CVAs), traumatic brain injuries and degenerative neurological diseases. These conditions often cause oropharyngeal dysphagia and can lead to serious and life threatening consequences such as aspiration pneumonia, malnutrition and immunocompromised health. Data from the Agency of Health Care Policy and Research (1999) report an estimated 300,000 to 600,000 individuals each year exhibited some form of dysphagia as a result of neurological illnesses or injuries [1]. Kuhlemeier [11] reports that dysphagia is a frequent complication of cerebrovascular accidents. An incidence rate of 37% to 78% has been reported for this population [12]. Moreover, findings from the American Speech-Language-Hearing Association's (ASHA's) National Outcomes Measurement System (NOMS) indicate swallowing as the most commonly treated disorder for individuals with neurological diagnoses [13]. NOMS data reveal that 47.6% of patients receiving SLP intervention in healthcare settings are being treated for dysphagia secondary to neurological diagnoses; the majority of whom (66.8%) make measurable functional progress in swallowing ability after receiving SLP services [2]. The primary aim of SLP intervention is to reduce the risk of aspiration and improve swallow function for safe and efficient oral intake [14]. To do this, SLPs employ a number of behavioral therapeutic approaches, including the use of compensatory swallowing postures and/or swallowing maneuvers. Increasing our knowledge concerning *what works best for whom* is much needed to reduce the incidence of avoidable adverse effects associated with oropharyngeal dysphagia secondary to neurological conditions.

Nominated Interventions

<u>Postural techniques</u>

- *side lying* posture, *chin tuck,* or neck flexion posture, and the *head rotation* posture

<u>Volitional swallowing maneuvers</u>

- effortful swallow, the Mendelsohn maneuver, supraglottic swallow or super supraglottic swallow

Summary of Research Findings to Date

According to the five-phase model of investigating clinical outcomes for behavioral interventions developed by Robey [15] prior to introducing interventions as treatments for specific patient groups, it is necessary to establish the existence of an intervention effect, and determine if that effect is sufficient to warrant further testing. Establishing such an effect in the case of oropharyngeal dysphagia begins with defining the physiologic changes that occur during the treatment; this identifies the ability of the treatment to modify function, and establishes a knowledge base from which to formulate hypotheses regarding the potential effects the treatment may have on specific types of disorders. Physiologic changes can include changes in oral or pharyngeal pressures, duration and timing of swallow events, structural movement or displacement, and muscle activation.

A systematic search conducted by the National Center for Evidence-based Practice at the American Speech-Language-Hearing Association of the peer-reviewed literature published between 1985 and 2008 yielded 17 studies which met predetermined inclusion criteria (cite article in press). Of those studies, five examined postural techniques [16,17,18,19,20] and 13 examined swallow maneuvers [16,18-32]. Five studies provided data to address swallowing postures. Of those, three studies investigated the chin tuck [20, 22,23] and two examined the use of head rotation [18,19]. Thirteen studies provided data addressing swallowing maneuvers with the majority (62%, 8 of 13) investigating the effortful swallow intervention [22,25-28,30-32]. Three studies examined the Mendelsohn maneuver [21,24,29], three examined the supraglottic swallow [21,22,33], and three examined the super supraglottic swallow [20,21,33]. Physiologic variables which were addressed by these studies fell into one of four categories, including oral or pharyngeal pressures, duration and timing of swallow events, structural movement or displacement, and muscle activation. The body of literature included in this systematic review collectively indicates that there is physiologic evidence to support existing hypotheses regarding the role of behavioral interventions in treating specific aspects of oropharyngeal dysphagia.

Proposed Study Designs

- Single-subject cross-over designs to further investigate efficacy in specific populations not previously studied
- Group designs comparing these approaches to further investigate generalization in specific populations not previously studied
- Random assignment, matched control samples, double-blind clinical trial

Inclusion/Exclusion

Inclusion criteria: Patients with a diagnosis of oropharyngeal dysphagia secondary to a neurological condition.
Exclusion criteria: Patients with moderate or severe cognitive impairments affecting compliance.

Timeline
Two-to-Five years

Feasibility Assessment
The literature already contains investigations attesting to feasibility, but as not all settings and populations are represented, further feasibility study may be warranted.

Threats to implementation
Maintaining double-blinding
Ensuring treatment fidelity (as well as collecting data to evaluate treatment fidelity)

Threats to study completion
Recruitment and retention of subjects

Potential Threats to Generalization
Heterogeneity of population (even within a given diagnosis)

Comparing Physical Therapy Interventions for Treating Chronic Pain Among People with Disabilities

Nature of Problem or Research Question:

Chronic pain is consistently listed among the most common secondary conditions reported by people with mobility impairments (1-3). While treatment of pain conditions has a strong evidence base, there has been little comparative effectiveness research on evidence-based treatments for people with disabilities. One of the key strategies for treating chronic pain is physical therapy; however, long-term maintenance of chronic pain requires ongoing physical activity (4). This study will examine the incremental cost-effectiveness of providing regular physical activity following standard physical therapy to manage pain reported by individuals with mobility impairments.

Impact/Utilization: Study results will help to determine the value of providing access to regular physical activity services for people with mobility impairments.

Nominated Intervention (1): Physical Therapy

Physical Therapy including modalities such as ultrasound, heating and icing, massage and physical activity are standard components of pain management (4)(5).

Summary of Research Findings to date:

Physical therapy has consistently shown effectiveness in reducing pain (6, 7) across health conditions.

Nominated Intervention (2): Physical Therapy supplemented with physical activity.

Summary of Research Findings to Date: Clinical practice (8), correlational studies (9) and intervention trials all support the efficacy of physical activity (10, 11) for managing chronic pain among people with diverse health conditions.

Proposed Study Design: A multi site randomized controlled trial with repeated measures. Subjects will be randomly assigned to either physical therapy alone or physical therapy with a supplemental physical activity program.

Sample: People with disabilities ages 18-70

Exclusion: People with co morbid psychiatric conditions other than depression.

Timeline: 2- year cost-effectiveness study with 6-months post-intervention follow-up data collected.

Data Collection Plan: Self-report staggered baseline design with pre-, post-, and 6-month follow-up.

Data Analysis Plan Anticipated: Repeated measures analysis of variance

Feasibility Assessment: *Threats to Implementation* - Effective randomization and subject recruitment. *Threats to study completion*- subject attrition.

Potential Threats to Generalizability: Treatment protocols will be controlled for the study to detect any incremental effectiveness of proving physical activity. Hence, the degree to which the model reflects actual clinical practice will affect generalization of results.

Comparison of the outcomes and length of speech-language pathology services when benchmarked NOMS data or individualized estimates are applied to care planning

Interventions compared: The study compares the services needed and outcome achieved for Medicare beneficiaries when a speech-language pathologist plans goals and amount of services while using, or not using, the American Speech-Language Hearing Association's (ASHA) National Outcomes Measurement System (NOMS) predictive data to identify the services and outcomes for similar patients.

Background: The Adult Component of the NOMS collects communication or swallowing function measurements according to a series of seven-point scales called Functional Communication Measures (FCM). Speech-language pathologists (SLP) are certified to reliably administer the measures. Functional gain is determined by the difference in an FCM score from admission to discharge. These data, in turn, provide clinicians with national comparisons on which to base clinical decisions. However, utilization of the benchmarks in planning or treatment is thought to vary greatly across SLPs and facilities.

In 2005, The Centers for Medicare and Medicaid Services issued Benefit Policy Manual instructions for outpatient therapy services that required documentation of improvement during treatment.[1] The NOMS was the only tool that met the criteria for measuring speech-language disorders: established psychometrics, clinical utility, ability to use computer interfaces, acceptance by therapists, and ability to provide predictive data.

In 2007, the Centers for Medicare and Medicaid Services established a research project titled "Developing Outpatient Therapy Payment Alternatives" (DOTPA). The purposes of this 5 year project are to identify, collect, and analyze therapy-related information tied to beneficiary need and the effectiveness of outpatient therapy services. The ultimate goal is to develop payment method alternatives to the current financial cap on outpatient therapy services.

In 2008, CMS contracted with Computer Sciences Corporation for a study titled Short Term Alternatives to Therapy Services (STATS). Before October, 2010, this project is tasked to: Collect and analyze quarterly and annual claims data; partner with stakeholders in analysis of utilization, policies, and clinically appropriate limitations or guidelines that may be used to develop options for short term alternatives to therapy caps.

The proposed research project would complement both of these projects by using electronic data collection and by focusing exclusively on outcomes measurement. This study creates a platform for linking appropriate payment to necessary services, and for reporting quality measures.

[1] Medicare Benefit Policy Manual, Chapter 15, sections 220.3.

Impact/Utilization: If benchmarking information improves care planning, it would be likely to affect not only the estimated half million Medicare beneficiaries treated annually by speech-language pathologists, but all of their patients. Clinicians would be motivated by better outcomes to utilize this data and they could rely on the data to justify appropriate services.

NOMS is the only tool for speech-language pathology services that is approved by the National Quality Forum and is part of the National Quality Measures Clearinghouse. It is available without cost to speech-language pathologists. Since there is little financial incentive to the tool sponsor, this study addresses a question that is unlikely to be addressed through other funding mechanisms.

The comparison of NOMS outcomes to Medicare claims results will create a unique database with potential for valuable future research relevant to creation of patient registries, comparative study of the effect of treatment choices, and affect on utilization.

Nominated Intervention (1): National Outcomes Measurement System

Summary of Research Findings to date:

The Adult component of NOMS (the National Outcomes Measurement System) has been collecting data on over 220,000 patients since late 1998. Communication or swallowing function is measured according to a series of seven-point scales called Functional Communication Measures, which were endorsed by the National Quality Forum in 2008, and added to the National Quality Measures Clearinghouse in 2009.

The American Speech-Language Hearing Association has unpublished research data on this tool which they will share as requested.

In 2004, the NOMS was used to identify changes in patient care following the introduction of the Inpatient Rehabilitation Facility Prospective Payment System for Medicare beneficiaries.[2] The study found that following introduction of the IRF PPS

more patients with cognitive, communication, and swallowing disorders were discharged from inpatient rehabilitative care with less than adequate functional skill levels.

Nominated Intervention (2): Control Group tested with NOMS but treated without knowledge of the NOMS test results.

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[2] Frymark, Tobi B., Mullen, Robert C., *Influence of the Prospective Payment System on Speech-Language Pathology Services.* Am.J. Phys. Med. Rehabil. December, 2004, Vol. 83, No. 12, Pg 1-10.

Nominated Intervention (3): Control Group treated without performance of NOMS.

Proposed Study Design: Identify a sample of providers or suppliers of services who will utilize the NOMS, provide one group with benchmarking information to use in care planning. Identify a control group not utilizing NOMS. Match the patient characteristics. Analyze the NOMS groups for known group construct validity, sensitivity to change, responsiveness and feasibility (practicality, ease of use, frequency of use). Compare outcomes, service utilization and cost of treatment when NOMS is performed and benchmark information is utilized in planning to a similar group where benchmarks are not utilized. Compare services utilized and cost when NOMS is not performed.

Sample: Medicare beneficiaries age 65 and over with communication and swallowing disorders.

Inclusion/Exclusion

- Include all Medicare beneficiaries with SLP disorders in clinic in study groups

Timeline: 18-24 months

Data Collection Plan Anticipated

- Identify providers/suppliers who are using NOMS by using tool sponsor contact information.
- Obtain Data Use Agreements, extract processed claims data from CMS Data Repository.
- From the universe of Medicare therapy claims, identify controls with similar characteristics to those beneficiaries whose therapists utilized NOMS with benchmark information.
- Collect initial and discharge information using NOMS on both sample groups. Collect utilization and cost data from control group.
- Match Medicare claims data to clinical data.
- Develop chart review and interview procedure (for feasibility measure).

Data Analysis Plan Anticipated

- Compare the study to the control group for functional outcome, number of visits, number and type of services, episode length in calendar days, recidivism, allowed charges, paid amount.
- Determine differences in the type, and number of treatment techniques, value of tools to treatment planning, burden of tools.
- Prepare and present Report.

Feasibility Assessment:

Threats to Implementation

Therapists may have but not use the information on cohort expectations.

Threats to study completion

Difficulty obtaining cooperation of provider/suppliers who are NOT using the target tools without an incentive.

Potential Threats to Generalizability:

- The Medicare population, while large, differs in some respects from the geriatric population of the nation as a whole.

- Some of the therapists who have not utilized a tool to identify cohort expectations may have a level of training and expertise that allows them to effectively estimate expectations without use of the tool.

Comparative Effectiveness of Neuromuscular Hyperactivity Non-Responders Receiving Locomotor Training

Overview

The NeuroRecovery Network (NRN)* consists of specialized Centers at 7 rehabilitation sites in the U.S. that provide a standardized Locomotor Training (LT) program designed from scientific and clinical evidence for recovery of posture, standing and walking and improvements in health and quality of life in individuals with spinal cord injury (SCI). This program admits patients with incomplete SCI (AIS C and D) whose spasticity medications are titrated to only require an evening dose at bedtime. There have been a group of patients who demonstrate such high muscular activity ("non-responders") demonstrating dominant flexor, dominant extensor, or combined patterns where LT becomes difficult to provide consistently and with appropriate intensity. The question posed is whether treatment FES cycling in combination with LT compared to antispasticity medications in combination with LT would reduce the degree of neuromuscular hyperactivity and thus improve walking outcomes. The impact and utilization of providing evidence to answer this question would be improved walking outcomes for a greater number of the more severely affected patients. These patients are sometimes either too difficult to wean from anti-spasticity medications and consequently not admitted into the NRN program due to the physical challenges of rendering LT.

All patients would receive standardized LT as provided throughout the NRN and would be randomized into 1 of the 2 nominated treatments (described below). A standardized LT session includes *step training* that is comprised of task specific retraining for standing and walking on a treadmill using a harness to provide BW support with verbal and manual facilitation, *overground assessment* that transfers the current capacity in mobility, posture and walking skills to over ground and establishes priorities for further retraining, and finally *community integration* that provides instruction on daily activities in the home and community environments. Treatments follow the LT principles and are also progressed in a standardized way.

Nominated Intervention (1):

Functional electrical stimulation (FES) cycling will be initiated for 30 minutes before the LT session (1.5 hours) to total a 2 hour intervention 3-5 days a week. The frequency of LT is dependent on the level of independence of proximal to distal segments in producing functional activities. Research Findings to date: To date, evidence has supported the use of LT and FES cycling alone in single subjects and small samples and not in combination and not for individuals with moderate to severe spasticity. This study will be the first to evaluate the impact of cycling on the reduction of spasticity and improvement of waking outcomes.

Nominated Intervention (2):

Steady state anti-spasmodics (e.g. Baclofen) as opposed to the standardized LT selection criteria requiring patients to be weaned of these medications. Patients would continue to receive their existing level of anti-spasmodics or be placed on these medications if medically appropriate, throughout their LT program.Studies have implicated that anti-spasmodics may inhibit spinal neuroplasticity however not study to date has examined if these medications inhibit recovery of walking in combination with LT. Our proposed study will examine walking outcomes while spasticity medications remain.

Proposed Study Design:

This will be an RCT which will screen, select and enroll a minimum of 42 individuals with incomplete SCI (ISCI), AIS C and D. Subjects will be enrolled from all 7 NRN centers who demonstrate significant spasticity on the modified Ashworth scale (Grades 3 or greater) in at least 2 muscle groups bilaterally. Participants must have finished their rehabilitation and currently not receiving any physical rehabilitation. Subjects will be tested for walking outcome measures before the study intervention begins, every 20 sessions, at discharge and 6 months later. The walking outcome measures include the 6 minute walk, 10 M walk, step length and time, gait speed, and the SCI functional assessment inventory. Repeated measures ANOVA will be used to evaluate change in the walking outcome measures and covariates such as injury level, AIS level, time since injury, age and will be explored. The termination of treatment is based on a discrete discharge algorithm where no improvements in key areas require clinical discharge. If insurance support is denied, grant funds would be encumbered to allow patients to continue until no further change is evident.

Feasibility Assessment:

There may be some challenges to implementing this study in identifying patients willing to commit the time for LT in combination with the 2 nominated interventions. Therefore, the compliance may be somewhat diminished. Other challenges may include the physical demand of rendering LT if the 2 nominated treatments do not alter the spasticity. Recruitment may also be challenging however requiring only 6 patients/site/year should be a reasonable. The treatments proposed should be generalizable given clinics have access to supported walking and FES cycling equipment.

High-repetition doses of task-specific training to improve upper extremity activity and participation

Nature of Problem or Research Question:
Stroke and brain injury are major health problems in the United States. Nearly 800,000 new strokes occur each year, and 50% of stroke survivors have persistent dysfunction that disrupts their ability to participate in home and community life. As soldiers return home from conflicts overseas with traumatic brain injuries, and fewer people die from acute strokes or brain traumas as a result of improved acute care, the number of people living with disability after brain injury is rapidly increasing.
Innovative approaches to rehabilitation are needed to reduce the disabling consequences of stroke and brain injury. Neuroscience and rehabilitation findings are now converging to suggest that extended, task-specific practice is critical for producing lasting changes in motor system networks, motor learning, and motor function. Our recent work, however, shows that there is little use of the upper extremity after stroke and little task-specific practice during neurorehabilitation. In our observational studies, people with stroke or traumatic brain injury performed < 50 repetitions of task-specific practice during therapy sessions. In comparison, animal models of stroke and human motor learning studies employ 300-600 repetitions of task-specific practice per session. This discrepancy in the dose of task-specific practice is cause for concern because recent clinical trials suggest that dose of practice may be the key factor in optimizing motor recovery in a variety of neuromuscular conditions. If the remarkable plasticity of the nervous system is to be harnessed to improve motor rehabilitation, then we must provide an adequate stimulus (i.e. adequate dose of practice) to people with stroke and brain injury. We propose to translate the high-repetition doses of task-specific upper extremity training used in animal models to the human experience of stroke.
Impact/Utilization:
This project will contribute to a new understanding of the dose of movement practice that can be tolerated and if high doses of task-specific practice will stimulate better outcomes. A major advantage to our approach is that, if effective, it could be economically implemented in any setting in a very short period of time. Clinics would not need to purchase expensive equipment (e.g. robotics) and therapists would not need to undergo extensive training. This means that our approach could be implemented in all types of clinics, not just those affiliated with academic medical centers.
The long-term goal of this line of research is to improve functional outcomes in neurorehabilitation by determining optimal dosing of task-specific practice. As new advances in cell replacement therapies and pharmaceutical interventions for neurological injuries proceed, our work on investigation of dose will be critical. These new advances will not be beneficial on their own but will need to be paired with an optimal training program. We aim to develop this training program now, so that it is ready as new advances emerge.
The importance of understanding dosing transcends the upper extremity, the motor domain, and stroke and brain injury. Investigations into optimal dosing are needed for all movements and for all domains of neurorehabilitation. Our results will have profound implications for motor rehabilitation aimed at improving function and minimizing disability in people with other disorders/conditions, such as cerebral palsy, spinal cord injury, and multiple sclerosis.
Nominated Intervention:

The intervention is 300-400 repetitions of task-specific upper extremity training in one hour sessions, 3 days/week. The intervention is individually-tailored to each participant, so that practiced tasks match the activity and participation goals of the individual. The chosen activities are graded to challenge the capacity of the participant and difficulty is progressed according to established motor learning principles. As designed, the intervention can be provided within the current delivery system of outpatient neurorehabilitation services.

Summary of Research Findings to date:

Our pilot work indicates that this high-repetition intervention is feasible and beneficial in 10 people with chronic (> 6 months) stroke. The high number of repetitions of task-specific training is achievable, as indicated by average numbers of repetitions per session that were > 300 for all subjects. Participating in the intervention did not result in negative consequences such as pain (e.g. shoulder pain from doing large amounts of activity) or undue fatigue. Changes in upper extremity activity, as measured by the Action Research Arm test, were greater than the estimated minimal clinically important change in the majority of subjects and greater than the published average changes due to Constraint Induced Movement Therapy. More importantly, participation in daily life, as measured by the Activity Card Sort and the Canadian Occupational Performance Measure, had improved at the end of the 6 week intervention and at the 1 month follow-up.

Proposed Study Design:

We propose a single-blind, randomized, controlled trial with a repeated measures design. Benefits of high repetition doses will be compared to the benefits of standard rehabilitation care, where both groups will receive the same frequency and duration of therapy. We will recruit people with upper extremity paresis and upper extremity activity limitations due to stroke or traumatic brain injury. Potential subjects will be between 18-90 years of age and have experienced a stroke or brain injury in the previous 1-3 months. The time within the first few months after stroke and brain injury is within the critical period when this intervention could have its greatest impact on activity and participation. Data from our pilot project have informed specifics design parameters regarding sample size, inclusion/exclusion criteria, duration of the intervention, outcome measures, and clinically-meaningful changes on those measures. Subjects will be randomized to the high-repetition dose or standard care groups using an adaptive randomization scheme to minimize baseline differences. Therapy will be provided in 1 hour sessions, 3 times per week for 8 weeks. Post-intervention assessments will occur at the end of the 8 week intervention and 3 months later. A timeline for the project is provided in the table.

Activity		
Year 1	Q1	Hire & train personnel; finalize recruitment materials, protocol, data collection forms, etc.
	Q2	Enroll subjects
	Q3	Enroll subjects
	Q4	Enroll subjects
Year 2	Q1	Enroll subjects
	Q2	Complete subject enrollment, with any additional subjects to replace drop-outs

		as needed
	Q3	Complete interventions and follow-up assessments on enrolled subjects
	Q4	Data analyses, manuscript preparation, plan next phase

Our hypothesis is that high-repetition doses of task specific upper extremity training will result in greater improvements in activity and participation than standard rehabilitation treatment. We will test our hypothesis using well-established outcome measures. The primary endpoint will be the Action Research Arm Test score at the 3 month follow-up point. Secondary endpoints will include the Stroke Impact Scale, Canadian Occupational Performance, and Activity Card Sort scores at 3 months post intervention. Analyses will be done using mixed model repeated measures ANOVAs to look for differences between groups and across time. Additional data on the success of delivering the interventions (e.g. compliance with the intervention, repetitions achieved, fatigue, etc.) will also be collected and analyzed. Extensive statistical resources are available on our campus to assist with the randomization, data management, and data analysis processes.

Feasibility Assessment:

The biggest barrier to clinical trials is subject recruitment. Our partner outpatient rehabilitation facility treated over 300 people with stroke and brain injury in each of the last 3 years. In our pilot project we met our recruitment goals and even had a waiting list at one point. Thus, enrollment will be limited by the amount of personnel available and not by the availability of participants. We have previous experience with managing and organizing a multi-site observational study of rehabilitation post stroke and previous experience with stroke rehabilitation clinical trials. These experiences will help us overcome the expected and unexpected challenges of the proposed project. Furthermore, we have a strong track record of successfully completing and publishing results from funded projects.

Potential Threats to Generalization:

Our results will generalize directly to people with stroke and traumatic brain injury. Generalization beyond these populations will need to be explicitly tested in future studies. Unlike most studies evaluating motor rehabilitation interventions, we have included people in our pilot work who also have deficits in other domains, such as cognition and language dysfunction. We intend to include individuals with deficits in multiple domains in the proposed project because this is the reality for most patients with stroke and brain injury. Having a sample that is representative of what is seen in rehabilitation clinics will greatly improve the generalization of our findings to current stroke rehabilitation practice.

Further information regarding rationale, significance and detailed methodology for this project are available on request.

The comparative effectiveness and cost-effectiveness of SNF-, IRF-, and home health agency-based rehabilitation for individuals with hip fracture.

Nature of Problem or Research Question: What is the relative effectiveness, cost-effectiveness (or expenditure-effectiveness) of SNF-, IRF-, and HHA-based rehabilitation for individuals with hip fracture?

It would also be important to examine the effectiveness/cost-effectiveness of episodes of post-acute care by looking at various combinations of post-acute care since there is considerable evidence that hip fracture patients go on to use additional forms of post-acute care after leaving the initial post-acute setting.

Impact/Utilization: Individuals with hip fracture are one the fastest growing groups receiving post-acute rehabilitation care. Among all IRF patients, for example, they are the 3rd most commonly served group after those with stroke and joint replacement. However, there is little evidence that one setting of care is more effective than others. CMS and other payers want to know which setting is most effective and cost-effective for different cohorts of post-acute patients.

Nominated Intervention (1): SNF-based hip fracture rehabilitation

Nominated Intervention (2): IRF-based hip fracture rehabilitation

Nominated Intervention (3): Home health-based hip fracture rehabilitation

Summary of Research Findings to date:

Studies to date have had mixed results with neither setting providing a clear advantage over others. One of the more extensive studies on hip fracture rehabilitation is based on 1990s data prior to the implementation of the Medicare PPS for each of the 3 post-acute settings—SNFs, IRFs, and HHAs.

Proposed Study Design:

> **Design:** Retrospective observational cohort design
>
> **Sample (include target disability group, age group):** All Medicare hip fracture patients served in SNFs, IRFs, and HHAs in 2006 and 2007. May limit sample to those over 50 years of age.
>
> **Inclusion/Exclusion:** No exclusion criteria currently anticipated although there will be some exclusion criteria in the final study design.

Timeline: Study can be completed within 12 to 18 months. This study can be done relatively quickly since it can rely in large part on administrative data, namely on MedPAR and Medicare claims data.

Data Collection Plan Anticipated: Will use Medicare claims data from 2006 and 2007. These data become routinely available within 18 months.

Data Analysis Plan Anticipated: These data cannot address functional outcomes but can address outcomes such as hospital readmissions, institutionalization, and mortality since patients with hip fracture are at considerable risk for all three (compared to joint replacement patients where the incidence of these outcomes is quite low and therefore not as relevant when examining outcomes). We will use propensity scoring or instrumental variables to control for selection effects.

Feasibility Assessment:

Threats to Implementation: None anticipated.

Threats to study completion: This is a study that can be completed within 12 to 18 months. The main uncertainty is the timely negotiation of data use agreement with CMS and timely acquisition of Medicare claims data.

Potential Threats to Generalizability: This study would be limited to Medicare patients only and more specifically, fee-for-service Medicare patients. Nearly 20% of Medicare participants obtain their coverage through a private Medicare-sponsored plan under the Medicare Advantage program.

Cognitive deficits after TBI

Impact/Utilization: High

Nominated Intervention (1): Comprehensive cognitive rehabilitation (class I)

Summary of Research Findings to date: Retrospective comparison of this to alternative strategies suggests benefits, but controlled clinical trial in military population did not (Ciccerone et al., 2005)

Nominated Intervention (2): Psychosocial interventions (class I)

Summary of Research Findings to date:

Proposed Study Design:

Design – Phase III, multicenter RCT

Sample (include target disability group, age group) – adult

Inclusion/Exclusion

Timeline – postacute, chronic

Data Collection Plan Anticipated – battery of tests as recommended by the workshop on TBI Common Data Elements (2009) or NIH toolbox (available in 2011)

Data Analysis Plan Anticipated – something like a T-test but leave that to statisticians

Feasibility Assessment:

Threats to Implementation - none

Threats to study completion – competition with other ongoing TBI studies

Potential Threats to Generalizability: heterogeneity of TBI

The comparative cost-effectiveness of SNF- and IRF-based rehabilitation for individuals with hip and knee replacements.

Nature of Problem or Research Question: What is the comparative cost-effectiveness of SNF versus IRF-based rehabilitative care for individuals following a hip or knee replacement?

In 2008, acute care hospitals performed more than a million joint replacements, a doubling from 10 years ago. About 75% of these patients go on to use some form of post-acute rehabilitative care such as a SNF, and IRF, or home health. We are on course to do 3 million joint replacements by the Year 2030. This represents an enormous expense to the Medicare program.

Impact/Utilization: CMS has a strong interest in bringing the costs of hip and knee replacements under control by making sure that patients are channeled to the right post-acute setting.

Nominated Intervention (1): SNF-based rehabilitation

Nominated Intervention (2): IRF-based rehabilitation

Summary of Research Findings to date: Research shows that IRF care is only marginally more effective than SNF care, which leaves open the question of whether it is also more cost-effective since SNF-level care presumably costs less. A comparative cost-effectiveness study can quickly build on what has already been found with respect to effectiveness.

Proposed Study Design:

Design: Comparative observational cohort study

Sample (include target disability group, age group): Hip and knee replacement patients discharged from a cross-section of SNFs and IRFs from across the US.

Inclusion/Exclusion: All hip and knee replacement rehabilitation patients except:

1. Hip replacement patients who had their replacement following a hip fracture, i.e., non-elective hip replacements.
2. Those who died in the follow-up period (death unlikely due to hip or knee replacement or subsequent care). Cannot obtain follow-up data on these patients. Also, comparative expenditure data may be problematic for these patients.
3. Those who had a subsequent joint replacement and obtained their rehabilitation in a different facility other than the facility from which they obtained their initial rehabilitation.

Timeline: 2200 patients discharged from SNFs or IRFs in 2006-07

Data Collection Plan Anticipated: Use of two secondary data sources: (1) outcome data collected as part of an earlier observational cohort study and (2) Medicare claims data on same patients for 6 months following admission to a SNF or an IRF.

Data Analysis Plan Anticipated: Marry outcome data from earlier study with 2006-07 Medicare claims data. Adjust data for differences in case mix. Evaluate relative or comparative cost and expenditure effectiveness analyses. Also use stochastic frontier analysis to evaluate the comparative cost-effectiveness when considering two or more outcomes concurrently.

Feasibility Assessment:

Threats to Implementation:

1. There are few if any.
2. Possible low representation in select case-mix groups.

Threats to study completion: This is a study that can be completed within 12 to 18 months. The main uncertainty is the timely negotiation of data use agreement with CMS and timely acquisition of Medicare claims data.

Potential Threats to Generalizability: Participating 20 facilities are a self-selected. Smaller SNFs and freestanding IRFs are underrepresented due to facility selection criteria but study sample does represent geographic diversity with each major region of the nation well represented.

Improving the benefits of rehabilitation for those with paralysis of and impairment to lower limbs.

Impact/Utilization: 5.6 million people are paralyzed to some degree

Nominated Intervention (1): Standard rehabilitation is carried out at hospitals and rehabilitation facilities with little effort made on returning the patients to full participation in their communities.

Summary of Research Findings to date: High rates of unemployment, high health services use, high rehospitalization rates, high rate of secondary conditions, high rates of informal care provider injuries, high divorce rates, high rates of institutionalization, low income, low quality of life and low community participation.

Nominated Intervention (2):

Wheelchair skills assessments and training

Skills for community mobility (wheelies, up/down slopes/curbs, etc.)

Seating evaluation and recommendations (pressure mapping, provision of air cushions with pressure alert systems

Exercise evaluation and ongoing experience in learning how to use different types of adapted equipment for functions

Transfers, mobility device propulsion, lifting, reaching, driving

Enrollment into physical exercise and wellness programs

Evaluation of and training provided for personal assistance needs

Informal family member, link to paid personal assistants and training informal and formal personal assistants

Evaluation for and introduction to recreational opportunities

Competitive sports, nature trails and parks sand travel

Evaluation of and experience in community participation

Assess 20 sites in the home communities and travel with participant to the sites and make recommendation for site changes in receptivity

Evaluation of and experience in computer skills

Software options, voice entry - Naturally Speaking, keyboard adaptations, social networking via internet

Summary of Research Findings to date: No published studies in this country

Proposed Study Design:

Design: Controlled treatment, multicenter trials

Sample (include target disability group, age group):

Paralysis of upper and/or lower limb impairments, over18

Inclusion/Exclusion:

Paralysis of upper and/or lower limb impairments exclusion of individuals with minimal loss of movement function due to paralysis

Timeline: 2 yr planning, 3 yr implementation

Data Collection Plan: functional outcomes, recurrent hospitalization, health care utilization, secondary conditions, health and well being, quality-of-life and community participation

Data Analysis Plan: Inferential statistics

Feasibility Assessment:

Threats to Implementation:

Requires innovative collaborations with health insurance plans, rehabilitation centers, community agencies

Threats to study completion:

Provider acceptance, consumer acceptance, funding mechanism that require cost sharing between traditional medical based and community based service providers.

Potential Threats to Generalization:

May not generalize to non-paralyzed populations

Comparative Effectiveness Research Proposal for Newborn Hearing Screening Loss to Follow-Up

Nature of Problem or Research Question

Congenital, permanent childhood hearing loss affects 2%–4% of infants who spend time in neonatal intensive care units (NICUs) and 1–3 of every 1,000 infants in well-baby nurseries (Baroch, 2003, CDC, 2008). In an attempt to improve outcomes for children with hearing loss and their families, the National Institutes of Health and the Joint Committee on Infant Hearing (JCIH) in 1993 and 1994, respectively, and the United States Preventive Services Task Force (2008) endorsed the goal of universal detection of hearing loss in infants. The American Academy of Pediatrics (AAP) Task Force on Newborn and Infant Hearing (1999) and JCIH (2000, 2007) endorsed universal newborn hearing screening (UNHS) and the early hearing detection and intervention (EHDI) goals of screening no later than 1 month, confirmation of hearing loss no later than 3 months, and receipt of appropriate intervention no later than 6 months of age. Today, it is estimated that newborn hearing screening is provided to 92%–95% of babies born in the United States and its territories (CDC, 2008; National Center for Hearing Assessment and Management [NCHAM], 2007).

In order to maximize the effectiveness of services and prevent negative developmental impact on children with hearing loss, a positive screening result must be followed by timely diagnostic confirmation and initiation of services. Of infants born in the United States in 2006 who did not pass their newborn hearing screening, it is estimated that nearly half were lost to follow-up (CDC, 2008).

There is very limited research on the effectiveness of different approaches to limiting loss to follow-up. Therefore, the specific question to be addressed is

> **For parents or caregivers of newborns with a positive screen for hearing loss at birth, what is the optimal timing and nature of interventions by health care professionals to increase the likelihood of timely follow-up for a diagnostic evaluation and, if indicated, intervention.**

Impact/Utilization

Previous research has indicated that delays in the diagnosis of and intervention for hearing loss are associated with subsequent delays in children's receptive language development. A 2008 systematic review sponsored by the Agency for Healthcare Research and Quality concluded that "Children with hearing loss who had UNHS have better language outcomes at school age than those not screened." Specifically, children with hearing impairment confirmed by ≤ 9 months of age had significantly better age-adjusted scores than those confirmed later on 2 tests of receptive language and 1 of 2 tests of expressive language but not on the speech scale (USPSTF, 2008).

Nominated Intervention

Approaches to parental education and the timing and content of educational materials vary widely across the country. Most parents learn of newborn screening programs while in the hospital, not prenatally (Arnold et al., 2006). Through a series of focus groups and interviews, Arnold and colleagues found that stakeholders (i.e., parents of infants experiencing the newborn hearing screening (NHS) process, parents of children with hearing loss, audiologists, technicians, nurses, PCPs) preferred having communication about the newborn hearing screening process occur before birth and preferred that user-friendly patient education materials be used. A 2006 survey of parents by Alexander and van Dyck found that parents preferred to be informed prior to the screening of what the screening entails, the urgency of early diagnosis, and what the follow-up process will be (Alexander & van Dyck, 2006).

It is recommended that research be undertaken on the optimal timing of the parental education (pre-natal versus pre-screening versus post-screening) and whether written materials, oral communication, or a combination is most effective in promoting follow-up.

Summary of Research Findings to Date

A 2008 systematic review (ASHA, 2008) found virtually no scientific evidence that could be used by clinicians, administrators, or policy makers to identify the infants at highest risk of loss to follow-up or of the effectiveness of different approaches to promoting follow-up. While there were a small number of studies related to risk factors for loss to follow-up, vague definitions of terminology, absence of experimental controls and other manifestations of problematic study quality inhibited the drawing of any strong conclusions. No studies at all were found relating to follow-up from newborn hearing screening to diagnostic evaluation or to intervention. The authors then searched for studies on interventions designed to promote follow-up from initial hearing screenings to re-screenings, and identified three studies in the peer-reviewed literature. One found no difference in follow-up rates among mothers who had received individual versus group counseling, and a second found no improvement in follow-up among parents who had watched a 20-minute video on hearing screening during pre-natal classes. The third study found a significant increase in follow-up in an experimental group who received written materials, individual counseling, computer tracking of compliance, and reminder telephone calls compared to a control group who just received the written materials. That study did not attempt, however, to discern the relative contributions of each of the specific components of the “bundled” interventions.

Proposed Study Designs

Random assignment, matched control samples, double-blind clinical trial

Inclusion Criteria
Families or caregivers of infants with a hearing screening at birth suggesting possible hearing loss.

Exclusion Criteria
Family history of hearing loss
Infant death or medical complications making follow-up more difficult.

Timeline
1- 3 years

Feasibility Assessment
The literature already contains investigations establishing feasibility, but further study may be warranted.

Threats to implementation
Ensuring treatment fidelity (as well as collecting data to evaluate treatment fidelity)

Threats to study completion
Recruitment and retention of subjects

Potential Threats to Generalization
Heterogeneity of population, settings

Comparative Effectiveness Research Proposal for Intensity of Language Intervention for Adults with Acquired Brain Injury

Nature of Problem or Research Question

Intensity of treatment has been a topic of interest for some time in aphasia treatment studies (Poeck, Huber, & Willmes, 1989) and treatment for language disorders due to traumatic brain injury. Findings from Robey's (1998) meta-analysis of the aphasia literature reported large effect sizes (ESs) associated with treatment provided for 2 or more hr per week. In a review focused on intensity and outcomes, Bhogal, Teasell, and Speechley (2003) reported better treatment outcomes in studies that provided intensive treatment schedules. On average, the more intensive treatment schedules equaled 8.8 hr per week for 11 weeks, compared with the less intensive schedules of 2 hr per week for 23 weeks of treatment. Although both reviews and several efficacy studies included in those reviews have examined the impact of the intensity of service delivery, large scale comparative effectiveness studies have yet to be accomplished.

> **Compare the effectiveness of 30 hours of language intervention delivered over 3 weeks as compared to over 10 weeks on the rate of acquisition, response generalization (across language tasks and communication settings), and maintenance of targeted language processing skills six weeks after therapy is teminated.**

Impact/Utilization

Approximately 700,000 people in the United States survive cerebral vascular accidents (CVA), or strokes, per year, and approximately two-thirds of these stroke survivors require subsequent rehabilitation for a number of impairments including motor deficits, cognitive deficits, and speech and/or language deficits (e.g., NIH, 2006). Specifically, approximately 1,000,000 individuals in the United States suffer from aphasia, with the majority of these cases resulting from stroke (Holland, Fromm, DeRuyter, & Stein, 1996, ASHA, 2004). In a large prospective study involving over 1000 participants with a diagnosis of CVA, aphasia was observed to occur in 38% of the sample, with the incidence rising to 40% when only participants with left-hemisphere lesions were assessed (Pedersen, Jorgensen, Nakayama, Raaschou, & Olsen, 1995). Furthermore, Pedersen and colleagues found that of the participants with aphasia who survived the stroke, 44% completely recovered by the time they were discharged from the hospital. At a six month follow-up, 50% of participants with an initial diagnosis of aphasia continued to present with aphasia; that is after six months of recovery time, only an additional 6% of participants with aphasia had completely recovered their language function. Knowing whether the intensity of service delivery has an impact on outcomes for individuals with acquired brain injury would provide a rather simple solution to enable providers to adjust their methods of

delivering services to achieve more effective outcomes without altering the economic burden of these services.

Nominated Intervention

There are many different intervention approaches that have been used for adults with language impairments secondary to acquired brain injury. For the purposes of this comparison, the type of language intervention delivered can vary and would be determined by the speech-language pathologist in consultation with the patient and family. Programs differ in how goals are prioritized and the techniques used to target goals. Some programs rely heavily on singular strategies, while others are more comprehensive or eclectic. Most important to the goals of this proposal is that the intensity of the service delivery be systematically varied such that half of the cohort enrolled would receive 30 hours over 10 weeks (spaced) and the other half over 3 weeks (massed).

Summary of Research Findings to Date

A systematic search of the literature was conducted (Cherney, Patterson, Raymer, Frymark, and Schooling, 2008) to identify studies that directly investigated intensity of language intervention for individuals with acquired brain injury and directly compared conditions of higher and lower intensity treatment. Of the 10 studies that met inclusion criteria for the systematic review, 5 studies investigated treatment intensity (Basso & Caporali, 2001; Denes, Perazzolo, Piani, & Piccione, 1996; Hinckley & Carr, 2005; Hinckley & Craig, 1998; Raymer et al., 2006). Five of these studies contained sufficient data for calculation of treatment ESs. The effect of intensity in Denes et al. (1996), Pulvermuller et al. (2001), and Hinckley and Carr (2005) was derived from between-group comparisons for groups receiving intensive and nonintensive treatment. The effect of intensity in Study 3 of Hinckley and Craig (1998) was derived from within-group comparisons of the pre- and post difference scores from each intensive 6-week training session compared with the nonintensive 6-week training session. In Raymer et al. (2006), the effects came from within-subject comparisons across the individual participants. Four group studies used impairment outcome measures for which eight effect sizes (ESs) were calculable, including seven large ESs, all in favor of more intensive treatment. In the single-participant design of Raymer et al. (2006), ESs were larger in the more intensive condition for picture-naming acquisition and larger in the less intensive condition for word/picture verification. ESs could not be calculated for Basso and Caporali (2001), who described case studies of three pairs of individuals. In summary, individuals receiving more intensive treatment showed greater gains on language impairment tasks than did the comparison individuals who received a less intensive schedule. Thus, the language impairment outcome measures favored more intensive treatment for all language measures.

Proposed Study Designs

- Group designs comparing these approaches to further investigate generalization in specific populations not previously studied
- Random assignment, matched control samples, double-blind clinical trial

Inclusion Criteria
Adults with language impairments secondary to acquired brain injury

Exclusion Criteria
Pre-morbid history of psychiatric, neurological, and/or communication impairments

Timeline
Two-to-Five years

Feasibility Assessment
The literature already contains investigations attesting to feasibility but further feasibility efforts may be needed for some sub-groups of individuals with acquired brain injury.

Threats to implementation
Ensuring treatment fidelity (as well as collecting data to evaluate treatment fidelity)

Threats to study completion
Recruitment and retention of subjects

Potential Threats to Generalization
Heterogeneity of population
May not generalize to all etiologies of acquired language impairment

High rates of HIV infection among individuals with psychiatric disabilities.

Impact/Utilization: Rates of HIV among individuals with psychiatric disabilities are documented at 5-75 times the rate of the general population. In the published literature, studies of individuals with psychiatric disabilities indicate that testing prevalence, access to testing, knowledge about HIV testing, and other relevant correlates are lacking and that additional research is warranted specifically for this population. In fact, comparing different types of HIV testing among individuals with psychiatric disabilities has been noted as a focal area for comparative effectiveness research (Senn & Carey, 2009). Findings from research identifying effective models for HIV testing among individuals with psychiatric disabilities have the potential to assist in the early detection of HIV, subsequently resulting in earlier engagement in treatment to reduce illness progression and mortality, prevention of transmission to others, and reductions in overall costs of HIV-related health services to treatment systems.

Nominated Intervention (1): Rapid HIV testing.

Summary of Research Findings to date: A rapid HIV test is an enzyme-linked immunosorbent assay (ELISA) test (OraQuick®); however, rather than being analyzed in larger batches with other individual tests, rapid tests are analyzed alone. For a rapid HIV test, a finger stick sample of blood is collected and transferred to a vial. This sample is mixed with a developing solution. The test device, resembling a "dipstick," is inserted into the vial. In as little as 20 minutes, the test device will indicate if HIV–1 antibodies are present in the solution. These are standard procedures tested, outlined, and endorsed by the Centers for Disease Control & Prevention (CDC).

Nominated Intervention (2): Traditional, Blood Assay HIV Testing.

Summary of Research Findings to date: Traditional HIV tests (ELISA) use blood to detect HIV infection. In all of these tests, a small amount of blood is drawn from the arm and sent to an outside laboratory for evaluation. The traditional ELISA test takes approximately one week to complete, depending on where the test is performed. With a positive result, a confirmatory Western Blot assay is performed. These also are standard testing procedures documented by the CDC.

Proposed Study Design:

Design Randomly assign 300 individuals with psychiatric disabilities to rapid HIV testing versus traditional HIV testing and follow them for 9 months after testing.

Sample (include target disability group, age group) Individuals with psychiatric disabilities who are 18 years or older.

Inclusion/Exclusion Inclusion: Being 18 years or older, have a psychiatric disability, willingness to be tested for HIV; Exclusion: younger than 18 at time of study entry, already diagnosed with HIV/AIDS.

Timeline This could be a 2-year project with a 9-moth follow up. However, the project could be extended to 3-4 years with an additional 12- or 18-month follow up. Both are longitudinal desnigns and would provide valuable information regarding testing methods.

Data Collection Plan Anticipated: HIV risk assessment data will be collected at in-person meetings. Separate research interviews also will be conducted longitudinally at study entry, and again at 3- and 9-months after testing to examine other co-factors to HIV risks, including health beliefs and psychiatric symptoms. Testing outcome data also will be collected to examine overall rates of HIV infection within this population, but also to examine rates at which testing participants receive the test outcomes based on testing modality (i.e., rapid vs. traditional).

Data Analysis Plan Anticipated: Given the nature of the data to be collected, rates of HIV testing will be compared by modality using nonparametric analyses (e.g., chi square); longitudinal differences among outcomes including psychiatric symptoms, health beliefs, and other co-factors will be evaluates using repeated measures analysis of variance as well as randomized regression analyses.

Feasibility Assessment:

Threats to Implementation: Implementation threats include individuals' unwillingness to engage in HIV testing, as well as the potential that HIV positive individuals who are randomly assigned to the traditional testing group may not return to learn their results.

Threats to study completion: A threat to study completion would be attrition post-HIV testing, regardless of testing mode, by participants who are not interested in participating in the two follow up research interviews.

Potential Threats to Generalizability: One threat to generalizability would be that the population in this study may not be representative of a national sample of individuals with psychiatric disabilities. Despite the high-impact of HIV infection in the population, more rural and non-metropolitan areas may be differentially affected by the HIV epidemic. Likewise, areas with more concentrated representation of people from diverse ethnic and cultural backgrounds than the Chicago-area may demonstrate different rates of participation. A larger, national multisite study would strengthen the external validity of this proposal.

Comparative Effectiveness Research Project Proposal for Family-centered Interventions in Autism

Nature of Problem or Research Question

A philosophical mandate for family-centered practices has permeated both health care and educational fields. This philosophy offers a foundation for effective family—professional collaborations in assessment, diagnosis, and treatment of individuals with ASD (Prelock, Beatson, Bitner, Broder, & Ducker, 2003). Family-centered practices include careful attention to family priorities and concerns in planning interventions (e.g., Marshall & Mirenda, 2002), as well as to learning about the family system that includes an individual with autism, and developing contextualized assessments and interventions that respect the family system and preferences (Hecimovic, Powell, & Christensen, 1999; Moes & Frea, 2000). Families of individuals with ASD have assumed increasingly important roles in promoting a broader-based awareness and understanding of the disorders, and in the search for effective treatments through their collaborations with professionals to set a national research agenda, ensure the availability of research funding, and encourage participation in research (e.g., Anders, Gardner, & Gardner, 2003; Hollander, Robinson, & Compton, 2004.

Given the nature of autism and the needs of individuals with ASD, families often become teachers and interventionists (NRC, 2001). Family involvement in teaching children with ASD has been documented since the 1960s (Turnbull, Turnbull, Erwin, & Soodak, in press), though some families today place less importance on their roles as teachers and instead want more information on varying topics (Turnbull, Blue-Banning, Turbiville, & Park, 1999). Most comprehensive programs for individuals with autism offer parents training (National Research Council [NRC], 2001).

Families are consistent communication partners who should be provided with opportunities to give information about their child, to learn new skills, and to receive information about available resources. How and what families are taught have been influenced by a shift from the “expert” model of parent education, in which the professional directs the parents, to a more collaborative model, in which family individuality is recognized and families define their own needs and level of involvement (Becker-Contrill, McFarland, & Anderson, 2003; Turnbull et al., in press).

Although research indicates that having families play a critical role in the intervention process is an important part of effective programs for children with autism, research is not available yet to indicate which services and support strategies or what combination is most effective (NRC, 2001). Concerns, priorities, and perspectives of the family need to actively shape educational planning. All of the comprehensive intervention programs with the best treatment outcomes include a strong family component. Family members should be supported to be effective members of the educational team and provided with the opportunity to learn strategies for teaching their child new skills and reducing problem behaviors (NRC, 2001). Sources of support

may include teachers, other interventionists, formal support groups, informal networking with other caregivers of persons with ASD, and families, friends, and neighbors (NRC, 2001).

Geographic location (R. L. Koegel, Symon, & Koegel, 2002) and lack of financial resources (NRC, 2001) can be constraints on access. In a study of Medicaid-eligible children with autism, for instance, Mandell, Literud, Levy, and Pinto-Martin (2002) found that African American children received diagnoses 1 year later than Caucasian children, on average, with a mean age of diagnosis of 7.9 years for the African American children with autism. Although this study did not include a comparison group of higher income children, the relatively late mean age of diagnosis for all the Medicaid-eligible children included in the Mandell et al. study suggests that few children in low-income families received services during their preschool years, regardless of race.

Other cultural and linguistic factors may play roles in families' access to or use of services (Dyches, Wilder, Sudweeks, Obiakor, & Algozzine, 2004; Wilder, Dyches, Obiakor, & Algozzine, 2004). For example, there is variability in the rate at which children from racial and ethnic minority groups are served under the label of autism in the public schools (Dyches et al., 2004). This variability may be due to complex interactions between the values of families from different cultural backgrounds, and linguistic and cultural differences, which may contribute to an over- or under-identification of ASD among certain groups. Ultimately, the diagnostic label of an individual will influence the information and resources that will be offered to families or that the families will seek on their own. When a diagnosis of ASD is given, families will have different understandings of what the diagnosis means, views of etiology, attitudes toward the disability, and motivations regarding accessing services. Families with limited English proficiency may face linguistic barriers to navigating information and service systems in the United States. In addition, families of individuals with ASD may choose alternative forms of treatment based on individual values or cultural background. For example, one study reported that Latino families were more likely to access complementary and alternative medical treatments for their children than were Caucasian or African American families (Levy, Mandell, Merhar, Ittenbach, & Pinto-Martin, 2003

Families of individuals with autism benefit from support beyond the learning of new skills. They benefit from formal and informal supports as well (NRC, 2001). Formal supports emerge from collaborative partnerships between families and professionals, while informal supports include support groups, informal parent networks, and family members and friends (NCR, 2001). Support for families is an ongoing process that takes different forms with different families based on their individual concerns, priorities, and interests (Blue-Banning, Summers, Frankland, Nelson, & Beegle, 2004; Dunlap & Fox, 1999; Sandall, Hemmeter, Smith, & McLean, 2005). Activities such as learning intervention strategies or working with the child in an intervention program are associated with reports of decreased stress by mothers of children with ASD (Bristol, Gallagher, & Holt, 1993; R. L. Koegel, Bimbela, & Schreibman, 1996). Stress also is

alleviated by perceived social support from both informal networks and formal support systems (NRC, 2001).

Do family-centered services and support strategies improve social communication outcomes for preschool children with autism? Contrast standard services with and without family-centered services on social communication outcomes.

Impact/Utilization

Comparative effectiveness research involving families of children with autism will demonstrate how cultural, linguistic, and socioeconomic factors affect families' access to or use and selection of services. Effective practices that involve families can incorporate family preferences and address family priorities.

Nominated Interventions

- Single-subject cross-over designs to further investigate efficacy in specific populations not previously studied
- Group designs comparing these approaches to further investigate generalization in specific populations not previously studied
- Random assignment, matched control samples, double-blind clinical trial

Summary of Research Findings to Date
In progress

Proposed Study Design
Randomly assigned, matched control samples. Single-subject designs may be provide evidence of efficacy or effectiveness through multiple replications (Odom, Brown, Frey, Karasu, Smith-Canter, & Strain, 2003).
Inclusion/Exclusion
Preschool children with ASD and their families from diverse cultural backgrounds
Timeline
Two-to-Five years
Data Collection Plan Anticipated
In progress
Feasibility Assessment
In progress
Threats to implementation
In progress
Threats to study completion
Recruitment and retention of subjects
Potential Threats to Generalization
In progress

Optimal organization and delivery of post-acute care for hip fracture patients

Impact/Utilization: 500,000 new hip fractures cases/year

Nominated Intervention (1): Acute care followed by conventional rehabilitation

Summary of Research Findings to date: Rehabilitation improves hip fracture outcomes but excess mortality of 15% in first year

Nominated Intervention (2): Bundled acute and rehabilitation care with rehabilitation setting determined by need

Summary of Research Findings to date: unknown

Proposed Study Design:

Design RTC

Sample (include target disability group, age group) hip fracture 65+

Inclusion/Exclusion all hip fractures secondary to fall or trauma, exclude pathological fracture

Timeline 2 yr planning, 3 yr patient accrual

Data Collection Plan Anticipated functional outcomes, recurrent hospitalization, health care utilization, mortality, quality-of-life

Data Analysis Plan Anticipated intention-to-treat analysis

Feasibility Assessment:

Threats to Implementation requires collaboration w/CMS, requires innovation by providers

Threats to study completion provider acceptance, requires randomization

Potential Threats to Generalizability: may not generalize to younger populations

Optimal organization and delivery of post-acute care for stroke patients

Impact/Utilization: 750,000 new stroke cases/year

Nominated Intervention (1): Acute care followed by conventional rehabilitation

Summary of Research Findings to date: Rehabilitation improves stroke outcomes

Nominated Intervention (2): Bundled acute and rehabilitation care with rehabilitation setting detrmined by need

Summary of Research Findings to date: unknown

Proposed Study Design:

Design RTC

Sample (include target disability group, age group) stroke ages 65+

Inclusion/Exclusion exclude other co-existent neurological diseases

Timeline 2 yr planning, 3 yr patient accrual

Data Collection Plan Anticipated functional outcomes, recurrent hospitalization, health care utilization, mortality, recurrent stroke, quality-of-life

Data Analysis Plan Anticipated intention-to-treat analysis

Feasibility Assessment:

Threats to Implementation requires collaboration w/CMS, requires innovation by providers

Threats to study completion provider acceptance, requires randomization

Potential Threats to Generalizability: may not generalize to younger populations

Optimal organization and delivery of post-acute care for complex medical patients

Impact/Utilization: may help to revise treatment guidelines

Nominated Intervention (1): Acute care followed by SNF/home care

Summary of Research Findings to date:

Nominated Intervention (2): Intense inpatient rehabilitation followed by home care

Summary of Research Findings to date: unknown except for very select populations e.g., metastatic disease to spine with paralysis where clear improvemtns in quality of life demonstrated

Proposed Study Design:

Design RTC

Sample (include target disability group, age group) multiple organ transplant patients, severely decondtioned patients following cancer treatments

Inclusion/Exclusion TBD

Timeline 1 yr planning, 1 yr patient accrual

Data Collection Plan Anticipated functional outcomes, recurrent hospitalization, health care utilization, mortality, quality-of-life

Data Analysis Plan Anticipated intention-to-treat analysis

Feasibility Assessment:

Threats to Implementation requires collaboration w/CMS, requires innovation by providers

Threats to study completion provider acceptance, requires randomization

Potential Threats to Generalizability: will depend on diagnostic criteria

Enhancing Motor Training with Transcranial Direct Current Stimulation

Traumatic Brain Injury (TBI) is a major world-wide public health problem. The Center for Disease Control and Prevention (CDC) estimates that 235,000 people in the U.S. alone are hospitalized annually with a TBI and survive. Approximately 80,500 of TBI survivors are left with long-term disability. Another 10,000 or more who sustain a TBI, but are not hospitalized, are estimated to become disabled each year. Long-term disability after TBI includes problems with motor control (weakness, spasticity, and instability), cognition (thinking, memory, and reasoning), sensory processing (sight, hearing, touch, taste, and smell), communication (expression and understanding), and behavior or mental health (depression, anxiety, personality changes, aggression, acting out, and social inappropriateness). The CDC estimates the prevalence of disability resulting from TBI in the U.S. to be 5.3 million. The annual direct and indirect costs including those due to work loss and disability have been estimated at $60 billion. These costs recently increased very significantly due to the high number of veterans who require treatment because of TBIs they sustained during the war in Iraq. There is therefore an urgent and ongoing need for better strategies to minimize motor impairments as a consequence of TBI and promote the recovery of function in TBI survivors.

Upper extremity impairment and related functional limitations are important targets of the rehabilitation of individuals who suffered a TBI. Recent literature emphasizes the need for studies assessing the benefits of interventions aimed at improving motor function in TBI survivors. Only a small number of studies has been focused on assessing motor gains associated with rehabilitation in TBI survivors. The few studies focused on the use of traditional rehabilitation techniques have shown that limited motor gains are associated with traditional interventions. Recent research has explored the use of rehabilitation approaches based on high intensity and specificity of targeted movements (such as constraint-induced movement therapy) in TBI survivors. Preliminary results are very encouraging as they show that clinically significant gains can be achieved via intensive motor therapy. Based on these considerations, our research team recently carried out a pilot study that combined non-invasive electrical stimulation of the brain (i.e. transcranial direct current stimulation, tDCS) with robotic motor training aimed at upper extremity motor recovery in a group of TBI survivors. *Figure 1* shows the setup we utilized in our preliminary investigation. The combination of tDCS and robotics was motivated by recent scientific evidence that points at the benefits of these technologies.

Based on the outcome of our pilot study, we propose to perform a randomized sham-controlled clinical trial to assess the clinical and neurophysiological effects of therapy that combines motor training using a robotic device (ARMEO, Hocoma AG) specifically designed for upper extremity rehabilitation, which allows one to perform therapeutic exercises based on an interactive gaming environment, and the use of noninvasive brain stimulation achieved via tDCS. The proposed study will allow us to perform a comparison of therapy based on the above-mentioned

technology and traditional physical therapy as currently delivered in an outpatient setting. The project will be carried out over a period of two years. During Year 1, we will focus on comparing robotic therapy combined with tDCS versus robotic therapy alone. During Year 2, we will compare traditional physical therapy with physical therapy augmented by the above-mentioned technologies. The decision of whether we will use robotic therapy alone or a combination of robotic therapy and tDCS will be made based on the results of Year 1 of the project.

Parkinson's Disease Medication Management

Parkinson's disease affects about 3% of the population over the age of 65 years and more than 500,000 US residents. The characteristic motor features of the disease include tremor, bradykinesia (i.e. slowness of movement), rigidity (i.e. resistance to externally imposed movements), and impaired postural balance. Current therapy is based on augmentation or replacement of dopamine, using the biosynthetic precursor levodopa or drugs that activate dopamine receptors. These therapies are successful for some time, but most patients eventually develop motor complications. Complications include wearing-off, the abrupt loss of efficacy at the end of each dosing interval, and dyskinesias, involuntary and at times violent writhing movements. Wearing-off and dyskinesias produce substantial disability, and frequently interfere with medical therapies. Furthermore, fluctuations in the severity of symptoms and motor complications (referred to as "motor fluctuations") are observed during dosing intervals.

Currently available tools for monitoring motor fluctuations are limited. In clinical practice, information about motor fluctuations is usually obtained by asking patients to recall the number of hours of ON (i.e. when medications effectively attenuate tremor) and OFF time (i.e. when medications are not effective). This kind of selfreport is subject to perceptual bias (e.g. patients often have difficulty distinguishing dyskinesia from other symptoms) and recall bias. Another approach is the use of patient diaries, which can improve reliability by recording symptoms as they occur, but does not capture many of the features useful in clinical decision-making.

Over the past few years, we have developed a wearable monitoring system that tracks changes in the severity of symptoms and motor complications in patients with Parkinson's disease. The system is equipped with wireless body-worn sensors that can gather data continuously over a period of up to 5 days. We have developed algorithms that identify ON-OFF periods and estimate UPDRS (Unified Parkinson's Disease Rating Scale) scores on the basis of the analysis of sensor data (i.e. accelerometer data) recorded during performance of motor tasks such as pronation/supination movements of the forearms, reaching movements, walking, sitting, etc. We have recently augmented the capability of our system by developing a web-based portal that provides clinicians with remote access to the data and videoconferencing capability so that a patient examination can be performed via the Internet. Preliminary results we have gathered over the past few years in a pilot study on about 20 patients with late stage Parkinson's disease indicate that the tools we have developed and tested could facilitate and improve medication management in this patient population.

We propose to perform a comparative effectiveness study aimed at assessing whether medication management can be improved in patients with late stage Parkinson's disease by relying upon the tools described above. Patients recruited in the study will be randomized to one of two groups: 1) receiving standard clinical services by which medication management is achieved via clinical visits and patient's report of his/her satisfaction with medication effectiveness, and 2) undergoing field monitoring to assess the severity of symptoms and motor complications during

motor fluctuation cycles via the use of the system we have developed and tested over the past few years as described above. The study will be carried out over a period of two years. During the first six months of the study, we will focus on the deployment of the technology in the field. We have extensive experience with the use of this technology and we are confident that we can address all the challenges of deploying the system based on our experience and our collaborations with Dr. Matt Welsh, who serves as Director of the Harvard Sensor Networks Laboratory, and Mr. Doug McClure, who serves as Corporate Manager of the Partners Center for Connected Health. The remainder of the study will be focused on the proposed comparative assessment of the anticipated clinical impact of the technology we have developed. We have extensively collaborated with Dr. John Growdon, Director of the Motor Disorders Center at Massachusetts General Hospital, and Dr. Dan Tarsy's team at Beth Israel Medical Deaconess Center. We will rely on these collaborations to achieve the goals of the proposed study.

Comparison of two outcome measurement tools providing benchmark predictive data to identify the utilization patterns for physical or occupational therapy rehabilitative services.

Nature of Problem or Research Question: To compare the psychometric properties of two outcome measurement tools. Also to compare the use of these tools for evaluating changes in utilization patterns among therapists when benchmark predictive data is, or is not provided for planning outpatient physical and occupational therapy treatment.

Background: Section 4541 of the Balanced Budget Act of 1997 (BBA) (Pub.L. 105-33) imposed financial limitations on outpatient therapy services and requested development of payment alternatives. In an effort to reduce errors in therapy claims, in 2005, the Centers for Medicare and Medicaid Services issued Manual instructions for outpatient therapy services that required documentation of improvement during treatment. The transmittal recommended, but did not require, measurement tools that address physical and/or occupational therapy services. Two of those tools, Focus On Therapeutic Outcomes, Inc. (FOTO), and Boston University's AM-PAC (administered by CRE Care) have extensive psychometric research, are widely used, and have amassed large data sets. Since the tools were developed using different patient data and manage the information obtained in different ways, they may address the needs of therapists for use in patient care in different ways.

In 2007, the Centers for Medicare and Medicaid Services established a research project titled "Developing Outpatient Therapy Payment Alternatives" (DOTPA). The purposes of this 5 year project are to identify, collect, and analyze therapy-related information tied to beneficiary need and the effectiveness of outpatient therapy services. The ultimate goal is to develop payment method alternatives to the current financial cap on outpatient therapy services.

In 2008, CMS contracted with Computer Sciences Corporation for a study titled Short Term Alternatives to Therapy Services (STATS). Before October, 2010, this project is tasked to : Collect and analyze quarterly and annual claims data; partner with stakeholders in analysis of utilization, policies, currently available measurement tools to develop clinically appropriate limitations or guidelines that may be used to develop options for short term alternatives to therapy caps.

The proposed research project would complement both of these projects by using electronic data collection and by focusing exclusively on outcomes measurement. This study creates a platform for linking appropriate payment to necessary services, and for reporting quality measures.

Impact/Utilization: During CY 2007, Medicare paid $4.37 billion for outpatient therapy services. If providing benchmark data to therapists improves quality and controls costs, 4.4

million beneficiaries who utilize therapy services annually would benefit[3] . Specific outcome measurement items with strong scientific credentials for specific patient conditions would be useful in identifying appropriate payment for quality services. It is unlikely that comparison of these two proprietary tools using Medicare claims would be feasible without federal support. This study will serve as a base from which future comparative effectiveness research questions may be formulated, for example, using the most appropriate tool to compare treatment options for specific groups of patients.

Nominated Intervention (1): Focus On Therapeutic Outcomes, Inc.

The Functional Outcome Score of FOTO is based on 2.4 million patient episodes obtained over 17 years. The outcomes instruments are currently being administered in over 2,000 clinics nationally and over 70 clinics in Israel. FOTO measures have been approved by the National Quality Measures Clearinghouse, given time-limited endorsement by the National Quality Forum, and used in the CMS funded (2006) a pay-for-performance study.

Nominated Intervention (2): AM-PAC

The AM-PAC's psychometric properties have been extensively evaluated in inpatient as well as outpatient post acute care patient patients with major medical, neurologic, as well as major orthopedic impairments. The AM-PAC has demonstrated a high degree of reliability, known groups and construct validity, as well as shown a high degree of sensitivity to change across all three functional domains across.

The Basic Mobility and Daily Activity scales have been given time-limited endorsement by the National Quality Forum.

Proposed Study Design:

Design: To compare the psychometric properties of the AM-PAC and FOTO measures, the study will identify a sample of providers of physical or occupational therapy outpatient services who are interested in utilizing both tools. Data will be collected at initiation of treatment and discharge using the two instruments simultaneously for all patients with a variety of neuromusculoskeletal conditions. Results for the two tools will be compared for the psychometric properties of test-retest reliability, validity (known group construct validity), sensitivity to change, responsiveness, usability (practicality, ease of use, frequency of use) and feasibility. To compare the effect of the knowledge of benchmark data from a similar cohort, provide two group of therapists outcome and benchmark data for one tool each to use in treatment planning. Compare outcomes, cost, the ability of the tools to classify clinics by effectiveness (based on outcome), and efficiency (based on utilization of time or resources to

[3] Amy Kandilov, Ph.D., Brieanne Lyda-McDonald, M.S., Edward M. Drozd, Ph.D., RTI International "Developing Outpatient Therapy Payment Alternatives (DOTPA): 2007 Utilization Report" Date 2009

achieve outcomes) for both groups. Also compare the cost and utilization of services for similar patients whose therapists do not utilize either tool.

Sample: Medicare Part B beneficiaries age 65 and over with a variety of neuromusculoskeletal disorders.

Inclusion: All Medicare Part B beneficiaries in the cooperative clinics who are receiving physical or occupational therapy.

Exclusion: Patients without cognitive ability or surrogate to participate. Patients with less than 3 therapy visits in an episode.

Timeline: 18-24 months

Data Collection Plan Anticipated

Identify providers/suppliers who are using the target tools by using tool sponsor contact information. Collect initial and discharge information using both tools on a sample group.

Extract processed claims data from CMS Data Repository. From the universe of Medicare therapy claims, identify controls. Match claims data to clinical data. Develop and execute chart review and interview procedure for clinical feasibility.

Data Analysis Plan Anticipated

Describe the functional status change, number of visits, number and type of services, episode length in calendar days, recidivism, allowed charges and paid amount.

Compare the differences in the tools psychometrics and compare instrument usability/practicality, feasibility, burden on patients/staff and other differences that arise.

Feasibility Assessment:

Threats to Implementation: Lack of cooperation among tool sponsors is very unlikely, but possible. Difficulty finding beneficiaries whose interventions were similar except the tools is possible, but also unlikely due to the huge universe of Medicare claims.

Threats to study completion: Recruitment of providers, unless incentive to participate is offered or burden is low (such as focusing upon therapists who already use the instrument).

Potential Threats to Generalizability: The Medicare population, while large, differs from the general population in race, and possibly in socioeconomic level.

Therapists who already have adopted these tools may be different than therapists who have not adopted these tools. There is no evidence or theory, however, that the differences in willingness to adopt a given assessment tool would affect the sensitivity of the tool.

APPENDIX B

Examples of CER in the area of Assistive Devices and Technologies

Comparative Effectiveness of two approaches to treating footdrop in post-stroke population

Nature of Problem or Research Question:

Footdrop or the inability to adequately clear the toes/forefoot during the swing phase of gait is a major rehabilitation problem following stroke. The standard of care in the US for the treatment of footdrop is the ankle-foot-orthosis (AFO) which constrains movement by preventing relative plantar flexion. However, emerging evidence indicate that motor recovery is activity dependent; specifically, repetitive movement therapy that is novel, functionally relevant and applied early during recovery is effective in facilitating motor recovery following UMN lesions. Thus, although an AFO clearly provides functional benefit, it may also hinder motor recovery. An important alternative to an AFO is the peroneal nerve stimulator (PNS) which actively dorsiflexes the ankle during the swing phase of gait and may facilitate motor recovery. However, these approaches have not been directly compared during the critical early post-stroke phase with respect to their effect on motor recovery (1-12 weeks).

Impact/Utilization:

Nominated Intervention (1): Articulated AFO.

Summary of Research Findings to date:

The standard of care for post-stroke foot drop is an AFO. Approximately 20% of stroke survivors discharged from acute inpatient rehabilitation are prescribed an AFO. [1, 2] Options include off the shelf plastic AFO, double upright metal AFO, solid ankle custom molded AFO and the articulated custom mold AFO. There are no studies that compare the relative efficacy of these devices. However, the community consensus appears to be the articulated custom molded AFO.

There is now sufficient evidence demonstrating the efficacy of AFO relative to no device in enhancing the functional mobility of stroke survivors.[3-7] However, there are no randomized clinical trials with long-term follow-up demonstrating their effectiveness. Most studies utilized cross-sectional design that randomly assigned the AFO condition vs no AFO condition. Nearly all studies evaluated chronic stroke survivors with acute stroke survivors evaluated only rarely.[8]

While an AFO is effective in enhancing functional ambulation relative to no device, the constraints of an AFO, even an articulated AFO, might inhibit neurologic recovery. Two studies that evaluated the effect of AFO usage on motor activation of the ankle dorsiflexors seem to support this concern.[4, 5] In agreement with prior studies, both demonstrated the functional benefit of an AFO. However, both studies also reported reduced activation of the ankle dorsiflexors (tibialis anterior) during gait. One of these studies concluded “The study…supports the functional benefit of a rigid AFO in hemiparetic subjects…However, the reduced activity in the

tibialis anterior muscle may lead to disuse atrophy and hence long-term dependence on the orthosis."[4]

Nominated Intervention (2): Surface peroneal nerve stimulator

Summary of Research Findings to date:
In 1961, Lieberson and associates[9] described the first single channel surface PNS to provide ankle dorsiflexion during the swing phase of gait. Burridge and associates[10] reported the only randomized clinical trial of surface PNS compared to no device and demonstrated that the treatment group exhibits significantly greater increases in walking velocity than the control group. Since then numerous case series have reported similar improvements in gait parameters based on a variety of commercially available surface PNS, including the Odstock Dropped Foot Stimulator,[11-13] the tilt sensor based WalkAide[14-16]and the wireless Bioness L300.[17-19] Several evidence based reviews concluded that there was strong evidence that PNSs improve hemiplegic gait parameters.[20-22]

Researchers investigating PNS have long understood that the primary barrier to clinical implementation in the US is the AFO. Accordingly, several studies compared the functional benefits of PNS to an AFO.[19, 23-25] For the most part, the two devices were similar with respect to functional ambulation.

In contrast to the AFO where there is concern regarding inhibiting motor recovery, the PNS may facilitate motor recovery by providing novel, repetitive movement therapy in the context of the functionally relevant task of walking. Lieberson and associates were also the first to describe an apparent "carry-over" effect after use of a PNS. Some participants who previously did not exhibit ankle dorsiflexion were able to volitionally dorsiflex the ankle after using the PNS.[9] This initial observation of an apparent motor relearning effect has now been corroborated by several case series.[12, 14, 26] These studies showed after a period of use of the PNS, some stroke survivors experience modest improvements in gait parameters even when not using the PNS. However, there are no longitudinal RCT to confirm the presence and clinical relevance of PNS mediated motor relearning effect. Further, all studies were conducted during the chronic phase of stroke when the environment for influencing substantial motor recovery is far from optimal.[27]

Proposed Study Design:

Design: Single-blinded RCT; PNS vs AFO during acute/subacute phase with 3-mo FU for pilot trial and 6-9-mo FU for full trial.

Sample (include target disability group, age group): Adult strokes (45-75)

Inclusion/Exclusion:

Inclusion	Exclusion
• 45-75 yrs old	• LE edema or skin breakdown

• Hemorrhagic or nonhemorrhagic • Medical stability • Unilateral hemiparesis • Presence of footdrop during ambulation • Minimum ambulation ability of standing and stepping within the parallel bars with or without an assistive device • Ankle dorsiflexion to neutral with PNS while standing	• LMN lesion of the peroneal nerve • Severely impaired cognition • Significant visual-spatial deficits • Aphasia with impaired comprehension • DVT • Potentially life-threatening cardiac arrhythmias • Demand pacemakers or defibrillators, or other implanted electronic device. • Pregnancy

Timeline: This depends on whether the study is a pilot or a large scale trial. A pilot can be 3 yrs; a full trial will likely require 5-yrs.

Data Collection Plan Anticipated: Outcomes that span the WHO continuum of impairment (e.g. gait speed, quantitative gait analysis, EMG, fMRI, metabolic cost), activities limitation (e.g. laboratory based measures of functional mobility) and participation (e.g. real life measures of mobility, measures of stroke specific QOL). For a pilot study, outcomes should be assessed at baseline and monthly thereafter for 3 mo. For a full trial, outcomes should be assessed at baseline and at 2-3 mo intervals for 6 to 9-mo, respectively.

Data Analysis Plan Anticipated: longitudinal analysis using linear mixed models

Feasibility Assessment:

Threats to Implementation:

- Medical and neurological instability of acute stroke survivors
- Confounding effect of multiple therapies: PT, OT, speech

Threats to study completion:

- Loss to follow-up
- Noncompliance
- Poor recruitment

Potential Threats to Generalizability:

- Use of a PNS requires high level of support from skilled personnel in order to ensure proper electrode location, reduce or minimize electrical stimulation mediated discomfort and enhance overall compliance. In a clinical trial this support is provided. However, in real life this may be difficult to maintain and thus study results may not easily translate to the real world.

- Although surface PNS is FDA approved, it is not CMS approved. Thus even if this study demonstrates significant benefit of PNS over an AFO, the lack of 3rd party reimbursement may render the study clinically irrelevant. On the other hand, the study results may influence CMS decisions.

Children with disabilities (e.g. autism, Down syndrome, mental retardation, cerebral palsy) often also have co-morbid hearing loss.

Some of this group of children will have moderate to profound hearing loss and may be candidates for cochlear implants. Although both cochlear implants and amplification devices (e.g. hearing aids) are used in this population, the question of which is preferable related to efficacy and broad issues of cost and benefit is not known.

Impact/Utilization: High impact disorders of low frequency.

Nominated Intervention (1): Cochlear implants

Summary of Research Findings to date: limited in this population although perhaps 30-50% of children who received cochlear implants have an additional disability.

Nominated Intervention (2): Amplification devices

Summary of Research Findings to date: limited in this population

Proposed Study Design:

Design descriptive

Sample (include target disability group, age group) children with disability 5yrs of age of less

Inclusion/Exclusion: progressive neurological disease

Timeline: 1 year of amplification followed by offer of cochlear implant if slow probress

Data Collection Plan Anticipated Anticipate the spectrum of speech and language, cognitive, social adaptive, and quality of life funciton.

Data Analysis Plan Anticipated determined by statistician

Feasibility Assessment:

Threats to Implementation finding comparable children

Threats to study completion being able to control for cochlear implant intervention

Potential Threats to Generalizability: each child with a disability is unique

Improving the benefits of assistive technology use by those with lower limb impairments.

Impact/Utilization: Over 7 million people use mobility devices

Nominated Intervention (1): Mobility devices are distributed at rehabilitation hospitals/centers or by durable medical supply dealers using medical benefits and brief assessments of functional loss as criteria for distribution of devices.

Summary of Research Findings to date: Nonuse rates ranging from 12% to 80% depending on the type of mobility device and the method of device acquisition.

Nominated Intervention (2): Acquisition of mobility device based on functional and participation benefits in environments where mobility devices are used including home, work and community frequented sites.

Summary of Research Findings to date: No published studies in this country

Proposed Study Design:

Design: Controlled treatment, multicenter trials

Sample (include target disability group, age group):

Lower limb impairments, over18

Inclusion/Exclusion:

All individuals with lower limb impairments who use mobility devices

except those who use canes, crutches or walkers

Timeline: 2 yr planning, 3 yr implementation

Data Collection Plan: Nonuse of mobility device, functional outcomes, recurrent hospitalization, health care utilization, secondary conditions, quality-of-life and community participation

Data Analysis Plan: Inferential statistics

Feasibility Assessment:

Threats to Implementation:

Requires innovative collaborations with health insurance plans,

rehabilitation centers, community agencies. Requires removal of in-home CMS rule for use of mobility devices

Threats to study completion:

Provider acceptance, consumer acceptance, funding mechanism that

require cost sharing between traditional medical based and community based service providers.

Potential Threats to Generalization:

May not generalize to younger populations

Improving Immediate Responses to In-Home Falls

Improving the response to in-home falls in the elderly population is of paramount importance. Falls are the sixth leading cause of death in elderly people in the United States. A key factor to minimize the severity of fall-related injuries is to promptly detect the fall event and alert clinical personnel. During the past few years, a number of devices for fall detection have been introduced on the market. These devices are based on body-worn units (e.g. pendants, wrist-watch units) equipped with an accelerometer. The units are programmed to detect falls based on the analysis of accelerometer data and to send an alarm message to a caregiver. Unfortunately, the potential benefit of these systems is limited by poor compliance likely because subjects are overwhelmed by the large number of false fall detections (i.e. false positives) that mark commercially available systems.

We propose to develop a new system for fall detection that combines home robotics with the use of body-worn units and to compare the newly-developed system with a commercially available device (i.e., the Philips Lifeline system). In the proposed system, the body-worn unit will send a message to the robot (see *Figure 1*) when it detects a fall event and the robot will respond by acquiring and processing video and audio information to assess whether the subject actually fell. When the subject does not wear the body-worn unit, the robot can utilize additional sensors to detect fall events (e.g. via detection of vibrations of the floor). Although we anticipate that the combined use of the body-worn unit and the robot will be superior to the use of the robot alone, we believe that it would be unrealistic to assume that subjects will use the body-worn unit all the time. The proposed system has great potential in providing effective monitoring and prompt interventions in the prevention of fall-related complications.

The system will rely on wireless units that we have recently developed in collaboration with Intel Digital Health and researchers at Harvard University's School of Engineering. The wireless units can transmit data via an IEEE 802.15.4 protocol or using Bluetooth. Additionally, the units are equipped with a microprocessor of the MSP430 family that allows one to derive features from the accelerometer data and to estimate the likelihood of a fall. Patterns of accelerometer data associated with a fall will be established based on an existing biomechanical model.

We plan to recruit a group of elderly individuals who report frequent falls. We will compare the proposed system and the Philips Lifeline product. Subjects will be given two weeks to familiarize themselves with each of these technologies. They will be tested with both technologies via a cross-over design. The order in which the technologies are presented to the subjects will be randomized. A questionnaire will be completed for each technology and results concerning wearability of the systems, subject's compliance with the use of the system, level of acceptance and perceived usefulness of the system, and obtrusiveness of the system will be compared for the newly-developed technology and the Philips Lifeline product.

Year 1 of the project will be focused on finalizing the development of the above-described system. As part of the development of the system, we will carry out extensive biomechanical simulations related to falls detection. Year 2 of the study will be devoted to collecting data in the field and carrying out extensive data analyses. Simulated fall conditions will be analyzed using receiver operating characteristics to determine operating points of the algorithm for fall detection to be implemented on the body-worn units. Simulated falls will also be analyzed on the robotic platform to test the ability of the robot of identifying false positives without compromising the sensitivity of the system. These simulations will include video and audio data. Questionnaires will be gathered from individuals participating in the study and analyzed to compare the two technologies undergoing assessment.

We have already performed a preliminary evaluation of the robotic platform that we propose to use in the study. However, we still plan to perform an extensive assessment of the robot shown in *Figure 1* and opt for a different platform if necessary. Home robotics is a fast growing field and there are a number of platforms that we could rely upon if the one manufactured by iRobot is deemed to be inadequate. The proposed study will allow the development of a new system and its comparison with an off-the-shelf system for fall detection in the home environment.

Using Interactive Tabletop Technology to Direct Home Rehabilitation

The development of tabletop and interactive surfaces has revolutionized human-computer interaction. Tabletop and interactive surfaces are ideal for the implementation of interactive games. The physical interaction of a single user or multiple users with the interactive surface is particularly appealing in rehabilitation. Reaching movements and the manipulation of objects are essential elements of therapeutic interventions aimed at improving motor functions in individuals with mobility-limiting conditions such as cerebral palsy. The use of interactive surfaces provides an unprecedented opportunity to motivate the subject to reach for virtual objects and manipulate them on the screen. Interactive gaming has been utilized extensively in rehabilitation to motivate subjects to perform motor tasks that are important in rehabilitation. An example of the use of this technology in rehabilitation is the use of the Nintendo Wii, which has elicited a great deal of interest in the rehabilitation community. The use of interactive gaming is particularly appealing in the pediatric population where traditional therapeutic interventions have failed in engaging the child. This limits the benefits possible with the therapeutic exercise undertaken. On the contrary, children will likely respond well to stimuli provided within an interactive gaming context with the potential for significant therapeutic benefits.

Presently interactive gaming platforms (like the Nintendo Wii) are not totally suitable for the implementation of rehabilitation interventions. This is because interactive gaming platforms are not designed for rehabilitation and therefore do not provide control of the type and quality of movements performed by patients. For instance, the tennis video game on the Nintendo Wii platform allows patients to play either with limited movements of the wrist (i.e. waving the Wii Remote) or properly swing the arm with a large range of motion at the shoulder. In a standard therapeutic scenario, clinicians need to have control of the type and quality of movements performed by patients and assign the patient to specific exercises that target the execution of shoulder and elbow movements and other exercises that are specific of wrist and hand movements. Recent advances in miniature sensor technology have the potential to address the above-summarized limitations of existing interactive gaming platforms. Specifically, wearable sensors are currently available that allow one to track movements of the body and determine the type and quality of movements performed by patients.

In the proposed project, we plan to utilize tabletop and wearable technologies to implement therapeutic interventions based on interactive gaming. The project will be carried out over a period of two years. During Year 1, we will focus on assessing the suitability of the above-described platform for the implementation of games aimed at improving motor functions in children with cerebral palsy. This part of the study will be focused on fine-tuning the platform to maximize efficacy of the tools we are developing. We will rely on games that children can play on their own as well as games aimed at improving their interaction with others, including the therapist, their parents, and other children. During Year 2 of the

project, we will focus on a comparative assessment of interventions based on tabletop and wearable technologies and standard physical therapy interventions. Spaulding Rehabilitation Hospital has a large pediatric program overseen by Dr. Donna Nimec with whom we have been collaborating on clinical projects over the past six years. Dr. Nimec works very closely and provides pre-surgical clinical gait evaluations for the surgical team at Children's Hospital, Boston. About 1000 children with cerebral palsy receive clinical services through the unit directed by Dr. Nimec. We will work with Dr. Nimec to recruit children with cerebral palsy showing impaired reaching and hand dexterity. A group of children will undergo a rehabilitation program based on the use of tabletop interactive games. A second group will undergo physical therapy in the outpatient setting. Functional outcomes will be compared in the two groups to test the hypothesis that improved function can be provided via the intensity of motor training delivered by using interactive gaming tools. Future studies will explore the use of these tools for home-based therapy.

APPENDIX C

Examples of CER in the area of Health Promotion and Wellness Interventions for People with Disabilities

A Comparison of Traditional Community Based Mentoring Interventions and Efficacy- Based Wellness Coaching in Promoting Healthful Physical Activity and Nutrition for Overweight/Obese Adolescents with Disabilities

Nature of Problem or Research Question:

The prevalence of overweight and obesity in children and adolescents has increased dramatically in recent decades. Data from the National Health and Nutrition Examination Surveys (NHANES) collected in 2003–2004 indicate the prevalence of overweight individuals by ages 2–5, 6–11, and 12–19 are 13.9%, 18.8%, and 17.4%, respectively. Examination of historical NHANES data reveals that the prevalence of childhood obesity has approximately tripled during the past 30 years, mirroring the increased prevalence among adults. Our current research at the University of Illinois at Chicago (NIDRR Grant No. H133A060066) examined the prevalence of obesity and obesity-related secondary conditions in a national sample of 662 youth with disabilities ages 12-18 years. Prevalence of obese youth with disabilities was found to be significantly higher (17.5%) compared to youth without disabilities (13.0%), and more than 70% of the participants reported having at least one secondary condition including gastrointestinal problems, sleep apnea, asthma, depression, low self-esteem, and fatigue. Youth with disabilities are also more likely to live sedentary lifestyles than their non-disabled peers and there is compelling evidence showing an association of physical activity, sedentary behavior, and overweight/obesity (Zoeller, 2009). Obesity is a major public health issue among youth with disabilities. Despite this urgent need for interventions, there is a void in the literature on successful interventions for overweight youth with physical disabilities.

Impact/Utilization:

Adolescence is an important developmental period during which youth with and without disabilities develop much of the self-concept, attitudes and behaviors they will carry into adulthood. Effective, evidence-based health promotion interventions during this developmental period are direly needed so that youth and their families can establish the requisite self-management skills and health behaviors that will promote good health and reduce the risk of chronic and secondary conditions in adulthood.

Nominated Intervention (1):

Effectiveness of a one-to-one, community-based youth mentoring program to increase physical activity and promote healthier nutrition among overweight youth with disabilities.

Summary of Research Findings to date:

One-to-one youth mentoring programs such as *I can do it-You can do it* and *Kids Enjoying Exercise Now (KEEN)* have been shown to have a significant and positive impact on young people's lives, particularly for those youth found to be at highest risk (Catalano, et al 2004; Beir, et al 2000). Despite the popularity of such programs, few existing programs have been evaluated with the necessary methodological rigor to determine efficacy of program practices. Well-controlled, carefully designed comparative effectiveness studies are needed to establish the utility and efficacy of these programs within the broader health promotion programming context. A preliminary evaluation of the *I can do it-You can do it* program has shown mixed results and indicates the need for further research (Final Report on the Evaluation of the I Can Do It, You Can Do it Health Promotion Intervention, 2007).

Nominated Intervention (2):

Effectiveness of a telephone-based personal health behavior coaching intervention (Personalized Exercise/Nutrition Prescription or "PEP") to increase physical activity and promote healthier nutrition among overweight youth with disabilities.

Summary of Research Findings to date:

Findings from adherence and motivational research indicate that participation in health promotion (i.e., physical activity and nutrition) is far more likely when the programs are customized to address the unique needs and concerns of the individual user. Our previous research has shown that an intensive telephone-based personal health behavior coaching intervention can empower severely obese participants with mobility disabilities to make substantial increments in physical activity and improved nutritional habits, resulting in a significant reduction in BMI. The strength of person-centered programming lies in being able to develop recommendations for the individual that are realistic and achievable within the context of his/her circumstances and environment.

The proposed PEP + youth wellness coaching intervention uses information technology to provide wellness coaches with rapid access to evidence-based strategies for increasing physical activity, improving nutritional habits and improving the overall health status of participants. The PEP+ approach focuses on empowering youth to self-manage key health behaviors through positively focused steps toward developing greater self-efficacy for these behaviors (Rimmer & Rowland, 2007).

Proposed Study Design:

The proposed randomized controlled trial will assign participants to one of two physical activity and nutrition intervention conditions: (1) a traditional community-based mentoring approach such as *I Can Do it – You Can Do it*, or 2) *PEP+ Youth Wellness Coaching*.

Sample: Stratified random sampling will be employed in assigning participants to the two treatment conditions to assure the groups are comparable in terms of type and severity of disabilities represented. Recruitment size will depend on the amount of funding allocated for this comparative effectiveness study.

Inclusion/Exclusion: Participants must also meet the following eligibility criteria: (a) age 14-18 yrs; (b) have written permission from their physician to participate in the study; (c) have the ability to use hands and arms independently to exercise; (d) Percent Body Fat $\geq 85^{th}$ percentile based on triceps skinfold measurement; (e) have the ability to converse in English and complete activity monitoring report forms; (f) not be currently enrolled in a health promotion program; (g) have a parent or guardian sign the agreement to support recommendations of the wellness coach and; (h) have a sedentary lifestyle over the past 6-months as measured by the module on moderate and vigorous physical activity from the CDC Youth Risk Behavioral Surveillance System (YRBS).

Data Collection Plan Anticipated: Primary Outcome measures will include physical activity levels, nutrition intake, and self efficacy to exercise. Secondary outcome measures include quality of life and participation. Other data collected include barriers to physical activity and healthy eating, medications, and demographics. Data will be collected at the following points: screening, pre-testing, post-testing, and follow-up.

Data Analysis Plan Anticipated: To test the hypotheses concerning the effects of the intervention on primary and secondary outcome measures, a series of 2 (treatment 1 vs. treatment 2) by 2 (pre-test vs. post-test) mixed factorial analyses of variance (ANOVA) will be performed, employing Type III sums of squares. Significance will set at the .05 level. Any significant interaction effects will be evaluated through post-hoc t-tests. Adherence to and success of the intervention condition will be assessed using select criteria that are based on questions asked during the follow-up interview related to their participation in physical activity and adopting healthy eating behaviors.

Feasibility Assessment:

Threats to Implementation: A threat to implementation of this research would include any issue that would prevent or inhibit the recruitment of study participants or the ability to reach participants for data collection or coaching calls.

Threats to study completion: Threats to study completion may include any problems with participant retention or an inability to complete follow up measures with participants.

Potential Threats to Generalizability: Generalizability, or external validity, may be threatened on the ecological or population level. Threats to population validity could include the possibility that our youth with disabilities are misrepresentative of the general population of youth with disabilities. Potential threats to ecological validity include the possibility that the intervention is

affected by factors related to the period of time (historical, seasonal, etc.) in which the intervention takes place, by personal attributes of the staff implementing the intervention, or by effects related to the act of participating in a study itself, such as the Hawthorne effect or testing sensitization.

Comparing two established health promotion interventions; the Chronic Disease Self-management program and the Living Well with a Disability Program

Nature of Problem or Research Question:

The barriers people with disabilities encounter in maintaining and improving their health status are numerous and interrelated (1, 2). For these individuals, functional loss leads to unique self-management needs even as it limits opportunities for health improvement. Even more, ability to participate in the vast array of community activities enjoyed by most people who achieve and maintain good health status is limited for those with disabilities. Hence, the reinforcement contingencies to develop and maintain a healthy lifestyle are less salient and available to people with disabilities. Lorig et al. (3) reported those who did not complete the Chronic Disease Self-Management Program reported significantly fewer minutes of aerobic exercise per week and higher levels of activity limitation, pain/physical discomfort, fatigue, and health distress than completers.

The benefit of developing a healthy lifestyle is essentially two-fold. First, healthy lifestyles can reduce and even eliminate symptoms of chronic disease and permanent injury. Second, improved health status improves an individual's ability to fully participate in community. This research project will compare two evidence-based health education programs; the Chronic Disease Self-Management Program (CDSM; 3) and the Living Well with a Disability Program (LWD; 4-6). The CDSM program focuses primarily on symptom reduction while the LWD program addresses both symptom reduction and improved participation. The study will compare the effectiveness of each program on the health status of people with a disability compared to those without a disability.

Impact/Utilization: Study results will lead to a better understanding of how disability interacts with health behavior change. For people with a disability, a Living Well with a Disability may be more effective than the Chronic Disease Self-Management Program.

Nominated Intervention (1): Living Well with a Disability

The Living Well with a Disability health promotion program is a health education intervention that was developed from the premise that people with functional loss will be more apt to make healthy behavior choices when those choices are organized to facilitate achievement of specific important long-term goals.

Summary of Research Findings to Date: In a randomized staggered baseline design, workshop participants (i.e. people with mobility impairments) reported numerous statistically significant changes including a 13% reduction in limitation due to secondary conditions, a 13% improvement in health related quality of life (i.e. symptom days), a 5% increase in healthy

behavior and a 67% reduction in healthcare costs during the intervention period. Many of these effects were maintained over 12 months (5). Comparing these outcomes to individuals not receiving the intervention, workshop participants were three times more likely to be below the median on limitation from secondary conditions (AOR = 1.94 (1.03, 3.67)) twice as likely to be below the median of unhealthy days and (AOR = 3.05 (1.33, 7.01)), twice as likely to be below the median for health care costs (AOR = 1.96 (0.91, 4.26)) than those who did not receive the intervention (4). These results on secondary conditions mirrored those of a separate study (6).

Nominated Intervention (2): The Chronic Disease Self-Management Program is a health education program designed to address common symptoms of chronic disease. The intervention utilizes self-efficacy theory to guide interventions that elicit health behavior change.

Summary of Research Findings to Date: "As compared with controls, the treatment group demonstrated significant improvement in four health behavior variables ($P < 0.01$; number of minutes per week of stretching/strengthening and aerobic exercise; increased practice of cognitive symptom management; and improved communication with their physician). They also demonstrated significant improvement in five health status variables (self-rated health, disability, social/role activities limitation, energy/fatigue, and health distress; $P < 0.02$). No significant differences were demonstrated for pain and physical discomfort, shortness of breath, or for psychological well-being. The treatment group, as compared with the control group, had fewer hospitalizations ($P < 0.05$) and spent, on average, 0.8 fewer nights in the hospital ($P = 0.01$)" (3).

Proposed Study Design: A randomized controlled trial with repeated measures. Subjects will be stratified by disability status and randomly assigned to either the CDSM or the LWD program. Outcomes will be collected using known outcome measures to examine health behavior change, health outcome, health related quality of life and healthcare utilization and life satisfaction.

> ***Sample:*** People with chronic illness or permanent injuries ages 18-70 stratified by disability defined by regular use of mobility equipment.
> ***Exclusion:*** People with co morbid psychiatric conditions other than depression.
> ***Timeline:*** 2- year cost-effectiveness study with 6-months post-intervention follow-up data collected.
> ***Data Collection Plan:*** Self-report staggered baseline design with pre-, post-, and 6-month follow-up.

Data Analysis Plan Anticipated: Repeated measures analysis of variance with between subject factors to include disability status and intervention group

Feasibility Assessment: *Threats to Implementation* - Each of the interventions have been implemented successfully in both research and dissemination frameworks. Subject recruitment

will need to be addressed with significant staff time devoted to recruitment and maintenance of the study sample. *Threats to study completion*- slow rate of subject recruitment.

Potential Threats to Generalizability: Treatment fidelity and sample recruitment will be key to assure results are not merely a reflection of the most motivated community-dwelling adults who receive a standardized treatment within a research protocol. Each intervention uses facilitator training and a curriculum to maintain program fidelity.

Low employment rate of individuals with psychiatric disabilities

Impact/Utilization: The development of effective models to help individuals with psychiatric disabilities enter the workforce has the potential to enhance their economic security, quality of life, and community inclusion. The labor force participation of such a sizable group of individuals on the SSI/SSDI roles would also stimulate our nation's economy in the form of economic contributions through federal and state income taxes as well as sales tax paid on purchases, and growth of the economy's sales sector through an increased ability to make purchases.

Nominated Intervention (1): Supported Employment (SE)

Summary of Research Findings to date: SE is an evidence-based practice in the field of psychiatric disability, supported by numerous single randomized controlled trials (RCTs) as well as one large national multi-site study called the Employment Intervention Demonstration Study or EIDP (http://www.psych.uic.edu/eidp/).

Nominated Intervention (2): Customized Employment (CE)

Summary of Research Findings to date: CE is a promising practice developed by the USDOL, ODEP and evaluated in a national demonstration program with a non-randomized, pre-post design.

Proposed Study Design:

Design - Randomly assign 300 subjects with psychiatric disabilities to SE vs. CE and follow them for 1 to 2 years.

Sample (include target disability group, age group) – Individuals with psychiatric disability age 18-55 (or older)

Inclusion/Exclusion – Desire to work, willingness to participate in the research, willingness to allow access to service utilization data, earnings data, spending patterns, and clinical data

Timeline – This could be a 2 to 3-year project with a 12 month follow-up; or a 3 to 4-year project with a 24 month follow-up. Either would be valuable.

Data Collection Plan Anticipated – Vocational outcome data would be tracked weekly via telephone of employment, using the EIDP protocols. Services could be tracked on a monthly basis via telephone or electronically if service data are available and subjects provide consent. Changes in psychosocial outcomes (self-esteem, recovery) and behavioral changes (monthly spending, taxes paid) could be tracked through semi-annual interviews.

Data Analysis Plan Anticipated – Given the nature of outcome variables (interval level measures such as earnings and job tenure, and ordinal measures such as employment status and job benefits), longitudinal random regression analysis would be the appropriate statistical technique for use with these data.

Feasibility Assessment:

Threats to Implementation – Implementation threats include the unwillingness of subjects to allow access to sensitive mental health clinical data; fear of loss of SSI/SSDI and other benefits and entitlements; and hesitation to allow access to private earnings data and information regarding job loss. Money would have to be made available to fund the SE and CE service delivery and some level of assurance would need to be provided that employment services and supports would be ongoing following the completion of the research study.

Threats to study completion- Completion could be threatened by the uncertain economy and high unemployment rate in many parts of the U.S.

Potential Threats to Generalizability: Unless this was a national study with a larger sample size, the results would only be generalizable to the local area from which the sample population is drawn. A multi-site study would ameliorate this somewhat, although it would still not constitute a nationally representative sample.

Comparative Effectiveness of Work on Improving Health Status and Quality of Life for Low Income Persons with Disabilities Insured by Medicaid

Nature of Problem or Research Question: Poverty and unemployment for persons with disabilities are much higher than that of the general population, at least in part because increased employment can jeopardize individuals' federal disability cash benefits, health care coverage and health status through Medicare and/or Medicaid. Medicaid Buy-In programs allow people with disabilities to work, accumulate assets, and maintain Medicaid coverage. In 2007, nearly 106,000 people with disabilities participated in Medicaid Buy-In programs in 34 states. Although enrollment in these Buy-In programs has consistently grown over the years, little is known about how integrated employment affects health outcomes. Many researchers have documented the relationship between poverty and poor health status, but little research has focused on poverty in combination with disability. Our research question is: does working improve or diminish health status and quality of life for low-income people with disabilities who are insured by Medicaid?

Impact/Utilization: Because of the existing dearth of evidence related to the effectiveness of work programs for persons with disabilities, findings from this research will impact the way in which front line service providers and medical practitioners support work efforts of low income people with disabilities. Results can be shared with service providers and medical practitioners through dissemination to relevant professional organizations and databases both in this country and around the world, where many industrial economies are grappling with similar issues related to integrating their disability populations into the modern workforce. It is unknown at this time how significant the joint effects of insurance and work are on the health of low-income people with disabilities.

Nominated Intervention (1): Integrated employment for low income persons with disabilities being insured with Medicaid

Summary of Research Findings to Date: Liu, Ireys, and Thornton (2008) reported profiles of Medicaid Buy-In participants in 27 states, finding that Buy-In participants tended to be older than other persons with disabilities insured with Medicaid, and that about one-third had mental illness. No studies to date have utilized a comparison group analysis in order to understand social determinants such as age, gender, disability type, work history and attitudes, education level, self esteem, and quality of life factors as they relate to participation in a Buy-In program. Nor have any studies compared health outcomes of Buy-In enrollees with non-enrollees. Preliminary findings among persons enrolled in the Kansas Buy-In, Working Healthy, indicate that participation not only allowed for increased income, but more consistent access to Medicaid coverage and services (Hall & Fox, 2004; Hall, Fox, & Fall, 2009). Participants' average annual earnings, while still very low at under $8,000, increased over time and contributed to a sizable

increase in state and federal payroll taxes. But the degree to which work enriches health status and quality of life for persons with disabilities who are insured by Medicaid remains unknown.

Nominated Intervention (2): Traditional Medicaid insurance coverage for low income persons with disabilities that does not include integrated employment.

Summary of Research Findings to date: Hanson, et al., 2003 documented the hardships faced by persons with disabilities who have no insurance. They also identify the unique challenges that low income persons with disabilities face in assuring adequate medical care, even if they have Medicaid, because so few providers are willing to accept Medicaid payment. Once working-age people with disabilities have qualified for Medicaid, they are subject to strong incentives to remain poor, being forced to avoid working at gainful employment levels to remain eligible. Weiner (2003) suggests that working may put persons with disabilities at higher risk for adverse health outcomes. This line of reasoning suggests that not working while receiving Medicaid benefits could enhance health status and quality of life for persons with disabilities.

Proposed Study Design:

Design: Quasi-experimental, longitudinal case-comparison study

Sample: Data will be collected for the entire enrolled population of Working

Healthy (approximately 1,100 people as of April, 2009) and data for a comparison group of 1,200 individuals who are working age, disabled, and dually-eligible for Medicaid and Medicare.

Inclusion/Exclusion: The sampling frame includes all persons eligible for enrollment in the Kansas Medicaid Buy-In program (*Working Healthy)*, so that persons who enroll (cases) and persons who do not enroll (comparison group) are selected.

Timeline: We will access four years of historical and one year of current data, giving us the ability to examine longitudinal trends in health care utilization and costs as well as earnings.

Data Collection Plan Anticipated: We will utilize both administrative and self-reported data to fully understand the effect of enrollment in Working Healthy on health outcomes for low income individuals with disabilities. The International Classification of Functioning (ICF) framework for disability classifications will guide our selection of specific data elements in order to produce findings that are comparable to other disability research. Baseline and follow-up surveys of both enrollees and non-enrollees will address respondents' self-reported levels of self-esteem, quality of life, work attitudes, health status, and various demographics including gender, age, race, ethnicity, disability type(s), number of disabilities, employment history, earned and unearned income, and educational level. Some health status and quality of life items will be drawn from the SF-12v2 and WHO-QOL instruments (Bonomi & Patrick, 1997). These items will be added to an existing annual survey of the Working Healthy participants and incorporated into a new survey instrument for the comparison group. Various state and federal administrative

data including Medicaid, Medicare, as well as income tax and unemployment compensation records will be obtained through a business associate relationship with the state Medicaid agency and interagency/data use agreements with the Region VII office of the Centers for Medicare and Medicaid Services (CMS), and the Kansas Departments of Revenue and Labor. Data will include Medicare and Medicaid utilization and expenditure levels for outpatient, inpatient, and, for Medicaid records, pharmaceutical services, and gross income levels and earnings levels.

Data Analysis Plan Anticipated: We will use mixed model analyses. The mixed model framework will allow differences in initial levels of the dependent variable as well as differential change over time between groups to be modeled. The quality of life outcome variables of interest with respect to health care utilization over time are relative disease burden; inpatient, outpatient, and emergency department use; co-morbidities; and overall costs. Baseline scores will be used as covariates in the models with group membership and time as the primary independent variables. Relative disease burden will be calculated using Johns Hopkins Adjusted Clinical Group (ACG) Case-Mix System software, version 8.2 (2009). We will use mixed models to compare adjusted gross income (AGI) and earned income for both sample groups over time, using tax and unemployment compensation information as dependent variables, baseline scores as covariates, and group membership and time as independent variables. Logistic regression will be used to identify disparities in social determinants of health.

Feasibility Assessment:

Threats to Implementation: Integration of data from multiple sources has historically posed a major barrier to this type of comparative effects research. Past research either has been confined to using Medicare, Medicaid, self-reporting, or income data (such as Social Security or unemployment compensation data) to capture items such as health care services or monthly income. By linking these data sources to follow participants' health and personal experiences over time, we hope to address many of the shortcomings typically encountered when using selected administrative data sets for persons with disabilities. We will build upon our previous work in this area. More general difficulties associated with the use of administrative data for health services research are well known. They include issues related to confidentiality, linkage technology, costs, uniformity of and access to data, among others (Black & Roos, 1998; Roos et al., 1999).

Threats to study completion: None.

Potential Threats to Generalizability: While efforts will be made to describe the population and adjust for all measurable cofactors, there may be limitations to generalizability based on our one state sample.

Comparing established weight-loss interventions with a promising alternative

Nature of Problem or Research Question:

Research has shown that people with IDD have poorer health than peers without disabilities (Horwicz, Kerker, Owens, & Zigler, 2001; U.S. Office of the Surgeon General, 2002). In the past decade, government initiatives such as Closing the Gap: a National Blueprint to Improve the Health of Persons with Mental Retardation (2002) and Call to Action to Improve the Health and Wellness of Persons with Disabilities (2005) have helped to set the policies later described in Healthy People 2010. A recent review of work to date on translation of these policies into practice with people with IDD (Krahn & Drum, 2007) indicates that health promotion programs have been effective in improving quality of life, especially in the self-reported lifestyle behaviors. One area that has not shown improvement, however, is the teaching of good nutrition choices of persons with IDD, especially those living in group homes. Our observations lead us to conclude that many persons with IDD want to lead a healthy lifestyle, including eating and drinking in a healthier manner. Their environment makes choosing healthy alternatives difficult however. As a result, adults with IDD have more than 1.5 times the prevalence of obesity than in the general population (Rimmer & Yakima, 2006). Krahn and Drum conclude that in order for future health promotion strategies to be effective, environmental factors must be considered. This study will compare the effectiveness of two programs that promote weight loss, one through environment change and teaching ( ), and another through teaching along (usual care).

Impact/Utilization: Funding and Implementation of this proposal will have the following known and possible impacts:

1. Over a 2-year project, infuse hundreds of thousands of dollars into rural and generally depressed areas of Kansas.

2. Anticipated results, based on our pilot data include:

   a) significant weight reduction by 85%or more of IDD participants in Intervention 2.

   b) an increased empowerment of the IDD participants in Intervention 2 to be responsible for and in control their energy consumption

   c) reductions in costs for medical services and medications under Medicaid for the participants in Intervention 2.

3. Promote a “sea change” in the attitudes of those most invested in supporting people with IDD with regard to what individuals with IDD want in the way of healthier lifestyles and what they are willing to do to achieve them.

Nominated Intervention (1): Using the principles of volumetrics, the diet approach (Pictorial 5-3-2) involves teaching and coaching the participants about better nutritional habits, and changing the environment by using portion control and by replacing unhealthy foods available with health alternatives. This study has been studied extensively with typical adults (cites) and we recently conducted a pilot study of 77 individuals, funded by the Kansas Council on Developmental Disabilities and the U.S. Administration on Developmental Disabilities.

To match the level of understanding of the participants with IDD, the instructions for following the diet were modified from their usual printed form to be nearly entirely pictorial. Pictures were used in materials that were intended to guide the dieter in food planning, purchase and preparation. Pictures also were used in materials that participants used to record what they consumed each day. Where pictures were not relevant, we used extensive use of color-coding to guide the dieters (e.g., individual weight charts).

Summary of Research Findings to Date: Weight loss in this pilot averaged 6% of baseline weight at 6 months. Thru March, 2009, some early enrollees have completed 18 months in the project and others 12 or 9. The current data are shown in the table below. Starting average Body Mass Index (BMI) was 37.0. BMI is calculated as weight (kg)/height (m^2) and a healthy, normal BMI is considered to be under 25.

Time in diet	**Percentage loss from baseline weight**		
	Mean	Median	Range
6 mo (N=77/77)	6.1%	6.09%	0 - 19.55%
9 mo (N= 56/77)	9%	7.71%	0 - 27.08%
12 mo (N=30/77)	9.3%	8.18%	0 - 28.05%
18 mo (N=18/77)	12%	11.53%	0 - 28.5%

As part of our pilot, we provided a questionnaire that is required by all projects funded by the Administration on Developmental Disabilities. The results were:

- "I was treated with dignity and respect during the project activity." Yes=100%; No=0%
- "I have more choice and control as a result of this project activity." Yes = 98%; No=2%
- "I can do more things in the community as a result of this project activity." Yes=92%; No=8%

- "My life is better because of this project. Strongly Agree=72%; Agree=26%, Strongly Disagree=2%

Nominated Intervention (2): The Usual Care (UC) diet, as recommended by the National Heart Lung and Blood Institute (National Institutes of Health) (1998), should be compared with any novel approach because it is the standard diet recommended by health promotion programs for all people, including those with IDD.

Summary of Research Findings to Date: To date, little data on the effects of these programs on weight loss with individuals with disabilities have been published.

Proposed Study Design: This study will use a randomized controlled trial with repeated measures. Subjects will be stratified by type of residential accommodation and randomly assigned to either Intervention 1 or 2. Outcomes will be collected using known outcome measures to examine weight loss, changes in health (e.g, disease status, medication change, etc.), and changes in community participation.

Sample: People with disabilities who are overweight and between ages 18-70

Exclusion: People with cancer, heart disease, or metabolic disorders

Timeline: 2- year cost-effectiveness study with 6-months treatment and comparison of 12 month pre-treatment health care utilization data (Medicaid) with 12 months post-treatment follow-up.

Data Collection Plan: Monthly measurement for 18 months

Data Analysis Plan Anticipated:

Weight loss after 6 month weight loss intervention	• Descriptive statistics • Two sample t-tests comparing difference between Pictorial 5-3-2 and UC diet groups • Multiple linear regression to assess impact of covariates
Weights measured at 6, 12, and 18 months after intervention	• Linear mixed model to evaluate weight change over time • Mixed linear model to assess impact of covariates
SPARC score indicating level of community participation	To analyze pre and post- intervention data: • Wilcoxon-Mann-Whitney U test • Independent samples t-test
Using Medicaid claims data, measure change in disease prevalence and health care utilization, including pharmaceutics, lab, in patient, and out	• Descriptive statistics, Chi2 and t-tests, as appropriate • Multivariate models to assess impact of covariates

patient pre- and post-intervention	

Feasibility Assessment: *Threats to Implementation:* None; study has already been completed with pilot sample with considerable success. Current waiting list for future funded projects. *Threats to study completion*- slow rate of subject recruitment.

Potential Threats to Generalizability: The pilot achieved equal success with both genders, individuals with varied diagnoses, individuals on medications with weight gain as a known side effect, individuals with and without physical disability, individuals with and without diagnosis of mental illness, and individuals from various types of residential accommodations.

Nomination Form for Tobacco Control Comparative Effectiveness Research Project

Nature of Problem or Research Question:

Individuals with a range of disabilities experience differential levels of health and health-related quality of life compared to the general population. McGinnis, Williams-Russo, and Knickman (2002) reviewed U.S. research on five key factors (genetics, social circumstances, environment, individual behaviors, and access to medical care) that contribute to overall health among the general population. Their estimates of the contribution of each factor included: genetic predispositions (30%); social circumstances (15%); environmental conditions (5%); access to medical care (5%); and individual behaviors (40%). Although McGinnis makes a reasonable case for these estimates as applied to the general population, it is unlikely that they are accurate estimates for persons with disabilities. Nevertheless, individual behaviors, such as tobacco use, are likely to have similar or greater effects on the heath of persons with disabilities.

Cigarette smoking remains the leading preventable cause of death in the United States,[1] accounting for approximately 1 of every 5 deaths (438,000 people) each year.[2,3] An estimated, 20.8% of all adults (45.3 million people) smoke cigarettes in the United States.[4] Despite widely recognized negative consequences associated with tobacco use, there are higher rates of cigarette smoking among disability populations compared to the general adult population. According to the Centers for Disease Control and Prevention (CDC) using data from the Behavioral Risk Factor Surveillance System (BRFSS), approximately 30% of people with disabilities are smokers.

Although tobacco control has been a major health promotion focus and includes a number of evidence-based interventions, little research has been conducted to determine the effectiveness of tobacco control health promotion measures when tailored toward individuals with disabilities compared to tobacco control interventions that do not tailor activities to persons with disabilities.

Impact/Utilization:

Tobacco use accounts for more than $190 billion annually in direct and indirect medical costs, and at least 8.6 million Americans are living with at least one serious illness caused by tobacco use. Furthermore, exposure to secondhand smoke causes premature death and disease in nonsmokers, with costs in the United States estimated at $10 billion per year (CDC, 2007). Of the approximately 54 million adults with a disability, extrapolating from CDC prevalence estimates, over 16 million are smokers. Reduction in smoking rates among individuals with disabilities should result in decreases in medical costs and reduction in mortality.

Nominated Intervention (1):

State based comprehensive tobacco control programs (TCP) encompass coordinated efforts to establish smoke–free policies and social norms, promote and assist tobacco users to quit, and work to prevent initiation of tobacco use. The four components of TCP are:

- Population-based community interventions
- Counter-marketing
- Program policy/regulation
- Surveillance and evaluation

Summary of Research Findings to date:

Greater investments in state tobacco control programs are independently and significantly associated with larger and more rapid declines in adult smoking prevalence, according to the CDC. According to a CDC report ("The Impact of Tobacco Control Programs on Adult Smoking," also published in the February 2008 issue of the *American Journal of Public Health*) using data from all 50 states and the District of Columbia, declines in adult smoking prevalence among individual states were directly related to increases in state per person investments in tobacco control programs, independent of price increases (CDC, 2007). These results re similar to reports issued in 2007 from the Institute of Medicine, the National Institutes of Health, and the President's Cancer Panel that all concluded that comprehensive state tobacco control programs are effective public health investments (CDC, 2007).

Nominated Intervention (2):

State based comprehensive tobacco control programs that include disability issues in their initiative.

Summary of Research Findings to date:

No published reports that include people with disabilities as a target group, the State of Oregon obtained disability data in developing their TCP but no results are available.

Proposed Study Design:

Design- Embedded multi-site case study with matched comparisons

Sample (include target disability group, age group)- 2 to 6 states.

Inclusion/Exclusion- inclusion factors for matched comparisons could include population size, racial and ethnic factors, SES, and type of disability.

Timeline- Because of the time lag between TCP initiation and measurable results, this most feasible as a five year project or longitudinal.

Data Collection Plan Anticipated- Baseline and annual comparisons of matched states.

Data Analysis Plan Anticipated- The CDC has developed a range of recommended surveillance (health status, quitline data sets, etc), evaluation (e.g. process and outcome measures, etc), and expenditure measures for TCP. Qualitative assessments of disability

enhanced initiatives should also be conducted. Case reports should include comparisons between all data elements.

Feasibility Assessment:

Threats to Implementation- Although all 50 states and DC receive CDC funds for tobacco control, only a handful of states' total funding is at levels recommended by the CDC. States would have to agree to include disability as a target group.

Threats to study completion- Decreases in TCP funding due to economic issues or re-allocation of resources.

Potential Threats to Generalizability:

Use of case study approach.

Exergame cycling compared to standard exercise cycling.

Nature of Problem or Research Question: Diabetes mellitus is a major clinical and public health problem. This research aims to investigate what are ethnic group differences in physical activity, functional mobility and self-management among older women with type 2 diabetes, and if these can be mitigated with an innovative exercise strategy versus traditional strategy.

Impact/Utilization: Regular participation in moderately intense physical activity is associated with a substantially lower risk of type 2 diabetes and improved functional outcomes (Jeon et al 2007).

Nominated Interventions: Exergame cycling compared to standard exercise cycling.

Summary of Research Findings to date: The *Games for Health* Initiative is a project that applies cutting edge games and game technologies to develop a community and best practices platform for the numerous games being built for health care applications (www.rwj.org).

Proposed Study Design:

> **Specific Aim 1:** To characterize ethnic group differences in physical activity and functional mobility among older African American women and non-Hispanic white women with Type 2 diabetes.
>
> **Specific Aim 2:** To characterize potential psychosocial and sociocultural contributions to ethnic group differences in physical activity, functional mobility and diabetes self-management among African American and non-Latino White women ages 50-75 years.

Study Setting and Number of Subjects. Measures of physical activity, functional mobility and self-management will be conducted.

Sample. Wmen aged 50-75 years of age with doctor-diagnosed type 2 diabetes will be recruited from two ethnic groups (African American women and non-Hispanic White women).

Data Collection Plan. Physical Activity (Measure of clinical pain). Acute exercise provides an

experimental model for manipulating naturally occurring pain (Cook et al 2004). Measures of clinical pain, physical activity and functional mobility will be assessed using two types of light cycle fitness activities; exergame cycling (cycling while playing an on-screen video game), and standard cycling (cycling without playing the game activity) for approximately 15 minutes each; a total of 30 minutes. Healthy People 2010 recommends physical activity for at least 30 minutes, 3 times per week. Cycling activity will be standardized across participants to achieve mild to moderate levels of exertion. After each 15 minutes exercise period, participants will rate pain intensity from 0-100 using a Visual Analog Scale (VAS). Participants will have two 15-minute rest periods. During the rest periods, participants will provide VAS ratings (0-100) of pain every

five (5) minutes for 3 resting pain scores (rps). Each participant will engage in both types of cycling activity. In one exercise, participants will ride on the stationary bike for up to 15 minutes. In the other exercise, participants will ride the same stationary bike for up to 15 minutes, but will be playing a video game while exercising. This video game will be shown on a TV in front of the bike and will work with the bike to make the exercise more like a game. Which ride the participant will do first will be randomly selected. Participants will practice on the cycle before beginning the exercises.

Blood Pressure and Heart Rate. Blood pressure levels, heart rate readings will be recorded during each resting period. A wrist or arm mounted automated blood pressure device will be used. To assess hear rate from cycling activity, a wrist or chest-attached, heart rate monitor will be used.

Distance and Time. A record of the distance in miles and amount of time that the individual pedaled will be collected.

BioPsychoSocial Questionnaires/Inventories: Several biopsychosocial questionnaires will be used: (1) Diabetes Care Profile (DCP), (2) Diabetes Attitude Questionnaire (DAQ)—(U of Michigan, 2000), (3) Diabetes Knowledge Test (DKT), (4) Brief Pain Inventory (BPI), (5) McGill Pain Questionnaire (MPQ), (6) Michigan Neuropathy Screening Instrument (MNSI-Part I), (7) Multi-Ethnic Identity Measure (MEIM).

Data Analysis Plan: Specific Aim 1: To characterize ethnic group differences in physical activity and functional mobility among older African American women and non-Hispanic white women with Type 2 diabetes. A series of analyses of variance (ANOVA) will be used to test for differences between the ethnic groups in physical activity and functional mobility. **Specific Aim 2:** To characterize potential psychosocial and sociocultural contributions to ethnic differences in physical activity, functional mobility and diabetes self-management. A series of ANOVAs will be used to test for differences between the groups on each of the psychosocial variables. Pearson product-moment correlation coefficients will be calculated to determine associations among clinical pain, pressure pain thresholds and the psychological variables. To determine whether psychological variables mediate ethnic group differences in pain perception, for each pain measure on which group differences emerge, psychological variables that are significantly correlated with that measure will be used as covariates in a series of analyses of covariance

(ANCOVAs).

Feasibility Assessment: Threats to study completion: Recruitment and retention of participants

Potential Threats to Generalizability: May be generalizable to other rural and other ethnic groups.

Timeline. three year study

Compilation of comments submitted online at www.blsmeetings.net/mayfcc

Submitted by
Martyn Howgill
InHealth
mhowgill@inhealth.org

Comment Type: *Definition*

Thank you for the opportunity to comment on the Council s definition of Comparative Effectiveness Research. On behalf of the Institute for Health Technology Studies (InHealth), we offer the following comments:

- We applaud the proposed assessment of a comprehensive array of health-related outcomes for diverse patient populations and want to affirm that this must include comparisons of the broader, longer-range socioeconomic effects of different interventions. We suggest that studies which concentrate on clinical and disability effects alone may ignore important, longer-term values produced for patients, families and employers.
- The Council s first criterion for scientifically meritorious research and investments calls for measurement of impacts based on prevalence of condition, burden of disease, variability in outcomes, and costs of care. We wish to underscore that if these four definitional areas of impact were to exclude either broader or longer-term socioeconomic consequences, then comparisons and contrasts between diagnostic and therapeutic alternatives would be impaired.

Submitted by
Tony Principi
Pfizer Inc
anthony.principi@pfizer.com

Comment Type: *Definition*

Note: we also are submitting these comments in the form of a letter.

On behalf of Pfizer, I am submitting the following comments to the Federal Coordinating Council s (Council) proposal for a framework on comparative effectiveness research (CER). Pfizer is a research based drug developer that sponsors numerous trials in the U.S. and around the world, to support marketing approvals and to assess comparative effectiveness, post-approval.

Pfizer supports the Council s continued commitment to transparency and public engagement through its solicitation of public input on the definition, prioritization criteria, and strategic framework for CER.

Our comments are structured to respond to three elements contained within the draft documents released by the Council. They build on comments we are submitting related to the Council s proposals on prioritization of comparative effectiveness research.

Draft Definition of CER
Comparative effectiveness research is the conduct and synthesis of systematic research comparing different interventions and strategies to prevent, diagnose, treat and monitor health conditions. The purpose of this research is to inform patients, providers, and decision-makers, responding to their expressed needs, about which interventions are most effective for which patients under specific circumstances. To provide this information, comparative effectiveness research must assess a comprehensive array of health-related outcomes for diverse patient populations. Defined interventions compared may include medications, procedures, medical and assistive devices and technologies, behavioral change strategies, and delivery system interventions. This research necessitates the development, expansion, and use of a variety of data sources and methods to assess comparative effectiveness.

Pfizer recommends that the definition of CER emphasize that the primary intent of CER is to inform patients and providers about which interventions are most effective for a patient s individual circumstances. The inclusion of the term decision-makers following patients and providers detracts from this primary focus and may cause confusion over the primary use of CER. To that end, we recommend deleting the reference to other decision-makers from the second sentence of the definition.

Submitted by
Jay Lin
jay.lin1@yahoo.com

Comment Type: *Definition*

Health resource utilization and cost should be explicitely stated to be included in the scope of the CER.

Submitted by
Belinda Ireland
BJC HealthCare
bireland@bjc.org

Comment Type: *Definition*

The definition seems to presume the need for de novo research in the way it is constructed. Surely the Council does not mean to ignore the vast body of existing science that may contribute to the development of a body of evidence that informs questions of comparative effectiveness for prevention, diagnosis, treatment, and health maintenance. A broad definition should encompass the synthesis of existing knowledge, the identification of gaps in that knowledge, and a process for continual refreshing of the body of evidence as the science advances.

Submitted by
Victoria Dohnal
Biotechnology Industry Organziation (BIO)
vdohnal@bio.org

Comment Type: *Definition*

Dear gentlemen,
I am submitting these comments on behalf of the Biotechnology Industry Organization (BIO).

BIO is the largest trade organization to serve and represent the biotechnology industry in the United States and around the globe. BIO represents more than 1,200 biotechnology companies, academic institutions, state biotechnology centers, and related organizations in the United States. BIO is pleased to have the opportunity to submit comments to the Federal Coordinating Council (FCC) on the draft definition of Comparative Effectiveness Research for the FCC.

As a representative of an industry committed to discovering new cures and ensuring patient access to them, BIO strongly supports efforts to increase the availability of accurate, scientific evidence to inform clinical decision-making. BIO believes that individual patients and their doctors should be armed with the best available information to help assess the relative clinical benefits and risks of various treatment alternatives. When appropriately applied, comparative effectiveness information is a valuable tool that, together with a variety of other types of medical

evidence, can contribute to improving health care delivery. However, BIO is concerned that comparative effectiveness information will be used increasingly as a means to contain costs, rather than deliver health care value by improving patient health outcomes. BIO appreciates the opportunity to comment to the FCC.

We submit the following comments for your consideration on the definition of comparative effectiveness research, draft prioritization criteria, and the strategic framework. We look forward to continuing to work constructively with you in order to realize the full value of comparative effectiveness research.

Draft Definition:

Comparative effectiveness research is the conduct and synthesis of systematic research comparing different interventions and strategies to prevent, diagnose, treat and monitor health conditions.

BIO is pleased that the FCC envisions using comparative effectiveness research to examine strategies to prevent and monitor health conditions. Prevention and wellness strategies are critical to bending the cost curve of health care expenditures in the future. Further, given that 75% of health care costs are related to chronic disease, it is critically important for comparative effectiveness research to examine strategies surrounding chronic disease care.

The purpose of this research is to inform patients, providers, and decision-makers, responding to their expressed needs, about which interventions are most effective for which patients under specific circumstances.

It is important that the draft definition states the purpose to comparative effectiveness research is to inform patients and providers. BIO believes that comparative effectiveness information should inform clinical judgment and individual needs in medical decision making.

Suggested Modification: BIO is concerned with the vagueness of the term decision- makers in the same sentence. It should be made explicitly clear in the definition that the term decision-makers refers to those involved in the provider-patient interaction (e.g., provider, patient or guardian, as appropriate), and may appropriately be referred to as patient advocates. BIO suggests that the wording be modified to the following: The purpose of this research is to improve patient-outcomes by informing patients, patients advocates, and their providers, responding to their expressed needs, about which interventions and strategies are most effective for which patients under specific circumstances.

The purpose of this research is to inform patients, providers, and decision-makers, responding to their expressed needs, about which interventions are most effective for which patients under specific circumstances. To provide this information, comparative effectiveness research must assess a comprehensive array of health-related outcomes for diverse patient populations.

It is good that the definition recognizes the potential for comparative effectiveness research to advance the goals of personalized medicine through the inclusion of phrases such as which patients under specific circumstances and diverse patient populations.

Suggested Modification: BIO suggests that the definition include the term subpopulations in these sentences so that it would read: The purpose of this research is to improve patient-outcomes by informing patients, patients advocates, and their providers, responding to their expressed needs, about which interventions and strategies are most effective for which patients under specific circumstances. To provide this information, comparative effectiveness research must assess a comprehensive array of health-related outcomes for diverse patent populations and subpopulations. Consistent with our previous comment, BIO also suggests that the term decision-makers be replaced with a clearer reference to patient advocates.

Defined interventions compared may include medications, procedures, medical and assistive devices and technologies, behavioral change strategies, and delivery system interventions.

BIO is pleased to see the expansive nature of the interventions that are included in the draft definition ranging from medications to behavioral change strategies and from procedures to delivery system interventions.

Suggested Modification: However, BIO believes that comparative effectiveness research should focus on the totality of the health care delivery system not just interventions. Comparative effectiveness information that reflects the interactions among all of the various components of the health care system has the greatest potential to empower clinicians and patients to make more appropriate decisions when faced with real world clinical situations. In addition to comparing specific treatment interventions, research should also focus on how innovations in care delivery models, such as disease management programs, may produce better health outcomes. An explicit inclusion of the phrase totality of the health care delivery system would be worthwhile here.

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Victoria Dohnal
Biotechnology Industry Organziation (BIO)
vdohnal@bio.org

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Submitted by
Richard I. Smith
Senior Vice President, Policy
AcademyHealth
april.falconi@academyhealth.org

Comment Type: *Definition*

AcademyHealth, as the nonpartisan, professional society for nearly 3,600 health services researchers, policy analysts, and practitioners, welcomes the opportunity to submit feedback to the Federal CER Council concerning the draft definition and prioritization criteria for comparative effectiveness research.

We would like to offer our support for your proposed definition, which recognizes that CER goes beyond the evaluation of clinical treatments and includes comparing different interventions and strategies to prevent, diagnose, treat, and monitor health conditions.

We strongly support the development of research that informs not only patients and providers, but also decision makers. A wide variety of public and private policy makers will need this research to inform decisions about coverage and payment. As the Council continues its deliberations with key stakeholders, it will be important to delineate these groups specific expressed needs and how future research will be designed to meet these needs.

AcademyHealth supports having the defined interventions &include& behavioral change strategies, and delivery system interventions. Ultimately we will need to have not only research on which treatments work better, but also research pertaining to the comparative quality and cost-effectiveness of alternative ways to deliver specific services. This research is vital for understanding how to improve health system quality and achieve needed improvements in efficiency.

AcademyHealth commends the Council for highlighting the need to tailor treatments for different populations, assessing a comprehensive array of health-related outcomes for diverse patient populations. We agree that recognizing the heterogeneity of diverse populations will require an extensive evidence-base from which to make informed decisions.

The effectiveness of CER is hinged upon the quality of data and methods used to produce the research. An AcademyHealth study, Lack of Coordination in Comparative Effectiveness Research Risks Redundancy and Unnecessary Cost revealed the significant need for more formal training in the range of methods used in comparative effectiveness, as there are very few formal training programs in comparative effectiveness research. Training needs are exacerbated by what many view as a fundamental philosophical difference between researchers academically trained to do observational research, and those trained on the job to conduct clinical trials. Furthermore, the ability of health services research to contribute operationally to safety, quality and efficiency of care delivered within particular delivery organizations depends on new training content and modes.

The current lack of methodological training creates problems for the funding, conduct, and review of current comparative effectiveness studies. Because infrastructure is vital to the success of CER, we support the prioritization criteria of potential for multiplicative effect (e.g. lays foundation for future CER or generates additional investment outside government). This is why we are pleased you included the need for a properly-developed infrastructure in order to assess this research, recognizing the necessity to develop and use a variety of data sources and methods to assess comparative effectiveness research.

AcademyHealth represents and supports many of the people who will be called upon to conduct comparative effectiveness research. We believe that your definition and focus on infrastructure will provide much needed support for building the capacity of the field to respond to the growing demand for this research.

Submitted by
Richard I. Smith
Senior Vice President, Policy
PhRMA
adouglas@phrma.org

Comment Type: *Definition*

Dear Federal Coordinating Council Members:

The Pharmaceutical Research and Manufacturers of America (PhRMA) is pleased to submit comments to the Federal Coordinating Council for Comparative Effectiveness Research on the draft definition of comparative effectiveness research (CER), priority setting criteria, and strategic framework released by the Council.

PhRMA is a voluntary, nonprofit association representing the country s leading research-based pharmaceutical and biotechnology companies, which are devoted to discovering new medicines that allow patients to lead longer, healthier, and more productive lives. PhRMA s member companies play a leading role in discovery of new therapies and advancement of scientific and clinical knowledge.

PhRMA appreciates the Federal Coordinating Council s posting of its draft CER definition, prioritization criteria and strategic framework as a further step in promoting openness and transparency as it carries out its duties under the American Recovery and Reinvestment Act (ARRA). Specifying a CER definition and criteria for research priorities are important initial steps in establishing a sound CER research program.

As the Council continues implementing its mandate under ARRA, we urge it to maintain open and transparent procedures. In particular, as the Council prepares to submit a report by June 30 making recommendations for CER research to the President, Congress, and the Secretary of the Department of Health and Human Services (HHS), we ask that it explain the substantive reasons for its recommended research priorities. This will enable members of the public to understand how the priorities correspond to the input received from stakeholders, respond to the information needs of patients and providers and meet the other criteria established by the Council. In addition, the Secretary should establish a similar policy as it considers the Council s recommendations, and those of the Institute of Medicine, in establishing research priorities. Open, transparent processes advance research that is credible and relevant to the real-world

decisions facing patients and providers as well as reflecting the different needs of racial, ethnic and other patient sub-populations.

PhRMA supports the focus on patient and provider needs in the Council s draft CER definition and criteria for research priorities. This focus also is evident in HHS Secretary Kathleen Sebelius April 21, 2009 comments at the Senate Finance Committee: The goal of such research is to improve the database of information available to a patient and his or her provider so they can make informed decisions about care. The goal is to empower patients and providers with the best information on protocols, procedures, and other relevant issues, not to enable the federal government to dictate broad coverage decisions." In addition, the Council s emphasis on the expressed needs of patients and providers will help ensure that their input is given sufficient weight in the CER process.

The Council appropriately recognizes the importance of accounting for differences in individual patients throughout its draft material. This will help facilitate study designs that recognize and generate data on different patient subgroups, and communication of results that reflect differing patient needs based on genetic, clinical and other factors. These factors are very important to patients but, unless expressly recognized, can be minimized in study designs and communication of results. In a letter last year, the Congressional Black Caucus highlighted the importance of accounting for individual differences in CER research result: All research supported by a comparative effectiveness initiative must recognize variation in individual patients needs, circumstances, and responses to particular therapies. Comparative effectiveness research must enrich our understanding of these variations, rather than ignoring them by focusing on population averages that mean little for any individual patient or subgroup. Without this focus, the results of research could inappropriately be used as a rationale for restricting the treatment choices of those who fall outside the average response.

In addition, PhRMA supports the scope of research included in the draft definition of CER, which encompasses the full range of medical treatments, behavioral change strategies, and delivery system interventions. This broad scope of research is consistent with the Act s mandate for research on health care treatments and strategies. This scope of research reflects the growing recognition that addressing the needs of patients, particularly those with chronic illnesses, requires greater scrutiny of healthcare delivery systems. This includes comparing the effectiveness of different approaches to care processes, disease management services, care coordination, benefit designs, and other components that directly impact care quality and patient outcomes.

The importance of this aspect of comparative effectiveness research was emphasized in Atul Gawande, MD s, June 1, 2009 New Yorker article: "Congress has provided vital funding for research that compares the effectiveness of different treatments, and this should help reduce uncertainty about which treatments are best. But we also need to fund research that compares the effectiveness of different systems of care to reduce our uncertainty about which systems work best for communities. These are empirical, not ideological, questions.

While the draft definition, prioritization criteria, and strategic framework include many positive elements, we offer the following recommendations to help ensure that CER remains centered on improving health care quality and supporting patient and provider decision-making:

1. Clarify the references to decision makers from the draft definition and federal needs as a basis for setting research priorities.

Defining research priorities and study questions that respond to the information needs of patients and providers is an important, and challenging, early step in CER. While decisions at the policy level should be informed by best available evidence, including comparative effectiveness research, it is important that government-supported CER conducted under ARRA is centered on supporting patient and provider decision-making and improving the quality of patient and provider care. This will help ensure that federally-funded CER meets the goal described in HHS press release announcing the Council, Comparative effectiveness research provides information on the relative strengths and weakness of various medical interventions. Such research will give clinicians and patients valid information to make decisions that will improve the performance of the U.S. health care system. The Council should clarify how federal and other decision making needs will be recognized while maintaining a focus on patients and providers.

2. The council should clarify how the separate elements of the prioritization criteria will be weighed against each other and the minimal feasibility of research criteria should be clarified and moved to secondary list.

The feasibility of research criterion should be moved to the second category of criteria for ensuring scientifically meritorious research and investments, and the Council should clarify how time necessary for research will be used as part of this criterion. The length of the study is an important consideration, but should not be a minimal criteria, as both long- and short-term research can yield findings that are more or less useful to patients and providers. For example, the seven years it took to complete the federally supported Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT) reduced its impact, because of the ways the practice of medicine evolved during the study period . At the same time, the time necessary for research should not be used to rule out studies that are longer-term but yield high-value information. Some long-term studies, such as the Women s Health Initiative, provided important information about women and osteoporosis, cardiovascular disease, and cancer and had a significant impact on patient and provider treatment decisions, even though it had a 15 year time frame.

3. Additional recommendations: clarify variability in outcomes, weighting of criteria, and range of data sources.

The Council should clarify the types of outcome variability it will consider when setting CER priorities. This will facilitate consideration of outcomes variation related to a range of factors, including geographic location, treatment site, provider type, and patient sub-group, consistent with the FCC s definition of CER. Conducting research to address these variations represents a significant opportunity to improve health care.

For example, Addressing this issue October 8, 2007 at the Institute of Medicine annual meeting, Eliot Fischer, MD, MPH, Dartmouth Medical School, said: We need better evidence, both about biologically targeted interventions, but also about care delivery...There is an emerging consensus on need for comparative effectiveness research. I think it s critically important that we broaden that focus to include evidence-based care management and evidence-based care delivery, because that s where all the money is and that s where all the waste is in U.S. health care.

In addition, addressing variability in outcomes within minority groups could help reduce health care disparities . There is a broad range of research that indicates racial and ethnic minorities are less likely to receive medical care we know works very well and experience a lower quality of health services. For instance, the Institute of Medicine report, Unequal Treatment found that racial and ethnic minorities are less likely to be given appropriate cardiac medications or to undergo bypass surgery, and a more likely to receive certain less-desirable treatments, such as limb amputations for diabetes. This is not because of any lack of knowledge about appropriate treatments for conditions such as diabetes or heart disease. Rather, it is because our health system does not implement effective strategies to organize and deliver care to minority populations. Placing a high priority on research to identify the strategies that the health system can use regarding issues such as disease management, use of information technology, benefits design, community outreach, to close this gap is important to improving care in minority communities.

In the definition, the Council should describe the range of data sources and methods it will consider to assess comparative effectiveness, such as randomized controlled trials, meta-analyses, observational analysis or other methodologies. Each research methods offers different strengths and limitations, and providing additional detail in this area could facilitate research that provides information on diverse populations and patient sub-populations, helping to reinforce the Council s commitment to assessing outcomes related to these populations.

4. The process step Potential capacity for translation through Federal delivery systems and public private partnerships under Translation and Adoption of CER should be clarified in the CER Strategic framework.

The Council s strategic framework should maintain a focus on translation and adoption of CER results widely to patients and providers in timely, usable formats. This will help orient research towards the needs of patients and providers, and avoid access barriers based on average study results that may overlook differences in the needs of diverse patient groups. The strategic framework should clarify how translation of CER through federal delivery systems will support this goal.

The $1.1 billion included in ARRA for CER represents an important opportunity to establish a broad research agenda that supports patient and provider decision-making and improves health care quality. PhRMA supports the steps the Council has taken to help achieve this goal, including high quality, credible CER that has public buy-in. We ask that the Coordinating Council adopt our suggested revisions to the draft definition, priority setting criteria, and strategic framework.

PhRMA looks forward to continued participation in your important work to recommend CER research priorities. Please do not hesitate to contact me if I can be of any other assistance.

Submitted by
Chunliu Zhan
AHRQ
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Comment Type: *Definition*

I suggest the following edits to the definition:

1. Remove ", responding to their expressed needs," which is redundant (to inform doctors is to respond to their needs).

2. Remove "under specific circusmtances," which is also redundant. It is straightforward and sufficient to state that "which treatment is most effective to which patients", where "which patients" could be with any specific circumstance.

3. The last sentence should end with "and methods to adequately control for confounding" (replacing "method to assess comparative effectiveness"). With this change, the definition highlights two crucial areas in conducting credible CER -- data sources and confounding control.

4. Should "cost" be at least implied in the definition? We could give "cost" a little room by adding "efficient" in the second sentence, "about which interventions are most effective and/or efficient for which patients".

Submitted by
Nancy Smith
Health Advancement Collaborative of Central New York
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Comment Type: *Definition*

We recommend that the definition of research include studies of alternative vehicles for translating findings into practice. Our community, for example, is piloting a physician-driven effectiveness review mechanism for the analysis of local variation in practice patterns relative to best practice standards, and the dissemination of findings to the medical community.

Submitted by
Andrew Sperling
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Comment Type: *Definition*

The National Alliance on Mental Illness (NAMI) is pleased to submit the following comments to the Federal Coordinating Council (FCC) on Comparative Effectiveness Research (CER) on the proposed definition of CER and priorities for CER as part of the $1.1 billion allocated in the American Recovery and Reinvestment Act (ARRA).

NAMI is the largest national organization representing individuals living with serious mental illness and their families. Through our more than 1,100 affiliates in all 50 states NAMI is engaged in support, education and advocacy around serious mental illness.

NAMI Comments Recommendations Regarding the Coordinating Council s Draft Definition of CER

1) Including the voice of patients
NAMI supports the inclusion of voices of patients, family members of patients and disease advocacy organizations as part of any definition CER. Too often in healthcare, the determination of what s best for the patient is made by others, while the patient s views of his or her own needs is ignored or minimized. By identifying the importance of expressed needs, the Council takes an important step towards policy that truly is centered on the needs of the patient and caregiver. The proposed definition could be strengthened by an explicit inclusion of both family members of patients and disease advocates as part of the CER process moving forward.

2) Communicating results to improve patient care
NAMI feels strongly that CER must focus on communicating research results to patients, providers and other decision-makers, not making centralized coverage and payment decisions or recommendations. This focus is consistent with the goal of CER as described in HHS press release announcing the FCC such research will give clinicians and patient s valid information to

make decisions that will improve the performance of the U.S. health care system. NAMI would urge additional clarification to the proposed definition of decision-maker. With many competing voices discussing CER, it is important to know which decision-makers are being included in this central definition.

3) Scope of CER

NAMI supports the broad scope of research included in the proposed definition, which states, Defined interventions compared may include medications, procedures, medical and assistive devices and technologies, behavioral change strategies, and delivery system interventions. This definition is consistent with the views expressed by many stakeholders, including NAMI, at FCC listening sessions. NAMI believes that in order to improve patient care, CER research should examine the range of issues that affect the quality of patient care. This includes the range of medical tests and treatments, as well as questions related to healthcare delivery and organization such as benefit designs and care management programs. All of these healthcare elements affect patients quality of care.

4) Preventing Misuse of CER by public and private payers

While NAMI supports the focus on patient and provider needs in the draft definition, we also are concerned that, in stating that the purpose of CER is to inform patients, providers and decision-makers, the FCC draft definition of CER has the potential to shift the focus of research away from patients and their doctors towards other decision-makers such as health insurance companies, government agencies and other policy-makers. The strategic framework released on HHS web site on June 1 includes language that underscores this concern. In particular, NAMI is troubled by language in the framework that describes CER research priorities that respond to the expressed public and federal needs for CER, and potential capacity for translation through Federal delivery systems and public private partnerships.

This shift in focus has enormous potential to result in research projects that do not address the clinical information needs of patients and providers, and instead lead to research that is used to restrict patient access to treatment options. This concern is heightened by recent commentary describing the link between CER and these types of access restrictions. For example, a recent Washington Post commentary says, What's known as comparative effectiveness research, which tracks what works and what doesn't, would also require outside boards directing doctors and hospitals about what procedures they could and couldn't use. The language in the proposed CER definition and strategic framework document appears to be at odds with the goal of CER as described by HHS in its press release announcing the FCC.

NAMI is troubled by this shift in focus to CER that restricts patient access to medical care or treatment choices. NAMI would urge the Council to delete the language referencing decision-makers and federal needs as a CER focus. The Council should consider revising the strategic framework so that it focuses on communication and dissemination strategies, rather than use of CER by government agencies.

4) Clinical v. cost effectiveness

Consistent with focus on patient and provider needs, NAMI urges the Council to clarify that research should examine clinical outcomes, not cost-effectiveness. As reflected in the wide range

of views expressed during the Coordinating Council listening sessions, inclusion of cost-effectiveness remains controversial for good reason. Cost-effectiveness analysis traditionally has been a tool used by insurance companies and government payers to impose access restrictions based on broad population averages, and some of the most common cost containment tools tend to obscure differences in patient subgroups by including all patients in a single, average value determination. Particularly given the importance that ARRA and the Coordinating Council have placed on considering the needs of patient subpopulations, NAMI recommends that the Council clarify that it will focus on clinical outcomes.

NAMI Recommendations for Comparative Effectiveness Research Priorities

Within the realm of mental illness treatment, NAMI would like to make the following recommendations for critical priorities designed to improve quality of care and prospects for recovery for individuals living with illnesses such as schizophrenia, bipolar disorder, major depression and severe anxiety disorders.

1) An examination of the real world challenges associated with treatment adherence in serious mental illness --
Major mental illnesses present unique vulnerabilities and challenges. One of the most difficult challenges is a condition known as anosognosia, or literally, the inability to see one's own illness. Anosognosia dramatically reduces medication adherence, and occurs in about half of people with serious psychiatric illnesses. This condition also called lack of insight and is virtually exclusively a concern in our population.

Anosognosia makes research about adherence strategies especially crucial for this population. As noted above, CATIE raises a number of important questions related to treatment adherence with schizophrenia. NAMI believes that this should be a major priority for comparative effectiveness, especially in the context of serious mental illness. The very symptoms of these disorders auditory hallucinations, paranoia, delusional thinking, mania, severe anxiety can make treatment adherence a challenge. Likewise, the difficult side effects associated with psychotropic medications can create enormous barriers to adherence. NAMI would strongly recommend that the Coordinating Council emphasize the need for examination of strategies and treatment models that can improve adherence and ensure better outcomes.

2) An examination of best practices treatment decisions in public programs --
Currently state Medicaid programs across the nation are undertaking cost control strategies that involve strict protocols for prescribing of psychotropic medications. These typically involve aggressive utilization management techniques such as preferred drug lists, prior authorization requirements for specific compounds, fail first requirements for specific medications and step therapy. In NAMI s view, these rules often place the most vulnerable members of our society at risk of poor outcomes such as psychiatric decompensation and re-hospitalization, with little evidence that they save money or improve quality of care over the long-term.

The reality is that these utilization management decisions are driven by cost, not sound clinical research. For the most part, state Medicaid programs are flying blind in undertaking these strategies as there is little if any research out there demonstrating how clinicians can make

informed decisions about which medication works best for a particular patient. NAMI believes that comparative effectiveness can be very useful in examining treatment algorithms and prescribing protocols that work best in real world treatment settings where patients (especially Medicaid beneficiaries) experience multiple medical co-morbidities that complicate the effectiveness of psychiatric treatment.

There are promising alternatives out there such as monitoring outlier prescribing patterns and evidence-based protocols that can help a state control pharmacy costs without resorting to inflexible rules such as prior authorization and step therapy. NAMI would recommend investment in research that compares these strategies to see which is more effective in improving patient outcomes and promoting quality of care.

Thank you for the opportunity to offer NAMI s views on this important issue. NAMI looks forward to assisting the Federal Coordinating Council in moving a sound comparative effectiveness research agenda forward.

Submitted by
Susan Ross
SDRoss Consulting
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Comment Type: *Definition*

In the Definition I suggest you:
1) clarify difference between effectiveness and efficacy
2) clarify whether "...a comprehensive array of health-related outcomes..." includes safety outcomes? patient-reported outcomes, including preferences? compliance/adherence? utilization outcomes? economic outcomes?

Submitted by
Tim Rebbeck
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Comment Type: *Definition*

I am aware of another statement/definition from the NCI that seems different (and possibly inconsistent) with the definition proposed here. The NCI priorities for CER, as stated in the Grand Opportunities FOA (RC2), are as follows:

A wide range of clinically-based preventive, screening and treatment interventions have been shown to be efficacious for many types of cancer. However, evidence is less complete on the effectiveness of these interventions in actual community practice, among populations and

treatment settings and using techniques and practices that may differ markedly from those of initial controlled clinical trials. Effectiveness includes not just the standard core clinical outcomes such as survival, adverse clinical events, quality of life and symptoms, but also domains that affect the use of the treatment, or health care strategy. Factors that affect how treatment is used, and whether one treatment is preferred over another include patient-reported outcomes, acceptability and adherence to treatment, patient-physician communications, health system capacity and organization factors, medical and other resource use, economic cost, financial stress and broader impacts on the family, work and community, such as impacts on economic productivity and the ability to return to work and resume other normal social functions. Some of these domains have been investigated by NCI, but research in these areas remains underdeveloped in terms of data resources, methodology and research personnel. Also the field remains fragmented in terms disciplinary areas, phases of the cancer continuum explored, and cancer sites investigated.

For the purposes of this announcement, comparative effectiveness research (CER) is defined as a rigorous evaluation of the impact of different options that are available for treating or preventing a given medical condition for a particular set of subjects. Such a study may compare similar treatments or other interventions, such as competing drugs, or it may analyze very different approaches, such as surgery, drug therapy and behavioral interventions. Such research may include the development and use of clinical and population level registries, clinical data networks, and other forms of electronic health data that can be used to generate or obtain outcomes data as they apply to CER.

Submitted by
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Comment Type: *Definition*

I believe the the definition (first sentence) needs to include reference to the research being done under conditions our actual practice (effectiveness) so as to clearly distinguish it from the controlled research settings (efficacy) such as that in a traditional RCT.

Submitted by
Nancy Dreyer
Outcome Sciences Inc.
ndreyer@outcome.com

Comment Type: *Definition*

I believe that your proposed definition of comparative effectiveness (CE) is overly and unnecessarily broad. Specifically

1) the word "systematic" in the first sentence is vague. Systematic is generally used to refer to systematic reviews and CE research may well be a purpose-driven investigation of various interventions. Although such a study could technically be described as "systematic," this adjective is not generally used to describe a research project.

2) More troublesome is the proposed requirement that CE research "must assess a comprehensive array of health-related outcomes for diverse patient populations." CE research that assesses alternative therapies that may not include a COMPREHENSIVE set of alternatives can still provide excellent, useful information. Similarly, if CE is evaluated for a particular population that may not be diverse but is well described, this still could constitute meaningful, reliable, useful research. e.g., a study in latinos may not include other ethnic groups but would be informative nonetheless.

Submitted by
Steven Mersch
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Comment Type: *Definition*

The wording of the definition is excellent! May want to consider adding a sentence to the definition related to evaluation of new medical therapies and devices as they emerge from the research labs.

The prioritization draft is OK. Some points are a little unclear/vague.

Submitted by
American Medical Association American Medical Association
American Medical Association
sylvia.trujillo@ama-assn.org

Comment Type: *Definition*

The physician and medical student members of the American Medical Association (AMA) commend the Federal Coordinating Council for Comparative Effectiveness Research (Council) for convening a series of public meetings and reaching out to clinicians and medicine to solicit our input on national comparative effectiveness research (CER) priorities as well as comments on the Council s draft CER definition, prioritization criteria, and draft strategic framework. Concerted stakeholder and public engagement will ensure that the funding to support CER will be allocated in an optimal fashion and increase the utilization of CER findings by physicians and patients.

All aspects of the CER process, including priority setting and capacity-building measures, must be transparent and include a central role for physicians in their oversight and governance. Given the nascent nature of this endeavor, the perception among physicians that the CER agenda is being driven by payers who only have cost containment as their goal will seriously undermine efforts to cement physician support as we continue forward on comprehensive health care system reform. It is imperative that physicians, including clinicians and their organizations, have an active, ongoing, and central role at all stages of the CER process. To be clear; the AMA strongly supports CER and looks forward to results that will guide shared decision-making by patients and their physicians.

Physicians today have access to a wide array of medical information. However, there remains far too little rigorous evidence available about which treatments work best for which patients. The AMA strongly supports increased federal funding of CER. Though there is a broad array of areas where CER would bring benefits, we must strategically target support for CER where it will significantly improve health care value by enhancing physician clinical judgment, foster the delivery of patient-centered care, and produce substantial benefit to the health care system as a whole. As outlined in more detail below, the AMA strongly supports the Council s Draft Definition, Draft Prioritization Criteria for Comparative Effectiveness Research as well as the Draft Comparative Effectiveness Research Strategic Framework.

The AMA supports the view that the priority areas of CER should focus on high volume, high cost diagnostic and treatment modalities, and other health services and strategies for which there is significant variation in practice.

The AMA supports a broad definition of CER that involves a comparison of different modalities to prevent, manage, or treat a specific health problem, condition, or disease. Besides the more typical areas of research such as pharmaceuticals and medical devices, CER should also focus on implementation and dissemination issues that would shed light on the most effective strategies that promote a learning health care system and improved clinical outcomes including behavioral change strategies, and delivery system interventions.

In terms of methodology and study design, CER should include long-term and short-term assessments. CER should not be limited to new treatments. In addition, the findings should be re-evaluated periodically, as needed, based on the development of new alternatives and the emergence of new safety or efficacy data.

AMA Recommended Priority Areas & Infrastructure

Much of the expertise for setting CER priorities focusing on specific diseases and interventions lies within the medical specialty societies. Nonetheless, the AMA offers the following recommendations for CER priorities and offers suggestions concerning two mechanisms that would help build the necessary infrastructure to sustain work in this area.

The AMA strongly believes that the national CER priorities should address the prevention, management, and treatment of preventable disease which collectively represent a major cost driver in today s health care system. Key areas in need of further study and research include

cardiovascular, endocrinology and metabolism disorders (including diabetes), and nutrition (including obesity). For example, in the area of wellness, prevention, nutrition, and obesity there is a paucity of CER findings. It is an area with a wide range of available interventions with little clarity about which is most effective.

CER usually considers technology and pharmaceuticals, but behavioral interventions potentially could have the greatest impact for individual patients and the system as a whole. Prioritizing interventions designed to change physician behavior and to effect behavioral change in patients, in addition to other clinical interventions, technologies, and pharmaceutical remedies, is necessary. Because prevalence rates and the most effective interventions for many diseases vary greatly by race, ethnicity, gender, age, geography, and economic status, the AMA strongly supports the inclusion of racial and ethnic health disparities and health disparities more generally as a CER priority area.

In addition to the foregoing, the National Priorities and Goals report put forth by the National Priorities Partnership (NPP) convened by the National Quality Forum (NQF) provides a rich source of information for the Council to consider. The NPP, comprised of 28 national organizations, focused on achievable goals that would, if implemented broadly, reduce harm, improve patient-centered care, eliminate health care disparities, and remove waste from the system. In preparing the report, the NPP solicited extensive input from broad array of individuals and organizations. Utilizing the NPP National Priorities and Goals as a reference point will help the Council to identify national CER priorities that will build the evidence base in a targeted fashion in the areas that are likely to produce substantial system-wide improvements.

In addition to the NPP report, the AMA convened Physician Consortium for Performance Improvement (PCPI) has developed a valuable survey mechanism that can be utilized by the Council to gather additional detailed information concerning national CER priorities. In order to obtain timely, quality responses from the more than 100 national medial specialty and state medical societies, experts in methodology and data collection, and many others involved in quality improvement and performance measurement, the PCPI constructed a survey mechanism. It is a powerful new tool to identify variations in practice, to assess the evidence base in a wide array of areas, and to identify areas where there are gaps in knowledge. The PCPI plans a significant expansion of these efforts. This provides much needed capacity and infrastructure for priority setting. We would welcome the opportunity to have the Council work with the PCPI to utilize this survey mechanism as it develops the recommendations concerning national CER priorities.

The AMA urges the Council to consider two powerful infrastructure mechanisms, clinical registries and data networks. These have been used by specialty societies such as the Society of Thoracic Surgeons and the American College of Cardiology, and have markedly improved quality and patient safety. The National Surgical Quality Improvement Program (NSQIP) and the Northern New England Cardiovascular Collaborative are examples of utilizing these two mechanisms to advance quality and obtain research data at the point of care, and create what our country needs, a learning network. Expansion of existing clinical registries and databases would provide a strong foundation when conducting CER and at the same time these registries would also provide an excellent beginning point for CER. Utilizing, replicating, expanding, or

integrating existing clinical registries would constitute an invaluable investment in the much needed infrastructure for accurately comparing clinical outcomes based on real life conditions where delivery of care settings vary, patients may have numerous co-morbidities, and the patient population is diverse. In turn the clinical registries are not identical and may to greater or lesser extent be able to promote a learning health care environment; thus, evaluating the comparative clinical effectiveness of various clinical registry models and alternatives to them remains a vital priority. Building CER infrastructure and capacity in part upon registries and clinical data networks will leverage CER resources and boost the capacity of the system as a whole to learn and adapt in real time.

AMA Support of Council s Draft Strategic Framework

The AMA generally supports the Council s effort to develop a strategic framework for CER activity and investments in order to categorize current activity, identify gaps, and inform decisions on high priority recommendations with a couple of caveats.

First, the AMA urges the Council to ensure public access to the detailed inventories of Federal CER activities and research/data infrastructure that the Council proposes to create. The AMA agrees that the Council s organizing framework will foster consideration of the balance of activities and priority themes and allow the government to focus on the most pressing needs expressed by patients and clinicians, and allow identification of gaps in the current landscape of CER. We urge the Council to work with the AMA convened PCPI which is already engaged in this activity as discussed above.

Second, the AMA concurs with the Council that CER activities should be grouped into the following four major categories as detailed in the proposed framework:

" research, (e.g., comparing medicines for a specific condition or discharge process A to discharge process B for readmissions).
" human and scientific capital, (e.g., training new researchers to conduct CER, developing CER methodology).
" CER data infrastructure, (e.g., developing a distributed practice-based data network, linked longitudinal administrative or electronic health records databases, or patient registries.)
" translation and utilization of CER, (e.g., building tools and methods to translate CER into practice and measure results.)

While all the above categories are essential components of timely, valid, useful CER, it is important to underscore the essential and central role physicians must play vis-à-vis the last component translation and adoption of CER. The AMA supports the development of practice guidelines by medical specialties and other clinicians in medicine, but would oppose the development of guidelines by the government or another centralized entity. Consistent with the foregoing, to the extent that medical specialties design, implement, and play a central role in clinical registries such as NSQIP that rely upon clinicians to conduct CER, the AMA would support utilization of CER findings generated through clinical registries by the specialties to modify practice guidelines and decision support vis-à-vis the clinical registries.

Conclusion

There is a final cautionary tale. In the February 12, 2009, issue of Journal of American Medical Association there is a description of what can happen when science and politics collide. The Infectious Disease Society of America (IDSA) studied the evidence base for the treatment of Lyme disease and in 2006 issued new guidelines advising against the long-term use of antibiotics. The IDSA was promptly sued by the Connecticut Attorney General alleging violations of antitrust laws and restraint of trade. The case was settled without IDSA admitting any fault and assenting to an ombudsmen-reviewed panel to assess the 2006 guidelines. If we cannot separate science and politics in a case such as this, how will we ever manage to deal with the really hard issues?

CER has the potential to have a profoundly positive impact on the quality of the information available to physicians and patients and, when used appropriately and with care, will address escalating health care costs. The AMA welcomes the opportunity to work closely with the Council to ensure that physicians remain engaged, enthusiastic, and involved stakeholders in this process.

Submitted by
Joe Kanter
Joseph H. Kanter Family Foundation/Health Legacy Partnership
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Comment Type: *Definition*

The Joseph H. Kanter Family Foundation welcomes the opportunity to offer feedback to the Federal Coordinating Council for Comparative Effectiveness Research (Council) on the draft definition of and prioritization criteria for comparative effectiveness research (CER). We heartily endorse the efforts of the Council and other policymakers to improve the evidence base on health outcomes by investing in CER. We believe CER is a necessary first step in our nation s long range goal to harness real time data from personal electronic health records and provide health care providers and average Americans with easily accessible and understandable scientific data to make evidence-based health care decisions and choices.

The Kanter Family Foundation is a nonprofit organization established in 1998 by Joseph H. Kanter following his personal battle with prostate cancer. Unable to quickly and accurately determine the best course of treatment despite access to the best medical resources available, Mr. Kanter recognized that improved access to better health care data could significantly enhance medical treatment for all Americans.

Since then, Mr. Kanter has committed his time and money to his vision for better health and health care. Through The Health Legacy Partnership with the Agency for Healthcare Research and Quality (AHRQ), the Kanter Family Foundation has strived to improve healthcare decision-making. Specifically, we have worked to develop a National Health Outcomes Database that

would provide health care professionals and patients useful, scientific evidence on the best treatment options available. When paired with deidentified data from electronic health records, evidence generated through federally funded CER would populate this user-friendly information tool to help providers, patients, policymakers and other decision makers determine what works best, when, under what circumstances, for whom.

The Kanter Family Foundation offers its support for the Council s proposed definition of CER and the accompanying prioritization criteria for research funding. We are pleased that your definition encompasses a broad array of:

" Methodologies and data sources to provide timelier and more comprehensive information about health treatments especially in underrepresented populations than traditional randomized clinical trials currently provide;

" Interventions to be compared including medications, procedures, medical and assistive devices and technologies, behavioral change strategies, and delivery system interventions to ensure providers and patients have access to information on the full range of treatment options available; and

" Information users to facilitate shared decision-making and engagement in health care treatment.

We especially support the patient-centeredness of the proposed CER definition, e.g., the purpose of this research is to inform patients, providers, and decision-makers, responding to their expressed needs. We are pleased that this patient-centric approach is also reflected in your threshold minimal criteria to prioritize research funding, e.g., responsiveness to expressed needs and preferences of patients, clinicians, and other stakeholders, including community engagement in research. Too often, decisions about research funding are made in a vacuum with little consideration to the priorities and needs of the end users, or the practical applications of the information in the real world. As a result, many current research studies only evaluate the experiences of a narrow group of patients under tightly controlled conditions. As you have defined it, CER will study the real world experiences of diverse patient populations, many of whom may be taking multiple prescriptions or have experience with several different approaches to treatment. Knowing how patients respond to treatments and how treatments compare to meet these patients needs is crucial to understanding what works best for patients from diverse backgrounds.

The Kanter Family Foundation also supports the Council s proposed minimal criteria for federal funding: feasibility of research topic, (including the time necessary for research). In our rapidly evolving medical landscape, untimely CER loses relevance and utility as new and ever more innovative treatments enter the market. As the Council evaluates the feasibility of research, we urge the Council to consider not only timeliness but also the usability and translatability of CER. The principal goal of CER is to improve health care quality and value by generating information that is readily accessible and understandable by key users. CER that is likely to be used by patients and providers and can be readily translated to facilitate use by these individuals should receive priority for funding over studies that do not.

The Kanter Family Foundation commends the Council for highlighting the need to tailor treatments for different populations, e.g., CER must assess a comprehensive array of health-related outcomes for diverse patient populations. Studies by federal watch dogs and academics have shown that randomized clinical trials conducted to bring new medical innovations to the market typically do not include diverse populations. Women, elderly, and minorities are underrepresented as companies determine whether or not their new drugs and devices are safe and effective. Such deficiencies can diminish the utility and applicability of drugs and devices in these groups. CER, as the Council has defined it, will help us move beyond does the treatment work? toward for whom does the treatment work? This shift in medical decision-making is crucial as our society becomes increasingly diverse and disparities in health care remain pervasive.

Patients want and deserve a greater voice in their health care. Advances in information technology have given individuals unprecedented access to health-related information. Individuals can now learn about diagnoses and available treatments, find local support groups, rate physicians and medical institutions, and research dietary and exercise practices. Unfortunately individuals with access to myriad health information often feel they are drinking from a fire hose. With so much information available how does a provider or patient determine what s most appropriate? The next step on the health information continuum is to ensure patients and their providers have access to more and better information about how all available treatments medical and otherwise perform compared to one another in different subpopulations. CER, and its widespread availability and usability, will help get us there.

The Kanter Family Foundation looks forward to collaborating with the Council to ensure evidence generated by federally funded CER is widely disseminated to patients and providers through our National Health Outcomes Database. If you have any questions, please contact Mr. Kanter or the Kanter Family Foundation s Washington representative, Emily Holubowich of Cavarocchi Ruscio Dennis Associates, at eholubowich@dc-crd.com or 202.484.1100.

Submitted by
Richard I. Smith
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University of Pennsylvania
carrb@upenn.edu

Comment Type: *Definition*
Although the definition uses the language "delivery system interventions", I fear that this is not precise enough. Delivery systems could mean intranasal vs. intramuscular flu vaccine. What it seems to me is missing from the definition is the appreciation that we are planning to redesign a healthcare system. In my work, I explore health care decision making for diseases (trauma, stroke, cardiac arrest) that require emergent medical intervention from the population level. I interpret delivery systems interventions to include air vs. ground transport of acute stroke patients and tele-medicine with subspecialists not located at the parent facility, but believe the

possibility exists to include such broad thinking given the current definition. The institute of medicine called explicitly for a coordinated and regionalized emergency care system - I believe some recognition of the importance of regional or regionalized systems planning is warranted in the definition.

Submitted by
John Cuddeback
Anceta - AMGA's Collaborative Data Warehouse
jcuddeback@anceta.com

Comment Type: *Definition*

We commend the Council on its efforts to clarify definitions and priorities for CER Funding per the ARRA. We are pleased to see the reference to delivery system interventions, but we are concerned that the word interventions could be interpreted to include only projects that prospectively change the delivery system, such as the CMS Physician Group Practice (PGP) demonstration.

Such projects are important, but we should also take advantage of the natural experiments that current practice offers. Care is currently delivered under a wide range of organizational structures, and provider organizations have initiated many changes in care process and supporting infrastructure.

We believe delivery system interventions could be better stated as delivery system strategies, reflecting the phrase comparing different interventions and strategies in the first sentence.

Critical insights can be obtained by studying the replicable factors that drive success in EXISTING delivery systems that engage in organized processes to improve quality and control costs and are willing to bear accountability for results.

As stated in written testimony provided to the Council on April 14, The Delivery System Matters, by Dr. Samuel Lin, on behalf of the American Medical Group Association (AMGA), we need to understand the comparative effectiveness of the organizational structures and processes under which care is delivered. They affect safety, timeliness, efficiency, effectiveness, equity, and patient-centeredness (IOM s STEEEP). We should test the hypothesis that optimal outcomes are attained in delivery systems that exhibit specific aspects of care coordination. Recent papers have suggested that organized systems of care, or accountable care systems, are instrumental in ensuring STEEEP (1-4).

Since Dr. Lin s testimony was submitted, a coalition of organized systems of care has been formed to assess the comparative effectiveness of delivery systems as a priority component of

health reform. We are prepared to present oral testimony as to the value and feasibility of this kind of research at the Council s June 10 listening session and to respond to the Council s questions at that time.

-- John Cuddeback, MD, PhD, Chief Medical Informatics Officer, Anceta, AMGA s Collaborative Data Warehouse, on behalf of participating AMGA member medical groups: multi-specialty medical groups and integrated delivery systems ranging from fewer than 200 to more than 1,200 physicians, in rural and urban settings across various regions of the country, including multiple participants in on-going CMS demonstration projects.

1. Shortell SM, Casalino LP. Health Care Reform Requires Accountable Care Systems. JAMA 300(1): 95-97 (July 2, 2008).
2. Fisher ES, Berwick DM, Davis K. Achieving Health Care Reform--How Physicians Can Help. N Engl J Med 10.1056/NEJMp0903923 (published online May 20, 2009).
3. Fisher ES, McClellan MB, et al. Fostering Accountable Health Care: Moving Forward in Medicare. Health Affairs 28(2): w219-w231 (published online January 27, 2009; 10.1377/hlthaff.28.2.w219).
4. Pham HH, O Malley AS, Bach PB, Saiontz-Martinez C, Schrag D. Primary Care Physicians Links to Other Physicians through Medicare Patients: The Scope of Care Coordination. Ann Intern Med 150(4): 236-242 (February 17, 2009).

Submitted by
Vincent Stine
American Association for Clinical Chemistry
vstine@aacc.org

Comment Type: *Definition*

AACC recommends that the definition be modified. We suggest that "diagnostic tests and testing modalities" be included in the following sentence to read:

"Defined interventions compared may include medications, diagnostic tests and testing modalities, procedures, medical and assistive devices and technologies, behavioral change strategies, and delivery system interventions."

The term modalities is used to reference point-of-care testing, home testing, continuous monitoring.

Submitted by
James Benefiel
VitalSpring Technologies
jbenefiel@vitalspring.com

Comment Type: *Definition*

Threshold Minimal Criteria (i.e. must meet these to be considered)
1. Included within statutory limits of Recovery Act and FCC definition of CER
2. Responsiveness to expressed needs and preferences of patients, clinicians, and other stakeholders, including community engagement in research
[Comment:] Expressed needs would seem extremely difficult to evaluate, except to include representatives of each group on each grant application review. No single grant could be expected to meet the expressed needs of all patients, clinicians, and other stakeholders. (Note that this is listed as a Minimal Criterion.)
The report from the Listening Session of the Federal Coordinating Council noted in part the need to enable people to trace backwards from results to inputs, to ensure themselves that the process was fair. Fairness is probably a better measure than expressed needs. Further, in the Listening Session, there was a citation to assist in clinical decisionmaking by providers and patients. I would add the words informed, rational ahead of clinical. In this way, this stated threshold criterion is not subject to a particular activist community s agenda. Thus, I would re-word this criterion as:
Ability to assist in the rational, informed clinical decisionmaking by patients, clinicians, and other stakeholders, including community engagement in research
I believe the re-worded criterion will lead to many fewer challenges by interested parties.

3. Feasibility of research topic (including time necessary for research)

Prioritization Criteria
The criteria for scientifically meritorious research and investments are:
1. Potential Impact (based on prevalence of condition, burden of disease, variability in outcomes, and costs of care)
[Comment:] The variability of outcomes or variability in costs of care among the total U. S. population is more relevant than the prevalence of the condition or the total costs (e.g 30,000 people with a condition at an average cost of $50,000/patient and a standard deviation of $2,000/patient probably provides less opportunity than 20,000 people with a condition at an

average cost of $20,000/patient but a standard deviation of $10,000/patient). If variability can not be traced to the differing illness burdens (i.e.\, co-morbidities) among the population with the condition, then variability indicates that certain treatments don t seem to work as well on a portion of the population. Conversely, variability indicates that some treatments seem to work better than others or better in selected situations.

Submitted by
Jean Iacino
CA Dept. of Public Health
Jean.Iacino@cdph.ca.gov

Comment Type: *Definition*

The California Department of Public Health is concerned that the draft definition and prioritization criteria are too clinical in focus and seem to preclude public health intervention effectiveness research.

Submitted by
Brian Strom
University of Pennsylvania
bstrom@cceb.med.upenn.edu

Comment Type: *Definition*

1) Does not clearly include methodological work
2) Does not look at subgroups of patients likely to benefit or be hurt by one treatment vs the other
3) the requirement for a comprehensive array of health-related outcomes for diverse patient populations, is likely not practical within one study

Submitted by
Jennifer Reck
Prescription Policy Choices
jreck@policychoices.org

Comment Type: *Definition*

The final sentence of the draft definition should be amended as follows:

This research necessitates the development, expansion, and use of a variety of data sources and methods to assess comparative effectiveness, as well as the active dissemination of results.

Submitted by
Judith Cahill
Academy of Managed Care Pharmacy
jcahill@amcp.org

Comment Type: *Definition*

AMCP believes that it is essential to the success of comparative effectiveness research that the cost effectiveness of treatments not be precluded as a component of overall research efforts. The Academy s members use various tools and strategies, including the cost effectiveness of treatments, as a means of combating the increasingly high cost of health care. It is vital that research on cost effectiveness be included in any effort to conduct comparative effectiveness research. The Academy strongly recommends that the cost effectiveness of treatments be included in the definition of comparative effectiveness research.

Submitted by
Thomas Novelli
Medical Device Manufacturers Association
tnovelli@medicaldevices.org

Comment Type: *Definition*

The Medical Device Manufacturers Association (MDMA) is a national trade association representing over 200 small to mid-size manufacturers of innovative and lifesaving medical technologies. MDMA appreciates the opportunity to comment on behalf of our membership, and we commend the Federal Coordinating Council (Council) for engaging all stakeholders on the issue of comparative effectiveness research (CER).

MDMA supports the principles of evidence-based medicine and CER. We believe that patients, physicians and the public should have access to the best information and data on which treatments work best in addition to which treatments are less effective. The availability of this information will be in the best interest of the patient and all stakeholders. As Congress and the Administration work to build upon the Council s efforts on CER, it is important to also examine other areas of the health care delivery system, including wellness, prevention and education.

Definition of Comparative Effectiveness Research

Recently, the Council released its draft definition for CER. Specifically, the Council proposed the following definition:

Comparative effectiveness research is the conduct and synthesis of systematic research comparing different interventions and strategies to prevent, diagnose, treat and monitor health conditions. The purpose of this research is to inform patients, providers, and decision-makers, responding to their expressed needs, about which interventions are most effective for which patients under specific circumstances. To provide this information, comparative effectiveness research must assess a comprehensive array of health-related outcomes for diverse patient populations. Defined interventions compared may include medications, procedures, medical and assistive devices and technologies, behavioral change strategies, and delivery system interventions. This research necessitates the development, expansion, and use of a variety of data sources and methods to assess comparative effectiveness.

MDMA believes that the proposed definition is a step in the right direction. However, we believe that a few terms within the definition warrant further clarification or modification.

Recommendation #1

The purpose of this research is to inform patients, providers, and decision-makers, responding to their expressed needs, about which interventions are most effective for which patients under specific circumstances.

MDMA believes that further clarification is needed for the term decision-makers. Specifically, the Council should further define who decision-makers would entail, whether it is the Congress, private insurers, Medicare, Medicaid or other Federal healthcare programs. It is critically important to know which parties will be utilizing this data and for what purposes. MDMA believes decision-makers should be patient s guardians, and family members who may be involved in making health care decisions and not payers.

Recommendation #2

This research necessitates the development, expansion, and use of a variety of data sources and methods to assess comparative effectiveness.

MDMA strongly believes that the Council should further clarify the definition for CER, especially as it relates to the types of data sources and methods to be used to assess comparative effectiveness. The Council should publically state the type of data sources and methods it intends to utilize or exclude. Moreover, it should state whether it is the intention of Federal agencies to generate original data for purposes of CER or if agencies will utilize existing clinical data.

General Comments

The Council would be amiss if it were not to study all factors that are contributing to increased costs within the healthcare system, including the examination of the inherent root causes. For example, we are all sadly aware of the growing obesity epidemic among the nation s adolescent

population. Our children are living less-healthier lifestyles than in generations past; they are less physically active and are consuming more unhealthy foods. If our country continues on this path, we can only begin to try to speculate what the related costs will be for treating obesity related conditions, such as diabetes, pulmonary hypertension and heart disease in general. The positive news is that this is a controllable condition, and by increasing education and awareness, we can make an impact. Tackling these issues early-on will likely have a far greater impact on cost savings in the future than our current thinking on CER. To this end, efforts on CER should not be focused exclusively on efforts such as technology assessment. This back-end approach is analogous to trying to plug the dam after it has sprung a leak. Rather, focusing research efforts on wellness and prevention should be complimentary to the current thinking on CER. In this sense, a primary focus of CER and the Council should be to examine the root causes of increased health care spending.

CER should also be used to address disparities in the health care system. Too often is the case that varying patient populations receive disproportionate health care treatment and coverage. The Council has a tremendous opportunity to conduct studies and use the research to address these disparities to ensure that all Americans are receiving the appropriate care.

Finally, the manner in which the Council and related agencies conducts its work and generates data must be as transparent as possible. As is apparent, the work produced by the Council will likely have a significant impact on numerous entities, including patients, payers and the industry. In keeping with President Obama s pledge for transparency in government, it is absolutely critical that the work of the Council remain open and transparent for all stakeholders. This includes allowing stakeholders to submit public comments on the Council s processes and methodologies for comparative studies as well as its results. To this end, it is important that expanded CER initiatives include a formal infrastructure to ensure public input on the work of the Council and related agencies.

The Council should yield caution in expanding the definition of CER to include the study of the cost effectiveness for competing medical therapies and interventions. Although there may be a tendency for studies to focus on a single episode of care, the costs associated with such care should be measured over a long enough time horizon to capture the true savings of a procedure or therapy. It will be important to consider long-term savings and cost reductions including potential decreased frequency of hospital/physician interactions, increased patient productivity in the workforce, and other measures that would be difficult to capture in a short time horizon.

MDMA greatly appreciates the opportunity to address the panel today. We strongly believe in the goals and mission of the Council and believe that there is a tremendous opportunity to improve the health care delivery system for America.

Submitted by
Francesco Chiappelli
fchiappelli@dentistry.ucla.edu

Comment Type: *Definition*

Firstly, I applaud the concerted effort of the Federal Coordinating Council in producing a draft definition of Comparative Effectiveness Research, and accompanying Prioritization Criteria.

I would propose minor editing to reflect the fact that "research synthesis" is a scientific endeavor in its own right. Therefore, the first sentence should perhaps better read as: "Comparative effectiveness research is the conduct of systematic research synthesis comparing different interventions and strategies to prevent, diagnose, treat and monitor health conditions."

I would also suggest that the last sentence be expanded just a bit to provide unequivocal information as to "how" the purpose of comparative effectiveness research is obtained. The last sentence could read: "This research necessitates the development, expansion, and use of a variety of data sources and methods to assess comparative effectiveness by means of systematic reviews of the evidence, and acceptable sampling and meta-analysis of the best available evidence."

Furthermore, and pertaining to the criteria (Threshold Minimal AND Prioritization), it seems to me that mention should be made of the ultimate goals of comparative effectiveness research, that is to improve both treatment interventions and policies in light of optimal benefit with minimal costs & risks. As it now stands, neither are mentioned in the list of priorities.

Lastly, I wish to express that I am honored to be part of this critical and timely discussion.

Submitted by
Ron Keren
CHOP/UPenn
keren@email.chop.edu

Comment Type: *Definition*

Another Prioritization Criteria that should be considered is the degree to which there is variability in practices for managing a condition proposed for study, and the degree to which that variability drives excess cost without any demonstrated improvement in outcome (value).

Submitted by
Carmella Bocchino
America's Health Insurance Plans
cbocchino@ahip.org

Comment Type: *Definition*

America s Health Insurance Plans (AHIP) appreciates the opportunity to share its member companies perspectives on the proposed definition for comparative effectiveness research (CER) and the strategic framework for such research. AHIP is the national trade association representing approximately 1,300 health insurance plans that provide coverage to more than 200 million Americans. Our members offer a broad range of products in the commercial marketplace including health, long-term care, dental, disability, and supplemental coverage and also have a long history of participation in public programs.

Proposed CER Definition
Comparative effectiveness research, both through the conduct of original research and synthesis of existing studies, compares treatment, drugs, devices, or procedures and evaluates the benefits and risks of different treatment options for different medical conditions across different patient populations.

The information generated from this research would be made available to clinicians, payers, innovators and most importantly to consumers, to aid in decision-making and selecting therapies.

AHIP Statements on Comparative Effectiveness Research
Unfortunately, there continues to be major gaps in care for diverse populations, many of which have not been part of the traditional clinical research model. Our members support the direction of this definition and offer additional comments to clarify both scope and depth. Therefore, there needs to be a better understanding of these populations and how their culture, race, and ethnicity impact access to care and acceptance of treatment interventions. The development of comparative effectiveness information should focus on both broad and specific sub-populations, to balance the needs of culturally diverse populations.

If we are to change clinical practice, we need to build a sustainable infrastructure not only for robust scientific evidence but for disseminating reliable comparative information to clinicians that can be easily translated into care and discussed with patients at the point of care. While health plans and physicians groups have created disease registries, observational databases and decision-support tools to inform decision-making, much more needs to be done.

Submitted by
Carmella Bocchino
America's Health Insurance Plans
cbocchino@ahip.org

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health plans and physicians groups have created disease registries, observational databases and decision-support tools to inform decision-making, much more needs to be done.

Submitted by
Richard I. Smith
Senior Vice President, Policy
Advanced Medical Technology Association (AdvaMed)
tlee@advamed.org

Comment Type: *Definition*
AdvaMed recommends that the purpose of the research in the definition of CER be made consistent with the purpose statement in the draft strategic framework. The current draft definition s purpose statement is vague as to who decision-makers are. By contrast, the draft strategic framework states that the research is to inform health care decision-making by patients, clinicians, and others in the clinical and public health communities. AdvaMed supports articulating a purpose that makes clear that the generation of comparative effectiveness research is intended to assist patients, physicians and other health care professionals. Consequently, AdvaMed recommends replacing the second sentence of the draft definition with the following:

The purpose of this research is to inform health care decision-making by patients, clinicians and other health care professionals, responding to their expressed needs, about which interventions are most effective for which patients under specific circumstances.

Submitted by
Charles Branas
University of Pennsylvania
cbranas@upenn.edu

Comment Type: *Definition*

In the Draft Definition of Comparative Effectiveness Research for the Federal Coordinating Council the following sentence appears: "Defined interventions compared may include medications, procedures, medical and assistive devices and technologies, behavioral change strategies, and delivery system interventions." This sentence makes no mention of comparing the effectiveness of different approaches to broadly organizing medical care for an entire region. Regionalization has been very successfully done with specialty trauma care and trauma centers, whose patients experience a significant 25% reduction in mortality because of better regional triage and medical system organization (see Branas CC, et al. Access to trauma centers in the

United States. JAMA 2005;293(21):2626-33 and MacKenzie EJ, et al. A national evaluation of the effect of trauma-center care on mortality. N Engl J Med 2006;354(4):366-78). The same successes are also possible for many other types of medical specialty care in the US (see for instance Kahn JM, et al. Regionalization of medical critical care: what can we learn from the trauma experience? Crit Care Med 2008 Nov;36(11):3085-8). These broad, system-wide regionalization strategies that change the fundamental ways in which patients access medical care hold perhaps the greatest promise in improving health and outcomes.

As such, I am requesting that the aforementioned sentence be change to: "Defined interventions compared may include medications, procedures, medical and assistive devices and technologies, behavioral change strategies, delivery system interventions, and regionalization strategies." Thank you for your consideration.

Charles C. Branas, PhD
Associate Professor of Epidemiology
University of Pennsylvania School of Medicine
Room 936 Blockley Hall
Philadelphia, PA 19104 USA
(215) 573-5381

Submitted by
Carol Sakala
Childbirth Connection
sakala@childbirthconnection.org

Comment Type: *Definition*

Thank you for the important work done to date on the nation's CER program. My organization has since 1999 carried out a national long-term program to promote evidence-based maternity care. Based on our considerable experience, we feel strongly that the purpose of Comparative Effectiveness Research in the federal definition must include examination of comparative benefits *and* comparative harms. For example if A and B are equivalent in expected effectiveness for an outcome of interest or A is slightly superior, but A is also associated with increased risk of serious morbidity, many decision makers would be concerned about selecting A.

There is extensive evidence that patients/consumers want to know most or all known harms before making key decisions. Further, when available, information about harms often impacts their decision making. When notable risk of harm is known to be involved in an intervention, many prefer less invasive options or watchful waiting. By law and within the ethical precepts of leading health care organizations, patients/consumers have the right to know about benefits and harms, and make an informed decision on the basis of this knowledge, their own values, their

care options, and so forth. It is appropriate for the federal definition to support rights to informed decision making and informed refusal.

Many cases studies, such as the story of the widely prescribed Vioxx, suggest that we should try to avoid standard use of interventions prior to adequate investigation of harms as well as benefits. Hasty implementation can endanger the public, waste scarce resources, and undermine the integrity and authority of agencies and organizations.

Harms are underresearched and underreported both in the literature as a whole and in the promotional efforts of industry. Specifically calling out the importance of knowledge about comparative harms of interventions in the CER definition would provide an important opportunity to help correct this pervasive bias and improve health care decision making for all stakeholders.

Thank you for considering these concerns.

Submitted by
Michael Pavalock
Department of Veterans Affairs
michael.pavalock@va.gov

Comment Type: *Definition*

CER Council members,

As Comparative Effectiveness Research is building, its order demands intellectual integrity and its strength will rely upon the collective awareness of many. I applaud the opportunity for constructive feedback and input.

If I were to offer a pedantic suggestion, I would suggest a closer look at the second sentence. Responding to their expressed needs continues to seem awkward to me.

Food for thought here& what if the need is not expressed? For example:

Only minutes ago reviewing data from Analysis of VA Health Care Utilization Among US Southwest Asian War Veterans, VHA Office of Public Health and Environmental Hazards (August 2006) it shows the highest percentage diagnosis of returning Iraq and Afghanistan Veterans is 41.7% - Diseases of Musculoskeletal System/Connective System.

This information shows a need yet it s not expressed. Would it still fit into the definintion?

I ask because with musculoskeletal disorders ranking highest in returning Veterans and national concerns of opioid usages coupled with chronic pain prevalence, this issue has become a high

priority. As one of less than 20 DCs in the entire Dept of Veterans Affairs, and as a musculoskeletal expert and chronic pain manager, the demand of service far out weighs the supply. I see where CER would be feasible and effective in identifying the potential impact of not meeting with demand of service by DCs.

Submitted by
Geoffrey Mumford
American Psychological Association
gmumford@apa.org

Comment Type: *Definition*

The American Psychological Association (APA) is writing to provide comment on the draft definition of comparative effectiveness research (CER). Within a list of defined interventions the draft definition indicates that those interventions may include &behavioral change strategies& APA would prefer replacing behavioral change with psychological, psychosocial, and behavioral to provide a more comprehensive description of the interventions research. In addition we recommend that the CER definition include implementation studies and that the Prioritization Criteria also include implementation potential. Thank you for your consideration of our recommendations.

Submitted by
Tina Grande
Healthcare Leadership Council
tgrande@hlc.org

Comment Type: *Definition*

HLC Comment on Draft Definition

The Healthcare Leadership Council (HLC) agrees that the primary purpose of comparative effectiveness research should be the creation of new knowledge to inform patients and their health care providers and empower them to make smarter decisions to the maximum benefit of the patients health, quality of life, and general livelihood. Where this goal can be reached by

synthesizing, within tested and proven methodologies for doing so, existing sources of knowledge, it makes sense to do so.

As the definition implies, no two patients are identical in all respects, and therefore this research should be a useful tool, not a yes or no determinant, in guiding health care decisions. We therefore agree that comparative effectiveness research must consider potential differences among diverse patient populations. As medicine becomes more individualized, assessments should recognize that various interventions may work for specific subgroups of the population but not for others, based on genetic variability and other factors. Thus, research must be flexibly designed to target smaller populations with certain characteristics, and the definition should reflect that.

We respectfully ask that effectiveness be further clarified within this definition. In order to be truly patient-centered, it may be necessary to include, beyond medical efficacy, other outcomes in this research. Comparative effectiveness assessments could involve, whenever possible, considerations about quality of life, functional status, economic productivity, and other factors that are important to patients, providers, and society.

HLC also agrees that beyond simply comparing product A vs. product B, properly designed comparative effectiveness research should assess a wide variety of interventions. We agree that delivery system design and patient behaviors, which are usually two very important determinants of health outcomes, should be included for study. In this way, the definition suggests that this research should examine the entire health system, not just a specific sector, which we feel is the correct approach.

We respectfully suggest that the definition should also provide that this type of research, in order to maintain its objectivity and validity, will necessitate that data sources be both timely and accurate. Further, studies will need to be both transparent and periodically reassessed to ensure patients have proper authority on new and emerging interventions and strategies to improve health outcomes.

Submitted by
Alan Gambrell
Consultant
gambrell@aol.com

Comment Type: *Definition*

SUGGESTED REVISION
Comparative effectiveness research examines the relative efficacy of different interventions and strategies to prevent, diagnose, treat and monitor health conditions. This type of research entails use of various data sources/methods; compares an array of interventions (e.g., medications,

procedures, medical and assistive devices and technologies, behavioral change strategies, delivery systems); and assesses resulting health-related outcomes for diverse patient populations.

COMMENTS ABOUT DRAFT DEFINITION

* It is too long.

* This phrase s meaning is unclear: responding to their expressed needs.

* This phrase is overly descriptive and cumbersome: conduct and synthesis of systematic research.

* This phrase seems to be expanding upon a sub-issue (varied data methods) that is not central to the task at hand figuring out what medical procedures are most efficacious - This research necessitates the development, expansion, and use of a variety of:.

* This phrase can be dropped as it s reallynot necessary (i.e., to inform patients, providers, and decision-makers). We can assume that the purpose of the research is to inform for purposes of efficacy for use by many parties.

Submitted by
Susan Snyder
CDC
ssnyder@cdc.gov

Comment Type: *Definition*

Include "testing" in the second to last sentence of the definition following "Defined interventions compared may include."

"Testing" is certainly consistent with all of the applications stated in the text of the first sentence of the definition concerning "comparing different interventions and strategies to prevent, diagnose, treat and monitor health conditions." Much testing and its results are used to support clinical care that is unnecessary, ineffective and even harmful, thus providing an excellent opportunity for comparative effectiveness research.

Submitted by
Linda Emanuel
Northwestern University Feinberg School of Medicine
l-emanuel@northwestern.edu

Comment Type: *Definition*

The notion of cost-warranted care should be included in cost effectiveness definitions and research.

That is, the cost should be warranted by considerations such as the patient's goals for care.

Effectiveness can be defined to include the patient perspective, but it should be more explicit that currently the case.

Thank you for inviting feedback.

Submitted by
STANLEY WISHNER MD FACC
SWISHNERMD@AOL.COM

Comment Type: *General Comment*

Studies comparing new rx. Against placebo is poor science, poor economics , and poor medicine;this is especially true of "me too" drugs in any therapeutic classes.

One potential harm however is the tendency to make "guidelines" the "standard" of care and limit individual physician tailoring therapy to the individual patient!the ultimate inclusion of drugs in any plan's "formulary" is often so restrictive that some truly best drugs based on research papers is often denied as "not approved".

A weakness is the absence of of qualified MDs as the providers of authorization of drugs requiring "prior authorization";these decisions are usually made by nurses,clerks with protocls,or retired general or even pediatric mds ruling on sophisticated medical judgements that would be better made by aqualified specialist withou incentive to be reimbursed a % of revenue created by thei "senials".

Submitted by
Phoebe Cottingham
Institute of Education Sciences
phoebe.cottingham@ed.gov

Comment Type: *General Comment*

The general statement regarding "comparative effectiveness research" is devoid of serious content. For those who know the existing systems of systematic reviews of evidence regarding medical treatments, interventions, etc., that hold to clinical trial standards of evidence, it appears

the intent is to introduce low-level, non-scientific "standards", that if applies seriously would produce ineffective investments or consumption of treatment and mislead the American public. In short, there is nothing here to comment on.

Submitted by
Elena Casas
Advocate for the Community
ecstats15@yahoo.com

Comment Type: *General Comment*

I just want to make a general comment regarding the form. I am submitting the registration form and you will notice I am not part of any organization. I hope I do qualify to be part of the Federal Coordinating Council for the Comparative Effectiveness Research project. I have many years of experience working with state and federal programs.

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Submitted by
Richard I. Smith

Senior Vice President, Policy
American Occupational Therapy Association
slin@aota.org

Comment Type: *General Comment*

Statement of Susan H. Lin, ScD, OTR/L
Director of Research, American Occupational Therapy Association
Submitted to the Federal Coordinating Council on
Comparative Effectiveness Research
May 29, 2009

Thank you for this opportunity to provide comments on behalf of the American Occupational Therapy Association regarding the priorities for comparative effectiveness research. AOTA, representing the interests of over 140,000 occupational therapists, occupational therapy assistants and students of occupational therapy, is concerned about the health, active engagement in daily activities, and participation of all individuals. .
Comparative effectiveness research plays a critical role for health professionals, policy-makers, and consumers. However, comparative effectiveness research should be conducted beyond primary care settings, because important health care questions need to be answered in rehabilitation, long-term care, and community settings as well. Occupational therapy practitioners work with infants and elderly, in schools, homes, nursing facilities and hospitals. We strive to improve people s abilities to perform the daily activities that are most meaningful to them, thus improving their functional activities and quality of life. Occupational therapy enables Living Life To Its Fullest; and research has shown that occupational therapy, by improving life, can positively affect health outcomes and costs (Hay et al., 2002).

AOTA has completed systematic reviews on Occupational Therapy and children and adolescents with autism, children with behavioral and psychosocial needs, adults with stroke, driving and community mobility for older adults, adults with Alzheimer s disease, and children and adolescents with sensory processing/sensory integrative disorders. However, more reviews are needed to examine the evidence for different health conditions in different health care settings. Additionally, resources are needed to disseminate and promote use of evidence at the point of care, especially in rehabilitation, which can vary among inpatient, outpatient, home, and community settings.

Dr. Carolyn Clancy, Director of AHRQ underscored the need to focus on patients with multiple chronic illnesses, a group of people for whom we spend the most money and provide the worst care (Clancy, 2008). The diagnoses of autism, stroke, and dementia are often chronic, requiring multiple interventions, including occupational therapy services. Research is needed to determine the optimal dose, frequency, duration and type of occupational therapy interventions for individuals with conditions such as autism, stroke, and Alzheimer s. Such research would aid occupational therapy practitioners to deliver services efficiently and effectively, which is especially important in the context of the current economic climate and the workforce shortage

that we are experiencing in occupational therapy. The following studies are examples of research that is needed based upon AOTA s systematic reviews.

Autism

Research Question: Is behavioral intervention with occupational therapy intervention more effective than behavioral intervention (without occupational therapy) to improve the performance of daily tasks and participation in school, home, and community in children diagnosed with autistic spectrum disorders (ASD)?

Justification: Behavioral interventions are commonly used to treat autism, but given the high prevalence of sensory issues in children with Autistic Spectrum Disorders (ASD), this approach fails to address what are believed to be underlying reasons for these children s behaviors: i.e., problems with processing sensory information. Occupational therapists can assess and treat sensory processing problems that negatively influence children s behaviors and daily performance. They also can modify environments (e.g., reduce sensory overload) and tasks so that children can perform them as independently and functionally as possible, whether the task is dressing or completing a class assignment.

Stroke

Research Question: Does rehabilitation with special focus on cognition for functional activities result in better outcomes, long-term recovery, increased productivity, and greater participation in the community, compared to standard rehabilitative care? And does greater cognitive rehabilitation emphasis result in any cost savings over the long-term recovery of individuals who have had a stroke?

Justification:
Each year, 795,000 people have a stroke in the United States, and stroke is the third leading cause of death. Early interventions and rehabilitation post-stroke are crucial to better functional outcomes. And yet, there are variability in the rehabilitation treatment approaches, depending upon professionals knowledge of the literature, rehabilitation equipment and staffing availability, and even reimbursement policies. Thus, funding for CER should address knowledge translation or knowledge transfer, or else valid effective interventions will not be utilized and patients potential for better functioning could be unnecessarily limited.
Research suggests that cognition is a mediator of functional outcomes in stroke rehabilitation, but more studies are needed to compare outcomes of rehabilitative approaches. Concurrently, these studies should measure use of health care services and its associated costs, so that we can compare interventions not only in terms of outcomes but costs as well.

Dementia

Research Question: Are intervention programs that facilitate routines and environmental cueing, as provided under the supervision of an occupational therapist and under an occupational therapy plan of care, more effective than standard care to improve the performance of daily

activities (e.g., toileting, sleeping, taking medications) in people with dementia? And does the improvement help promote health for caregivers?

Justification: Research suggests that routines are beneficial to performance of daily occupations (e.g., sleep) in people with early dementia. While some studies have examined the intervention of routines on behavior and performance, few studies have investigated the effect of routines and environmental cues on performance of activities of daily living (e.g., toileting, sleeping,) and mortality. If the maintenance of daily routines and provision of environmental cues provide purposeful and meaningful activity throughout the day, people with dementia could live longer, have fewer health problems and higher quality of life, which could decrease the stress of caregivers and lower costs.

Summary

Occupational therapy promotes the performance of daily activities and participation of individuals who have illnesses or injuries that limit their daily performance and participation in society. We have recommended specific CER studies for autism, stroke, and dementia, but occupational therapy practitioners work with people of all ages, across educational, business, and health care settings. Further research is needed to identify the most effective and efficient occupational therapy interventions, especially in rehabilitative settings and other contexts in which individuals with chronic illnesses are served.

The American Occupational Therapy Association greatly appreciates this opportunity to comment and looks forward to forming partnerships with other organizations to promote the health, productive living, and quality of life of all individuals.

Submitted by
Bill Springer
University of Rhode Island
wspringer@mail.uri.edu

Comment Type: *General Comment*

I have some concerns about the FCC's ability to operate independently of Congressional intervention should they rule adversely towards a mode of treatment backed by financially and politically connected interests. Health care is very big business and the players protect their revenue streams fiercely.

Towards this end, I think that the FCC should try to work with Congress to avoid the equivalent of "line item veto" interventions. One approach that I favor is to present the FCC findings and recommendations to Congress not on an individual study basis, but in the aggregate each year, asking Congress to vote up or down on the entire body of work rather than specific findings relative to a single treatment modality.

The FCC's main objective over the next several years has to be survival and credibility. Good luck in achieving this direction.

Submitted by
Jim Gartner
Ingenix Consulting
jim.gartner@ingenixconsulting.com

Comment Type: *General Comment*

As I review information about Comparative Effective Research, I am excited to hear about the emphasis given on driving Medication Therapy Management. It is great to see that MTM has become a greater requirement within our Medicare Part D programs for 2010 and I see it rapidly expanding. Given that, I feel that you should strongly consider either adding a Phamacist to your Council to help provide guidance in the area of MTM or seek input from pharmacists engaged in that area. As a pharmacist with a strong interest in this area, I feel this is something that should be considered and would consider being an expert in the area if needed.

Submitted by
Robert Cihak
rjcihak@gmail.com

Comment Type: *General Comment*

Maintain perspective.

In particular, remember that patients, their needs and their options change continually, as do the insights, discoveries and innovations of medical and clinical science.

In other words, any results of this research will be outdated long before publication.

Therefore, mandatory obedience, such as by putting any results into legislative or regulatory concrete, is doomed to be counterproductive and very often harmful.

Submitted by
Mary Pendergast
Pendergast Consulting
marykpendergast@aol.com

Comment Type: *General Comment*

The Food and Drug Administration currently takes the position that no pharmaceutical, biological, or medical device company may make any statement regarding the comparative effectiveness of its product to any other product until the company has conducted one or more head-to-head clincal trials of the two products and FDA has approved the "claim." Few entities, including AHRQ, hold themselves to that high a standard of evidence for making a comparative effectiveness evaluation. If the US Government or private entities conduct comparative effectiveness studies or analyses, or issue reports on the comparative effectiveness of an FDA-approved medical product using standards less strict than FDAs, then a medical product company may find itself in a position where its product is criticized as less effective, but the company would not be able to respond using the same type of data or analyses. Rather, the company would have to conduct large, long, expensive head-to-head clinical trials to respond to the comparative effectiveness report. It seems to me that there has to be a consistent standard for the conduct, analysis, and reporting of comparative effectiveness research for both the US government, private organizations, and companies so that everyone can speak using the same standards of proof. Simply stated, to do otherwise would be unfair.

Submitted by
Susan Bertolino
Change.org
sadness2joy22@aol.com

Comment Type: *General Comment*

We appreciate your support.

Submitted by
C. Michael White
University of Connecticut EPC
cmwhite@harthosp.org

Comment Type: *General Comment*

I appreciate the work that the council has put into these priorities. I think this is a good framework and wouldn't remove anythingt hat you have written but... I worry that it would miss preclude the use of comparative effectiveness for rare diseases where the data is gathered in collections of small trials or studies and a systematic review (comparative effectiveness review) can really help clarify therapies for people without evidence based therapies. I am thinking about disorders such as vasovagal syncope or connective tissue diseases.

Submitted by
Myles Rosenthal
Health Care Education
rosenthalmyles@yahoo.com

Comment Type: *General Comment*

President Obama and I are committed to changing the Political process by growing an organization Founded on broad of support from ordinary Americans. This organization is about the people's interests ahead of the special interests,but to do that,Barack needs help from people like you and me. I've set my own personal fundraising goal for the organization,which you can see in the thermoneter on the website: {http://my.barackobama.com/page/outreach/view/main/rosenthalmyles}.

Submitted by
Christina Campbell
Private Citizen
ccc215@gmail.com

Comment Type: *General Comment*

Given the wasteful spending in our health care system, it is more important than ever to engage in robust research on what treatments work and what do not. Doing so empowers doctors and patients, and helps make our practice of medicine more evidence-based. Having read your definition, I am relieved to say I heartily agree with it.

Submitted by
Syreeta Batiste
syreeta_batiste@yahoo.com

Comment Type: *General Comment*

Hello,

The Federal Coordinating Council For Comparative Effectiveness Research will help Congress realize that different Health Care Reform policies can either assist or harm people, who are in need of medical insurance.

Sincerely,
Syreeta Batiste

Submitted by
Tom Gadient
member of AMA
tmgadient@yahoo.com

Comment Type: *General Comment*

This needs skills and authorities already found in American College of Wurgeons, American of Academy Science, FDA, DEA, and HHS.

Submitted by
Timothy Foley
Change.org
tim@commanderfoley.com

Comment Type: *General Comment*

Given the wasteful spending in our health care system, it is more important than ever to engage in robust research on what treatments work and what do not. Having read your definition, I am relieved to say I heartily agree with it.

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Submitted by
Timothy Foley
Change.org
tim@commanderfoley.com

Comment Type: *General Comment*

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Submitted by
Richard I. Smith
Senior Vice President, Policy
Frederick Memorial Hospital
Dquirke@fmh.org

Comment Type: *General Comment*
Inclusion of allergy data and possibly immunization data would be helpful also I believe.

Submitted by
Manuela Rodrigues
Change.org
manuela.in.wonderland@gmail.com

Comment Type: *General Comment*

Given the wasteful spending in our health care system, it is more important than ever to engage in robust research on what treatments work and what do not. Doing so empowers doctors and patients, and helps make our practice of medicine more evidence-based. Having read your definition, I am relieved to say I heartily agree with it.

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Submitted by
Rox Fowlie
change.org
nluvwBiLL@hotmail.com

Comment Type: *General Comment*

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Submitted by
roxie schliesman
change.org
snookies_ou812@msn.com

Comment Type: *General Comment*

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Submitted by
Matt Milholland
SD
MattMilholland@yahoo.com

Comment Type: *General Comment*

Thank you for supporting comparative effectiveness research.

Submitted by
Ron Keren
CHOP/UPenn
keren@email.chop.edu

Comment Type: *General Comment*

To date very little has been written about the need to use CE research to enhance our evidence base for interventions targeted at children. This is disappointing as the evidence base for managing pediatric conditions is appallingly weak, particularly for children with complex chronic conditions, who place a disproportionate financial burden on the healthcare system. Resources from ARRA should be specifically targeted at studying best practices in the management of children's health, both for high volume common pediatric conditions (screening, common infections, mental health) as well as less common but high morbidity/cost conditions (prematurity and its sequelae, neurological disorders, congenital syndromes, congenital heart disease). Research networks will be required to study many of the less common conditions, and money should be dedicated to funding such collaborative research networks. Success in understanding and then implementing best practices through collaborative networks has been demonstrated in cystic fibrosis, which could serve as a model for other relatively uncommon but high morbidity/cost pediatric conditions.

Submitted by
Michael Westrich
Starvin Marvin Recycling
mtwestrich@earthlink.net

Comment Type: *General Comment*

I use naturopathic drugs and am feeling good these daus after wasting $35,000 trying to diagnose cause and not treat cause.

Submitted by
Tamzin Rosenwasser
AAPS
juperbeatrix@aol.com

Comment Type: *General Comment*

None of this bureacracy was around during the nineteenth and twentieth centuries when American physicians put this nation at the very cutting edge of surgical techniques, pharmaceuticals, and innovations of every other kind. It is precisely what we do not need.

It sounds like something out of the old Soviet Union.

Our nation has excellent medical care. When we measure infant mortality, we measure every infant with signs of life, whereas other nations inflate their numbers by NOT doing so- in some cases the child has to live 3 days to be counted a live birth.

We have excellent lifespans when violence is deleted; physicians cannot control the social pathologies involved in violence.

We have much better cancer survival statistics than other industrialized nations.

What we DO NOT need is more government interference in medical care. The more there is, the worse things become. I have seen that very clearly in 27 years of practice, including 8 years emergency room experience in a big city hospital, which went broke because of Medicare and Medicaid.

Let's see this "Comparative Effectiveness " stuff adapted for Congress and the Executive and Judicial branches before we further cripple the nation's physicians with it. Those physicians are getting fed up.

What is needed is a return to true insurance to protect against big losses, not pre-paid medical care in which every cut and sore throat is run through a gigantic, costly bureaucracy.

Submitted by
lauren serven
PDA
ls072456@aol.com

Comment Type: *General Comment*

CER will be an important component in any reform measure. Hopefully, the agency will, remain true to it's mission and protect the public from those who wish to manipulate medical markets for their personal gain.

As the Administration's efforts towards reform proceed over the next several weeks, it is my hope that ALL proposals be considered, ie, Single Payer Medicare for All. Failure of this Administration to enact true reform for the American people will result in a weakening, not only of our economy, but the very fiber that holds our democracy together.

Submitted by
Ida Sim
ida.sim@ucsf.edu

Comment Type: *General Comment*

I note the following statement in the draft CER definition:"This research necessitates the development, expansion, and use of a variety of data sources and methods to assess comparative effectiveness."

I implore the council to set aside proportionate funds to build the methods and informatics base for the scale and quality of comparative effectiveness research that this country needs. In particular, funds should be targeted to ensuring that the design and results of primary comparative effectiveness studies (e.g., interventional and observational studies) are available in standardized computable form, not just in PDF. Such an informatics infrastructure would increase the efficiency and therefore the value of each dollar spent on CER.

Submitted by
ray yar
valley medical center, san jose
royala@pol.net

Comment Type: *General Comment*

Need to educate public more that doctors don't have time to review hundreds of articles and then make the smartest choice avialable. We are drowning in commericials and pharm rep detailing and super expensive medications and treatments are administered due to lack of information. Media likes sensational news, they will make a huge issue of isolated cases where treatment was difficult to get because of this process. The best defense is offense, so more publicity should be given how this will help far more people than hurt them.

Submitted by
Harold Pincus
Columbia University
hap2104@columbia.edu

Comment Type: *General Comment*

Overall, the focus seems to be on conducting specific CER studies on particular clinical topics. Given the early stage of the formalized CER efforts in the US, more priority might be placed on buliding an infrastructure to facilitate CER across topical areas. While priority 5 alludes to this, the language suggests that the broader benefit would be on top of the conduct of a specific study. Thus neither the definition nor the priority statements make explicit reference to infrastructure elements such as: developing new methods for data analysis and modeling, improving the utility of secondary data sets for CER, establishing practice-based research networks,training new investigators in CER, etc.

Submitted by
Harold Pincus
Columbia University
hap2104@columbia.edu

Comment Type: *General Comment*

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Submitted by

Richard I. Smith
Senior Vice President, Policy
individual
solitarydragon77@yahoo.com

Comment Type: *General Comment*
Given the wasteful spending in our health care system, it is more important than ever to engage in robust research on what treatments work and what do not. Doing so empowers doctors and patients, and helps make our practice of medicine more evidence-based. Having read your definition, I am relieved to say I heartily agree with it.

I am particularly glad to see that you have stuck to your evidence-based guns in the face of political pressure and included "cost" as a factor in determining comparative effectiveness. Although it is no means the only factor, I strongly feel that it must be considered where appropriate. I appreciate and applaud you for recognizing that comparative effectiveness research must also look at how much we're paying when treatments are otherwise roughly as effective as one another in terms of health outcomes. Keep up the good work.

Submitted by
Sandra Oliver
Bayer HealthCare LLC
pcurrie@sidley.com

Comment Type: *General Comment*

Dear Council Members,

Bayer HealthCare LLC (Bayer) is pleased to submit the following comments for consideration to the Federal Coordinating Council for Comparative Effectiveness Research (the Council). Bayer appreciates the opportunity to engage in the process by which the Council will develop a national program for coordinating comparative effectiveness research (CER). We believe that CER, if undertaken properly, has the potential to improve clinical outcomes and to improve medical decisions. It is important, however, that CER be conducted appropriately, with the utmost scientific rigor and with all the necessary safeguards in order to ensure that CER does not inadvertently impede patient access to medically appropriate and necessary health care products and services. Without these key elements, CER could harm vulnerable patient subpopulations or

interfere inappropriately with the clinical judgment of health care professionals and their interactions with their patients. Bayer looks forward to the opportunity to contribute to the dialogue between the Council, Congress and other relevant stakeholders in developing comprehensive and effective national CER policies.

For over 100 years, Bayer has been dedicated to the development and production of high-quality drugs, medical devices and biologicals that have helped patients lead healthier lives. Bayer is a worldwide leader, with research and business activities focused on oncology, diagnostic imaging, diabetes care, hematology/cardiology, primary care, specialized therapeutics and women s health care. We are committed to providing patients with high quality, safe products and to ensuring appropriate access to our products.

Bayer supports CER initiatives. However, we remain concerned that the Council will inextricably link cost and clinical evaluations. We strongly believe that cost effectiveness should be separate from CER. Comparative effectiveness will be most successful in changing behaviors if these initiatives are designed to enhance health care practitioners clinical judgment in order to promote patient-centered care. Accordingly, Bayer does not support the proposed CER initiatives that are cost-centric, as we believe that this approach would be unnecessarily contentious and subjective. Further, because there is no consensus as to how to value clinical outcomes, the effect of moving forward now with a cost-focused CER program could impede patient access to treatments without any standards for proper assessment. We fear that a cost-based CER initiative would inevitably lead to a one size fits all solution that would not respect independent health care practitioner clinical judgment and the needs of individual patients and vulnerable patient subpopulations.

As the Council develops CER policies and initiatives, Bayer respectfully urges the Council to consider the following principles:

Informed Medical Decisions: CER should not replace individualized medical decisions with rigid treatment formulas for patient care that do not reflect the needs of individual patients. Health care practitioners must maintain their independent clinical judgment. CER should promote the more effective exercise of that judgment, not seek to eliminate or minimize the value of it. CER should not limit a health care practitioner s medical decisions to a uniform approach. Health care practitioners must be able to continue to evaluate individual factors, subpopulation needs, social and cultural influences, complicating psychological issues and a myriad of other special circumstances which often have a significant impact on care.

Protecting Appropriate Patient Access: Bayer believes that CER can improve the quality and efficacy of health care. However, such research should not be used for coverage decisions by public or private payors. Similarly, CER should not imply or make recommendations to such payors regarding coverage or benefits. To the extent that CER becomes a direct or indirect tool to limit access to care and to ration health care services, it will be rejected by patients and practitioners alike, and it will fail to realize its potential to support appropriate access by educating patients and practitioners.

Inclusive and Transparent Process: Given the Obama Administration s commendable commitment to transparency, we believe that all CER decisions must be developed in a transparent manner. Thus, all assumptions, data, and findings must be made readily available to the public. The public and other interested stakeholders should be permitted to comment on all phases of CER projects, from prioritization of topics through the evaluation phase to the final report. The Council also should hold public forums to allow for stakeholders to provide meaningful input regarding the standards to be used in undertaking CER. Only this kind of complete transparency will permit CER information to be positively viewed by the public. Otherwise, CER will inevitably be viewed with suspicion as a means to surreptitiously ration care. If, however, CER and its limitations are clearly communicated and debated, CER will, we believe, have a pervasive and critical impact on health care.

Accordingly, Bayer urges the Council to ensure that CER is developed through an inclusive and transparent process, which allows for consultation and input from practicing health care practitioners, patients, patient advocacy groups, employers, manufacturers, allied health care professionals, and trade organizations.

Appropriate Oversight: Bayer believes that any government funded CER initiative, whether conducted through existing agencies or a newly formed organization, should be subject to Congressional and executive branch oversight. For example, the Council should, at a minimum, institute a formal mechanism for the appeal of CER findings, hold an annual public meeting to solicit complaints and proposals for improvements, and implement a mechanism to challenge methods and biases, to raise concerns about human subject protection, and address other threats to the integrity of the process. This will ensure that CER is conducted in a manner that is ethical, transparent, scientifically appropriate, and consistent with applicable law.

Evaluating the Circumstances of Clinical Trials: Bayer believes that CER policies should require clinical trials used for CER purposes to accurately reflect real world circumstances. Without such a requirement, there is a potential for CER to lead patients and practitioners in a clinical direction which is inappropriate, ineffective, and potentially unsafe. Accordingly, we strongly urge the Council to review the circumstances under which any evidence is collected to ensure that it is appropriate for consideration in this context.

Interconnectivity: We recommend that the Council require that, wherever appropriate, CER be undertaken in a manner that considers how various interventions work in collaboration with one another. Bayer believes that reviewing interventions in isolation will unnecessarily produce misleading and inaccurate findings.

Evaluations Should Be Promptly Reexamined When New Evidence Is Available: CER policies must recognize the ongoing nature of innovation and that technology, therapeutic treatments and medical devices are constantly evolving. Accordingly, the determination of comparative effectiveness must be considered against the backdrop of this evolution or CER results will not adequately evaluate quality or efficacy. The Council must allow for a mechanism by which prior evaluations are promptly reconsidered in light of new technological advances or additional data. Stakeholders should have the ability to petition for a re-review of a decision based on new

research and/or data that has become available. The Council or the agency responsible for the research should also be required to respond to such petitions within a reasonable time period. In order to be clinically relevant, the Council and the agencies undertaking CER must be prepared to reexamine their findings as new data, technologies, and therapeutic treatments and medical devices become available.

Evaluate the Spectrum of Health Care: To improve patient outcomes, CER should be applied to the full range of factors that influence health care and delivery systems, and not just to pharmaceuticals and medical devices, as is all too often the case under some comparative effectiveness or cost effectiveness systems. This should include, for instance, an analysis of the impact of different types of formularies, insurance benefit designs, institutional service models, health care practitioner services, the use of performance and quality measures, adoption of electronic medical records, greater use of information technology, tools to reduce medical errors, improved discharge planning, and the impact of government payors failure to adequately cover or reimburse medically appropriate services and prevention, compliance, and persistency programs.

Communicating with Practitioners, Payors, Patients and Others: As the Council considers CER priorities, Bayer believes that the Council must communicate clearly with practitioners, payors, patients, patient advocacy groups, and others regarding the limits of CER studies and the appropriate interpretation of the resulting data. The risks of over-interpreting CER are all too real. Findings and preliminary reports should prominently and conspicuously describe any limitations in the data and analysis.

* * *

Bayer strongly believes in patient-centered care and urges the Council to use CER as a mechanism to enhance clinical judgment to promote such care. Only through improved health care practitioner and patient awareness can comparative effectiveness improve health care. We hope that the Council strongly considers our concerns regarding CER initiatives that focus on cost as a factor, as such an approach could seriously compromise patient access to innovative therapies, stifle the exercise of clinical judgment, impede adoption of CER findings, and contribute to the creation of a second-tier level of care for the poor and other vulnerable populations.

We thank the Council for the opportunity to comment on the ongoing development of CER policies and initiatives. We look forward to working with the Council as national CER policies and initiatives are developed.

Submitted by
Pete Zawadzki
Blue Torch Medical Technologies
zawadzki@bluetorchmedical.com

Comment Type: *General Comment*

The importance of standardization seems to be neglected in these definitions. When making a comparison, the standard measures of that analysis have a direct value on the bias in the effectiveness. Providing a statement or reference to standardization may greatly benefit your mission.

Thanks for the opportunity to comment. Our CaverMap device is a unique standard in surgical technique comparative effectiveness, haven been verified in a Phase 2 multi-center randomized clinical study trial in radical prostatectomy.

Submitted by
Bernard Yablin
URMC(retired
Baruch38@yahoo.com

Comment Type: *General Comment*

It is worthwhile to consider some of the studies presented online by the NEJM.

Submitted by
Tom Maxwell
care2.com
aliastom@gmail.com

Comment Type: *General Comment*

Given the wasteful spending in our health care system, it is more important than ever to engage in robust research on what treatments work and what do not. Doing so empowers doctors and patients, and helps make our practice of medicine more evidence-based. Having read your definition, I am relieved to say I heartily agree with it.

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Submitted by
Bernard Yablin
URMCPedsRetired
baruch38@yahoo.com

Comment Type: *General Comment*

1)Validity of screening for colorectal and prostate cancer in nursing home resident populations.2)Management of acute cardiovascular episodes in nursing home populations---criteria for hospitalization

Submitted by
Alan Haggard
n/a
quantumcipher@gmail.com

Comment Type: *General Comment*

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Submitted by
Rachel Groman
American Association of Neurological Surgeons/Congress of Neurological Surgeons/Congress of Neurological Surgeons
rgroman@neurosurgery.org

Comment Type: *General Comment*

Re: Draft Definition, Prioritization Criteria, and Strategic Framework for Comparative Effectiveness Research

Dear Federal Coordinating Council Members,

On behalf of the American Association of Neurological Surgeons (AANS) and the Congress of Neurological Surgeons (CNS), which together represent 4,000 practicing neurosurgeons across the United States, we would like to thank the Federal Coordinating Council for Comparative Effectiveness Research for giving us the opportunity to comment on its draft definition, prioritization criteria, and strategic framework for comparative effectiveness research (CER).

The AANS and CNS recognize that CER can serve as a valuable tool to guide sound clinical decision-making by both patients and physicians. As such, our members are committed to determining what medical treatments work best for their patients and our specialty is taking a variety of steps to ensure that the care neurosurgeons deliver is evidence-based. The AANS and CNS actively participated in previous Council listening sessions and recently presented the Institute of Medicine (IOM) with specific clinical research recommendations focusing on spinal diseases for which there is little high quality clinical research to guide practice. Organized neurosurgery also has a robust practice guidelines development program and recently created a new clinical data registry entity called NeuroPoint Alliance, which is partnering with Outcome Sciences, Inc. to build a database platform for a specialty-wide patient registry that will serve multiple purposes, including Maintenance of Certification, clinical research, pay-for-performance and other quality improvement programs.

The AANS and CNS support a well-designed CER system that is transparent, improves quality, relies on public input, supports continued medical progress, and strengthens physician and patient decision-making while preserving individualized treatment. We greatly appreciate that the Council s definition and framework recognize diverse patient populations and the need to

respond to the expressed needs of both patients and providers. CER programs must account for the unique circumstances of patients and preserve the independent judgment of physicians. However, we request that the Council clarify its intent when it refers to the need for CER to respond to the expressed needs of decision-makers. It is critical that CER focus on communicating research results to patients, providers and other decision-makers, and not on making centralized coverage and payment decisions or recommendations. Without further clarification of this statement, decision-makers could be interpreted as giving the Centers for Medicare and Medicaid Services (CMS) or any other public or private payer the authority to use CER to make coverage and payment decisions.

The AANS and CNS also appreciate that the Council s definition and framework recognize a broad scope of research, including medications, procedures, medical and assistive devices and technologies, behavioral change strategies, and delivery system interventions. However, we encourage the Council to further strengthen the definition so that it indicates that research on each of these interventions focus on all patient subpopulations and not just a few particular patient groups.

We are very pleased that the Council recognizes the need to rely on a variety of data sources and data assessment methodologies. We encourage the Council to specifically consider prospectively obtained outcomes data collected through patient registries, such as the NeuroPoint Alliance, as one example of a data source that can help to better define indications for certain procedures. Directing comparative effectiveness research funds to the creation and/or administration of patient registries, such as the NeuroPoint Alliance, will ultimately result in the production of meaningful data that will help guide clinical decision-making, determine best practices, improve quality, and ultimately lower costs.

While the AANS and CNS support the Prioritization Criteria outlined in the framework, we are concerned that it fails to specify how these priorities should be developed, reviewed and finalized. It is critical that all relevant stakeholders, particularly those who are clinical subject matter experts and provide direct patient care, have a voice in the process through which CER topics are prioritized.

Finally, we request that the Council s definition explicitly state that the purpose of CER is to provide information on clinical effectiveness and patient health outcomes, not cost-effectiveness assessments. CER must not ebb into cost containment, where life or death medical decisions can be based upon the government s financial considerations. The AANS and CNS believe that if CER is carried out in a sound and transparent fashion, it will naturally rid of inefficiencies in our health care system by directing providers and patients to care that is most effective.

Moving forward, we encourage the Council to continue to preserve transparency throughout the many of aspects of the CER process by ensuring that stakeholders have input into research priorities and design and have an equal voice in the governance of a CER entity.

The AANS and CNS appreciate the opportunity to offer these comments, and we look forward to working cooperatively with the Council to develop a fair and meaningful process through which

to compare clinical effectiveness and to ultimately improve patient care. If you have any questions about our comments, please contact Rachel Groman, MPH, 202-628-2072, rgroman@neurosurgery.org

Sincerely,

Troy M. Tippett, MD, President
American Association of Neurological Surgeons

P. David Adelson, MD, President
Congress of Neurological Surgeons

cc: Robert Harbaugh, MD, Chair, AANS/CNS Washington Committee
Dan Resnick, MD, Chair, AANS/CNS Quality Improvement Workgroup

Submitted by
Ulyana Vjugina
American Society of Hematology
uvjugina@hematology.org

Comment Type: *General Comment*

American Society of Hematology
1900 M Street, NW, Suite 200

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P (202) 776-0544
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To: Federal Coordinating Council on Comparative Effectiveness Research

June 10, 2009

The American Society of Hematology (ASH) appreciates the opportunity to comment on Comparative Effectiveness Research (CER) to the Federal Coordinating Council (Council). ASH represents over 16,000 clinicians and scientists committed to the study and treatment of malignant and non-malignant blood and blood-related diseases such as leukemia, lymphoma, sickle cell disease, anemia and hemophilia.

ASH commends the Council for creating a public forum that underscores the importance of input from a broad range of stakeholders interested in priorities for CER. The Council s charge is consistent with ASH s mission to promote the understanding, prevention and treatment of blood disorders, and improve healthcare and patient outcomes with hematologic disease.

ASH believes that timely CER on the following topics will have the highest impact in hematology based on prevalence, disease burden, variability in outcomes in diverse populations and costs of care. Research in these areas has the potential to address the gaps in knowledge and uncertainty within the clinical and public health communities, ultimately leading to improved quality of care, outcomes and cost-effectiveness.

I. Management of Patients with Sickle Cell Disease (SCD).

The survival of children with SCD has improved with early identification of affected infants and enrollment in comprehensive pediatric hematology programs. However, there is a paucity of comparable adult-oriented programs and the growing young adult sickle cell populations face ongoing challenges in obtaining effective and comprehensive care. CER should evaluate health care transition training programs for adolescent patients. Many adult patients do not have access to physicians with expertise in sickle cell disease on an ongoing basis. There is a need to evaluate alternative medical care models for patients in the community setting. Examples include co-management with primary care physicians and utilization of telemedicine.

The few randomized clinical studies that have been performed addressing management of patients with SCD have had high impact on improving outcomes. Observational studies have also had major influence on clinical practice (e.g., treatment of acute chest syndrome). There are opportunities to use CER to identify optimal approaches to encourage the adherence to proven preventive and treatment interventions. Administrative and clinical data sets such as state Medicaid claim and hospital discharge files would provide useful resources to assess current

practices and measure outcomes of interventions. The following topics are examples to be considered:

A. Pain management. The utility of clinical pathways in the outpatient, emergency department, and inpatient settings needs to be addressed. CER analysis of multidisciplinary and multimodality approaches to pain management for patients with SCD compared with conventional pharmacological therapies would provide opportunities to identify treatments resulting in improved patient quality of life and cost-effectiveness.
B. Hydroxyurea therapy. Hydroxyurea therapy is underutilized in the management of symptomatic adult patients. CER can be employed to evaluate programmatic interventions at the patient, provider, and health care system levels to enhance appropriate use of hydroxyurea therapy.
C. Red blood cell transfusions. Guidelines are available for the use of transfusions in the management of sickle cell complications but they are based on limited data. CER can be used to address questions such as the extent of phenotype matching of red cells used for chronic transfusion and techniques of transfusion administration (simple vs. exchange) for specific acute indications.
D. Clinical decision support tools. Adults often receive their care from physicians with few sickle cell patients in their practices (e.g., community based hematology/oncology and primary care physicians). Management of sickle cell-related issues such as hydroxyurea therapy and health maintenance (e.g., screening for pulmonary hypertension, renal disease, ophthalmologic complications) can be challenging in these settings. CER can be employed to address the utility of clinical assessment tools, electronic health record reminder systems, and other approaches to optimizing receipt of appropriate intervention.

II. Specialized Challenges in Thrombosis.

Insertion of inferior vena cava filters (IVCF) is widely performed in patients with, or at risk of, venous thromboembolism. IVCF likely prevent pulmonary embolism (PE) in highly selected patients with acute venous thromboembolism (VTE) who have absolute contraindications to therapeutic dose anticoagulation. However, the majority of IVCF are placed in patients with either no active VTE (prophylactic IVCF) or those with acute VTE who do not have an absolute contraindication to anticoagulation.

However, there is little evidence to guide the use of IVCF. Only one randomized trial has been performed in which patients with acute VTE were randomized to anticoagulation with or without IVCF. The study demonstrated an acute reduction in PE, with no impact on mortality and an increase in VTE over 8 years of follow-up, leading the authors to recommend against routine use of filters in patients who can be anticoagulated. There have been no randomized controlled trials examining the use of retrievable filters or the use of filters for the prevention of pulmonary embolism in patients who do not have acute venous thromboembolism. Evidence-based guidelines have recommended against the use of IVCF for the prevention of pulmonary embolism in patients who do not have acute DVT. Despite this guideline recommendation, the majority of IVCF in the United States are placed for this indication. For example, IVCF use is routine in some trauma centers. This practice occurs despite the fact that insertion of IVCF is

expensive (estimated to cost in excess of US$5000 per use), that IVCF cause otherwise avoidable deep vein thrombosis (at an estimated US$5000 to US$10,000 per event) and that IVCF may provide physicians with an excuse to neglect the administration of a pharmacologic prophylaxis, which is proven to be the most effective and cost-effective treatment for patients at high risk of VTE.

Data on insertion of IVCF should be easily accessible. Indications and complications of their use should be discernible. Comparison of event rates in patients with and without IVCF matched for other co-morbidities should also be available. Such an analysis would likely establish definitively that IVCF use is both more expensive and more toxic than alternate, effective therapies currently recommended by consensus guidelines.

III. Management of Patients with Myelodysplastic Syndrome.

Myelodysplastic syndromes (MDS) affect older adults with a rapidly rising national disease burden owing to the aging of the American population. Patients with MDS have a chronic bone marrow failure disorder often associated with other co-morbidities, and are cared for by primary care and hematology subspecialists. Patients and health care providers must address complications related to the disease process itself that include cytopenia-associated risks for infection or bleeding, the risk for evolution to acute myeloid leukemia (AML), and secondary organ complications arising from red blood cell transfusions and iron overload.

Although evidence-based guidelines provide management pathways for physicians that utilize an array of FDA approved therapeutics, the impact of these costly treatments on the disease natural history and co-morbidities remains largely undefined. Large prospectively randomized therapeutic trials represent the benchmark to define the benefit for most interventions, but size and the ethical challenge of non-treatment arms prohibits such definitive studies. Important insight into the clinical benefit of interventions could be obtained from the analysis of large federal health claims databases such as the Medicare Standard Analytic File. Data from patients diagnosed in a given year can be mined for subsequent billings for acquired co-morbidities such as diabetes mellitus, cardiac and liver complications, survival and red blood cell transfusions.

Given the large size of the database, important insight can be gathered regarding the success of health care delivery strategies in the U.S. that is applicable to the population of patients at large, rather than to those that meet the restrictive eligibility of registration trials. CER comparing usual supportive care versus care by protocol-driven community-based, advanced health practitioners and teams may lead to a reduction of variability of care, costs, and improved quality of life. Examples of CER that would have an impact on care and provide insight as to the cost benefit of treatments include those related to current management practices for iron loading and disease modifying therapies:

1. Does the use of an iron chelator delay or prevent end-organ co-morbidities, or extend survival in lower risk transfusion-dependent patients?
2. If so, what proportion of patients that may benefit have access to such treatment?

3. Using current practice regimens for hypomethylating agents such as azacitidine or decitabine, is there a demonstrable survival benefit or difference in resource utilization in patients with higher risk disease?
4. How often is the use of an erythropoietic stimulating agent (ESA) effective in preventing the need for transfusion in the lower risk MDS population? What is the impact of ESA response on the natural history of low risk MDS?

Information from an analysis of the latter may support prior ASH recommendations to the CMS against the restriction of ESA access to those individuals with the greatest potential for benefit. Such CER analyses would provide critical information as to the best management strategy for the MDS population at large to modify disease natural history, the magnitude of benefit to patients, and cost-effectiveness.

IV. Use of Transfusions.

Transfusion therapy remains essential to the successful treatment of oncologic and hematologic disorders, many surgical procedures, and traumatic injuries. However, the appropriate threshold for transfusions in various clinical situations as well as the appropriate dose of the blood component transfused remains unclear. Modification of blood components by procedures such as irradiation or leukocyte reduction have an important role in improving transfusion safety; however the indications for such procedures are unclear in many patient populations and are applied heterogeneously. The risks of transfusion beyond that of transfusion-transmitted infection and transfusion reaction remain controversial. For example, there continues to be considerable debate about whether transfusion is associated with an increased rate of cardiac morbidity and multiorgan failure. CER comparing outcomes with different red blood cell transfusion thresholds in patients with cardiac disease, hematologic malignancy or surgery will help to most effectively manage a blood supply that frequently must address shortages. A better understanding of adverse outcomes related to transfusion will allow physicians to better weigh the risks and effectiveness of transfusion therapy.

Thank you for the opportunity to submit these comments. Please contact ASH Scientific Affairs Manager, Ulyana Vjugina, PhD, at (202) 776-0544 or uvjugina@hematology.org for any additional information.

Submitted by
Andrew Whitman
andrew.whitman@varian.com

Comment Type: *General Comment*

Varian s Medical Systems is the world s leading manufacturer of medical devices and software for treating cancer and other medical conditions with radiotherapy, radiosurgery, proton therapy, and brachytherapy.

We greatly appreciate the opportunity to comment on HHS s implementation of comparative effectiveness research funds allocated to AHRQ, NIH and the Secretary in the American Recovery and Reinvestment Act of 2009.

Varian supported the inclusion of funding for comparative effectiveness research in the American Recovery and Reinvestment Act of 2009. This funding was an important first step that will bring increased quality and transparency to our health care system.

As we continue to reform our health care system, Varian supports the creation of a non-governmental, independent Comparative Effectiveness Institute comprised of experts in the appropriate medical and academic fields to advise and recommend to Congress and the Centers for Medicare and Medicaid Services the procedures that are effective for treatment. These recommendations will be based on research occurring in government agencies, academia, and the private sector. This research will determine the therapies, treatments and diagnostic procedures that are considered a standard of care and should be available to all Americans. In addition, Varian hopes that Comparative Effectiveness Research will lead to a process that rationalizes treatment alternatives. We would like to offer some specific comments and recommendations on comparative effectiveness as it relates to cancer care, and specifically radiation therapy.

Measuring Outcomes

When comparing the outcome of different cancer therapies, survival is the simplest but not always the key metric for measuring outcomes. For example, when comparing the outcomes for early stage prostate cancer, survival from radical prostatectomy and radiation therapy is similar, so one could contend that the outcomes are the same. However, comparative side effects of the treatments are vastly different. As a result, comparative effectiveness studies need to focus not only on survival as an outcome, but also side effect toxicities. This is also true when comparing radical mastectomy with lumpectomy followed by radiation. Patients will differ widely in their perception of the importance of these side effects.
Some women will be intolerant of losing an entire breast, and some will find it acceptable. When the council compares outcomes from diverse therapies, it will need to accommodate these differences as valid, even though there is no objective standard to compare them.

In addition, outcomes at many small clinics may differ significantly from the outcomes achieved by major research hospitals. When comparing the outcomes of different approaches, the council should not just consider the outcomes of major trials at research institutions, but also the outcome at smaller, lower volume facilities and physicians.

Allowance for the Development of New Technologies

In the case of cancer treatments using radiation therapy, improvements are often made based on input from customers, retrospective studies of the likely causes of poor outcomes, and extensive understanding of the way radiation acts on healthy and diseased organs. Since at times it can take five to ten years to know whether an innovation is clinically effective, physicians use calculated dose distributions and/or imaging techniques as a surrogate to predict improved outcomes. We recommend that the Council develop ways to predict the potential value of new technologies using means other than short term data, and then verify these predictions using long term follow-up studies. In recognition of the fact that new technologies are continually introduced and older ones are modified, the Council should monitor this and allow for comparative effectiveness research to accommodate these developments.

Varian Medical Systems looks forward to working with the Federal Coordinating Council on Comparative Effectiveness and appreciates the opportunity to comment on this important topic.

Submitted by
Andre Williams
Association of Black Cardiologists, Inc
awilliams@abcardio.org

Comment Type: *General Comment*

Patients, doctors and providers with a voice at the table to discuss the future of CER. Moving forward, this is the only way comparative effectiveness will work properly. And when patients come to the table, we must see to it that all patient populations are represented. We will work to ensure that the government includes all people people of color, the elderly and people with disabilities, among others when designing new CER studies. It is only fair that medical innovation and future research benefit the needs of all Americans.

We applaud the Congress for introducing a CER bill that puts patients first. Moreover, we are confident that this approach to new CER will enable patients and healthcare providers of all backgrounds to continue to have access to the best possible care and most accurate information.

The ABC, located in Atlanta, GA, was founded in 1974 to bring special attention to the adverse impact of cardiovascular disease on African Americans. A nonprofit organization, the ABC has an international membership of more than 600 health care professionals. The ABC is dedicated to eliminating the disparities related to cardiovascular disease in all people of color. For more information, call 404-201-6600 or visit www.abcardio.org.

Submitted by

Alexandra Clyde
Medtronic, Inc.
alexandra.clyde@medtronic.com

Comment Type: *General Comment*

Dear Secretary Sebelius and Distinguished Council Members:

Medtronic is the world s leading medical technology company, specializing in implantable therapies that alleviate pain, restore health, and extend life. Our technologies combine advanced therapeutics and diagnostics to assist physicians and patients in the management of chronic conditions such as heart failure, diabetes, Parkinson s disease, and other debilitating illnesses.

Medtronic supports increased investments in comparative effectiveness research (CER) to better inform physicians about treatment options and help patients make decisions about the clinical effectiveness of medical care. We understand the value of using evidence-based approaches to ensure that the right patient receives the right care at the right time, and we are firmly committed to the principles of evidence-based medicine and the continual research and development necessary to support innovative therapies that improve health outcomes for patients and bring value to the healthcare system. Toward that end, our technologies and therapies have withstood rigorous health assessments around the globe.

Medtronic believes that CER should be conducted in a consistent, transparent, and methodologically rigorous manner, allowing input from a broad group of stakeholders at key junctures throughout the topic selection, study design, results interpretation and results dissemination processes. It is clear that broad consensus exists surrounding these principles as evidenced in documents such as the policy options for delivery system reform outlined by the Senate Finance Committee, the Comparative Effectiveness Research Act of 2008 (S.3408), as well as the recently introduced Comparative Effectiveness Research Act of 2009 (H.R.2502)and the Patient-Centered Outcomes Research Act of 2009. This consensus is encouraging as we believe these aspects are critical to ensure that CER findings become a useful and reliable factor in clinical decision-making.

In keeping with the principles outlined above, we offer comments on the following questions outlined in the April 10, 2009 Federal Register notice:

" What information on the Coordinating Council s activities would be most useful?

In order to ensure an appropriate level of transparency the Council should post the following information on a public website:

?A schedule of all meetings the Council is planning over the next year;
?A draft and final list of recommended areas for investment, including the rationale the Council used to identify them;

?A draft of the June 30 report to Congress and Secretary of HHS and solicitation of public comment on this report;
?Drafts of all government-sponsored CER and solicitation of public comment at critical intervals in the process (topic selection and prioritization, draft key questions, study design, and draft report); and
?All public comments the Council receives on its activities and its publications, as well as its responses to these comments;

"What steps should the Coordinating Council consider to help ensure that public-and private-sector efforts in the area of CER are mutually supportive?

Medtronic appreciates the Council s efforts in coordinating public listening sessions to gather input from a broad range of stakeholders. While the listening sessions provide a basic forum for public input, as was emphasized in a number of instances at these sessions, there should be more formal opportunities for broader levels of stakeholder input.

A broad set of stakeholders should be continually consulted to ensure that CER and its findings are relevant to the needs of patients and clinicians. To support this, all public and private agencies receiving American Recovery and Reinvestment Act (ARRA) funds to conduct CER should adhere to the following standards for stakeholder engagement:

?Establishment of a 30-day public comment period on the topic selection, draft key questions, study design, and draft report
?Public posting of comments received, including information on how those comments will be addressed

In addition, the Council should recommend a process to ensure that HHS contracting agencies conducting comparative effectiveness research will follow the methodological standards and processes (e.g., posting reports for public comment, etc.) determined by the Council. We suggest that the Council recommend processes for monitoring and enforcing adherence of the agencies to these standards and processes.

"What types of investments in infrastructure for CER should the Coordinating Council consider?

It is critical that the Council develop and periodically update methodological standards (and procedures for the use of such standards) regarding outcomes measures, risk adjustment, statistical protocols, evaluation of evidence, and conduct of research to ensure accurate and scientifically based CER.

When developing the methodological standards to guide for CER, Medtronic recommends the following:

?Include patient advocates, professional societies, practicing clinicians, leading academic researchers, and industry representatives, in the development of these standards.

?Interventions should be studied in a comprehensive fashion and research should be tailored to the specific intervention being evaluated.
?All study limitations and limitations of the underlying data should be disclosed in the research report in order to prevent confusion and potential misinterpretation by users. All agencies generating research reports appropriately communicate limitations and consider including a formal peer-review of the draft research report in order to ensure that the research limitations have been appropriately disclosed.
?The methodological standards should include a detailed discussion of the research challenges posed by device-related studies and recommendations for how to account for these challenges in the CER methodology. This discussion should include the challenges of randomization and blinding in devices-related studies and the importance of considering the effect of device implant training and experience of the physicians on clinical outcomes.

Medtronic commends the Council for its efforts to coordinate and guide the increased investment in CER. We appreciate the opportunity to provide these comments. If you have any questions related to these comments, please contact me at 763.505.2660 or at alexandra.clyde@medtronic.com .

Sincerely,

Alexandra T. Clyde

Submitted by
Alexandra Clyde
Medtronic, Inc.
alexandra.clyde@medtronic.com

Comment Type: *General Comment*

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Medtronic commends the Council for its efforts to coordinate and guide the increased investment in CER. We appreciate the opportunity to provide these comments. If you have any questions related to these comments, please contact me at 763.505.2660 or at alexandra.clyde@medtronic.com .

Submitted by
Richard I. Smith
Senior Vice President, Policy
Institute for the Advancement of Social Work Research
jzlotnik@naswdc.org

Comment Type: *General Comment*

The Institute for the Advancement of Social Work Research offers the following comments on the Definition and Framework. If you need additional information, we will be pleased to provide it, as Comparative Effectiveness Research must deal with the complexity of not only the individual needs of those requiring health care services, but also the complexity and diversity of service delivery system(s) themselves.

The Institute for the Advancement of Social Work Research (IASWR) would like to commend the Council for its work in providing a broad definition of Comparative Effectiveness Research (CER). As stated in the draft definition, CER is not only an important piece in helping doctors and patients identify the best strategies for treating certain conditions, but it also goes beyond the bounds of physical health. It is valuable to the field and to consumers, to see a definition that encompasses vulnerable and underserved populations, behavioral change strategies, and delivery system interventions. However, these are complex areas that will require sophisticated and multi-method CER research efforts.

CER needs to be at the forefront in increasing our understanding of how to best meet the health, mental health and psychosocial needs of underserved populations. In a report released on June 9, 2009, HHS Secretary Sebelius reported that:

" Forty-eight percent of all African Americans adults suffer from a chronic disease compared to 39 percent of the general population.
" Eight percent of white Americans develop diabetes while 15 percent of African Americans, 14 percent of Hispanics, and 18 percent of American Indians develop diabetes.
" Hispanics were one-third less likely to be counseled on obesity than were whites -- only 44 percent of Hispanics received counseling.
" African Americans are 15 percent more likely to be obese than whites.

These statistics are not just a snapshot, but a clear picture of the wide array of conditions facing different populations, many of which are vulnerable or underserved. CER strategies must ensure attention to these populations and study mechanisms for receiving adequate and efficient health care.

As highlighted in the definition, assumptions and framework, underserved and vulnerable populations are a priority of CER. This then requires that there be planning to determine studies across and within populations, to fully understand diversity and health disparities. For example, one cannot categorize all Asian populations or African American populations but rather must take into account genetic history, socio-economic and education status health literacy, economic self-sufficiency, access to health care services and health, mental health and psychosocial status.

That discussion cannot focus on medical conditions alone, but must also look at the intersection of medical, psychosocial, and mental health, community supports and the organization and availability of relevant health care services.
The provision of services provided to patients is just as vital as the patients themselves. Within the Prioritization Criteria Section there needs to be greater clarification in the third criterion which states:
Uncertainty within the clinical and public health communities regarding management decisions.
From this criterion, it is unclear whether the statement refers to mismanagement of services being provided or something different.
In addition to comparing different interventions and strategies to prevent, diagnose, treat and monitor health conditions, CER also needs to include service systems in those comparisons. Without effective service systems, it does not matter how effective the treatment may prove to be. IASWR welcomes the opportunity to work with the Council and with HHS on furthering the utility of Comparative Effectiveness Research, especially in working with individuals and families with complex and co-occurring needs.
The Council also should be commended for recognizing the importance of capacity building related to CER, in regard to both researcher training and methodology. Social work researchers, working in communities, using quantitative, qualitative and action research methodologies can contribute to and also benefit from such capacity development efforts
Once again thank you to the Council for all of its hard work on CER.

Submitted by
Les Paul
National Pharmaceutical Council
lpaul@npcnow.org

Comment Type: *General Comment*

On behalf of the National Pharmaceutical Council (NPC), thank you for the opportunity to comment on the draft comparative effectiveness research (CER) definition, prioritization criteria, and the proposed strategic framework that was developed by the Federal Coordinating Council on Comparative Effectiveness Research (FCCCER). The definition, prioritization criteria, and the strategic framework for CER can play an important role in improving patient health outcomes, and we congratulate the FCCCER on this critical effort.

About the National Pharmaceutical Council

Briefly, the National Pharmaceutical Council sponsors and conducts scientific analyses on the appropriate use of pharmaceuticals and the clinical and economic value of improved health outcomes through pharmaceutical innovation. CER and its foundation of high quality scientific evidence are important areas of focus for NPC. It is our goal to ensure that sound evidence is recognized by independent experts, considered appropriately by private and public payers, reflected adequately in benefit designs, and incorporated into clinical practice. NPC was

established in 1953 and is supported by the nation s major research-based pharmaceutical companies.

Draft Definition of CER

When the $1.1 billion in federal funding was first allocated for CER, there were many unanswered questions regarding which projects would be prioritized, what kind of strategic framework would be developed, and how the research would be conducted and disseminated. To address those questions, NPC and other health care stakeholders provided recommendations in previous testimony that priorities for CER should:

* Focus on conditions with the greatest impact on morbidity and cost, such as chronic conditions like cardiovascular disease, chronic respiratory diseases, cancer, diabetes, arthritis, and serious mental health conditions.

* Include all major therapeutic options used to treat those conditions such as drugs, medical and surgical procedures, diagnostics, and medical devices.

* Take into account the needs of patient subgroups who may respond differently to therapeutic options based on demographic characteristics, genetic variation, and coexisting medical conditions; and

* Express clear support for the development of new CER methodologies, such as analysis of non-randomized studies of treatment effects using secondary databases, practice-based clinical practice improvement studies, more accurate modeling and simulation techniques, and methodologies that ensure optimal interpretation and application of CER in a variety of patient care settings.

NPC is pleased that the draft definition of CER encompasses these important concepts in a broad and thoughtful manner.

Draft Prioritization Criteria

The general nature of the prioritization criteria allows for considerable flexibility in their interpretation. While they represent a good foundation, clarification is needed to ensure that CER funding decisions will be made in the best possible manner and result in useful information that improves clinical decision making for health care providers and patients.

In particular, NPC is concerned about the reference to the "time necessary for research," and whether this would preclude lengthy or more in-depth projects from consideration. Proposed prioritization of research topics and studies, their associated research time frames, final study outcomes, and related information should be made transparent to all stakeholders and should be disseminated in a timely manner To maximize this potential, the FCCCER should prioritize the

funding of an assessment of strategies to ensure the continuous evaluation of new evidence related to specific health care technologies -- for example, how best to determine when a health technology assessment should be revised based on new clinical information.

The criteria also suggest that CER "lays the foundation for future CER or generates additional investment." CER not only lays the foundation for future CER, but also the foundation for future innovation. How the agenda and conduct of CER develops has the potential to influence incentives for innovation and we would recommend that the study of this important question be an explicit interest of publicly funded CER.

Additional Factors for Consideration in Priority Setting Under the Strategic Framework

Moving forward, it also will be important to consider other key factors in the selection of the highest priority research.

* First, it will be important to conduct research to define rigorous, high quality, and validated CER methodologies that are focused on providing timely, accurate and balanced information in order to assist clinical decision making.

-- These questions include, but are not limited to, defining how best to address the full range of health effects of a new technology including quality of life, functionality, and productivity, as well as how best to appropriately characterize the strengths, weaknesses, and limitations of various underlying health technology assessment analytic techniques.

-- In order to minimize the likelihood for inaccurate or inappropriate interpretation of CER, we suggest the inclusion of a transparent and readily accessible description of the strengths, weaknesses, limitations, and potential for generalizability of the findings of CER utilizing varied experimental and non-experimental research designs.

* Second, and consistent with our comment on the prioritization of the study of the impact of CER on innovation, the strategic framework should implicitly assume that innovative technology is an external input to the CER framework. It should be encompassed within and considered integral to the framework.

* Third, the agenda for CER should be driven by the condition and the "key unanswered questions" in the context of that condition. Answering these questions may require comparisons between different types of technologies, processes, or procedures that may be considered to treat the condition; for example, the framework should reflect the need for comparisons of drug vs. surgery, drug and diagnostic vs. procedure, procedure vs. surgery, or other combinations.

* Fourth, comparisons should also include delivery system architecture options, insurance plan designs, methods for primary/secondary prevention, and approaches to provider incentives to effect improvements in health.

The National Pharmaceutical Council appreciates the opportunity to take part in this critical dialogue and stands ready to assist FCCCER as it moves forward with the development of the CER definition and criteria. Thank you.

Submitted by
Fred Pane
Premier Inc.
fred_pane@premierinc.com

Comment Type: *General Comment*

I wanted to share a HECON model, that I have been working on for almost 7 years, around this area. WHen I worked at a large teaching hospital in Pa, we began to address issues this way. Thanks

Replacing pharmacoeconomics with 'thereconomics'In urging health system pharmacists to move toward a return-on-investment model to rationalize their expenditures, Fred Pane, RPh, of Premier, has coined the term "thereconomics" by combining the words therapy and economics. "For years, pharmacy managers have dealt with the budgetary issues surrounding pharmaceuticals," says Pane. "That economic model is called pharmacoeconomics, created to try to explain the value of drugs. However, it is very difficult to meet with hospital finance staff and explain pharmacoeconomics. It relates only to pharmaceuticals and doesn't address the big issue, which is the various patient treatment options, both drugs and non-drugs, and how they replace each other or support clinical outcomes."
The National Library of Medicine's Medical Subject Headings (MeSH) defines pharmacoeconomics as "economic aspects of the fields of pharmacy and pharmacology as they apply to the development and study of medical economics in rational drug therapy and the impact of pharmaceuticals on the cost of medical care. Pharmaceutical economics also includes the economic considerations of the pharmaceutical care delivery system and in drug prescribing, particularly of cost-benefit values. [sic]"
Pane defines thereconomics as "measuring both the financial and clinical quality outcomes associated with various treatment options, including drugs, devices, and surgical and interventional procedures." He says: "It is therefore all inclusive, which pharmacoeconomics is not, and can be applied to any patient treatment. It maintains a balanced scorecard approach to all pharmaceutical operations, both clinical and financial."

Submitted by
Naomi Aronson, PhD
Executive Director
Technology Evaluation Center
Blue Cross Blue Shield Association
naomi.aronson@bcbsa.com

Comment Type: *General Comment*

The Technology Evaluation Center of the Blue Cross and Blue Shield Association (BCBSA), an association of 39 independent Blue Cross and Blue Shield Plans that collectively provide health insurance benefits to more than 100 million Americans, appreciates the opportunity to comment on the Draft Definition of Comparative Effectiveness Research (CER) for the Federal Coordinating Council.

We support the Federal Coordinating Council for Comparative Effectiveness Research, as authorized by the American Recovery and Reinvestment Act (ARRA), in its work to coordinate research and guide investments in comparative effectiveness research funded by the Recovery Act.

The draft definition, we believe, will result in research that will give clinicians and patients valid information to make decisions that will improve the performance of the American healthcare system

Thank you for giving us this opportunity to express our support.

Submitted by
Mary Denison
US citizen
maryekdenison@qwestoffice.net

Comment Type: *General Comment*

What doesn't work for one, amy work for another. Keep all options open - it could be you, or your family who needs them.

Submitted by
Barbara Kulig
Self - Part 2 of 2
bk.u@hotmail.com

Comment Type: *General Comment*

The news that the new health plan will in part contain a singular national insurance plan available to Americans of low income is a favorable and necessry step to address the health care crisis in the US.

I will participate in that program, rejecting the private insurance of Congressional Repulicans who apparently are supporting the status quo of expensive medical industry costs which ONLY benefit practioners and insurance companies.

Once again, I was tortured by SSA/CMS and would appreciate a total revamping of both agencies, who at best have been unresponsive to my needs and decisions.

Submitted by
Joyce Mithcell
American College of Medical Informatics
joyce.mitchell@hsc.utah.edu

Comment Type: *General Comment*

We appreciate the efforts of the Federal Coordinating Council in drafting the definition, prioritization criteria, and strategic framework for comparative effectiveness research (CER), and we are grateful for the opportunity to provide feedback on these documents.

Feedback on the definition:

" The Fellows of the American College of Medical Informatics have a vested interest in these documents, specifically as they relate to the role of information systems in CER.

" Currently the nation is embarking on a massive investment to improve the state of Healthcare Information Technology (HIT) throughout the healthcare enterprise. HIT has the potential to fundamentally change the healthcare delivery process. Evaluating the effectiveness of various HIT interventions will be an integral part of evaluating and guiding this massive investment.

" We are concerned that HIT-based interventions are not specifically mentioned in the draft definition. Although some may argue that HIT might be included under any of the phrases, medical and assistive devices and technologies, behavioral change strategies, and delivery system interventions none of these phrases have traditionally been applied to HIT-based interventions, such as Decision Support Systems, Heath Information Exchanges, or Computerized Order Entry. Thus, whether HIT interventions are ultimately evaluated is left to later interpreters of the definition. This seems to be an unnecessarily high-risk approach.
o We hope that the Council will consider our request to include "information systems and technology" with the examples of interventions provided in the definition of CER.

Feedback on the strategic framework:
" In the third paragraph of the description of the framework (CER investments and activities), we would request that the research example be re-phrased so that it suggests a broader sphere of research than medication-related CER. This could be written as (change is in quotes): Research, e.g., comparing interventions for a specific condition or discharge process A to discharge process B for readmissions.

" In the CER themes: type of intervention should include "information systems": Type of interventions, e.g. devices, information systems, behavioral change, delivery system.

" Figure 2: in the Cross-Cutting Investment Opportunities box, "Under-researched interventions" should include information systems in the list of examples.

Submitted by
Theresa Smith
Citizen
Thevail@hotmail.com

Comment Type: *General Comment*

Thank you for all the hard work that you do over there at HHS. Unfortunately most Americans, myself included, have little idea of what DOES actually happen at HHS.

But we do know that our perscription drugs cost too much, and have side effects far scarier than the conditions they are meant to treat. Rectal bleeding from a nasal allergy medication?! Seriously?

We also know that many of the allowable additives in our food cause everything from cancer to diabetes, to obesity, and beyond. I'm not trying to to be too fussy, but is there really a reason my dessert should contain several of the same ingredients as my shampoo, and I'm not talking about coconut oil here..

We are 29th on the scale of medical goodness in the world, but we spend more than anyone else. So a part of the healthcare problem, the main part, is that we're not getting a good deal. Americans are doing the equivalent with medical care of someone shopping at the 7-11 for their monthly groceries.

Good luck and keep up the good work, but a word to the wise, you might want a dang good speech explaining some of this stuff.

Submitted by
Ned Norris Jr.
Tohono O'odham Nation
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Comment Type: *General Comment*

TOHONO O ODHAM NATION
ARRA/COMPARATIVE EFFECTIVENESS RESEARCH RECOMMENDATIONS

ISSUES:
The American Recovery and Reinvestment Act (ARRA)/Comparative Effectiveness Research (CER) debate has elicited concern by tribal health leaders and health care professionals who conduct research in Indian Country. American Indian tribal leadership will ask, first, How will the Obama Executive Branch implement the standing Presidential Executive Order for tribal consultation (Clinton 2000) and supporting implementation memoranda that require that all Executive agencies ensure that there is meaningful and timely tribal input in formulating and implementing the ARRA of 2009, and subsequent Sec. 804 to establish the Federal Coordinating Council (FCC) CER? Secondly, does the FCC for the CER fully understand the special circumstances that Tribes face, which include the inability of tribal people to access primary, specialty, emergency services due to geographic constraints and by the historic and continuing under funding of the Indian health care system?

The U.S. federal government recognizes the debt owed to tribal governments. In 2000, President William J. Clinton issued the Executive Order #13175, Consultation and Coordination with Indian Tribal Governments , and the Department of Health and Human Services (DHHS) reissued an earlier Department Tribal Policy, requiring that each HHS Operating and Staff Division have an accountable process to ensure meaningful and timely input by tribal officials in the development of policies that have tribal implications. Certainly, the ARRA s CER Policy would be under this umbrella .

RECOMMENDATIONS:
The FCC for CER is charged to develop recommendations to coordinate research and guide the use of resources contained in ARRA to advance improvement in the U.S. health care system. The following recommendations focus on the inclusion of Indian health, tribal and urban Indian health programs in this process

" Allow additional time for HRAC to consider developing a tribal consultation process in order for interested Tribes to provide their input into the FCC/CER plan and implementation.

" Request that AI/AN representative be assigned to FCC/CER from the Indian Health Service of the DHHS.

" Consider establishing separate research guidelines and measures for Complementary and Alternative Medicine (CAM) and AI/AN traditional healing practices, but do not exclude them from future CER consideration.

" Concentration by CER in the areas of health promotion, disease prevention and community based interventions will benefit tribal communities.

" Concentration by CER on clinical effectiveness rather than cost effectiveness will benefit tribal communities.

? CER studies should be broad enough to include an assessment of minority and disability groups and other smaller populations such as American Indian Tribes as it has been noted that in CER minority and disability groups have not been given a broad enough population sample. (Cancer Policy Monitor, 2009).

BACKGROUND:

There are more than 560 federally recognized Tribes in the U.S and a coalition of over 50 health and academic organizations, and individuals dedicated to improving the health care of AI/AN report that the disparity in health care for Indian people continues to escalate nationwide as AI/AN live almost four years less when compared to other U.S. populations because;

1. AI/AN youth are more than twice as likely to commit suicide,
2. AI/AN people are 670% more likely to die from alcoholism,
3. 650% more likely to die from tuberculosis,
4. 318% more likely to die from diabetes, and
5. 204% more likely to suffer accidental death.

(Friends of Indian Health, 2009).

The poor state of health among many Tribes requires community based and culturally appropriate treatment and research methodologies that can help to break the cycle of chronic illness and related disease including addiction.

i. Improving the Quality of Care in the Indian Healthcare System:

The FCC is concerned about the quality of care experienced by individual patients served in federal health care systems. This component of CER is applicable to the Indian healthcare system and would help to identify measures that are needed to improve the quality of care. The IHS Strategic Plan (2011) states that a major strategic objective of the agency is to improve the safety and quality of care in IHS, tribal and urban Indian health care settings. Steps to improve

the system include: 1) the identification and reduction in adverse medical events; 2) integration of evidence based practices into clinical, public health and administrative practices; 3) timely adoption of new medical technologies; 4) advance electronic medical record keeping and connectivity within the system; and 5) ongoing cost effectiveness analysis. Should the CER Council recommend an assessment of the strengths and weakness of the Indian health care system this will provide the opportunity for IHS Quality Management (QM) Program to pursue the steps needed to accomplish meeting its own strategic objectives and implement needed systemic changes to resolve problems areas. The IHS QM goals are integrating, evaluating and tracking best practices and expanding best practice administrative and clinical models known as Centers of Excellence that already exist in the system.

ii. Complementary and Alternative Medicine (CAM):

The use of alternative therapies is now appearing in many hospitals, managed care plans, and conventional practitioners are incorporating CAM therapies into their practice, and schools of medicine, nursing, and pharmacy are beginning to teach CAM (National Academy of Science, 2005). The influence of CAM on and off Indian Country is substantial yet much remains unknown about these therapies, particularly with regard to scientific research studies that might convincingly demonstrate the value of CAM in the treatment of diabetes and other chronic disease. Several Tribes incorporate CAM modalities in their healthcare systems. The Pascua Yaqui Tribe of Arizona s alternative healing program has been in existence for a number of years and the San Carlos Apache Tribe in Arizona provides naturopathic services to individuals with diabetes.

iii. American Indian and Alaska Native Traditional Healing and Practices

It should be noted that for AI/AN traditional medicine use and practices are not an alternative (CAM), it is only alternative to allopathic medicine (conventional Western Medicine) and therefore should not be considered a category of CAM; but it s own diverse and culturally-specific healing system(s). AI/AN Traditional Medicine distinction was further discussed among Indian health educators, researchers and practitioners and the consensus was that each tribe's traditional medicine and practices comes from their particular environment whether it be desert, coastline, or forested homelands (20th Annual Native Health Research Conference, 2008)

For example, at its broadest interpretation, the Tohono O odham (Desert People) of southern Arizona, way of viewing the world Himdag embraces an interconnected worldview where healing from medicinal plants, songs and storytelling, spiritual healing, curing and traditional songs, and beliefs and values like respect, games, harvesting traditional foods and hunting, incorporating songs into ceremonies are intricately interwoven (Tohono O odham Nation Constitution 1986, Tohono O odham Nation Language Policy, 1986).

1. For many tribal members of the Tohono O odham Nation and many other U.S. Tribes, it is the community, which recognizes who its healers are, not a Federal or State licensing body (Sequieros, 2009).

2. Several Veteran's Administration regional medical centers have formal agreements with certain Tribes (e.g. Dineh/Navajo Nation) to provide culturally-appropriately compensation to the Dineh Medicine Men for certain ceremonies for veterans (Trujillo, 2009).

3 The Medicine Wheel concept is comprehensive and incorporates mental, physical, spiritual, emotional wellbeing. This concept has been widely adapted by many Native and non-Indian communities to promote wellness.

The IHS established a traditional healing policy that allows the IHS to provide, at the patient s request, an opportunity for traditional healers to conduct healing services within a health care facility. Some Service Units carry out the policy without question; however, at some IHS facilities, patients that request this assistance are sometimes met with reluctance and skepticism by providers unknowledgeable of AI/AN healing ceremonies and tradition. While the openness of the policy allows for varied tribal healing practices to be conducted as appropriate within the confines of the health care facility, systemic barriers exist that include lack of funding for the program, inability to acquire Medicaid reimbursement for the expenses incurred by traditional healers, lack of participation of the traditional healer as a member of the health care team and lack of information to individual patients that the policy exists. The CER may provide an opportunity to further evaluate the effectiveness of culturally based interventions that are utilized in the Indian health care system and thereby further the development of these interventions as recognized best practices.

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Submitted by
Rachel Groman
rgroman@neurosurgery.org

Comment Type: *General Comment*

Re: Draft Definition, Prioritization Criteria, and Strategic Framework for Comparative Effectiveness Research

Dear Federal Coordinating Council Members,

On behalf of the undersigned members of the Alliance of Specialty Medicine, a coalition of 11 medical societies, we appreciate the opportunity to comment on the Federal Coordinating Council s draft definition, prioritization criteria, and strategic framework for comparative effectiveness research (CER). The Alliance recognizes that CER can serve as a valuable tool to guide sound clinical decision-making and to better inform both patients and physicians about what works best in health care.

The Alliance supports a well-designed CER system that is transparent, improves quality, relies on public input, supports continued medical progress, and strengthens physician and patient decision-making while preserving individualized treatment. We greatly appreciate that the Council s definition and framework recognize diverse patient populations and the need to respond to the expressed needs of both patients and providers. It is critical that any CER program account for the unique circumstances of patients and preserve the independent judgment of physicians. However, we request that the Council clarify its intent when it refers to the need for CER to respond to the expressed needs of decision-makers. It is critical that CER focus on communicating research results to patients, providers and other decision-makers, and not on making centralized coverage and payment decisions or recommendations. Without further clarification of this statement, decision-makers could be interpreted as giving the Centers for Medicare and Medicaid Services (CMS) or any other public or private payer the authority to use CER to make coverage and payment decisions.

The Alliance also appreciates that the Council s definition and framework recognize a broad scope of research, including medications, procedures, medical and assistive devices and technologies, behavioral change strategies, and delivery system interventions. However, we encourage the Council to further strengthen the definition so that it indicates that research on each of these interventions focus on all patient subpopulations and not just a few particular patient groups.

We also thank the Council for recognizing that CER must rely on a variety of data sources and data assessment methodologies. We encourage the Council to specifically consider prospectively obtained outcomes data collected through robust patient registries as one example of a data source that can help to better define indications for certain procedures. Directing comparative effectiveness research funds to the creation and/or administration of patient registries will ultimately result in the production of meaningful data that will help guide clinical decision-making, determine best practices, improve quality, and ultimately lower costs through feedback reports that compare individual data to equivalent comparison groups. The Alliance cautions the Council and other policymakers against linking patient registries to claims data since current privacy laws do not allow for one-to-one linkages, which introduces error and dilutes the sound clinical methodology needed for CER.

While the Alliance supports the Prioritization Criteria outlined in the framework, we are concerned that it fails to specify how these priorities should be developed, reviewed and finalized. It is critical that all relevant stakeholders, particularly those who are clinical subject matter experts and provide direct patient care, have a voice in the process through which CER topics are prioritized.

Finally, we request that the Council s definition explicitly state that the purpose of CER is to provide information on clinical effectiveness and patient health outcomes, not cost-effectiveness assessments. CER must not ebb into cost containment, where life or death medical decisions can be based upon the government s financial considerations. The Alliance believes that if CER is carried out in a sound and transparent fashion, it will naturally rid of inefficiencies in our health care system by directing providers and patients to care that is most effective.

Moving forward, we encourage the Council to continue to preserve transparency throughout the many aspects of the CER process by ensuring that stakeholders have input into research priorities and design and have an equal voice in the governance of a CER entity.

The Alliance of Specialty Medicine appreciates the opportunity to offer these comments, and we look forward to working cooperatively with the Council to develop a fair and meaningful process through which to compare clinical effectiveness and to ultimately improve patient care. If you have any questions about our comments, please contact Rachel Groman, MPH, 202-628-2072, rgroman@neurosurgery.org

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American Association of Neurological Surgeons
American Gastroenterological Association
American Society of Cataract and Refractive Surgery
American Urological Association
Congress of Neurological Surgeons
Heart Rhythm Society
Society for Cardiac Angiography and Interventions

Submitted by
Margaret Anderson
FasterCures
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Comment Type: *General Comment*

Thank you for the opportunity to comment on the Council's Draft Prioritization Criteria and Strategic Framework. They are both very concise and thoughtful documents with which we substantially concur. We did, however, want to highlight some issues which we don't feel are directly addressed that may inform your thinking going forward.

-- In addition to informing better point-of-care decisions by patients and providers, building the evidence base through comparative effectiveness research can elucidate critical clinical research questions deserving investigation, which will accelerate the development of new and improved diagnostics and therapeutics. If that can be reflected in the prioritization criteria in some way (perhaps under #5, "potential for multiplicative effect"), we believe that would be of great value.

-- We are pleased that the Strategic Framework addresses not only the research studies themselves, but also the human and scientific capital necessary to execute the research -- including, very importantly, developing methodologies needed to conduct the research efficiently and effectively. We urge you to give this issue the attention it requires. The scientific underpinnings of comparative effectiveness research are still being developed, and it will be important to monitor the progress of the field as early studies funded through ARRA yield results.

-- Also addressed in the Strategic Framework is the data infrastructure supporting CER, another area we hope will be given careful attention. In particular, we hope the Council will make an effort to ensure that investments in health information technology being advanced separately

with ARRA funds are supportive of the requirements for conducting CER to the greatest extent possible.

-- We are also pleased to see recognition of the fact that translation, dissemination, and adoption of the results of CER are as important as the studies themselves and hope that funding will be devoted to pursuing this critical goal.

-- We hope and expect that the vision driving federal spending on CER will continue to be enhancing and customizing care for patients, and that it will not be used to limit access to or availability of effective treatments on an individualized basis.

FasterCures' mission is to identify ways to accelerate the discovery and development of new therapies for the treatment of deadly and debilitating diseases both in the United States and around the globe. The organization was founded in 2003 under the auspices of the Milken Institute to aggressively catalyze systemic chance in cure research and to make the complex machinery that drives breakthroughs in medicine work for all of us faster and more efficiently. FasterCures is independent and non-partisan. We do not accept funding from companies that develop pharmaceuticals, biotechnology drugs, or therapeutic medical devices. Our primary mission is to improve the lives of patients by improving the research environment, research resources, and research organizations.

Submitted by
Bart Barefoot
GlaxoSmithKline
bartley.l.barefoot@gsk.com

Comment Type: *General Comment*

GlaxoSmithKline ("GSK") is pleased to submit these comments to the Federal Coordinating Council on Comparative Effectiveness Research (the Council) regarding the Council s draft definition of comparative effectiveness research (CER), draft prioritization criteria for CER funding, and draft strategic framework.

GSK is a world-leading research-based pharmaceutical company whose mission is to improve the quality of human life by enabling people to do more, feel better and live longer.

GSK thanks the Council for soliciting public input on CER generally and on the development of these important guideposts for CER investments under the American Recovery and Reinvestment Act (ARRA). We believe the Council s willingness to engage interested stakeholders through listening sessions and written comment opportunities will produce a strong, credible foundation for CER investments which can improve the quality of clinical decisionmaking and in turn improve patient health outcomes. Indeed, it is apparent from these drafts that the Council has given careful consideration to the public input received thus far and has, working under tight time constraints, proposed a definition, prioritization criteria, and

strategic framework that contain many positive elements. Accordingly, the comments we submit today are primarily limited to targeted recommendations to improve specific elements of these draft materials.

DRAFT DEFINITION OF CER

The Council s proposed definition of CER is appropriately broad in scope, encompassing a wide range of interventions and strategies, including prevention, care management, and delivery system interventions, that can affect health outcomes and patient experiences. GSK also appreciates the Council s recognition of the importance of responding to patient and provider needs, accounting for differences among individual patients and subpopulations, conducting research using a variety of data sources, and developing and expanding research infrastructure and methods. We urge the Council to retain these elements in the final definition.

At the same time, we offer for the Council s consideration several small but meaningful modifications that we believe will strengthen the definition.

1. We propose that the Council revise the first sentence to read: Comparative effectiveness research is the conduct and synthesis of systematic ANALYSIS comparing different interventions and strategies to prevent, diagnose, treat and monitor health conditions AND APPROACHES TO THE DESIGN AND IMPLEMENTATION OF CARE DELIVERY SYSTEMS. We recognize that the definition s fourth sentence (Defined interventions compared may include medications, procedures, medical and assistive devices and technologies, behavioral change strategies, and delivery system interventions) incorporates delivery system interventions ; however, the care delivery system is more than just a form of disease intervention. Rather than define CER strictly in relation to disease, we advocate a holistic approach that also seeks to identify approaches to improving care delivery systems in themselves and the quality of care delivered.

2. We suggest that the Council revise the second sentence to read: The purpose of this research is to IMPROVE HEALTH CARE QUALITY AND HEALTH OUTCOMES by identifying, in response to patient, CAREGIVER, provider, and PUBLIC HEALTH needs, which interventions are HIGHLY effective for which patients under specific circumstances. As revised, this purpose statement incorporates these important additions:

" Improve health care quality and health outcomes GSK believes improvements in health care quality and patient health outcomes ought to be the polestar for federally-supported CER. Accordingly, we believe the definition of CER should explicitly reference this guiding principle.

" Caregiver Although patients and providers typically form the nucleus for health care decisionmaking, in many instances, others play a significant role in care decisions and delivery. Alzheimer s and cancer care are just two prominent examples of conditions where caregivers frequently play prominent roles and are impacted by intervention choices. Caregivers offer a

unique perspective which too often is overlooked. We believe good CER design and implementation takes into account caregivers perspectives and circumstances where appropriate.

" Public health We recommend substitution of public health for decision-makers. In our view, public health is a broader term that encompasses all who have a particular stake in the improvement of health care decisionmaking, quality of care, and health outcomes.

" Highly effective The draft definition s use of the term most effective implies that CER will conclusively identify a best intervention for a particular circumstance. In actuality, even with respect to patient subpopulations, it is unlikely that CER can pinpoint the most effective intervention for a particular patient. Even among patients who share certain characteristics, each patient is an individual, and there can be no guarantee that an intervention will prove effective. Therefore, it is more accurate to state that CER can help to identify interventions that are highly effective for patients in a particular circumstance.

3. Finally, we propose that the Council revise the definition s last sentence to read: This research necessitates the development, expansion, and use of a variety of data sources and methods to assess comparative CLINICAL effectiveness. The addition of clinical will more closely align the definition with Congress s stated intent that ARRA funding support research to evaluate and compare clinical outcomes, effectiveness, risk, and benefits.

THRESHOLD MINIMAL CRITERIA

" Please clarify how these minimal criteria would function in practice. For example, are the criteria equally weighted? Can one criterion assume more importance than another? How will research feasibility be measured, and what factors other than time are potentially relevant to feasibility considerations (e.g., cost of the research, methodological challenges, available infrastructure, patient privacy and other legal and ethical issues?)?

" Revise criterion (2) to read: Responsiveness to expressed needs and preferences of patients, caregivers, clinicians and other health care providers, and other stakeholders, including community engagement in research. This change will more closely align this criterion with the definition of CER (see above).

PRIORITIZATION CRITERIA

" In criterion (1), replace costs of care with total cost of care. This change clarifies that it is the total cost burden of a disease or condition, not specific intervention costs, which is a relevant and appropriate factor in prioritizing federal investments in CER. This clarification will ensure that federally-supported research remains appropriately focused on the needs of patients, caregivers, and clinicians and other health care providers.

STRATEGIC FRAMEWORK FIGURES 1 & 2

" Add a fifth category of CER investments and activities CER Evaluation. Equally as important as the four categories of investments and activities outlined in the draft framework is the need to regularly review and evaluate government-supported CER and its impact on clinical care and health care quality. We must understand whether our CER investments produce positive changes. Do the funding choices actually reflect the prioritization criteria? Are the research questions the correct questions? How are the CER results used and by whom? Do patients, caregivers, clinicians and other providers, and the public find the results useful, practical, and actionable? If not, why not? Most importantly, have the CER studies improved the quality of clinical decisionmaking and promoted care of higher value and quality? What changes are needed to improve the conduct and translation of the CER studies? For CER to fulfill its potential to improve health care quality and patient health outcomes, there must be a formal mechanism for continuous evaluation and improvement a feedback loop that incorporates the answers to these and other questions. GSK believes such a mechanism is vital to the success of CER and thus warrants a defined space in the strategic framework.

STRATEGIC FRAMEWORK FIGURE 2

" In column one, Human & Scientific Capital for CER, specify that Methods for patient/consumer engagement includes federally-supported CER education and training for patients and consumers. GSK shares the Council s belief that patient and consumer engagement is critical to the design, credibility, and adoption of CER, and we applaud the Council s focus on developing methods for seeking public input. However, the quality of this engagement depends on patients and consumers awareness of CER design and implementation considerations. Simply put, if they do not possess an adequate understanding of these issues which frequently are complex many patients and consumers will not be equipped to contribute meaningfully to dialogue with other CER stakeholders. Therefore, GSK recommends that the Council explicitly recognize the importance of CER education and training for patients and consumers and identify options for providing this education and training.

" In column two, CE Research Priorities, replace Expressed public and federal needs for CER with Expressed needs of patients, caregivers, clinicians and other health care providers, and other stakeholders. This change will more closely align the strategic framework with the definition of CER (see above).

" In column three, CER Data & Research Infrastructure :
? Clarify and elaborate on the scope of the inventory of existing CER infrastructure (e.g., will this include public and private infrastructure as well as information from other countries?).
? Clarify and elaborate on the scope of evidence generation (e.g., will evidence generation include public and private sources?, will these sources be domestic only?).

" In column four, Translation & Adoption of CER, clarify and elaborate on the scope of the inventory of existing CER translational and dissemination activities (e.g., will this include activities in the public and private spheres as well as information from other countries?).

" In columns one, three, and four, replace Funding based on identified high-priority gaps with Funding based on identified high-value opportunities. This change would create greater consistency among the investment and activity categories and would reinforce the importance of investing federal dollars in areas offering the greatest potential for meaningful improvements in clinical decisionmaking, quality of care, and patient health outcomes.

In conclusion, GSK again thanks the Council for this opportunity to express our views on the draft CER definition, prioritization criteria, and strategic framework. We look forward to continuing to work with the Council in a similarly open and inclusive manner to ensure the fulfillment of our shared goal that our nation s investments in CER will result in improvements in clinical decisionmaking, health care quality, and, ultimately, patient health outcomes.

Please contact Bart Barefoot, Senior Manager, Public Policy and Advocacy at (919) 468-2973 or BARTLEY.L.BAREFOOT@GSK.COM if you have any questions concerning these comments.

Submitted by
Richard I. Smith
Senior Vice President, Policy
Advanced Medical Technology Association (AdvaMed)
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Comment Type: *General Comment*
AdvaMed has a recommendation regarding the process for collecting comments on these CER topics. AdvaMed greatly appreciates the opportunity to comment and recommends that longer public comment periods (for example, 30 days) be offered to ensure a greater ability to provide meaningful feedback. Many individuals and small organizations have limited resources to expend, and providing additional time would provide an equal opportunity to consider and offer thoughtful comments that could improve the Department s CER-related initiatives.

Submitted by
Emily Wilson
ASTRO
emilyw@astro.org

Comment Type: *General Comment*

ASTRO supports the draft definition of comparative effectiveness research and applauds the leadership of the Federal Coordinating Council (FCC). We also appreciate the FCC's patience during the listening session and its dedication to sorting through various comments to come to broad visionary framework.

Submitted by
Janelle Behny
Private Citizen
jbbunchmn@embarqmail.com

Comment Type: *General Comment*

To Whom It May Concern;

I am writing to comment on the possible changes this presidential administration is seeking to make in the health care system of our country.

While the current system is rife with difficulties, there are insurance plans available that make accessing necessary health care easier than others. Much of the time the availability of these better insurance plans can be dependant upon where a citizen resides because some states have been more proactive than others in establishing basic insurance provisions. I find that leaving this issue to the states is a step in the right direction toward preserving liberty in our nation because it is the responsibility of the federal government to respect and preserve states rights.

That said I absolutely do not believe rationed, centrally-pooled healthcare that is facilitated by our federal government would be an effective or efficient means to improve our current health care system. Neither is so-called evidence based medicine. While these may look good to some on paper, the fact is that they cause more harm than good. This is because they would actually diminish in a significant way the freedom of Americans to choose and pursue what we each believe to be the best approach to caring for ourselves. When it comes right down to it, this freedom falls under the umbrella of our rights to "life, liberty, and the pursuit of happiness" as declared in our Declaration of Independence.

Frankly speaking, limiting our choices in healthcare by these means would be another mode of robbing our liberty. It truly is as simple as that. Whether or not it is done under the guise of good intentions is arguable depending upon which political lens you choose to wear. Well I don t wear a political lens, so I don t care about that point of view. It is for this reason I can see this issue from a clear perspective, and that point of view is that government needs to stay out of the health care business. Establishing a federal centrally-pooled, nationalized, socialized, or whatever-you-want-to-call-it medical system is a mistake.

I passionately believe these statements because my family and I have stayed healthy for years. We have had our challenges, but we have always been able to overcome them not because of

what someone in the government has figured out for me or dictated to us but because of what we have researched, learned, and implemented on our own to proactively care for ourselves. Yes, what you put into your body is absolutely a key factor, but that is only one of many simple choices we make must daily that play a huge part in wellness. In fact, thanks to all that is provided at public libraries, every citizen, regardless of their income, has equal access to figure out how to improve their health for themselves. Even if you had health insurance, you don t need to it be proactive with caring for yourself. The only requirement is that you possess the desire and patience to learn what to do and make the effort to carry it out. It really isn't difficult.

If the policies promoted by Dr. Steven Eastaugh and our current administration are carried out, I truly believe the state of American citizens health will actually worsen. I know something needs to be done to help our citizenry, but I firmly feel the policies that are the backbone of the healthcare he is promoting are the completely wrong direction for America to go. That is because it would diminish the available resources for consumers to choose from in one way or another. We are a country that promotes choice and freedoms, so do not take steps that would negatively impact our freedom of choice in health care freedoms. I am someone who has not had health care insurance at two different points in my life, yet I still do not want nationalized health care because I strongly believe there is a better way than the paradigm recommended by Dr. Eastaugh.

I know leaning toward a quick fix like nationalized health care is easy because it may appear to be a practical means to address this issue, but in the final analysis, I honestly believe it would be anything but practical for the average citizen to utilize. That would definitely be a step backward from the current goal of improving what is currently available. Thank you for the opportunity to comment on this issue. I appreciate your time and consideration to my views regarding this issue, and I will be following how it transpires.

Submitted by
Diane Dorman
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Comment Type: *General Comment*

Federal Coordinating Council for Comparative Effectiveness Research
Listening Session
June 10, 2009

Thank you for giving the National Organization for Rare Disorders (NORD) the opportunity to address this Council regarding comparative effectiveness research. NORD represents the estimated 30 million men, women and children in the United States affected by one of the nearly 7,000 known rare diseases. For those who may not know what a rare disease is, it is any disease, syndrome or condition affecting fewer than 200,000 people in the United States, or

approximately one in ten. For many it can take many years to be diagnosed, some estimate as many at seven years. Others are never properly diagnosed.

I would like to preface my remarks by saying that NORD strongly supports comparative effectiveness for drugs, biologics and medical devices and treatment protocols. If this country is to address the growing disparities in care, we must find a way to ensure that every American receives the care they need and rightly deserve.

By way of background, there are currently 339 orphan drugs and biologics that treat (according to the FDA) about 12 to million across the country. It is unfortunate that the remaining 18 million have no therapy or treatment protocol addressing their specific disease. It s a hit or miss proposition. As a consequence, most are treated off-label because there is nothing specific to their disease.

As a consequence, many of these people have difficulty gaining access to the treatments they need because the indication is not on the label of the product. Comparative effectiveness research could have a profound impact on these patients should labeling changes be required. Already, insurers continue to deny access to care simply because their disease state is not specified on any labeling.

As you deliberate, we do have a number of general suggestions. We ask that you consider a number of factors:

? Comparative effectiveness research typically compares average results of one therapy or treatment protocol versus another for a study population. However, these do not take into account differences between patients due to genetics, co-morbidities and other important factors.

? Comparative effectiveness research should focus on questions that reflect the interactions among all of the various components of the healthcare system and have the greatest potential to empower medical specialists and patients to make the most appropriate decision when faced with real world clinical situations.

There are specific issues surrounding rare diseases and orphan products that we think are addressed in the newly introduced Patient-Centered Outcomes Research Act of 2009 that was introduced by Senators Baucus and Conrad yesterday.

Specifically, the legislation says that, in the case of comparative effectiveness research studies for rare diseases, that an expert advisory panel assist in the design of such research studies and determine the relative value and feasibility of conducting such research studies.

Draft language we have proposed to the U.S. House of Representatives goes a step further and asks that an Ombudsman be appointed to serve as the single point of contact to patients with rare diseases regarding funding by the Department of Health and Human Services or the Institute of proposed comparative effectiveness studies on rare diseases.

NORD strongly supports this language and we ask that as you remain mindful of those who are considered as outliers, and as you continue your deliberations you remain mindful of the unique needs of rare disease patients and the challenges they face.

Patient-Centered Outcomes Research Act of 2009 introduced by Chairmen Baucus and Conrad. Section (5) (A) (iii) outlines the expert advisory panel for rare diseases.

EXPERT ADVISORY PANEL FORRARE DISEASE. In the case of a comparative effectiveness research study for rare disease, the Institute shall appoint an expert advisory panel for purposes of assisting in the design of such research study and determining the relative value and feasibility of conducting such research study.
(B) COMPOSITION.
(i) IN GENERAL. An expert advisory panel appointed under subparagraph (A) shall include individuals who have experience in the relevant topic, project, or category for which the panel is established,
including
(I) practicing and research clinicians (including relevant specialists and subspecialists), patients, and representatives of patients; and
(II) experts in scientific and health services research, health services delivery, and evidence-based medicine.

SEC. ___. SPECIALIZED PROCESS FOR COMPARATIVE EFFECTIVENESS RESEARCH ON RARE DISEASES

(a) IN GENERAL. The Institute shall convene a specialized review panel(s) of experts and patients, the Rare Disease Review Panel, to provide technical assistance and make recommendations for any proposed comparative effectiveness studies of orphan drugs, biologics, or humanitarian use devices. The HHS Secretary shall also designate a Rare Disease Ombudsman to serve as the single point of contact to patients with rare diseases and to coordinate with the Institute.

(b) DEFINITIONS.

(1) The term rare disease means a disease that has a prevalence of less than 200,000 persons in the U.S.

(2) The term Rare Disease Ombudsman means the person or office designated by the Secretary from the NIH Office of Rare Diseases to serve as the single point of contact to patients with rare diseases regarding funding by the Department of Health and Human Services or the Institute of proposed comparative effectiveness studies on rare diseases.

(c) DUTIES. The Panel shall

(1) provide technical assistance to the Institute during the public comment process regarding the decision within the Institute on whether to fund a proposed comparative effectiveness study on a rare disease;

(2) review, evaluate and make a recommendation on whether to proceed to fund the study under consideration for comparative research effectiveness purposes;

(3) report to the Board (or appropriate head) and the Rare Disease Ombudsman the reasons why it determined that each proposed study meets or does not meet the standards in subsection (d).

(d) STANDARDS FOR REVIEW, EVALUATION AND RECOMMENDATION. In conducting its review and evaluation and in making its recommendation on each proposed comparative research effectiveness study, the Panel shall assess whether

(1) the study will potentially lead to reduced mortality, morbidity, and/or disability for the condition;

(2) if the study under consideration is not a randomized clinical trial
(A) the clinical evidence is sufficient for the study to proceed; and
(B) it compares current medically accepted treatments for the rare disease; and
(C) it captures the evidence needed to reflect the appropriate time horizon for the use of the treatment in that patient population; and
(D) it gives appropriate consideration to factors that could effect the true comparability of the comparison groups; and
(E) it is sufficiently robust to reasonably be expected to provide relevant information regarding the short and long term clinical benefits and risks of each evaluated treatment.

(3) if the study under consideration is a randomized clinical trial
(A) it is of sufficient duration and the clinical or the surrogate endpoints are sufficiently robust to assess the long term impact on and potential harm or benefits for patients; and
(B) the collected data are sufficiently robust to provide information on potential secondary benefits or side-effects in subpopulations if the Panel believes such data are required or useful for clinical practice and treatment; and,
(C) it compares current medically accepted treatments for the rare disease.

(4) other parameters are considered related to special characteristics for a specific rare disease that are clinically important for the proposed study.

(e) COMPOSITION OF THE PANEL.

(1) IN GENERAL. The members of the Panel shall consist of

(A) at least 4 consumer members (or a family member of such consumer) for that disease;
(B) at least 4 active practitioners in that disease;

(C) a physician or scientific expert from the relevant agency.

(2) QUALIFICATIONS.

(A) each consumer member (or a family member of such consumer), selected as a result of a public solicitation and outreach by the Rare Disease Ombudsman, of the Panel must have been diagnosed with the rare disease that is the subject of the proposed comparative research effectiveness study;

(B) each practitioner member of the Panel shall be a clinical expert, as determined by the Institute after soliciting recommendations from the clinical, scientific and patient community, and shall be currently treating patients with the specific condition or disease that is the subject of the proposed comparative research effectiveness study; and,

(3) CONFLICT OF INTEREST. In appointing members of the Panel, the Institute shall take into account any financial conflicts of interest and apply the relevant standards.

(d) REPORT. If the Panel recommends that a proposed study not be funded, but the Institute nevertheless funds the study, the Institute shall publicly report on the appropriate web site the reasons for the decision to fund the study. Regardless, the Ombudsman will conduct outreach through the media and public meetings to the patient community on the rationale for funding the studies that were recommended or not recommended by the panel.

Submitted by
Mark Calney
calney@aol.com

Comment Type: *General Comment*

Perhaps the members of the Council believe that there are enough Americans who are so ignorant of history that this program will be enacted by flying under the radar. However,those of us who are knowledgeable of history know that what is being proposed here is exactly how Adolph Hitler began his program of mass murder. This is simply a fascist policy which is completely un-American. Not only should this Council be ashamed, but you are in fact all indictable under the Nuremberg Laws for crimes against humanity.

Submitted by
Joseph Allen on behalf of ACC
American College of Cardiology

jallen@acc.org

Comment Type: *General Comment*

The American College of Cardiology (ACC) strongly supports investment in comparative effectiveness research (CER). Given the high prevalence of heart disease-related illnesses, along with the documented variability in the use of procedures used to treat and/or diagnose it, comparative effectiveness research could yield high returns in terms of improving patient outcomes and reducing costs.

The draft definition, prioritization criteria, and strategic framework outline a reasonable approach to comparative effectiveness research. ACC applauds the clarity and conciseness of the current definition and prioritization criteria. However, to further elucidate the intent of CER, the ACC suggests the Federal Coordinating Council consider clarifying and expanding the current draft in the following ways:

1. The Council may consider explicitly defining the relationship between comparative clinical efficacy research and CER. Clinical efficacy research in many cases will form the basis for informing the design of CER.

2. The Council may consider adding tests (laboratory and imaging) to the list of defined interventions. ACC commends the Council for including diagnosis in the list of focus areas, and the addition of tests explicitly to the list of interventions may clarify the intent as not all tests may be viewed as procedures. Imaging and laboratory tests often determine the clinical management of a patient, and thus, comparative methods for diagnosis and risk management facilitated by testing are a crucial component of understanding the appropriate clinical pathway for a patient.

3. The Council may consider modifying the stated purpose of CER to be focused on the relative effectiveness (rather than most effective) of interventions for specific patients under certain circumstances. In many cases, CER may not yield a single most effective intervention or strategy but rather inform decision making about reasonable alternatives. The field of cardiology has many studies which have found interventions to be equally effective for certain patients, including recent studies on stenting compared to bypass surgery and stenting compared to medical therapy.

The Council also may consider modifying the second figure. Currently, it is represented as individual pillars only connected by the priority themes. It also may be productive to view the strategic framework as continuous cycle with each component informing the others. A lack of interaction between these pillars may result in identifying gaps within each area but fail to leverage the knowledge contained in the other pillars. For example, inventories of human and scientific capital can inform the development and framing of research priorities. Translations of prior CER and clinical efficacy may be used to inform the gaps in research. CER data and research infrastructure can be used to both inform research priorities and help monitor translation

and adoption. Implementation can help inform the rest of the process. The strategic framework may be able to target research funding more effectively if gaps are identified not only for each area but also through understanding the interactions of the pillars represented in the figure.

Submitted by
Eduardo Siguel
optimalpolicies
coolfoods@hotmail.com

Comment Type: *General Comment*

A substantial proportion of current diagnosis and treatment and alleged best evidence is likely to be based on flawed models and data (according to my research). Current approaches focus on biomarkers that are not the causes but the consequences of the disease.
For many Americans, eating too many calories, bad diets and inadequate exercise contributes to hardening and thickening of arteries. This means the arteries are no adequately flexible, they do not expand appropriately, they have narrow sections. The body feeds cells via its vast system of arteries (pipes). When they are hard and narrow, the heart has to pump harder for the blood to reach places far away. This means the blood pressure inside the arteries has to be higher than normal. We call it hypertension. It is a compensatory mechanism that allows the body to feed far away cells in the brain, kidneys, etc. Hard arteries can also become brittle. High blood pressure carries the risk that the arteries can break. If we treat too much hypertension with drugs, we prevent arteries from breaking but we prevent blood from reaching all cells. Brain and kidney cells die over time (a slow process). It is a trade off, lowering the risk of a bleeding stroke vs. increasing the risk of lower IQ and kidney failure.
Besides increasing blood pressure, the body produces more cholesterol. Cholesterol softens the membranes of the cells, makes them more flexible (I am simplifying things to explain complex concepts in a short space, so key issues are omitted). High cholesterol in many cases is not a disease but a compensatory mechanism.
Diabetes type II is primarily a consequence of eating too many calories, bad diets and inadequate exercise. Hypertension and high cholesterol are some of the ways the body seeks to compensate. The best treatment is to eliminate its causes. Preventing future complications via complex regimes of drugs is unlikely to solve the problem. In my neighborhood, some railings were moldy inside and getting rotted. They did not look good. One solution was to remove the rotted parts, inject wood with mold killing stuff. A lot of work. Another solution was to paint them well. That was easy and the wood railings looked great for a while. In a few years, the mold ate them from the inside and they fell apart. With railings we had a solution not available to people: we replaced them.
It is impossible to conduct clinical trials testing most treatments against other treatments. It is also impossible to evaluate the long term consequences of treatments (20 years into the future). No pair of subjects in a clinical trial will maintain almost identical conditions for 20 years (or 10, or even 5!). Thus, long term evaluations are impractical. Before we proceed with comparative

effectiveness research (CER) we need better models of disease. Based on our understanding of disease we can predict what works well and what works poorly. Fortunately, we know the factors involved and have the answers for the conditions responsible for most of the costs and deaths in the US. Smoking. Bad diet. Too many calories. Bad exercise. Eating too many processed foods (particularly highly processed fat and carbohydrates). Not enough fruits and vegetables. Drug, alcohol abuse. Risky behavior (drunk driving, etc.). There is practically no dispute on the risk factors and how to prevent them (and save 100s of billions). Pose yourself this question: you are the CEO of a large corporation. Would you rather invest R&D to market drugs and devices to treat those problems or would you rather train people to grow their own and eat organic vegetables? (getting exercise and healthy food). Surely Ms. Michelle Obama can do, but they don t live like the rest of us. To get the answer, make a business plan and present at a venture capital meeting. See how many buy the idea of an IPO for growing and eating organic vegetables (selling seeds and organic compost) vs. drug Potentum, a mixture that lowers blood pressure, cholesterol, high glucose, enhances erections, makes you hyper, improves bad breath and includes pheromones. Consider the commercials. People pulling weeds and dispersing organic compost (dirty, smelly) vs. clean people enjoying life, kissing each other, having fun. If you get it, you know why CER and health reform will fail to substantially cut costs or improve outcomes.
E Siguel, MD, PhD, JD
Posted at
http://online.wsj.com/article/SB124441644145192397.html#articleTabs_comments%26articleTabs%3Dcomments

Submitted by
Meryl Bloomrosen
AMIA
meryl@amia.org

Comment Type: *General Comment*

I am pleased to submit comments about the draft definition of comparative effectiveness (CE) on behalf of the American Medical Informatics Association (AMIA). AMIA is the professional home for biomedical and health informatics and is dedicated to the development and application of informatics in support of patient care, public health, teaching, research, administration, and related policy. AMIA seeks to enhance health and healthcare use through the transformative use of information and communications technology. AMIA s 4,000 members advance the use of health information and communications technology in clinical care and clinical research, personal health management, public health/population, and translational science with the ultimate objective of improving health. Our members work throughout the health system in various clinical care, research, academic, government, and commercial organizations.

In general we are supportive of the proposed definition but are pleased to submit the following suggestions for your consideration. We believe that one topic that is not addressed is the assurance of the quality and rigor of the science conducted. Also, it is not clear to what extent health information technology (including electronic health records, disease registries, telehealth

application such as home health monitoring) is considered as one of the potential defined interventions .

The prioritization criterion #1 (Potential Impact (based on prevalence of condition, burden of disease, variability in outcomes, and costs of care) might leave out some key issues that warrant study. We suggest that not all CE questions involve common diseases, and arguably there are less frequent diseases that are particularly likely to raise questions of optimal workup or management.

Again, we applaud the Department s efforts to oversee this important national and public discourse. If I can answer any questions for you, or offer additional information on this subject, please feel free to contact me at detmer@amia.org or 301 657-1291.

Submitted by
Matthew Farber
Association of Community Cancer Centers
mfarber@accc-cancer.org

Comment Type: *General Comment*

The Association of Community Cancer Centers (ACCC) is a membership organization whose members include hospitals, physicians, nurses, social workers, and oncology team members who care for millions of patients and families fighting cancer. ACCC s more than 700 member institutions and organizations treat 45% of all U.S. cancer patients. Combined with our physician membership, ACCC represents the facilities and providers responsible for treating over 60% of all U.S. cancer patients.

ACCC thanks the Federal Coordinating Council (Council) for releasing its Draft Definition of Comparative Effectiveness Research (CER), Draft Prioritization Criteria, and Draft Strategic Framework. ACCC appreciates and agrees with the Threshold Minimal Criteria and also with the Prioritization Criteria laid out in the draft document. ACCC also agrees with the basic framework and cross cutting priorities, such as cancer, announced by Council. We appreciate the Council s transparency and willingness to seek stakeholder input to this important process.

However, ACCC remains concerned that cost effectiveness may be included in future CER. Although the Draft Definition does not refer to cost effectiveness, there still could be opportunities for cost effectiveness to be taken into account in CER. ACCC requests that any guidance on CER include explicit language preventing cost from being considered.

In addition, we are concerned that the Draft Definition s reference to decision-makers, along with patients and providers, as the users of CER could be construed as support for the use of CER in payers coverage decisions. This would be contrary to the American Reinvestment and Recovery Act s (ARRA) express prohibition against the Council mandating coverage, reimbursement, or other policies for any public or private payer. The ARRA conference report also notes that Congress did not intend for CER funding to be used for such purposes. We ask that the definition of CER include explicit language preventing coverage decisions from being based on CER. The Council should clarify that decision-makers refers to patients advocates, including a patient s parents, guardians, and family members who may be involved in making health care decisions.

We are pleased that the Draft Definition appears to recognize that all patients with the same disease may not benefit from the same treatment option. This is especially important in oncology, where the most effective treatment for one person, may not be the same for another person with the same diagnosis. To further clarify that CER must assess a comprehensive array of health-related outcomes for diverse patient populations, we suggest that the word subpopulations be added to the end of this sentence.

ACCC also is concerned with some of the aspects of comparative effectiveness that were not included in the Draft Definition, Prioritization Criteria, or Strategic Framework. ACCC remains concerned that there is still some confusion as to where this research will take place. The Agency for Healthcare Research and Quality (AHRQ) already is conducting some CER, and the National Institutes of Health (NIH) is also in line to conduct research. We ask the Council to clarify whether other agencies will be involved in CER. We also ask for clarification about the application of the Draft Definition, Prioritization Criteria, and Strategic Framework. Will these terms and structures apply to research already underway, or will they apply only to new research?

ACCC would like to thank the Council for the opportunity to submit comments on the draft definition of CER. If you would like to discuss our concerns further, please contact Matt Farber at mfarber@accc-cancer.org.

Thank you

Submitted by
Nancy Spannaus
nancyspannaus@verizon.net

Comment Type: *General Comment*

By Nancy Spannaus, U.S. branch of the Club of Life

First, let me say that the Club of Life is an international organization founded in 1982, by Helga Zepp-LaRouche, and dedicated to the promotion of the inalienable right to life for all peoples on this planet, and the defeat of the Malthusian outlook which has taken hold of many too many of our institutions over the past 40 years. We have dedicated our efforts to fighting {for} a new, just world economic system, as a moral and economic imperative, and against the evils of cultural pessimism, which have contributed to the spread of such evils as assisted suicide, the drug plague, and other degradations of the sanctity of human life.

The central question that must be addressed by this Council, I believe, is the question of {mission}. My reading of the work in the area of Comparative Effectiveness has led me to the conclusion that, protestations to the contrary, it is a process dedicated to {reducing} the investment in saving human lives to the lowest possible denominator, in the spirit of cost-effectiveness. Such a mission leads inexorably to the disease which Dr. Leo Alexander, a U.S. psychiatrist aiding the prosecution of the Nazi doctors at the post-war Nuremberg Tribunals, called utilitarianism, an attitude which itself leads down the slippery slope toward designating some lives as ``not worthy to be lived.

Dr. Alexander, who saw the danger of such an idea invading U.S. society as early as 1949,
defined this attitude as Hegelian and cold-blooded. He observed that the Hegelian rational attitude has led [doctors] to make certain distinctions in the handling of acute and chronic diseases. The patient with the latter carried an obvious stigma as the one less likely to be fully rehabilitable for social usefulness. In an increasingly utilitarian society, these patients are being looked down upon with increasing definiteness as unwanted ballast. From that small beginning, that shift in viewpoint, he said, ``the acceptance of the attitude, basic in the euthanasia movement, that there is such a thing as a life not worthy to be lived, comes the horror of mass murder, which Hitler, and his expert Nazi doctors ultimately carried out.

We cannot tolerate any institution that promotes such an attitude, in the governmental structure of the United States.

Dr. Alexander also emphasized that this shift in attitude did not arise primarily within the medical profession, but was imposed by the shortage of funds available, both private and public, for the care of the very sick.

Today s work in comparative effectiveness clearly is proceeding from the standpoint of reacting to a shortage of funds, and making hard choices over who should get care, and who not.

What s the alternative? It begins with valuing every human life, and then fighting to create the thriving economy which is required to provide the hospitals, technicians, researchers, medicines, and
medical equipment required to take care of all of our population. Surely, no one can say that we can t afford quality health care for all if we are throwing trillions of dollars into saving financial derivative markets on Wall Street.

My conclusion is this: If the Comparative Effectiveness Council cannot find a mission in

expanding medical resources for all parts of the country, rather than applying Nazi-like cost-cutting
measures on our population, it should be disbanded forthwith.

Submitted by
Al Cors
RetireSafe
acors@retiresafe.org

Comment Type: *General Comment*

On behalf of 400,000 senior-citizen supporters across America, RetireSafe urges you to make every possible effort to ensure that the use of comparative effectiveness research (CER) is never used to deny seniors and others the treatments and therapies they need based on cost. That said, we also urge you to consider the aging of America in all of your studies, as seniors will soon represent a huge portion of our total population, roughly 25 percent. No large study will be valid without that consideration. Because of the huge number of co-morbidities in the senior population, as well as the massive number of senior subgroups, these studies will be complex, but ever so important to quality health care. We urge your complete consideration of all of these critical factors. Thank you for the opportunity to comment.

Submitted by
Linda Stanton
Private citizen
mnlas@msn.com

Comment Type: *General Comment*

Healthcare choices must be made by the individual and their chosen doctor, not by insurance companies or government bureaucrats.

The government should not expand its role of providing healthcare it should make every effort to reduce it. Neither should it set itself up as the one to decide what is or isn't the most effective treatment.

The individual can be trusted to make wise decisions about their care. The individual must be allowed to make his or her own choices as to health care providers, treatments, etc. not be

dictated to by the insurance company. Currently, the health plan decides what is covered and what is not. If the person wants an alternative treatment, they can pay for it on their own.

The high cost of care is partly due to a double standard. If you do not have coverage or have a high deductible, then the provider charges you less, but if you have insurance the provider charges more. No wonder we are paying too much! We need to get back to a market economy for healthcare.

Insurance should provide less. The amount of care covered by insurance should be reduced. It should be for catastrophic care and major illnesses. Not for preventive care. Because we try to provide too much, it is costing too much.

Individuals should be given the option of a Health Savings Account, preferably begun when they are an infant to save for their own care, which the person spends at their own discretion: choosing providers and treatments of their own choice.

Any effort to create comparative effectiveness takes the choice away from the patient and creates the path to drastic rationing.

The US has one of the best health care systems in the world. Please drop the idea of 'pay for performance', comparative effectiveness, or any such nonsense, it will only end up ruining the great system we have now.

Linda Stanton
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Submitted by
Chip Amoe
American Society of Anesthesiologists
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Comment Type: *General Comment*

The American Society of Anesthesiologists (ASA) Comments on Comparative Effectiveness Research and the Anesthesia Quality Institute (AQI) Data Registry

In order to produce meaningful and ongoing comparative effectiveness research, it is important to establish the necessary infrastructure. To this end, the American Society of Anesthesiologists (ASA), through its leadership and House of Delegates, has recognized the importance of

establishing a national clinical data registry and has created a related but separate organization focused on quality improvement in anesthesiology. The organization, the Anesthesia Quality Institute (AQI), has a vision to become the primary source of information for quality improvement in the clinical practice of anesthesiology. The organization will allow anesthesiologists to maintain and enhance their well earned reputation as the leading medical specialists in terms of quality of care and patient safety. This assistance could be expanded to include other anesthesia service providers and perhaps other perioperative care providers. The AQI seeks to accomplish three primary objectives.

1. Improvement of Patient Outcomes and Quality of Care

The development of a data registry for anesthesiology will help improve patient outcomes and thus raise the quality of care in the specialty in three main ways. First, more anesthesiologists will be able to collect and monitor their own practice data, which is the foundation of quality improvement. Without solid data a physician, practice, or hospital cannot accurately know his or her true level of performance and outcomes. Benchmarking reports will provide anesthesiologists with a mechanism to assess their own practice relative to their peers and will facilitate the development of meaningful report cards on physician and team performance.

Second, the data registry will support the development of products or services to assist anesthesiologists whose practices are achieving relatively lower performance. A number of current data registries collect voluminous amounts of data, but lack a comprehensive ability to analyze and translate that data back into practice and performance improvement. The AQI intends to go beyond mere data collection and close the loop on identified shortcomings through practice improvement materials and processes developed in partnership with ASA and the American Board of Anesthesiology.

Finally, a comprehensive national data registry for anesthesiology would provide new resources for improving the practice of anesthesiology through related research. Researchers could utilize the data registry to answer clinical questions of importance to patients and the specialty. While peer benchmarking will require a stable and standardized collection of data, specific, focused research initiatives can be provided temporary access to the registry to very rapidly acquire a broad-based sample of clinical information designed to address priority research interests, including comparative effectiveness research. Some of these priority research topics might include the relationship of anesthetic management to tumor biology and cancer survival; the optimal strategies to prevent unintended intraoperative awareness and the impact of anesthetic exposure on cognitive function in the very young and very old.

Much of the potential of an anesthesiology-based clinical registry will be realized through interoperability and partnership with datasets collected by our partners in perioperative care, especially surgical colleagues. These linkages will be challenging and complex and invite a unified, nationally coordinated effort to integrate the related clinical registries.

2. Dissemination of Anesthesiology Specific Information

The data registry will allow the Anesthesia Quality Institute to develop reports for interested parties on either aggregate outcomes information or physician-level measures. As the data set grows increasingly robust and achieves validation, the AQI could partner with public and commercial payers who wish to learn more about anesthesiologists and the quality of perioperative care. Such reports could be used as an alternative to claims-based and administrative datasets which are weaker data sources in anesthesiology than in most other fields of medicine. Finally, ASA and the AQI could use the database to support organizational statements and public understanding about the safety and quality of the practice of anesthesiology.

3. Develop and Further the Specialty of Anesthesiology for the General Elevation of the Standards of Medical Practice

The data registry will elevate the standards of practice by providing evidence for use in future ASA practice statements and guidelines. The registry will demonstrate the validity of the collected data through a risk adjustment methodology and data validation process. Such data could then be sufficient for multiple purposes, including focused research queries, peer-review publications, and evidence to support ASA practice guidelines.

Although it is widely known that anesthesiologists have raised patient safety to nearly the Six Sigma level, this achievement is almost entirely related to the reduction of anesthetic mortality rates. The data registry will help define the current state of practice of anesthesiology by identifying rates of other, less dramatic but still important events and outcomes. Data reporting and comparative analysis is the only route to understanding clinical practice variation, a fruitful route to quality improvement.

Variations are seen throughout medicine and every medical specialty. Registry data will permit understanding of such variation and reduce it through the identification of outliers and dissemination of best practices, which will address important, but currently difficult to recognize, clinical problems in the specialty.

In conclusion, anesthesiologists are deservedly proud of their reputation as leaders in patient safety; however we do not intend to rest on our reputation. We recognize that the time has come to take the next step and develop a national data registry for anesthesia to help improve the health of our patients, communities and the performance of our practices and hospitals. We therefore request that a portion of the funds, authorized for comparative effectiveness research, be dedicated towards the development of national clinical data registries, such as the Anesthesia Quality Institute. There are many unanswered questions and gaps in knowledge across all specialties and we recognize the federal government cannot fund research in all of these areas at once. However, by funding such registries now, the Administration can build the infrastructure and data sets needed to support comparative effectiveness research today, while also laying the foundation for maintenance and expansion of such research in the future.

Submitted by
Jane Wicklund
Berkeley HeartLab
jwicklund@bhlinc.com

Comment Type: *Listening Sessions*

Can you tell me what time the June 10th listening session begins and ends? Also, is this done in person or via conference call?

I'm trying to schedule travel around this and I'm traveling from the West coast.

Thanks,
Jane

Submitted by
Mary Steele Williams
Association for Molecular Pathology
mwilliams@amp.org

Comment Type: *Listening Sessions*

Dear Coordinating Council Members:

The Association for Molecular Pathology is pleased to have the opportunity to provide comments to the Federal Coordinating Council for Comparative Effectiveness Research (the

Coordinating Council) on the subject of comparative effectiveness research (CER) and share our recommendations on priority areas on which to focus CER activities.

AMP is an international medical professional association representing approximately 1,600 physicians, doctoral scientists, and medical technologists who perform laboratory testing based on knowledge derived from molecular biology, genetics, and genomics. Since the beginning of our organization we have dedicated ourselves to the development and implementation of molecular diagnostic testing, which includes genetic testing in all its definitions, in a manner consistent with the highest standards established by CLIA, the College of American Pathologists (CAP), the American College of Medical Genetics (ACMG), and FDA. Our members populate the majority of clinical molecular diagnostic laboratories in the United States. They are frequently involved in the origination of novel molecular tests, whether these are laboratory developed or commercially developed. Our members proudly accept their responsibilities in assessing the analytical validity, clinical validity, clinical utility, and the clinical utilization of these tests for each specific patient.

CER is garnering substantial attention in Congress and among other policy makers who see it as a method to examine the comparative effectiveness of treatments, including how they relate to coverage and reimbursement decisions. Diagnostic tests will most definitely be included in this paradigm, especially when the effectiveness of treatments will vary among different population subgroups. Unfortunately, the value of diagnostics in improving clinical outcomes has not been appreciated adequately in the past; therefore, considering the role of genomics under CER will be critical.

In order for CER to be a success, it will be essential to train experts in diagnostics (including molecular diagnostics) in current health services research methods as well as to train health services researchers in the technical areas they will assess. This cross training will be essential to ensure that the research methods are technology appropriate. For example, in molecular diagnostics, there are situations where a prospective, randomized clinical trial will not be feasible and/or a research outcome could be achieved through an alternative study design such as a retrospective analysis of available data. Further, outcomes studies conventionally assess technologies as interventions, often using the diagnostic test as a benchmark or endpoint, without consideration of the characteristics of the diagnostic. There is much less experience in assessing the role of the diagnostic test itself in appropriate and cost effective management of individual patients. Therefore, AMP encourages the Coordinating Council to invest in the cross-training of researchers and diagnostics experts as well as to build the infrastructure within the agencies to understand and review data from different types of technologies.

While not specifically requested for the listening session, AMP would like to provide the Coordinating Council with the following list of high priority areas of CER identified by the Association s membership:

1. Infrastructure. Infrastructure should be developed to design a model and process for CER regarding laboratory tests. This should include the following:

" The creation of a panel of experts consisting of physicians and scientists, including laboratorians with molecular diagnostics expertise, economists, and reimbursement specialists.

" AMP encourages the creation of an electronic clearinghouse for information on CER projects similar to www.clinicaltrials.gov. Reliable tracking and coordination of CER activities will be crucial to avoid duplication and redundancy and to ensure appropriate use of CER funds. Moreover, access to the tracking data should be available to all entities conducting CER, both from the private and public sector.

" AMP encourages the development and adoption of standards for the collection and storage of data from genetic testing laboratories in order to establish an archive, and to ensure interoperability among databases. Moreover, these databases should include information on the reason for the test, the type of test, test results and availability of genetic counseling and testing centers.

" It should be required that data from technologies and tests being assessed be generated from CLIA-, CAP-, ISO-, or FDA- certified institutions. Consulting with or recruiting professionals from the molecular pathology community will aid the assessment committees in evaluating the quality of proposals and the data generated.

2. Clinical Outcomes in Pharmacogenetic Molecular Pathology. As information becomes available that relates clinical outcomes to genetic variations, the regulatory, medical and lay communities expect that it will be immediately incorporated into routine clinical care. FDA labeling that relates pharmacogenomic response to maintenance dose, for example, has created demand for both testing and reimbursement in the absence of large clinical trials that demonstrate the effectiveness of such laboratory testing by comparison with either usual care or alternative approaches. An example of this is the use of daily home prothrombin time testing under medical supervision during the first few weeks of anticoagulation versus CYP2C9/VKORC1 mutation testing. Funding for large, carefully designed comparative effectiveness trials for molecular tests should be coupled with funding for observational comparative effectiveness studies that complement randomized controlled trials by including patients who may be tested, but do not meet the inclusion criteria for prospective trials.

3. Evaluating the Effectiveness of Genomic Tests and Clinical Molecular Diagnostics Laboratories. For the public to reap the benefits of effective molecular tests, it is critical that all laboratories meet high performance standards and participate in proficiency testing programs utilizing appropriate reference and control materials.

" Development of reference materials. AMP recommends funding for a program to develop reference materials, exploiting traditional and innovative methodologies, to aid the continued advancement of quality measures in the field of laboratory medicine.

" Novel ways to evaluate laboratory proficiency. AMP supports the development of proficiency testing methods as alternatives to distributing surrogate test specimens. As is evident in cytogenetics, it is impossible to send out surrogate specimens for every known translocation

and rearrangement. Categorical methodologic proficiency testing should be evaluated as one such alternative.

" Methods to evaluate novel and emerging types of genomic testing. AMP believes efforts should be taken to develop appropriate quality assurance for new technologies such as whole genome sequencing, using carefully designed methods to determine the relative effectiveness of various quality assurance methods in improving laboratory testing and ultimately clinical outcomes.

4. Interpretation and Reporting of Molecular Pathology Test Results. The data collected by AMP s Clinical Practice Committee in recent years indicates there is room for improvement regarding the transmission of genetic test information. The influence of this information on ultimate clinical outcomes cannot be overstated and could be an important area for CER. Studies to evaluate the use of information by clinicians are critical to understanding clinical utility and effectiveness.

5. Valuation and Reimbursement. Government and healthcare payers should use CER to identify which laboratory services add benefit to patient care and work to implement valuation and reimbursement strategies to help improve clinical outcomes. Reimbursement of diagnostics, including molecular based tests, is extremely poor. Despite the possibility of saving the healthcare system thousands of dollars per patient and improving the quality of care, diagnostics have been historically under valued. AMP hopes that any CER activities will include research to explore the value, beyond simply cost, of diagnostic tests to patients, providers, payers and the larger health care system. . It has been noted that the value of diagnostics in general is not well studied. Assessing the role of laboratory information in medical decision making could improve appropriate utilization of laboratory tests and clinical outcomes, with potential savings to healthcare. Although reimbursement is one important function of the current coding system (CPT), these codes are also intended to reflect clinical evaluation and management practices. AMP believes the health care system is in need of an entirely new coding vocabulary to describe the types of "evaluation" and "management" practices that are emerging with regard to molecular and genomic testing.

6. Comparative Methodology Research. Many different technical approaches are available for generating the same genetic test result. Relating testing approaches to health outcomes is a neglected area of comparative effectiveness research. AMP supports the evaluation of a multiplicity of platforms in the development and evaluation of companion diagnostics. This approach is not only good science in that it promotes refinement and improvement in methodologies, but is critical to the evolution of medicine. There is no question that therapeutic effectiveness is influenced by test methodology. A prime example of this is the selection of patients with breast cancer for treatment with Herceptin. Determination of eligibility for treatment can be through fluorescence in situ hybridization (FISH) testing or through imunohistochemical methods. Discrepancies between the two methodologies have resulted in patients being inappropriately treated, either exposing them to potential drug side effects without therapeutic benefit, or simply in not treating them with a potentially beneficial drug. These data can be obtained using retrospective studies, but they do need to be pursued.

Thank you for your attention and consideration of our comments. AMP hopes to continue to be a valuable resource to you as the Coordinating Council works to implement and advance CER. Please contact us if you need any clarification or further information.

Sincerely,
Jan A. Nowak, MD, PhD
President

Submitted by
Harry Selker
Society of General Internal Medicine
hselker@tuftsmedicalcenter.org

Comment Type: *Listening Sessions*

Society of General Internal Medicine Statement for Federal Coordinating Council for Comparative Effectiveness Research Listening Session, June 10, 2009
Harry P. Selker, MD, MSPH

The Society of General Internal Medicine, an organization of academic general internists focused on research, education, and primary care, and which has a long history of researchers in comparative effectiveness research (CER), is delighted to have the opportunity to provide a statement to the CER Federsal Coordinating Council. Today SGIM wishes to urge the Council that, to preserve the highest standards of science and independence from conflicts of intereset, the American Recovery and Reinvestment Act (ARRA) of 2009 funds for CER should be directed in a way that preserves the conduct of CER at AHRQ, NIH, and other extant federal science agencies. We believe this will be in the best interest of the healthcare system and it will serve as a model for future CER activities at a time when the quality and integrity of CER will become of increasing national interest.

Potential outcomes of CER include scientific knowledge, improved health, and financial impact. Across the spectrum of CER, from structured analyses of prior studies, databases, and registries, to the conduct of large clinical effectiveness trials, the scientific objective is rigorous reliable information about what treatments are best for what patients, and under what circumstances. Unless the conduct or public release of such research is compromised by poor quality or conflicts of interest, such information should have a direct positive impact on health.

The economic consequences are likely to be substantial, but vary for different stakeholders. For the nation, even if total costs of healthcare do not fall, CER should have a positive impact on cost-effectiveness we would be spending healthcare dollars more wisely, on the most effective care. For those who sell treatments, the consequences are mixed. Pharmaceutical manufacturers may benefit financially because CER will compare drugs to not only other drugs, but also to medical devices and procedures, which could expand the number of conditions for which their drugs might be used, and enlarge their market. However, CER might show that some new on-patent drugs are not more effective than earlier off-patent versions available at far less cost, and

this could compromise sales of pharmaceutical manufacturers most profitable drugs. For medical device companies also, profits could be reduced. Because currently FDA s statute mandates less evidence of treatment benefit for medical devices than for drugs, a new requirement for rigorous testing of effectiveness would require extra time and money, and ultimately likely would likely show that at least some devices have undiscernable treatment benefits, which would curtail sales.

These adverse effects on manufactures profits are the other side of the coin that should result in greater cost-effectiveness, which should be attractive to healthcare payers, including insurers, self-insured companies, the government, and utlitmately, the public. Reliable well-accepted information on treatment effectiveness on which to base payment decisions would be very helpful. Also, there is general consensus that generating such information without insurers using their own funds, and without violating anti-trust rules against colluding with competitors about business decisions, but rather, using public funds, is very attractive. However, for insurers, that they may be mandated to provide access to treatments found to be effective, and that their decision-making about coverage would be potentially limited based on such data, are concerns.

Some healthcare industry advocates want stakeholder governance input into the conduct of CER rather than as now done at Federal medical or healthcare research agencies. What are the alternatives? Currently, the private sector puts a relatively small amount of into CER, generally focused on their own products or services. The objectivity of this research is suspect, and results may be buried if not in concert with a company s objectives, even if they would have been helpful to the healthcare system and to the health of the public. In comparison, the Agency for Healthcare Research and Quality (AHRQ), already mandated by law to do CER, and the National Institutes of Health (NIH), where CER is also done, both have long-standing high standards of research transparency and disclosure, with results available for public scrutiny. The credibility of these science agencies has led to acceptance of their findings by the medical community and dissemination of practice improvements, supporting improved care by all clinicians and payers.

The stakes are very high, not only for industry, but more importantly, for the nation and for the public. There is a high road that has made the biomedical research of this nation the best on the planet: the retention of the long-developed peer-review processes and increasingly strict protections against conflicts of interest embedded in the operations of the NIH, AHRQ, National Science Foundation (NSF) and other Federal research agencies. On the other hand, industry concern about healthcare coverage decisions based on CER being done in a research agency does have merit. Payment coverage decisions should not be the purview of science agencies this would only distract -- these decisions should be made by other entities under the extant rules for healthcare coverage.

These considerations lead to specific recommendations for the conduct of CER:

1) Comparative effectiveness research is research intended to affect treatments of people, and for that reason, like all biomedical research, it deserves to be done at the highest standards of science and free from conflicts of interest. Thus it should be done at a science agency, not at a

new hybrid entity that will have to build an entirely new science infrastructure and that will involve in its governance those with a direct stake in the results. Indeed, the latter risks a situation rife with conflict of interest and compromised scientific quality.

Public input to research agenda is a social good, and should be sought. It is very reasonable that agencies doing CER and healthcare research have a high-level public/private advisory board. However, it must not be a governing board, which would constitute an avenue for conflict of interest that scientists, clinicians, policy-makers, and the public would, and should, find objectionable.

The AHRQ has the most broad experience and expertise for CER, and could continue as a lead agency for CER. The NIH also has a very important role to play, and both are likely to benefit from collaboration with FDA, CDC, and other agencies. For example, based on these agencies respective expertise, AHRQ could be responsible for research looking at effectiveness, harm, and safety done by analyses of current evidence, healthcare databases, and healthcare delivery, and NIH could be responsible for large randomized comparative effectiveness trials needed to do accurately assess benefits of a treatment. A joint committee could coordinate these efforts, much as there is currently cooperation between program staff among the agencies for joint projects, and this would presumably be in synchrony with the CER Federal Coordinating Council. Also, this link may be facilitated by the NIH Clinical and Translational Science Awards (CTSAs). With the mission of promoting of the wide spectrum of research that can improve the public s health, many CTSA institutions already have AHRQ CER centers (e.g., AHRQ Evidence-based Practice Centers, AHRQ/FDA Centers for Education and Research on Therapeutics, and AHRQ DeCIDE [Developing Evidence to Inform Decisions about Effectiveness] Network centers), and thus could be an excellent link to AHRQ around CER and a portal to NIH Institutes and Centers and potentially to other agencies.

2) Coverage decisions should not be the purview of the CER done at these research agencies; those decisions would be made at the Centers for Medicare and Medicaid Services (CMS) and by other payers, as they are now. For the future, presumably this will be addressed as part of the Healthcare Reform effort. Assessments of the effectiveness of treatments should be central to the output of CER; specific payment decisions about issues of policy, cost, equity, compassionate care, among many, should done by and overseen by agencies under long-established procedures.

We believe it was an excellent sign that ARRA recognized the importance of CER, and that its natural home is in science agencies, viz., AHRQ in conjunction with NIH, where peer review processes and research infrastructure are in place to ensure the highest quality science. This will benefit the entire healthcare system and the public through promoting more effective care. As the impact CER might have on payments plays out in politics, it is important that this research type not be divided from the rest of the biomedical research enterprise. Thus we encourage the Coordinating Council to allocate the ARRA funds for CER in a way that preserves the conduct of CER at AHRQ, NIH, and other extant federal science agencies, and that serves as a model that will serve future CER activities, and will thereby maximize the important impact of CER on healthcare and the public s health.

Submitted by
Sarah Hicks
National Congress of American Indians
shicks@ncai.org

Comment Type: *Listening Sessions*

The National Congress of American Indians (NCAI) appreciates this opportunity to provide comments to the Department of Health and Human Services (DHHS) on comparative effectiveness research (CER). DHHS listening sessions are an important step in the consultative process in deciding how to award the $1.1 billion in ARRA-appropriated CER research grants.

NCAI is the oldest, largest and most representative organization of American Indian and Alaska Native (AI/AN) tribal governments in the nation. DHHS policies on CER have significant potential impacts on AI/AN communities, some of which might improve the quality of health care while other unintended impacts could be detrimental. Consistent with the larger DHHS policy of tribal consultation, we recommend that there should be ongoing discussion with a broad range of stakeholders in AI/AN communities about CER. These consultations should continue throughout all phases of CER policy development and implementation, including: 1) defining the scope of CER and methodologies for this kind of research, 2) the drafting of grant announcements and awarding of funds, 3) and the application of research findings to clinical practice, including changes to reimbursement rates or clinical priorities given to different treatment options. The way that CER is defined will impact what kinds of research will be funded and likely will also affect what kinds of treatments will be supported by federal health care systems, including the Indian Health Service.

CER is generally defined as a research method for comparing the clinical efficacy of different kinds of drugs, treatments, medical devices, and medical procedures, as well as different approaches to the same procedure. These types of studies could have a positive impact on AI/AN communities if they are included in these kinds of research studies. The clinical efficacy of medications, for example, can vary by ethnic group, and so study results in non-Indian populations should be cautiously interpreted and cannot always be reliably applied to AI/AN individuals. CER studies examining clinical efficacy of different treatments should purposively include AI/AN individuals, who should be included as a large enough proportion of the sample to ensure adequate statistical power. Studies might also be conducted on existing clinical data available through the Indian Health Service s (IHS) medical records system. The outcomes for patients receiving different treatments could be compared using this large existing data set. Similarly, Tribal Epidemiology (Epi) Centers might also be able to conduct regional studies evaluating clinical outcomes of different treatments.

Due to their relatively small population and other factors, AI/AN communities have historically not always been included in research which could be of substantial benefit to them. We

recommend that DHHS require researchers conducting national CER studies to include members of ethnic minority groups in those studies, and specifically to oversample diverse AI/AN populations. Furthermore, we also recommend that grant funds be made available to tribal governments, tribal colleges, the IHS, the Native American Research Centers for Health program, Tribal Epi Centers, urban Indian organizations, and other institutions with a history of conducting culturally-sensitive and respectful research in AI/AN communities. Given the mixed history of research in AI/AN communities, it may be difficult to include AI/AN individuals in CER research without involving trusted organizations and institutions in such studies. Studies conducted on tribal lands should also be required to have the approval and support of tribal governments, and tribal processes for research review should be respected. Similarly, studies conducted in urban Indian communities should be approved by and involve urban Indian organizations when applicable. In the evaluation of grant applications for studies to be conducted in AI/AN communities, the potential risks and benefits to both individual community members and the community as a whole should be considered. If possible, AI/AN reviewers or other individuals with knowledge of AI/AN communities should be included on grant review panels. Finally, grant announcements should require community-collaborative research methods, such as community-based participatory research (CBPR), as these methods prioritize community needs.

The chronic underfunding of the IHS is a critical context for considering the broader potential impacts of CER on AI/AN communities. If specific treatments are found to be more clinically efficacious in AI/AN communities, these communities could benefit from having those treatments made more widely available in IHS clinics. The IHS limited financial resources could be better used if channeled toward treatments that have been shown to be clinically efficacious in AI/AN populations. However, even if the treatments found to be clinically effective are relatively expensive, adequate funding should be provided to IHS to support the use of these treatments. Furthermore, it is critical that funding to IHS be increased to an adequate level for the provision of needed medical services, both related to treatment and prevention of disease. Adequate funding for all necessary medical treatments is a prerequisite for the scientific evaluation of those treatments. Without an increase in resources for the IHS, CER could result in increased emphasis on cost-cutting and rationing of medical care. This potential negative outcome should be proactively avoided by increasing funding for IHS and by focusing the application of CER in IHS clinics primarily toward clinical efficacy with cost-containment as a secondary priority. CER studies conducted in AI/AN communities and elsewhere should not focus on cost-effectiveness at the expense of clinical efficacy.

Definitions of CER and associated research methodologies should be broad and flexible enough to incorporate the worldviews of culturally-diverse communities, including AI/AN peoples. In order to maximize the potential benefits of CER to AI/AN communities, it is important that local contexts and community perspectives are part of determining research topics and methods. Different communities may have diverse forms of healing that they wish to evaluate as part of CER. For example, traditional healers provide care in many AI/AN communities along with Western medical providers. Complementary and alternative medical (CAM) practices (e.g., acupuncture, naturopathy) are also used in some AI/AN communities. Traditional healing and CAM should be included as potential study topics in CER grant announcements. The methods used to evaluate such healing methods may be different from standard biomedical research

designs. Established biomedical research designs, such as randomized clinical trials, are not always culturally appropriate for AI/AN communities because some of them find placebo groups (i.e., lack of treatment) unacceptable. In addition, it may not be culturally appropriate to observe or record some traditional ceremonies. These cultural norms do not always preclude the scientific study of traditional healing, but new and creative research methodologies may need to be developed to evaluate its use in AI/AN communities. Finding new ways to study traditional healing and CAM is important for increasing the scientific evidence base for these health systems, and by extension, support for these kinds of healing by federal funding sources and private insurance payers.

Community knowledge and values are important resources in defining study questions, research design, and measures of efficacy or success. As sovereign governments, tribes should be able to determine what healing practices should be studied, what kinds of data should be collected, and how clinical efficacy is defined. Healing practices that are used widely in a community often are successful for community members, which is why these practices are prevalent (regardless of whether they have been scientifically studied). Accumulated community knowledge and evidence of these healing practices success might best be studied by research methodologies other than clinical trials. Such research designs could include long-term observation of the impacts of traditional healing practices (ethnographic research) or using the paradigm of practice-based evidence, where commonly-used healing practices and community knowledge are used as the starting point for study design and data variables, rather than beginning with a priori hypotheses. The scientific strength of these research designs is that they are grounded in community knowledge and provide information specific to local contexts.

While CER specifically is focused on comparing different treatments, treatments are always prescribed and used in a broader context. We recommend that CER study designs and policy applications of studies take into account broader contextual factors for communities and individuals, including socioeconomic status, cultural beliefs, the health of families, and other aspects of patients environments. We also suggest that CER grant proposals examine the intersection of physical and mental health (e.g., comparing physical and mental outcomes in situations where trauma and mental health concerns are addressed versus when they are not treated). CER study results should also be applied with caution in different local contexts. Available resources and the structure of local health care delivery systems vary widely, and so local communities and health care providers should have some autonomy in determining how to implement CER study results. Similarly, individual patients often have complex medical conditions which do not match the idealized characteristics of study populations, and so health care providers should be free to use their clinical judgment in individualizing treatments for their patients.

In sum, given the wide variation in local contexts, AI/AN communities should be consulted as DHHS defines CER, prepares related grant announcements, and as national health care guidelines and federal reimbursement rates for treatments/interventions are reshaped using CER study findings. Thank you again for the opportunity to provide comments on CER.

Submitted by
Jill Metcalf
Society for Med. Decision Making
jill.metcalf@smdm.org

Comment Type: *Listening Sessions*

Hello,

I would like to nominate someone to give comment at the June 10th listening session. Can you please tell me how to make the nomination?

Submitted by
Jill Metcalf
Society for Med. Decision Making
jill.metcalf@smdm.org

Comment Type: *Listening Sessions*

Hello,

I would like to nominate someone to give comment at the June 10th listening session. Can you please tell me how to make the nomination?

Thank you.
Jill Metcalf
Executive Director
Society for Medical Decision Making

Submitted by
Richard I. Smith
Senior Vice President, Policy

Nomad Research, Inc.
mmccarren@nomadresearch.com

Comment Type: *Listening Sessions*

Re: Reading level of participant materials

If potential subjects are given written materials that are above the 8th-grade reading level, many will not be able to read and understand the information. Will subjects say, I can t read this, will you explain it to me? Probably not. They will just sign the forms. This is not informed consent.

The National Institutes of Health Plain Language Coordinating Committee recommends a reading level of 4th-8th grade for public information materials and public notices. http://execsec.od.nih.gov/plainlang/guidelines/engaging.html

I have been a medical writer for 18 years and have written materials for clinical studies for 4 years. My goal is 6th-grade reading level. I often meet with resistance. Researchers tell me: We don t want to sound unprofessional or unscientific. Or this gem: We re more comfortable above 8th grade level. Of course they are more comfortable; they have advanced degrees. Unlike many Americans, they do not struggle with two- and three-syllable words.

Most researchers simply do not understand the scope of the problem of low health literacy in this county, so they will not voluntarily produce easy-to-read participant materials. Thus, we need to set a rule.

I call on the Federal Coordinating Council to require that all materials for participants in clinical studies be at a reading level of 4th to 8th grade.

Submitted by
Merrick Zwarenstein
Sunnybrook Health Sciences Centre, Toronto, Canada
merrick.zwarenstein@ices.on.ca

Comment Type: *Prioritization Criteria*

I am surpised by the lack of a criterion which allows you to prioritise a proposal that uses more rigorous research designs over one whihc uses less rigorous study designs.

I suggest that a criterion should be included which says something like the following:

The most rigorous design possible is used, appropriate to the question and circumstances.

Submitted by
Tony Principi
Pfizer Inc
anthony.principi@pfizer.com

Comment Type: *Prioritization Criteria*

Note: we also are submitting these comments in a separate letter.

On behalf of Pfizer, I am submitting the following comments to the Federal Coordinating Council s (Council) proposal for a framework on comparative effectiveness research (CER). Pfizer is a research based drug developer that sponsors numerous trials in the U.S. and around the world, to support marketing approvals and to assess comparative effectiveness, post-approval.

Pfizer supports the Council s continued commitment to transparency and public engagement through its solicitation of public input on the definition, prioritization criteria, and strategic framework for CER.

Our comments are structured to respond to three elements contained within the draft documents released by the Council. They build on comments we are submitting related to the Council s proposals on prioritization of comparative effectiveness research.

Draft Prioritization Criteria for CER
" The prioritization criteria are divided into two categories:
o Threshold Minimal Criteria (i.e., investment must meet these to be considered)
? Included within statutory limits of the Recovery Act and Council s definition of CER
? Responsiveness to expressed needs and preferences of patients, clinicians, and other stakeholders, including community engagement in research
? Feasibility of research topic (including time necessary for research)
o Prioritization Criteria (i.e., the criteria to be deemed scientifically meritorious)
? Potential impact (based on prevalence of condition, burden of disease, variability in outcomes, and costs of care)
? Potential to evaluate comparative effectiveness in diverse populations and patient sub-populations
? Uncertainty within the clinical and public health communities regarding management decisions
? Addresses need or gap unlikely to be addressed through other funding mechanisms
? Potential for multiplicative effect (e.g., lays foundation for future CER or generates additional investment outside government)

Pfizer agrees with the criteria to be used to prioritize investments and agrees with the proposed criteria and offer two comments.

First, we recommend the Council call for development of a detailed priority-setting framework that implements rather than just informs the proposed criteria. As it stands now, it is unclear how the proposed criteria are interrelated and how they will be used when the Council identifies CER investments. As the only entity mandated by Congress in the American Recovery and Reinvestment Act to prioritize and coordinate Federal efforts in CER, the Council must develop a clearly defined, agreed-upon, and actionable priority-setting process.

The priority-setting process must:

1. Integrate the values of the users of the research.

2. Consider the information needs of the user by conducting CER on the full spectrum of healthcare interventions used to manage conditions.

3. Be efficient by seeking broad input at the outset, but also having a relatively simple mechanism to identify important research topics.

4. Be sensitive to its political context; be objective, open, and fair; invite input from a broad spectrum of stakeholders; and present the logic of the process clearly and carefully to others.

5. Maintain a transparent process in which methods are explicitly defined, consistently applied, and publicly available for comment.

6. Allow for multiple points of engagement from a diverse group of stakeholders throughout the priority-setting process.

7. Allow for meaningful input from patients and clinicians.

Second, specifically related to the proposed criteria, we recommend the Council make three clarifications: (1) clearly define the term feasibility in the third threshold criteria; and (2) include both public and private funding mechanisms in the fourth prioritization criteria and (3) recommending an explicit emphasis on known gaps in evidence.

1. While we recognize that all research needs to be done in an efficient and economical manner, we believe that the merit of research projects should be judged, first and foremost, on their potential benefit to the patient or patient population. As presented, the criterion may be interpreted to suggest that research that is expensive, difficult or time consuming may not be considered or prioritized. To that end, we recommend the Council clarify the definition of feasibility so that it is explicit that it is the Council s intent is to fairly and appropriately consider research projects and to balance the cost, complexity or time-frame for completion against the benefit or likely benefit to the patient population or to improving public health.

2. With respect to the fourth prioritization criterion, we are concerned that it does not explicitly recognize CER investments made by the private sector (e.g., industry, private plans,

professional societies, and academic research centers). To ensure that the Council appropriately identifies unmet needs or gaps in research, it is important that any analysis take into account the work of the private and public sector. To that end, we recommend the criterion should be re-worded to include public and private before the term funding.

Third, while we recognize that the prioritization criteria emphasize research that is unlikely to be addressed through other funding mechanisms, we would like the Council to prioritize investments in interventions, populations, and conditions where known gaps exist. This is an important distinction because the program s ability to have maximum impact is predicated upon investing in those areas where current incentives, opportunities, and capacity are limited. Furthermore, the inclusion of such a criterion is actually consistent with the strategic framework that was proposed by the Council; it explicitly calls for investments in under-studied populations and interventions (e.g. procedures).

Submitted by
Tina Grande
Healthcare Leadership Council
tgrande@hlc.org

Comment Type: *Prioritization Criteria*

HLC Comment on Draft Criteria

The Healthcare Leadership Council (HLC) applauds the inclusion, as a minimal criterion, the requirement that comparative effectiveness research studies be responsive to the needs and preferences of patients. We believe this reflects the spirit of the American Recovery and Reinvestment Act (ARRA) and is an important primary goal towards ensuring comparative effectiveness research is used to improve individual patient and public health.

While we question the rationale behind using time necessary as a prioritization factor, we understand that pursuing low-hanging fruits might be the most attractive option when deciding how best to spend the substantial yet limited amount of ARRA funds appropriated for federal CE projects. We respectfully note however, that in some instances, while a study may require a relatively longer length of time to conduct, the benefits of the information generated may be valuable enough so as to more than outweigh the cost in funds and time needed to reach completion. In this instance, prioritizing according to time needed may discourage valuable and important research questions.

We also agree that this research should, in setting priorities, target diseases and conditions with the greatest prevalence, including those that impose the greatest clinical and economic burden on patients and health care spending, respectively. We also note that, while variability in outcomes

is an important phenomenon on which to focus these efforts, the research should not necessarily equate this with variability in intervention utilization.

We wish to re-emphasize the importance of designing this research to ensure it can evaluate and discern differences within appropriate subpopulations and we therefore strongly support using the potential to do so as a prioritization factor.

Submitted by
Thomas Wilson
Population Health Impact Institute
twilson@phiinstitute.org

Comment Type: *Prioritization Criteria*

EIGHT SUGGESTED ADDITIONS TO STATEMENT: IN QUOTES BELOW (placed within original statement)

Comparative effectiveness research is the conduct and synthesis of systematic research comparing different interventions and strategies to prevent, diagnose, treat and monitor health conditions. The purpose of this research is to inform

SUGGESTED ADDITION #1: and positively impact

patients, providers, and decision-makers, responding to their expressed needs, about which interventions are most effective for which patients

SUGGESTED ADDITION #2: and consumers

under specific circumstances. To provide this information, comparative effectiveness research must assess a comprehensive array of health-related outcomes for diverse patient populations

SUGGESTED ADDITION #3) and methods to effectively communicate the results to significant stakeholder in the health care marketplace.

Defined interventions compared may include medications, procedures, medical and assistive devices and technologies, behavioral change strategies, and delivery system interventions. This research necessitates the development, expansion, and use of a variety of data sources and methods to assess comparative effectiveness,

SUGGESTED ADDITION #4) as well as to assess the value of comparative effectiveness research itself to the public.

Threshold Minimal Criteria (i.e. must meet these to be considered)

1. Included within statutory limits of Recovery Act and FCC definition of CER
2. Responsiveness to expressed needs and preferences of patients, clinicians, and other stakeholders, including community engagement in research
3. Feasibility of research topic (including time necessary for research)

SUGGESTED ADDITION #5: "4. Commitment to timely and public reporting of baseline methods, preliminary results, and final results

Prioritization Criteria
The criteria for scientifically meritorious research and investments are:
1. Potential Impact (based on prevalence of condition, burden of disease, variability in outcomes, and costs of care)
2. Potential to evaluate comparative effectiveness in diverse populations and patient

SUGGESTED ADDITION #6: and consumer

sub-populations

SUGGESTED ADDITION #7: and to effectively communicate methods and results to these groups.
3.

SUGGESTION ADDITION #8: Different levels of

uncertainty within the clinical and public health communities regarding management decisions
4. Addresses need or gap unlikely to be addressed through other funding mechanisms

Submitted by
Alan Gambrell
Consultant
gambrell@aol.com

Comment Type: *Prioritization Criteria*

EDIT SUGGESTIONS FOR THRESHOLD MINIMAL CRITERIA

PUT THIS SECOND AS IT S A HIGHER CONSIDERATION AND MODIFY PARENS EXPLANATION AS NOTED BELOW
Feasibility of research topic (e.g., cost, time necessary to complete research)

PUT THIS THIRD BUT ALSO CLARIFY AS NEEDS AND PREFERENCES SHOULD BE TIED TO PUBLIC WELFARE PRINCIPLES AND NOT BE LOOSELY DETERMINED BY VARIOUS PARTIES SUGGESTED EDITS AS FOLLOWS.
Responsiveness to tangible research priorities (e.g., disease prevalence, cost of care) that are identified by various parties
NOTE: WITH CURRENT CRITERON, THIS PHRASE IS UNCLEAR AS TO MEANING
>>including community engagement in research

PRIORITIZATION CRITERIA
THESE ARE GENERALLY FINE AS IS. HOWEVER, CLARIFY MEANING OF THIS CRITERION: Uncertainty within the clinical and public health communities regarding management decisions

Submitted by
Carmella Bocchino
America's Health Insurance Plans
cbocchino@ahip.org

Comment Type: *Prioritization Criteria*

America s Health Insurance Plans (AHIP) appreciates the opportunity to share its member companies perspectives on the proposed definition for comparative effectiveness research (CER) and the strategic framework for such research. AHIP is the national trade association representing approximately 1,300 health insurance plans that provide coverage to more than 200 million Americans. Our members offer a broad range of products in the commercial marketplace including health, long-term care, dental, disability, and supplemental coverage and also have a long history of participation in public programs.

Prioritization Criteria Comments
Our members question how the National Priorities Partnership and their significant contribution to focus all stakeholders on key areas of overuse and gaps in care can be considered or incorporated into the draft prioritization criteria.

Submitted by
Andrea Douglas
PhRMA
adouglas@phrma.org

Comment Type: *Prioritization Criteria*

VIA E-MAIL

Dear Federal Coordinating Council Members:

The Pharmaceutical Research and Manufacturers of America (PhRMA) is pleased to submit comments to the Federal Coordinating Council for Comparative Effectiveness Research on the draft definition of comparative effectiveness research (CER), priority setting criteria, and strategic framework released by the Council.

PhRMA is a voluntary, nonprofit association representing the country s leading research-based pharmaceutical and biotechnology companies, which are devoted to discovering new medicines that allow patients to lead longer, healthier, and more productive lives. PhRMA s member companies play a leading role in discovery of new therapies and advancement of scientific and clinical knowledge.

PhRMA appreciates the Federal Coordinating Council s posting of its draft CER definition, prioritization criteria and strategic framework as a further step in promoting openness and transparency as it carries out its duties under the American Recovery and Reinvestment Act (ARRA). Specifying a CER definition and criteria for research priorities are important initial steps in establishing a sound CER research program.

As the Council continues implementing its mandate under ARRA, we urge it to maintain open and transparent procedures. In particular, as the Council prepares to submit a report by June 30 making recommendations for CER research to the President, Congress, and the Secretary of the Department of Health and Human Services (HHS), we ask that it explain the substantive reasons for its recommended research priorities. This will enable members of the public to understand how the priorities correspond to the input received from stakeholders, respond to the information needs of patients and providers and meet the other criteria established by the Council. In addition, the Secretary should establish a similar policy as it considers the Council s recommendations, and those of the Institute of Medicine, in establishing research priorities. Open, transparent processes advance research that is credible and relevant to the real-world decisions facing patients and providers as well as reflecting the different needs of racial, ethnic and other patient sub-populations.

PhRMA supports the focus on patient and provider needs in the Council s draft CER definition and criteria for research priorities. This focus also is evident in HHS Secretary Kathleen Sebelius April 21, 2009 comments at the Senate Finance Committee: The goal of such research is to improve the database of information available to a patient and his or her provider so they can make informed decisions about care. The goal is to empower patients and providers with the best information on protocols, procedures, and other relevant issues, not to enable the federal government to dictate broad coverage decisions." In addition, the Council s emphasis on the expressed needs of patients and providers will help ensure that their input is given sufficient weight in the CER process.

The Council appropriately recognizes the importance of accounting for differences in individual patients throughout its draft material. This will help facilitate study designs that recognize and generate data on different patient subgroups, and communication of results that reflect differing patient needs based on genetic, clinical and other factors. These factors are very important to patients but, unless expressly recognized, can be minimized in study designs and communication of results. In a letter last year, the Congressional Black Caucus highlighted the importance of accounting for individual differences in CER research result: All research supported by a comparative effectiveness initiative must recognize variation in individual patients needs, circumstances, and responses to particular therapies. Comparative effectiveness research must enrich our understanding of these variations, rather than ignoring them by focusing on population averages that mean little for any individual patient or subgroup. Without this focus, the results of research could inappropriately be used as a rationale for restricting the treatment choices of those who fall outside the average response.

In addition, PhRMA supports the scope of research included in the draft definition of CER, which encompasses the full range of medical treatments, behavioral change strategies, and delivery system interventions. This broad scope of research is consistent with the Act s mandate for research on health care treatments and strategies. This scope of research reflects the growing recognition that addressing the needs of patients, particularly those with chronic illnesses, requires greater scrutiny of healthcare delivery systems. This includes comparing the effectiveness of different approaches to care processes, disease management services, care coordination, benefit designs, and other components that directly impact care quality and patient outcomes.

The importance of this aspect of comparative effectiveness research was emphasized in Atul Gawande, MD s, June 1, 2009 New Yorker article: "Congress has provided vital funding for research that compares the effectiveness of different treatments, and this should help reduce uncertainty about which treatments are best. But we also need to fund research that compares the effectiveness of different systems of care to reduce our uncertainty about which systems work best for communities. These are empirical, not ideological, questions.

While the draft definition, prioritization criteria, and strategic framework include many positive elements, we offer the following recommendations to help ensure that CER remains centered on improving health care quality and supporting patient and provider decision-making:

1. Clarify the references to decision makers from the draft definition and federal needs as a basis for setting research priorities.

Defining research priorities and study questions that respond to the information needs of patients and providers is an important, and challenging, early step in CER. While decisions at the policy level should be informed by best available evidence, including comparative effectiveness research, it is important that government-supported CER conducted under ARRA is centered on supporting patient and provider decision-making and improving the quality of patient and provider care. This will help ensure that federally-funded CER meets the goal described in HHS press release announcing the Council, Comparative effectiveness research provides information

on the relative strengths and weakness of various medical interventions. Such research will give clinicians and patients valid information to make decisions that will improve the performance of the U.S. health care system. The Council should clarify how federal and other decision making needs will be recognized while maintaining a focus on patients and providers.

2. The council should clarify how the separate elements of the prioritization criteria will be weighed against each other and the minimal feasibility of research criteria should be clarified and moved to secondary list.

The feasibility of research criterion should be moved to the second category of criteria for ensuring scientifically meritorious research and investments, and the Council should clarify how time necessary for research will be used as part of this criterion. The length of the study is an important consideration, but should not be a minimal criteria, as both long- and short-term research can yield findings that are more or less useful to patients and providers. For example, the seven years it took to complete the federally supported Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT) reduced its impact, because of the ways the practice of medicine evolved during the study period . At the same time, the time necessary for research should not be used to rule out studies that are longer-term but yield high-value information. Some long-term studies, such as the Women s Health Initiative, provided important information about women and osteoporosis, cardiovascular disease, and cancer and had a significant impact on patient and provider treatment decisions, even though it had a 15 year time frame.

3. Additional recommendations: clarify variability in outcomes, weighting of criteria, and range of data sources.

The Council should clarify the types of outcome variability it will consider when setting CER priorities. This will facilitate consideration of outcomes variation related to a range of factors, including geographic location, treatment site, provider type, and patient sub-group, consistent with the FCC s definition of CER. Conducting research to address these variations represents a significant opportunity to improve health care.
For example, Addressing this issue October 8, 2007 at the Institute of Medicine annual meeting, Eliot Fischer, MD, MPH, Dartmouth Medical School, said: We need better evidence, both about biologically targeted interventions, but also about care delivery...There is an emerging consensus on need for comparative effectiveness research. I think it s critically important that we broaden that focus to include evidence-based care management and evidence-based care delivery, because that s where all the money is and that s where all the waste is in U.S. health care.

In addition, addressing variability in outcomes within minority groups could help reduce health care disparities . There is a broad range of research that indicates racial and ethnic minorities are less likely to receive medical care we know works very well and experience a lower quality of health services. For instance, the Institute of Medicine report, Unequal Treatment found that racial and ethnic minorities are less likely to be given appropriate cardiac medications or to

undergo bypass surgery, and a more likely to receive certain less-desirable treatments, such as limb amputations for diabetes. This is not because of any lack of knowledge about appropriate treatments for conditions such as diabetes or heart disease. Rather, it is because our health system does not implement effective strategies to organize and deliver care to minority populations. Placing a high priority on research to identify the strategies that the health system can use regarding issues such as disease management, use of information technology, benefits design, community outreach, to close this gap is important to improving care in minority communities.

In the definition, the Council should describe the range of data sources and methods it will consider to assess comparative effectiveness, such as randomized controlled trials, meta-analyses, observational analysis or other methodologies. Each research methods offers different strengths and limitations, and providing additional detail in this area could facilitate research that provides information on diverse populations and patient sub-populations, helping to reinforce the Council s commitment to assessing outcomes related to these populations.

Finally, the council should clarify how individual priority setting criteria are weighted. This will help stakeholders further understand the rationale behind recommended priorities.

4. The process step Potential capacity for translation through Federal delivery systems and public private partnerships under Translation and Adoption of CER should be clarified in the CER Strategic framework.

The Council s strategic framework should maintain a focus on translation and adoption of CER results widely to patients and providers in timely, usable formats. This will help orient research towards the needs of patients and providers, and avoid access barriers based on average study results that may overlook differences in the needs of diverse patient groups. The strategic framework should clarify how translation of CER through federal delivery systems will support this goal.

The $1.1 billion included in ARRA for CER represents an important opportunity to establish a broad research agenda that supports patient and provider decision-making and improves health care quality. PhRMA supports the steps the Council has taken to help achieve this goal, including high quality, credible CER that has public buy-in. We ask that the Coordinating Council adopt our suggested revisions to the draft definition, priority setting criteria, and strategic framework.

PhRMA looks forward to continued participation in your important work to recommend CER research priorities. Please do not hesitate to contact me if I can be of any other assistance.

Submitted by
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Comment Type: *Prioritization Criteria*

Consistent with the comment AdvaMed submitted regarding the definition of CER, AdvaMed recommends that the second threshold minimal criterion be clarified to specify who the other stakeholders are. AdvaMed recommends that the second criterion read as follows:

2. Responsiveness to expressed needs and preferences of patients, clinicians, and other health care professionals, including community engagement in research.

AdvaMed also has the following three comments on the draft prioritization criteria. First, AdvaMed supports consideration of potential impact in prioritizing research and has the following comments to offer regarding this criterion.

" Potential impact should include consideration of outcomes such as change in quality of life or functional status, risk reduction, and treatment satisfaction. Therefore we suggest adding this language to the current parenthetical.
" Prevalence of condition is an appropriate factor. The Federal Coordinating Council should explain, in subsequent reports and plans, how rare diseases (with small population impacts) will be addressed in comparative effectiveness research initiatives.
" The term costs of care should be defined inclusively to take into consideration all costs of care, including reduced hospital admissions, length of stay, and other resource utilization. Therefore we suggest total cost of care rather than costs of care .

Second, AdvaMed supports evaluating comparative effectiveness in diverse patient populations and sub-populations, however greater clarification as to how this criterion will be made a factor would be helpful in subsequent reports and plans. Depending on the study objectives and the study design, there may be challenges in assessing diverse patient populations in a manner that yields statistically significant results for every sub-population. For example, assessing diverse patient populations may be best accomplished through the development of clinical registries, analysis of clinical data networks and electronic health data, and other methods. The observational nature of such study designs and data sources, however, might potentially present

issues with drawing definitive conclusions about which interventions are most effective under which circumstances, a significant objective of CER.

Third, regarding consideration of uncertainty within the clinical and public health communities regarding management decisions, AdvaMed recommends better defining the term uncertainty. The following parenthetical should be added following the word decisions : (e.g., areas for which there is insufficient evidence to guide clinical decision-making or patient management).

Submitted by
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Comment Type: *Prioritization Criteria*

The Comparative Effectiveness Research Workgroup for Humana has reviewed the proposed definition of Comparative Effectiveness Research (CER) and prioritization criteria. We agree with the coordinating council that the definition of CER should encompass a broad array of interventions and strategies; however, we suggest that CER should also include measurements of standardized cost or relative resource consumption of interventions of strategies when comparing their effectiveness. This will allow an assessment of the overall value of various interventions and could identify important differences in the cost-effectiveness of interventions between different sub-populations. Thus, we suggest the following change to the third sentence of the definition:

To provide this information, comparative effectiveness research may include a broad array of health-related and cost-related outcomes for diverse patient populations.

If the aforementioned change is made to the definition of CER, then we believe that the threshold minimum criteria and prioritization criteria are appropriate. However, we are concerned that the current wording of the first threshold minimum criterion would appear to exclude anything not explicitly mentioned in the definition and therefore may exclude the measurement of cost and/or relative resource consumption in CER studies. While measurement of costs may not be required of every CER study, it should also not be excluded from consideration as a useful variable in a CER study.

Submitted by
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American Medical Association
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Comment Type: *Prioritization Criteria*

The physician and medical student members of the American Medical Association (AMA) commend the Federal Coordinating Council for Comparative Effectiveness Research (Council) for convening a series of public meetings and reaching out to clinicians and medicine to solicit our input on national comparative effectiveness research (CER) priorities as well as comments on the Council s draft CER definition, prioritization criteria, and draft strategic framework. Concerted stakeholder and public engagement will ensure that the funding to support CER will be allocated in an optimal fashion and increase the utilization of CER findings by physicians and patients.

All aspects of the CER process, including priority setting and capacity-building measures, must be transparent and include a central role for physicians in their oversight and governance. Given the nascent nature of this endeavor, the perception among physicians that the CER agenda is being driven by payers who only have cost containment as their goal will seriously undermine efforts to cement physician support as we continue forward on comprehensive health care system reform. It is imperative that physicians, including clinicians and their organizations, have an active, ongoing, and central role at all stages of the CER process. To be clear; the AMA strongly supports CER and looks forward to results that will guide shared decision-making by patients and their physicians.

Physicians today have access to a wide array of medical information. However, there remains far too little rigorous evidence available about which treatments work best for which patients. The AMA strongly supports increased federal funding of CER. Though there is a broad array of areas where CER would bring benefits, we must strategically target support for CER where it will significantly improve health care value by enhancing physician clinical judgment, foster the delivery of patient-centered care, and produce substantial benefit to the health care system as a whole. As outlined in more detail below, the AMA strongly supports the Council s Draft Definition, Draft Prioritization Criteria for Comparative Effectiveness Research as well as the Draft Comparative Effectiveness Research Strategic Framework.

The AMA supports the view that the priority areas of CER should focus on high volume, high cost diagnostic and treatment modalities, and other health services and strategies for which there is significant variation in practice.

The AMA supports a broad definition of CER that involves a comparison of different modalities to prevent, manage, or treat a specific health problem, condition, or disease. Besides the more typical areas of research such as pharmaceuticals and medical devices, CER should also focus on implementation and dissemination issues that would shed light on the most effective strategies that promote a learning health care system and improved clinical outcomes including behavioral change strategies, and delivery system interventions.

In terms of methodology and study design, CER should include long-term and short-term assessments. CER should not be limited to new treatments. In addition, the findings should be

re-evaluated periodically, as needed, based on the development of new alternatives and the emergence of new safety or efficacy data.

AMA Recommended Priority Areas & Infrastructure

Much of the expertise for setting CER priorities focusing on specific diseases and interventions lies within the medical specialty societies. Nonetheless, the AMA offers the following recommendations for CER priorities and offers suggestions concerning two mechanisms that would help build the necessary infrastructure to sustain work in this area.

The AMA strongly believes that the national CER priorities should address the prevention, management, and treatment of preventable disease which collectively represent a major cost driver in today s health care system. Key areas in need of further study and research include cardiovascular, endocrinology and metabolism disorders (including diabetes), and nutrition (including obesity). For example, in the area of wellness, prevention, nutrition, and obesity there is a paucity of CER findings. It is an area with a wide range of available interventions with little clarity about which is most effective.

CER usually considers technology and pharmaceuticals, but behavioral interventions potentially could have the greatest impact for individual patients and the system as a whole. Prioritizing interventions designed to change physician behavior and to effect behavioral change in patients, in addition to other clinical interventions, technologies, and pharmaceutical remedies, is necessary. Because prevalence rates and the most effective interventions for many diseases vary greatly by race, ethnicity, gender, age, geography, and economic status, the AMA strongly supports the inclusion of racial and ethnic health disparities and health disparities more generally as a CER priority area.

In addition to the foregoing, the National Priorities and Goals report put forth by the National Priorities Partnership (NPP) convened by the National Quality Forum (NQF) provides a rich source of information for the Council to consider. The NPP, comprised of 28 national organizations, focused on achievable goals that would, if implemented broadly, reduce harm, improve patient-centered care, eliminate health care disparities, and remove waste from the system. In preparing the report, the NPP solicited extensive input from broad array of individuals and organizations. Utilizing the NPP National Priorities and Goals as a reference point will help the Council to identify national CER priorities that will build the evidence base in a targeted fashion in the areas that are likely to produce substantial system-wide improvements.

In addition to the NPP report, the AMA convened Physician Consortium for Performance Improvement (PCPI) has developed a valuable survey mechanism that can be utilized by the Council to gather additional detailed information concerning national CER priorities. In order to obtain timely, quality responses from the more than 100 national medial specialty and state medical societies, experts in methodology and data collection, and many others involved in quality improvement and performance measurement, the PCPI constructed a survey mechanism. It is a powerful new tool to identify variations in practice, to assess the evidence base in a wide array of areas, and to identify areas where there are gaps in knowledge. The PCPI plans a

significant expansion of these efforts. This provides much needed capacity and infrastructure for priority setting. We would welcome the opportunity to have the Council work with the PCPI to utilize this survey mechanism as it develops the recommendations concerning national CER priorities.

The AMA urges the Council to consider two powerful infrastructure mechanisms, clinical registries and data networks. These have been used by specialty societies such as the Society of Thoracic Surgeons and the American College of Cardiology, and have markedly improved quality and patient safety. The National Surgical Quality Improvement Program (NSQIP) and the Northern New England Cardiovascular Collaborative are examples of utilizing these two mechanisms to advance quality and obtain research data at the point of care, and create what our country needs, a learning network. Expansion of existing clinical registries and databases would provide a strong foundation when conducting CER and at the same time these registries would also provide an excellent beginning point for CER. Utilizing, replicating, expanding, or integrating existing clinical registries would constitute an invaluable investment in the much needed infrastructure for accurately comparing clinical outcomes based on real life conditions where delivery of care settings vary, patients may have numerous co-morbidities, and the patient population is diverse. In turn the clinical registries are not identical and may to greater or lesser extent be able to promote a learning health care environment; thus, evaluating the comparative clinical effectiveness of various clinical registry models and alternatives to them remains a vital priority. Building CER infrastructure and capacity in part upon registries and clinical data networks will leverage CER resources and boost the capacity of the system as a whole to learn and adapt in real time.

AMA Support of Council s Draft Strategic Framework

The AMA generally supports the Council s effort to develop a strategic framework for CER activity and investments in order to categorize current activity, identify gaps, and inform decisions on high priority recommendations with a couple of caveats.

First, the AMA urges the Council to ensure public access to the detailed inventories of Federal CER activities and research/data infrastructure that the Council proposes to create. The AMA agrees that the Council s organizing framework will foster consideration of the balance of activities and priority themes and allow the government to focus on the most pressing needs expressed by patients and clinicians, and allow identification of gaps in the current landscape of CER. We urge the Council to work with the AMA convened PCPI which is already engaged in this activity as discussed above.

Second, the AMA concurs with the Council that CER activities should be grouped into the following four major categories as detailed in the proposed framework:

" research, (e.g., comparing medicines for a specific condition or discharge process A to discharge process B for readmissions).
" human and scientific capital, (e.g., training new researchers to conduct CER, developing CER methodology).

" CER data infrastructure, (e.g., developing a distributed practice-based data network, linked longitudinal administrative or electronic health records databases, or patient registries.)
" translation and utilization of CER, (e.g., building tools and methods to translate CER into practice and measure results.)

While all the above categories are essential components of timely, valid, useful CER, it is important to underscore the essential and central role physicians must play vis-à-vis the last component translation and adoption of CER. The AMA supports the development of practice guidelines by medical specialties and other clinicians in medicine, but would oppose the development of guidelines by the government or another centralized entity. Consistent with the foregoing, to the extent that medical specialties design, implement, and play a central role in clinical registries such as NSQIP that rely upon clinicians to conduct CER, the AMA would support utilization of CER findings generated through clinical registries by the specialties to modify practice guidelines and decision support vis-à-vis the clinical registries.

Conclusion

There is a final cautionary tale. In the February 12, 2009, issue of Journal of American Medical Association there is a description of what can happen when science and politics collide. The Infectious Disease Society of America (IDSA) studied the evidence base for the treatment of Lyme disease and in 2006 issued new guidelines advising against the long-term use of antibiotics. The IDSA was promptly sued by the Connecticut Attorney General alleging violations of antitrust laws and restraint of trade. The case was settled without IDSA admitting any fault and assenting to an ombudsmen-reviewed panel to assess the 2006 guidelines. If we cannot separate science and politics in a case such as this, how will we ever manage to deal with the really hard issues?

CER has the potential to have a profoundly positive impact on the quality of the information available to physicians and patients and, when used appropriately and with care, will address escalating health care costs. The AMA welcomes the opportunity to work closely with the Council to ensure that physicians remain engaged, enthusiastic, and involved stakeholders in this process.

Submitted by
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Comment Type: *Prioritization Criteria*

As the Federal Coordinating Committee deliberates regarding priorities for comparative effectiveness research, the Academy for Medical Development and Collaboration (AMDeC) would like to offer its perspective.

AMDeC is a non-profit consortium of 28 of New York s premier research institutes, medical schools, and universities seeking to collaborate to advance biomedical research. We believe that greater coordination of the various research efforts and the cross-institutional data collection and analysis are keys to optimizing patient outcomes and containing costs. AMDeC has developed innovative research models and infrastructure toward that end. We hope that the suggestions we offer based on our experience in this field will add value to your decision-making process.

We believe that the Coordinating Council should consider investing in projects that leverage existing infrastructures and research methodology that are proven. The infrastructures should be flexible in terms of their ability to be replicated and scaled/expanded, as well as to provide ease of use across institutions. Architectures such as a federated virtual data warehouse that allows for a single, unified interface to data from multiple sources without additional expensive investments in new hardware, software packages, databases, or personnel re-training is ideal. AMDeC believes a number of criteria should be considered as investment decisions are made. Comparative Effectiveness Research inherently appreciates the value of sharing information. Therefore, projects based on meaningful collaboration and leverage health information technology (HIT) infrastructure/tools among institutions should receive priority. Public investments must focus on projects that can demonstrate the practice of sound science to ensure quality outcomes. In addition, it is critically important that federal and state governments invest in CER data infrastructure and translation/adoption of CER in conjunction with their HIT efforts so that a comprehensive, inter-operable data infrastructure and implementation strategy are in place to produce multiplicative effect by exponentially advancing the utility of the electronic data collected in this new digital, prevention-driven environment. Stakeholder incentives including CMS payments for data reporting, provider needs for an improved understanding of best care processes, and payor calls for accountability and improved metrics for healthcare utilization need to be built as part of the overall CER strategic framework to ensure that CER research findings can effectively be translated into clinical outcomes and health care improvements.

Quality and quantity of the data to be analyzed and evaluated should be carefully considered in terms of the diversity of the population that is included in studies. Clearly there are many factors that affect health care and response to treatment. The more factors that can be taken into consideration and effectively analyzed, the better research outcomes can be derived to effectively improve health care delivery and treatments, including pharmacy, lab tests, demographic information, compliance indicators, claims data, and other medical record data. Comparison of the cost and clinical effectiveness as well as the safety of different treatments, medications, care delivery, etc. should enable specific focuses on un- or under-studied populations as defined by co-morbidities and demographics.

A primary concern with any data collection is security and privacy. Any project that is funded should meet the highest standards of patient confidentiality and data security. Extensive safeguards should be introduced at every step of the process for all involved parties while building trust among clinicians, patients and other stakeholders for full acceptance, support, and involvement.

Finally, evaluation measures should be considered. A critical component to ensuring successful impact of CER is to build in evaluation measures from the initial stage. Regular and timely reporting of assessment and evaluation progress should be established to ensure that priorities and implementation activities are indeed aligned or re-aligned with periodic evaluation results and performance standards.

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Comment Type: *Prioritization Criteria*

Consider revising both the Threshold Minimal Criteria and the Other Criteria based on pragmatic considerations in operationalizing these and to more specifically indicate that comparative effectiveness research needs to improve decision making applicability.

Suggested Revisions to Threshold Minimal Criteria:

a. Included within the statutory limits of Recovery Act and FCC definition of CER
b. Responsive to expressed needs and preferences of patients, clinicians, OR OTHER DECISION-MAKERS TO ADDRESS UNCERTAINTY WITHIN CLINICAL AND PUBLIC HEALTH COMMUNITIES REGARDING MANAGEMENT DECISIONS.
c. Feasibility of research topic (including ETHICAL CONSIDERATIONS, RESEARCH INFRASTRUCTURE REQUIREMENTS, AND time necessary for research)

Suggested revisions to the Prioritization Criteria (based on moving up the original criterion c and adding an additional criterion):

a. Potential Impact (based on prevalence of condition, burden of disease, variability in outcomes, cost of care)

b. ADDRESSES comparative effectiveness in diverse populations and patient subpopulations, WITH POTENTIAL TO IMPROVE EXISTING HEALTH DISPARITIES OR TO INFORM PERSONALIZED MEDICINE.

c. POTENTIAL FOR IMPROVEMENT IN HEALTH CARE DECISION-MAKING OR PRACTICE WITH ADDITIONAL RESEARCH

d. Addresses need or gap unlikely to be addressed through other funding mechanisms

e. Potential for multiplicative effect (e.g., lays foundation for future CER or generates additional investment outside government)

Submitted by
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Comment Type: *Prioritization Criteria*

Council:
"Prevention and wellness" must be our top priority. It is the best way to impact the use of resources and to improve the health and wellness of our citizens.

The recent NIH Challenge Grant priorities were listed in a 52-page document; only a handful related to prevention and wellness. We have got it backwards when we allocate $90B to "Improving and Preserving Health Care," but only $1B to prevention and wellness.

We will all benefit from a much closer look at prevention strategies and the comparative effectiveness of wellness-related interventions.

Submitted by
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Comment Type: *Prioritization Criteria*

It is critical to put in place means that reduce duplication and allow better coordination of comparative effectiveness research (CER) investments and activities across the federal government and, to the greatest extent possible, with the private sector and with international bodies. The volume of research questions and critical comparative effectiveness needs outstrip our ability to fund and conduct new research in a timely manner. It is critical to increase our ability to access planned, in-progress, and completed comparative effectiveness research of all types (systematic reviews, trials, observational studies of all types). This could occur by registries/databases of protocols for all types of CER studies and via better library and database tagging. Otherwise, it is nearly impossible to ensure that we do not duplicate existing applicable work in response to requests from the public, nor to take advantage of piggy-backing additional questions onto in-process projects. There is a growing understanding of this critical need to improve CER information retrieval in both the US and internationally.

Submitted by
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Comment Type: *Prioritization Criteria*

BIO is the largest trade organization to serve and represent the biotechnology industry in the United States and around the globe. BIO represents more than 1,200 biotechnology companies, academic institutions, state biotechnology centers, and related organizations in the United States. BIO is pleased to have the opportunity to submit comments to the Federal Coordinating Council (FCC) on the draft definition of Comparative Effectiveness Research for the FCC.

As a representative of an industry committed to discovering new cures and ensuring patient access to them, BIO strongly supports efforts to increase the availability of accurate, scientific evidence to inform clinical decision-making. BIO believes that individual patients and their doctors should be armed with the best available information to help assess the relative clinical benefits and risks of various treatment alternatives. When appropriately applied, comparative effectiveness information is a valuable tool that, together with a variety of other types of medical evidence, can contribute to improving health care delivery. However, BIO is concerned that comparative effectiveness information will be used increasingly as a means to contain costs, rather than deliver health care value by improving patient health outcomes. BIO appreciates the opportunity to comment to the FCC.

We submit the following comments for your consideration on the definition of comparative effectiveness research, draft prioritization criteria, and the strategic framework. We look forward to continuing to work constructively with you in order to realize the full value of comparative effectiveness research.

Draft Prioritization Criteria

Responsiveness to expressed needs and preferences of patients, clinicians, and other stakeholders, including community engagement in research

BIO is pleased that the FCC wishes to be responsive to the expressed needs and preferences of patients, clinicians, and other stakeholders, including community engagement in research.

Suggested Modification: In order for the research to have the greatest possible benefit, as BIO has previously commented to the Institute of Medicine (IOM) on the composition of the Committee to establish Comparative Effectiveness Research Priorities (Committee), it is critical that all stakeholders be involved and represented in these efforts. Including all stakeholders at the table will enhance the Committee s discussions and deliberations. Each group of stakeholders brings different and valuable perspectives, and it is important that all perspectives are able to have a voice and be heard as part of the Committee. The IOM Roundtable recognized this principle and stated, The determination of the priorities to pursue is a policy exercise in which all relevant stakeholders have a right to engage and to which they can add value. Therefore, stakeholders should be afforded the opportunity to serve on the Committee as well as provide meaningful input into all steps along the study process, including the identification of priority areas to research, study design and research methods, and dissemination of results. Having all stakeholders at the table with full disclosure of potential conflicts of interest is a good way to manage potential biases and conflict of interest. Disclosure and broad representation are critical to ensure a balanced end product.

Submitted by
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Comment Type: *Strategic Framework*

The strategic framework seems developed from a perspective of the need for de novo research. While we certainly need to invest in more research that evaluates the effectiveness of interventions and how they compare, we should first examine the vast science (including all study designs that are well executed and relevant to the clinical question) already available to determine where gaps exist. I propose that a framework for action allows for the synthesis of existing knowledge and supports improvements in methodology to do so with minimum bias. When gaps in knowledge are identified, and they will be, we can focus our limited resources

toward the conduct of studies to generate new knowledge where the greatest gaps exist. We must also plan for identification of new areas for research and for continually staying current with the best science. We may consider translating existing knowledge to action even while we plan for new knowledge generation, as we may have sufficient evidence to guide some action ahead of the results of studies to provide more complete guidance strategies.

Prioritization of which topics remains important throughout.

Submitted by
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Comment Type: *Strategic Framework*

CER
The definition is inappropriate. which interventions are most effective for which patients under specific circumstances.

Strategic framework. Too many diagrams. Not operational (see term from operations research).
First task is to create methods to evaluate CE
It is impossible to study all possible diagnosis and treatments. Create a method to establish priorities.

Create mathematical models for decision making under CE conditions.
Create mathematical models that predict disease and outcome. At least $300M should be devoted to this task, the most important and promising one to improve outcomes and save costs. Today the technology exist to drastically improve diagnosis by minimizing the use of diagnostic tests (using decision theory and biochemical models). Same for treatment.

Identify data bases that are useful for diagnosis and treatment.
Provide $50M for seed money to develop prototype data bases for conditions. Provide guidelines for data to be gathered as part of Health IT, medical records. Uniform, standard output formats for medical records for data analysis on conditions, outcomes.

Medical/research data are very difficult to interpret. All recipients of federal funding ought to provide their results in a manner that can be incorporated into models of disease diagnosis, treatment.

All data from federally funding research ought to be available for further research.

Focus on the 10 conditions that account for most morbidity, mortality, # of people, and costs. If uncertain, rank on each factor and chose the top 10 in each group.

Focus on getting CER results that substantially improve health care outcomes and lower costs.

Spend $100M on population models to evaluate the impact of alternative diagnosis, treatment, behavioral choices, etc.
See articles by Siguel for how to make these models. Ask him
Siguel E, Seubold F. Potential 10 Year Savings from HMO Development Part 1, Health Maint Org. Hearings before Subcom. on Public Health and Env, 92nd Congress, US Gov Print Off, p. 92-95, 1972.
Siguel E. The Application of Computer Simulation to the Evaluation of Income Maintenance Programs. Inst. of Electr. and Electronic Eng, Trans. on Systems, Man and Cybernetics, 1976: 695-98.

Spend $100M on models of preventive health care. What is the impact (benefits, outcomes) of different types of prevention.
Ex: perhaps eating fewer trans fats prevents heart disease. The cost of changing foods is huge. Furthermore, trans fats are replaced by other fats that could be more dangerous. Perhaps the cost of treating the few who get heart disease due to trans fats is smaller than the cost of changing the food industry.

If we had to focus, what are the best recommendations for people? What is the range of ideal weight? At what weight disease starts to increase dramatically? What is the impact of eating healthy foods? What do models predict about disease prevention associated with eating vegetables and fruits, vs. more disease associated with French fries (if any)

The definition is inappropriate. which interventions are most effective for which patients under specific circumstances.
It is not interventions for patients, but interventions for a population of similar patients given known environmental, genetic, financial, social, etc.
Patients may chose what is best for them without regard for the consequences or costs to society and health consequences for others.

$1B spent providing 3 months extra life to 10 people could be better spend providing speech therapy to 10 children and correct a developmental delay problem.

If costs are irrelevant as a screen, then CE would spend all its time and money evaluating the most expensive and high tech arm replacement or brain replacement or cancer treatment optimized for specific cells (feasible today).

A grandfather with prostate cancer may chose to postpone treatment for several years rather than risk death until his grandson is 3 years old. Or he may have a grandson that is 16 and may chose to wait until he is 18 and takes over the management of family trusts. Or a 50 yo who just met a wonderful girl and is planning to have a family may chose to wait 1 year (even though he could freeze semen) before starting a treatment that could alter his genes or damage reproductive ability. The examples are endless.

CE does not exist in a vacuum of costs, behavior, environment, and accurate models.
Every statistical analysis, every clinical trial has an implicit mathematical model. It starts with the selection of variables to consider or ignore, markers to measure or ignore. Many trials involve drastic assumptions.
Beware of the physicist who seeks to predict horse races by assuming that horses are symmetrical balls moving on a surface with constant friction.

Population issues. Consider an ear or throat bacterial infection. There are 3 antibiotics, Ab1, Ab2, Ab3. Assume they all have the same risks. Ab1 costs $3 and has a 70% cure rate. Ab2 costs $100 and has a 85% cure rate. Ab3 costs $1,000 and has a 99% cure rate. Without treatment, cure rate is 60% (numbers are fictitious). If everyone chose Ab2, soon Ab2 would lose its effectiveness and resemble Ab1. If every patient chooses Ab1 (instead of nothing), soon Ab1 could be less effective than nothing. If many people chose Ab3, it would lose its effectiveness as bacteria evolve.

Who decides? IF only the individual s perspective matter, if costs are not an issue, Ab3 is the best choice. From a population and public health, for the benefit of most people, the best choice is to treat only the most complex cases, and start with Ab1, limiting Ab3 to very rare cases even if more people die of infection. This approach maximizes population benefits for the long term, but not individual benefits, particularly those who died who could have been cured if immediately treated with Ab3.

If we add costs to the decision, then who should make the decision? If payors pay all costs, so costs are distributed across the population, and everyone is allowed to use Ab3, costs would be beyond reason. Because resources are not infinite, the decision of one patient affects the decisions of other patients.

The appropriate model to evaluate CE is Bayesian statistics or Bayesian inference statistical inference in which evidence or observations are used to update or to newly infer the probability that a hypothesis may be true. The name "Bayesian" comes from the frequent use of Bayes' theorem in the inference process. See Wikipedia.

CE definition should be operational, something measurable. It should be along these lines:
Probability of (Disease/Diagnosis) = ..?
Probability of (treatment improve outcome/disease, alternative treatments) =
In CE we seek to identify the relative effectiveness of treatment. But those probabilities are not constant over time. They change according to data, treatments used by other people, etc. The effectiveness of Ab3 depends on how many people used it. Because that data is not available real-time, the effectiveness depends on models of use of Ab3. If suddenly Ab3 is given away for free and everyone starts using it as the first choice, then bacteria are likely to change and Ab2 replaces Ab3 for serious cases.

Submitted by
Doug Peddicord
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Comment Type: *Strategic Framework*

The Association of Clinical Research Organizations (ACRO) appreciates the opportunity to provide additional comments to the Federal Coordinating Council on Comparative Effectiveness Research. Our previous comments and testimony focused on broad policy issues of comparative effectiveness research (CER), including prioritization, methods of research and models for public-private coordination of research.

In this comment, we want to focus the Council on certain data use disincentives resulting from provisions of the American Recovery & Reinvestment Act (ARRA) that could severely limit the ability to conduct CER. These data use restrictions go well beyond the privacy rules established by the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and constitute a de facto transition to HIPAA 2.

Under current HIPAA regulations, Covered Entities (CEs) - such as health care providers, health plans, and claims clearinghouses use or disclose Personal Health Information (PHI) without consent for treatment, payment and health care operations. With some exceptions, including for public health and research activities, all other uses or disclosures of data require an individual s authorization. Business Associates (BAs) may work under contract for or on behalf of CEs, but have the same limitations on uses and disclosures of PHI as do CEs.

In general, clinical research organizations (CROs) are neither CEs nor BAs; we receive clinical trial data and other PHI from a CE an investigator - under an individual s authorization and informed consent. CEs may disclose PHI for research purposes with individual authorization or, under limited circumstances, without individual authorization. For instance, PHI may be disclosed without individual consent: if a waiver is obtained from an Institutional Review Board (IRB) or Privacy Board; if the PHI is of decedents; if the PHI is used for preparatory research, such as patient screening; if the PHI is used for the purposes of activities related to the quality, safety or effectiveness of (emphasis added) FDA-regulated products; or the PHI is part of a limited data set that does not include direct identifiers and is used with a data use agreement that prohibits re-identification or attempts to contact individuals.

De-identified data removes all names and 17 other identifiers, including all dates (DOB, admission date, discharge date, prescription date, etc.). Fully de-identified data is often of minimal utility for research. A limited data set , on the other hand, removes names and other direct identifiers, but allows zip codes and dates of service, for instance. Limited data sets are extremely useful in many areas of research, including CER.

One ARRA privacy provision prohibits a CE from receiving any remuneration for electronic health data, including limited data sets. While exceptions to this prohibition are made for public health and research , the research exception limits the remuneration to the costs incurred in preparing and transmitting the data set, thus creating a serious financial disincentive to make the data available.

Further, recent guidance from the Department of Health and Human Services regarding the definition of when data can be considered unusable, unreadable or indecipherable to unauthorized individuals has the effect of imposing breach reporting requirements on CEs that use or disclose limited data sets, establishing another significant disincentive to working with large clinical databases.

The unintended consequence of these disincentives to the creation and use of limited data sets will create substantial barriers to conducting comparative effectiveness research. For example, the use of retrospective chart reviews to perform CER would be restricted because, to conduct optimal analysis, data elements such as age, service dates and geography are needed. Similarly, these same data elements would be desired for administrative claims research related to CER using data from Medicare (de-identified), AHRQ Nationwide Inpatient Sample (limited data set) and the Behavioral Risk Factor & Surveillance System (de-identified).

ACRO urges the Council to use its authority and charter to alert the agencies of the Federal government regarding these onerous restrictions to research data that do little if anything to protect personal privacy. Specifically, we hope that the Council will work with the Department of Health and Human Services to pursue a policy of ensuring the use of limited data sets for research purposes, including CER.

Thank you for your consideration of this important issue, which we feel has been overlooked in the recent discussion surrounding comparative effectiveness research. Please do not hesitate to contact ACRO for additional information.

Submitted by
Carmella Bocchino
America's Health Insurance Plans
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Comment Type: *Strategic Framework*

America s Health Insurance Plans (AHIP) appreciates the opportunity to share its member companies perspectives on the proposed definition for comparative effectiveness research (CER) and the strategic framework for such research. AHIP is the national trade association representing approximately 1,300 health insurance plans that provide coverage to more than 200 million Americans. Our members offer a broad range of products in the commercial marketplace including health, long-term care, dental, disability, and supplemental coverage and also have a long history of participation in public programs.

General
In general, our members believe that the draft CER strategic framework provides solid, unifying principles for CER. However, there are some concerns regarding the scope and clarity within the framework. In terms of simple readability, we recommend that the order within both graphics for the CER Investments and Activities (Research, Human and Scientific Capital, CER Data & Research Infrastructure, Translation and Adoption) remain the same for both versions, as the first two categories have been transposed within the graphics, potentially leading to confusion.

While the purpose of CER is clearly stated within the framework, there is no overarching goals statement. We recommend a goal statement that aligns with the purpose, but addresses the needs of those who will be using CER data the most frequently, such as:

"The goal of comparative effectiveness research is to inform patients, providers, and decision-makers, responding to their expressed needs, about which interventions are most effective for which patients under specific circumstances and produce the best outcomes for the best value, within a given level of resources.

While this framework was developed by the Federal Coordinating Council for CER, to coordinate CER across the federal government and to make recommendations for federal funding priorities, the stated purpose is to inform patients, providers, and decision-makers about which interventions are most effective. As such, the descriptions of necessary inventories of CER activities only mention inventories of federal activities. Our members strongly believe that any CER strategic framework should be inclusive to both public and private CER efforts and activities, and, therefore, we recommend that the framework be revised to include private CER efforts. While the original charter for the Federal CER Coordinating Council directed efforts for federal programs, private sector CER efforts also need to be considered.

For example, concerning the heading, Inventories of Existing CER Infrastructure, our members are concerned with the potentiality that any federal effort to develop an inventory would not include current and existing CER capacities in both the public and private sector. We recommend that the fourth process step bullet (Inventories of existing federal CER translation & dissemination activities; funding based on identifies high-priority gaps) be revised to state, Inventories of existing federal, public (e.g., state activities), and private CER efforts& in order to encompass all current CER efforts. In addition, under the heading, Human and Scientific Capital for CER, an inventory of existing CER capabilities and personnel in the public and private sectors should be added, since investment in training and methods development should start with understanding the current baseline status.

Within Figure 2, under the CER Data & Research Infrastructure box, our members are concerned with building future CER efforts on a medical research enterprise which is currently researcher-centric and not always focused on asking the most appropriate questions that get to the answers that improve outcomes for patients. There should be a step taken prior to Inventories of Existing CER Infrastructure, where current research methods are reviewed and best practices and barriers to providing useful and beneficial CER results are considered. There still remain major questions that can only be answered by large multicenter, multi-specialty, multi-population, and

competitively bid randomized controlled trials. Instead of the current focus on the publish-or-perish mentality of the researcher-centric model, incentives should be developed for performing CER with societal impact, credit for updating research with emerging evidence, and improvements in diverse clinical trial enrollment. In addition, there should be mention of the need to develop an infrastructure for priority setting, such as a box between Inventories of Existing CER Infrastructure and Evidence Generation. As mentioned above, there are multi-stakeholder efforts underway, such as the National Priorities Partnership, whose contributions to the discussion should be recognized.

Also in Figure 2, under Human & Scientific Capital for CER, we recommend that there should be mention of training researchers in the evaluation of clinical evidence, not only CER methods and development. It will be very important to ensure that the strategic framework does not ignore utilizing the scientific evidence that already has been developed, and provides the required infrastructure for re-evaluating that data.

Realizing that this is a framework, and cannot detail every aspect of CER that should be considered, our members have concerns that there are several important topics that are not addressed, neither within the graphics nor the narrative, which are believed to be vital to the successful development and implementation of a CER infrastructure to the US healthcare system. These topics include: the development of a hierarchy of clinical evidence; identification of health services in common use that are not supported by clinical evidence; addressing bias and conflict of interest in the development and review of clinical evidence.

Translation and Adoption
Of the four CER Investments and Activities headings detailed within the draft framework, our members are most concerned with the efforts organized under Translation & Adoption, as this is the main purpose of CER and has been the most difficult CER action to accomplish. Currently, the headings under this category include: Inventory of Existing CER Translational & Dissemination Activities and Potential Capacity for Translation through Federal Delivery Systems and Public-Private Partnerships. Our members have raised questions regarding the inadequacy of these headings and the fundamental need to understand best practices and barriers to adoption of CER, which we recommend be the third heading under Translation & Adoption. Within the draft strategic framework narrative, we also recommend that the different settings in which CER should be translated and adopted should be highlighted: clinical practice, consumer decision-making, and coverage and reimbursement systems (both public and private).

Resource Use and Cost
While the focus of comparative effectiveness research must necessarily be on clinical impact, there must also be consideration of resource allocation (including cost effectiveness). Our members believe that comparative information on cost is equally important especially in today s economic environment, and believe that the value of medical devices, medications, and procedures should be a required facet of CER. Understanding the clinical effectiveness and cost of a service or technology as well as its potential impact on reducing the need for other health care services and expenditures will help consumers and physicians in selecting the right treatment for each patient.

Submitted by
Gina de Miranda
Citizen
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Comment Type: *Strategic Framework*

There is no point in having universal health coverage if the current practice of permitting "military experiments" and "no liability" vaccines is continued. We the people would simply end up paying for the diseases caused by these two factors. We have no idea if our vaccines are actually safe. The statistics suggest that they are useless in preventing disease for animals and people (i.e. people get just as sick with or without vaccines and they almost always get the illness that they have been innoculated against). We get sick from the many military experiments that include the use of electronic frequencies to monitor their effects. These experiments are documented by many Congressional hearings and many complaints. There have even been lawsuits awarding money to Canadians for some of these experiments.

We need honest medical information that includes the importance of nutrition. We need our farmers to use more natural and restorative means of planting and forego the "factory" farm approach that doesn't permit land to be rotated and minerals to be returned to the soil, but relies on nitrogenous fertilizers that further deplete the soil and poison the air. We also need for "fluoridization of the water to be stopped." Not only is this practice useless for teeth health (as many studies have revealed), but it has been correlated with bone cancer in young men, breast cancer and brittle bones in women and problems with hormone balance across the board.

The people are not stupid. The people are not the ones who IRRESPONSIBLY dump pollutants into the water and air and conduct unsafe tests on human subjects.

Submitted by
Tony Coelho
Partnership to Improve Patient Care (PIPC)
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Comment Type: *Strategic Framework*

Dear Federal Coordinating Council Members:

The Partnership to Improve Patient Care (PIPC) appreciates this opportunity to respond to your recently released draft definition and prioritization of comparative effectiveness research (CER).

PIPC is a diverse coalition of over 40 organizations representing patients, healthcare providers, research institutions and medical research companies. PIPC was formed in November 2008 to advance proposals for CER that are focused on supporting providers and patients with the information they need, improving healthcare quality and supporting continued medical progress. Our members are united by a common set of CER principles in support of this goal.

Our partnership appreciates the Federal Coordinating Council s posting of its draft CER definition, prioritization criteria and strategic framework as a further step in promoting openness and transparency. Providing continued openness and transparency in the Council s activities and those of the Department of Health and Human Services will ensure that the perspectives of patients, providers and other stakeholders are considered.

We also commend the focus on the expressed needs and perspectives of patients and providers in your draft definition. PIPC reaffirms our belief that CER must focus on communicating research results to patients, providers and other decision-makers, not making centralized coverage and payment decisions or recommendations. This focus is consistent with the goal of CER as described in HHS press release announcing the Federal Coordinating Council, which stated, Such research will give clinicians and patients valid information to make decisions that will improve the performance of the U.S. health care system.

We support your recognition of the importance of having patients and providers play a central role in defining their own healthcare needs. Too often in healthcare, the determination of what s best for the patient is made by others, while the patient s views of his or her own needs is ignored or minimized. By identifying the importance of expressed needs, the Council takes an important step towards policy that truly is centered on the needs of the patient and caregiver.

PIPC also supports the broad scope of research included in the Council s definition, which states, Defined interventions compared may include medications, procedures, medical and assistive devices and technologies, behavioral change strategies, and delivery system interventions. This definition is consistent with PIPC s principles in support of CER and reflects the views expressed by many stakeholders at FCC listening sessions. PIPC believes that in order to improve patient care, CER research should examine the range of issues that affect the quality of patient care. This includes the range of medical tests and treatments, as well as questions related to healthcare delivery and organization such as benefit designs and care management programs. All of these healthcare elements affect patients quality of care.

While PIPC supports the focus on patient and provider needs in the draft definition, we also are concerned that, in stating that the purpose of CER is to inform patients, providers and decision-makers, the Council s draft definition of CER has the potential to shift the focus of research away from patients and providers towards other decision-makers such as health insurance companies, government agencies and other policy-makers. The strategic framework released on HHS web site on June 1 includes language that underscores this concern. In particular, PIPC is troubled by language in the framework that describes CER research priorities that respond to the expressed public and federal needs for CER, and potential capacity for translation through Federal delivery systems and public private partnerships.

This shift in focus likely will result in research projects that do not address the clinical information needs of patients and providers, and instead lead to research that is used to restrict patient access to treatment options. This concern is heightened by recent commentary describing the link between CER and these types of access restrictions. For example, a recent Washington Post commentary says, What's known as comparative effectiveness research, which tracks what works and what doesn't, would also require outside boards directing doctors and hospitals about what procedures they could and couldn't use.

The language of your CER definition and strategic framework document is inconsistent with the goal of CER as described by HHS in its press release announcing the Coordinating Council. PIPC is opposed to the shift in focus to CER that restricts patient access to medical care or treatment choices. We strongly urge the Council to delete the language referencing decision-makers and federal needs as a CER focus. PIPC also urges you to revise the strategic framework so that it focuses on communication and dissemination strategies, rather than use of CER by government agencies.

Consistent with focus on patient and provider needs, we urge the Council to clarify that research will examine clinical outcomes, not cost-effectiveness. As reflected in the wide range of views expressed during the Coordinating Council listening sessions, inclusion of cost-effectiveness remains very controversial. Cost-effectiveness analysis traditionally has been a tool used by insurance companies and government payers to impose access restrictions based on broad population averages, and some of the most common CEA tools obscure differences in patient subgroups by including all patients in a single, average value determination. Particularly given the importance that the American Reinvestment and Recovery Act (ARRA) and the Coordinating Council have placed on considering the needs of patient subpopulations, PIPC recommends that the Council clarify that it will focus on clinical outcomes.

PIPC looks forward to continue working with the Council to foster good and fair processes that will allow future comparative clinical effectiveness research to improve the health and well being of all Americans.

Once again, thank you for the opportunity to participate in this transparent comment process.

Sincerely yours,

Federal Coordinating Council for Comparative Effectiveness Research Agenda
April 10, 2009
1:30-3:00pm
Room 425-A
Call-in Number: 866-762-7985 passcode: 6866388

1. Comparative Effectiveness Research Background and Draft Initial Framework

2. Comparative Effectiveness Research Current Portfolios and Future Plans for CER

    a. AHRQ
    b. NIH
    c. VA

3. Listening Session Format

4. Other

AHRQ Comparative Effectiveness Research: Current and Future

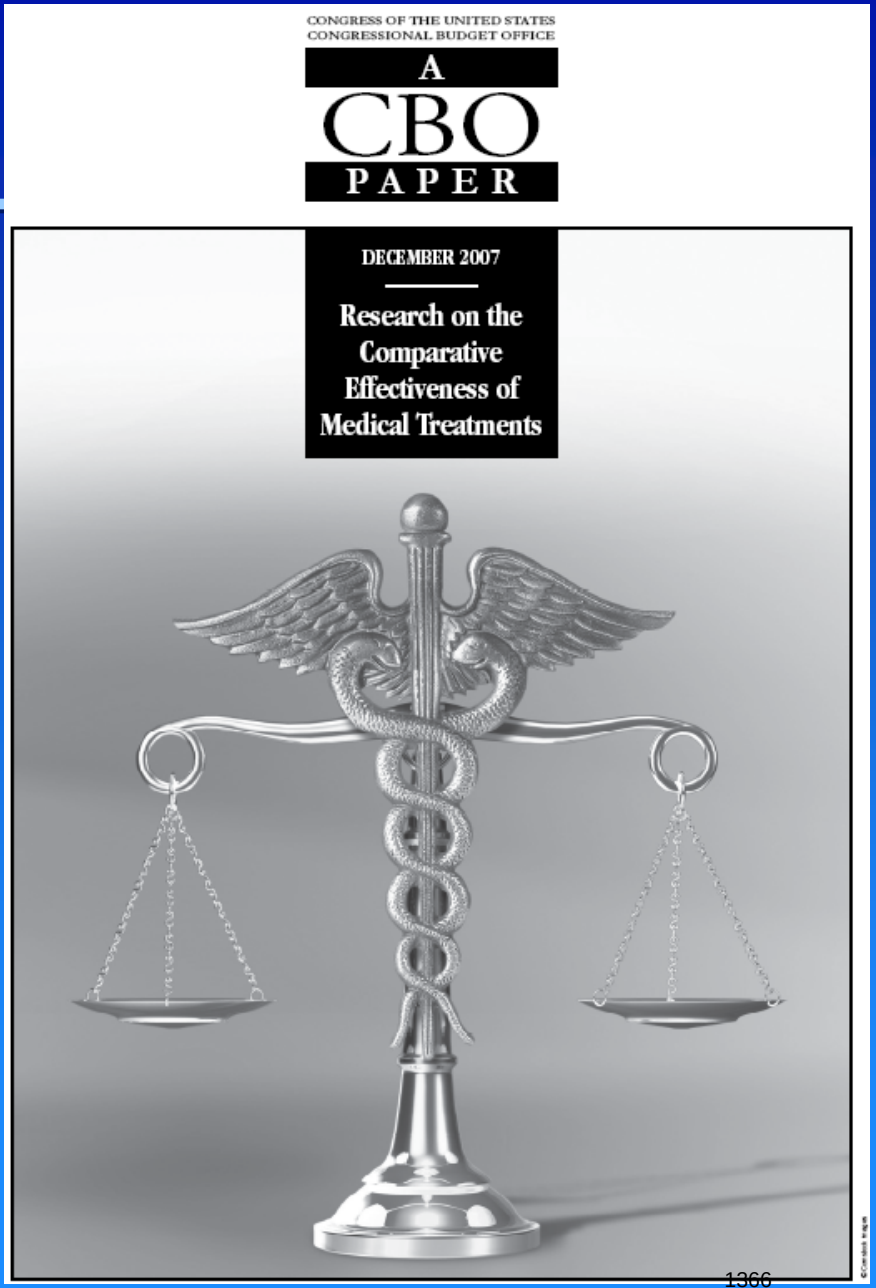
Federal Coordinating Council Meeting

April 10, 2009

Comparative Effectiveness

"…a rigorous evaluation of the impact of different options that are available for treating a given medical condition for a particular set of patients."

CBO, 2007



Building on Previous Work

Research activities will be performed using rigorous scientific methods within a previously-established process that emphasizes stakeholder involvement and transparency, that was designed to prioritize among pressing health issues, and whose products are designed for maximum usefulness for health care decision makers.

Comparative Effectiveness Research at AHRQ

- Created in 2005, authorized by Section 1013 of the Medicare Prescription Drug, Improvement, and Modernization Act (MMA) of 2003
- AHRQ shall conduct and support research on:
  - "the outcomes, comparative clinical effectiveness, and appropriateness of health care items and services (including prescription drugs)"
- Goal: to provide patients, clinicians and policy makers with reliable, evidence-based healthcare information

AHRQ's CER Role under ARRA

- AHRQ to continue its CER work under the auspices of section 1013 of MMA
- AHRQ will continue to have a collaborative, open, and transparent process for comparative effectiveness that allows for input from all perspectives.
- AHRQ will continue to involve all stakeholders in the research process.
- To determine what priorities and projects will be funded under this new authority, we are undertaking a process to determine what will be funded, working with the Office of the Secretary, NIH, and IOM. We also will be seeking external input as AHRQ has done in the past.

Effective Health Care Program

- **To improve the quality, effectiveness, and efficiency of health care delivered through Medicare, Medicaid, and S-CHIP programs**
  - Focus is on what is known ***now***: ensuring programs benefit from ***past*** investments in research and what research ***gaps*** are critical to fill
  - Focus is on ***clinical effectiveness***

Priority Conditions for the Effective Health Care Program

- Arthritis and non-traumatic joint disorders
- Cancer
- Cardiovascular disease, including stroke and hypertension
- Dementia, including Alzheimer Disease
- Depression and other mental health disorders
- Developmental delays, attention-deficit hyperactivity disorder and autism
- Diabetes Mellitus
- Functional limitations and disability
- Infectious diseases including HIV/AIDS
- Obesity
- Peptic ulcer disease and dyspepsia
- Pregnancy including pre-term birth
- Pulmonary disease/Asthma
- Substance abuse

http//:effectivehealthcare.ahrq.gov

Comparative Effectiveness Reviews: Coming soon…

- Comparative Effectiveness Reviews
  - Stable Ischemic Heart Disease (draft report)
  - Particle Beam Therapies for Cancer (Technical Brief)
  - Stereotactic Radiosurgery (Technical Brief)
  - Heart Valve Replacement (Technical Brief)
  - Core NeedleBreast Biopsy
  - Lipid-modifying Agents
  - Radiofrequency Catheter Ablation for Atrial Fibrillation
  - Chemotherapy Agents in the Prevention of Breast Cancer
  - 9 Comparative Effectiveness Review Updates

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LATE-BREAKING CLINICAL TRIAL

Clinical Effectiveness of Coronary Stents in Elderly Persons

Results From 262,700 Medicare Patients in the American College of Cardiology-National Cardiovascular Data Registry

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David Dai, PhD,* David F. Kong, MD,* Bradley Hammill, PhD,* Lesley Curtis, PhD,*
David Matchar, MD,* Ralph Brindis, MD,‡§ Eric D. Peterson, MD, MPH*

Durham, North Carolina; Rockville, Maryland; Oakland, California; and Washington, DC

Objectives The aim of this study was to compare outcomes in older individuals receiving drug-eluting (DES) and bare-metal stents (BMS).

Background Comparative effectiveness of DES relative to BMS remains unclear.

Methods Outcomes were evaluated in 262,700 patients from 650 National Cardiovascular Data Registry sites during 2004 to 2006 with procedural registry data linked to Medicare claims for follow-up. Outcomes including death, myocardial infarction (MI), revascularization, major bleeding, stroke, death or MI, death or MI or revascularization, and death or MI or stroke were compared with estimated cumulative incidence rates with inverse probability weighted (IPW) estimators and Cox proportional hazards ratios.

Results The DES were implanted in 217,675 patients and BMS were implanted in 45,025. At 30 months, DES patients had lower unadjusted rates of death (12.9% vs. 17.9%), MI (7.3 of 100 patients vs. 10.0 of 100 patients), and revascularization (23.0 of 100 patients vs. 24.5 of 100 patients) with no difference in stroke or bleeding. After adjustment, DES patients had lower rates of death (13.5% vs. 16.5%, hazard ratio [HR]: 0.75, 95% confidence interval [CI]: 0.72 to 0.79, $p < 0.001$) and MI (7.5 of 100 patients vs. 8.9 of 100 patients, HR: 0.77, 95% CI: 0.72 to 0.81, $p < 0.001$), with minimal difference in revascularization (23.5 of 100 patients vs. 23.4 of 100 patients; HR: 0.91, 95% CI: 0.87 to 0.96), stroke (3.1 of 100 patients vs. 2.7 of 100 patients, HR: 0.97, 95% CI: 0.88 to 1.07), or bleeding (3.4 of 100 patients vs. 3.6 of 100 patients, HR: 0.91, 95% CI: 0.84 to 1.00). The DES survival benefit was observed in all subgroups analyzed and persisted throughout 30 months of follow-up.

Conclusions In this largest ever real-world study, patients receiving DES had significantly better clinical outcomes than their BMS counterparts, without an associated increase in bleeding or stroke, throughout 30 months of follow-up and across all pre-specified subgroups. (J Am Coll Cardiol 2009;53:000–000) © 2009 by the American College of Cardiology Foundation

The dramatic reductions in restenosis and repeat revascularization associated with coronary artery drug-eluting stents (DES) compared with their bare-metal stent (BMS) counterparts (1) prompted swift adoption into clinical practice (2). However, reports of late stent thrombosis (3,4) and higher mortality (5,6) resulted in release of 2 special Food

From the *Duke Clinical Research Institute, Duke University Medical Center, Durham, North Carolina; †Agency for Healthcare Quality and Research, Rockville, Maryland; ‡Kaiser Permanente, Oakland, California; and the §American College of Cardiology, Washington, DC. This project was sponsored by the Agency for Healthcare Research and Quality, U.S. Department of Health and Human Services, Rockville, Maryland, as part of the Cardiovascular Consortium and funded under Project ID: 24-EHC-1 and Work Assignment Number: HHSAA290-2005-0032-TO4-WA1 as part of the Developing Evidence to Inform Decisions about Effectiveness (DEcIDE) program. The authors of this report are responsible for its content. Statements in the report should not be construed as endorsement by the Agency for Healthcare Research and Quality or the U.S. Department of Health and Human Services. Additional support was obtained from the National Cardiovascular Data Registry, American College of Cardiology, Washington, DC. Dr. Anstrom has received research support from AstraZeneca, Bristol-Myers Squibb, Eli Lilly and Co., and Medtronic. Dr. Anstrom has served as a consultant for Johnson & Johnson and Pfizer. Dr. Eisenstein has received research support from Medtronic Vascular and Eli Lilly and Co. Dr. Curtis has received research support from Allergan, Eli Lilly and Co., GlaxoSmithKline, Medtronic, Merck & Co., Johnson & Johnson (Ortho Biotech), Novartis, OSI Eyetech, and Sanofi-Aventis. Dr. Peterson has received research support from BMS/Sanofi and Merck/Schering.

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Clopidogrel Use and Long-term Clinical Outcomes After Drug-Eluting Stent Implantation

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Context Recent studies of drug-eluting intracoronary stents suggest that current antiplatelet regimens may not be sufficient to prevent late stent thrombosis.

Objective To assess the association between clopidogrel use and long-term clinical outcomes of patients receiving drug-eluting stents (DES) and bare-metal stents (BMS) for treatment of coronary artery disease.

Design, Setting, and Patients An observational study examining consecutive patients receiving intracoronary stents at Duke Heart Center, a tertiary care medical center in Durham, NC, between January 1, 2000, and July 31, 2005, with follow-up contact at 6, 12, and 24 months through September 7, 2006. Study population included 4666 patients undergoing initial percutaneous coronary intervention with BMS (n=3165) or DES (n=1501). Landmark analyses were performed among patients who were event-free (no death, myocardial infarction [MI], or revascularization) at 6- and 12-month follow-up. At these points, patients were divided into 4 groups based on stent type and self-reported clopidogrel use: DES with clopidogrel, DES without clopidogrel, BMS with clopidogrel, and BMS without clopidogrel.

Main Outcome Measures Death, nonfatal MI, and the composite of death or MI at 24-month follow-up.

Results Among patients with DES who were event-free at 6 months (637 with and 579 without clopidogrel), clopidogrel use was a significant predictor of lower adjusted rates of death (2.0% with vs 5.3% without; difference, −3.3%; 95% CI, −6.3% to −0.3%; $P=.03$) and death or MI (3.1% vs 7.2%; difference, −4.1%; 95% CI, −7.6% to −0.6%; $P=.02$) at 24 months. However, among patients with BMS (417 with and 1976 without clopidogrel), there were no differences in death (3.7% vs 4.5%; difference, −0.7%; 95% CI, −2.9% to 1.4%; $P=.50$) and death or MI (5.5% vs 6.0%; difference, −0.5%; 95% CI, −3.2% to 2.2%; $P=.70$). Among patients with DES who were event-free at 12 months (252 with and 276 without clopidogrel), clopidogrel use continued to predict lower rates of death (0% vs 3.5%; difference, −3.5%; 95% CI, −5.9% to −1.1%; $P=.004$) and death or MI (0% vs 4.5%; difference, −4.5%; 95% CI, −7.1% to −1.9%; $P<.001$) at 24 months. However, among patients with BMS (346 with and 1644 without clopidogrel), there continued to be no differences in death (3.3% vs 2.7%; difference, 0.6%; 95% CI, −1.5% to 2.8%; $P=.57$) and death or MI (4.7% vs 3.6%; difference, 1.0%; 95% CI, −1.6% to 3.6%; $P=.44$).

Conclusions The extended use of clopidogrel in patients with DES may be associated with a reduced risk for death and death or MI. However, the appropriate duration for clopidogrel administration can only be determined within the context of a large-scale randomized clinical trial.

JAMA. 2007;297:(doi:10.1001/jama.297.2.joc60179) www.jama.com

THE INCIDENCE OF EARLY VESSEL closure after coronary stent implantation was markedly reduced by the adoption of thienopyridine antiplatelet therapy.[1] The widespread adoption of dual antiplatelet therapy (aspirin and thienopyridines) has further reduced the risk of subacute thrombosis after bare-metal stent implantation to 0.5% to 1.9%.[1-3]

Instructions for the use of drug-eluting stents commercially available in the United States specify treatment with clopidogrel for at least 3 months (for sirolimus-coated stents) or 6 months (for paclitaxel-coated stents) after implantation. Premature discontinuation of this minimum antiplatelet therapy has been associated with stent thrombosis.[4,5] However, studies of late thrombosis events among patients with a drug-eluting stent have cast doubt on whether the recommended regimens are sufficient.[6,7] An observational analysis from BASKET-LATE (Basel Stent Kosten-Effektivitats Trial-Late Throm-

Author Affiliations: Departments of Medicine (Drs Eisenstein, Kong, Mark, Kramer, Harrington, Matchar, Kandzari, Peterson, Schulman, and Califf) and Biostatistics and Bioinformatics (Dr Anstrom), Duke University Medical Center, Duke Clinical Research Institute (Drs Eisenstein, Anstrom, Kong, Mark, Kramer, Harrington, Kandzari, Peterson, Schulman, and Ms Shaw and Mr Tuttle), Duke Translational Medicine Institute (Drs Eisenstein, Anstrom, Kong, Mark, Kramer, Harrington, Matchar, Kandzari, Peterson, Schulman, Califf, and Ms Shaw and Mr Tuttle), and the Duke Center for Clinical Health Policy Research (Dr Matchar), Durham, NC. **Corresponding Author:** Eric L. Eisenstein, DBA, Duke Clinical Research Institute, Duke University Medical Center, Box 3865, 2400 Pratt St, Room 0311, Durham, NC 27710 (eric.eisenstein@duke.edu).

CME Metrics Report

Comparative Effectiveness of Second-Generation Antidepressants in the Pharmacologic Treatment of Adult Depression: AHRQ Executive Summary

A Medscape Clinical Update

Agency for Healthcare Research and Quality

Supported by an educational grant from:
WebMD

November 29, 2007

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www.ceoutcomes.com

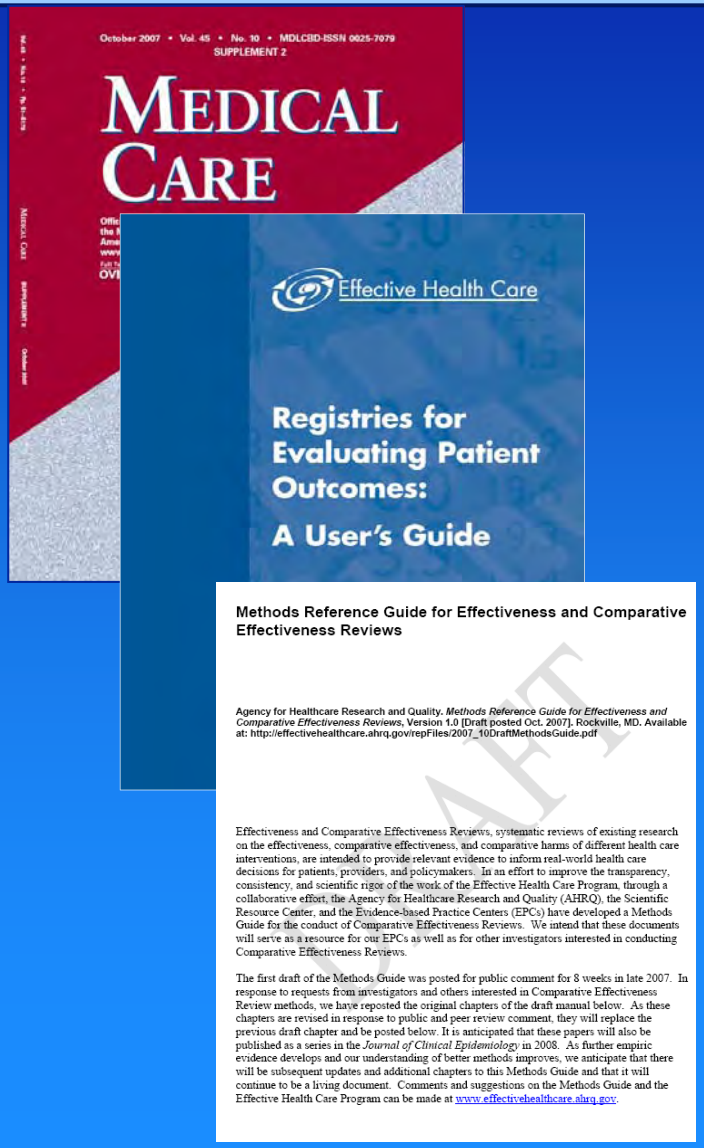
DARTNet: Distributed Ambulatory Research in Therapeutics Network

- Federated network of electronic health data from 9 physician organizations (over 500 clinicians and over 400,000 patients)
- Objectives of pilot study:
  - Create DARTNet and validate data and system integrity
  - Evaluate comparative effectiveness, safety and utilization of oral hypoglycemics:
- Assess factors affecting scale up (size and complexity) and sustainability of DARTNet

HMORN Distributed Research Network Prototype

- Developing the architecture for a multi-purpose, multi-institutional, distributed health data network.
- Intended to support secure data analyses on data that remains in the possession of the original data holder.
- Research study involves three large, integrated healthcare delivery systems that collectively care for over 4 million people.
  - Assessing the comparative effectiveness of two commonly used *second-line* antihypertensive agents: angiotensin-converting enzyme (ACE) inhibitors and beta-blockers.

Emerging Methods in Comparative Effectiveness & Safety



- Variation in methods among systematic reviews undercuts transparency
- Methods reduce the likelihood of scientific impartiality
- Methods help minimize misclassification of data
- Methods must continue to evolve and not remain stagnant
- AHRQ has and will continue to make investments in improving methods, esp. in understanding how treatments effect individuals differently, often referred to as “heterogeneity of treatment effects.”

Symposium on CER Research Methods

- June 1- 2, 2009 symposium will examine new & emerging methods for conducting comparative effectiveness research.
- The two main emphases:
  - Enhance the inclusion of clinically heterogeneous populations in comparative and clinical effectiveness studies.
  - Implement longitudinal investigations that capture longer term health outcomes, including patient-reported outcomes.
- 22 author presentations, with the proceedings published in peer-reviewed, open-access, journal supplement.
- Presentations will be concurrently broadcast on Internet using webinar format; invitations will be extended to each NAC member.

Plain Language Guides

Fast Facts

- ACEIs and ARBs are two of the many kinds of blood pressure pills.
- Both kinds of pills (ACEIs and ARBs) do a good job of lowering blood pressure.
- ACEIs and ARBs rarely cause serious problems. The main difference in side effects is that ACEIs are more likely than ARBs to cause a dry cough.
- ACEIs and ARBs do not affect cholesterol levels or blood sugar levels.
- Some ACEIs are available as generics, which cost less.

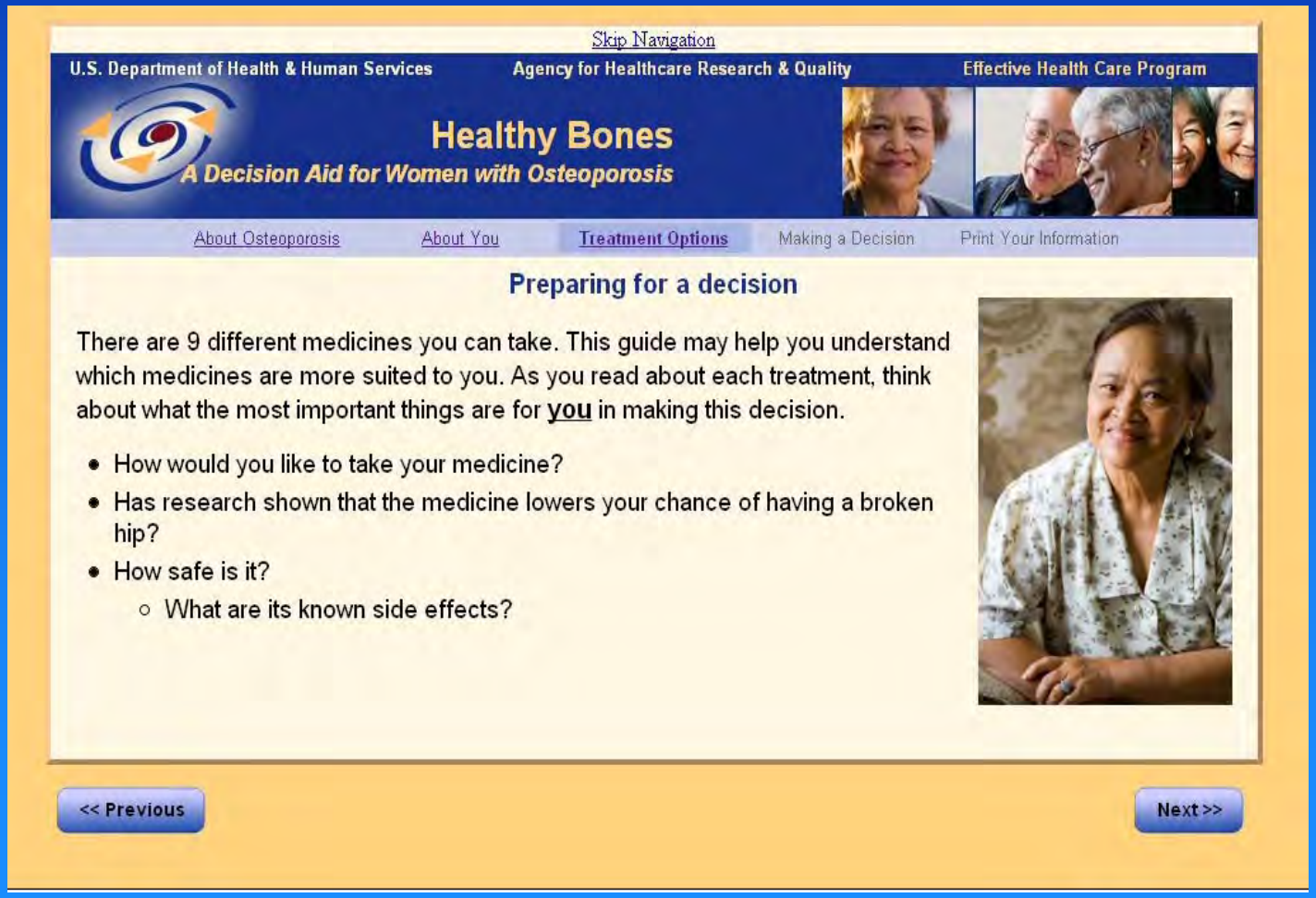
Coming soon…

- Summary guides
  - Osteoarthritis of the Knee (consumer and clinician)
  - Gestational diabetes (consumer and clinician)
  - Induction of labor (consumer and clinician)
  - Particle beam (policymaker)

- Spanish translations of 6 summary guides

Coming soon… (cont.)

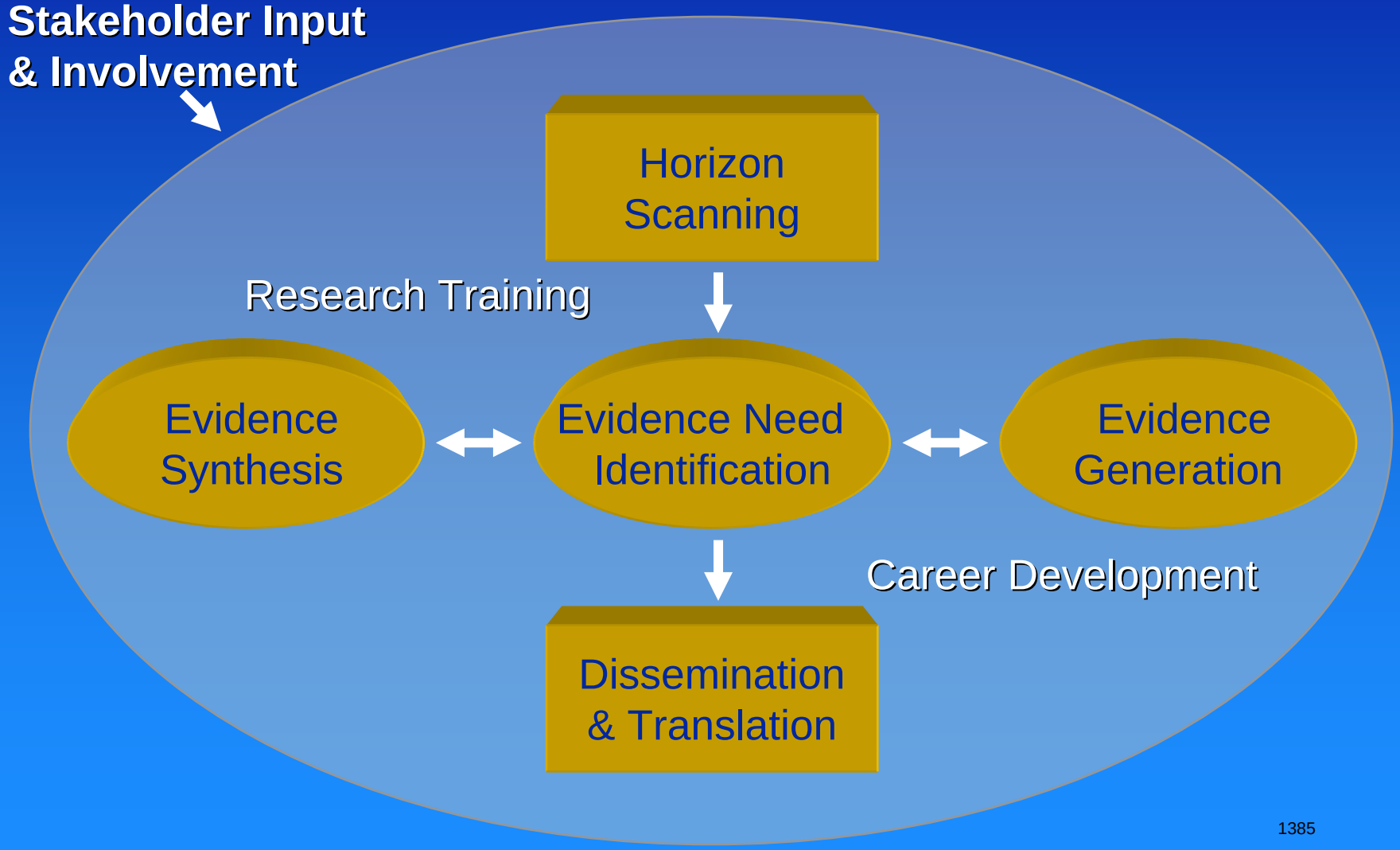
Interactive Decision Aids



New Resources – New Opportunities!

- Expanded infrastructure and capacity for Comparative Effectiveness Research
- Prospective studies that include under-represented populations
- Pushing forward on methods for Comparative Effectiveness Research (June 1-2 Symposium)
- Increasing investments in innovative broad dissemination and translation

Conceptual Framework



Horizon Scanning

- **Identification of New and Emerging Issues for Comparative Effectiveness (Horizon Scanning)**
  - identification of current or emerging interventions available to diagnose, treat, or otherwise manage a particular condition
  - vital for understanding the relevant healthcare context and landscape, as a basis for identifying and beginning to prioritize among research needs

Evidence Syntheses

- The review and synthesis of current medical research, to provide rigorous evaluation of what is known on the basis of existing research about the comparative effectiveness of alternative approaches to the given clinical problem
  - Includes methods needed to do comparative syntheses
  - Modeling and decision analytics
  - Vital for gap identification (next slide)

Evidence Gap Identification

- Systematic approach to identify areas where new research conducted within a comparative effectiveness framework would contribute to bridging the gap between existing medical research and clinical practice
  - Emphasis on identifying “key” gaps that will fill important areas for decision makers
    - Focus on under-represented populations
    - Value of information
    - Feasibility

Evidence Generation (1)

- The Clinical and Health Outcomes Initiative in Comparative Effectiveness (CHOICE) will represent the first coordinated national effort to establish a series of pragmatic clinical comparative effectiveness studies in the United States. This initiative will concentrate on under-represented populations (children, elderly, racial and ethnic minorities and other under studied populations).

Evidence Generation (2)

- Clinical Registries
  - AHRQ will make up to five awards for the establishment or enhancement of national patient registries that can be used for researching the longitudinal effects of different interventions and collect data on under-represented populations.

Evidence Generation (3)

- AHRQ will enhance its investments in establishing a learning health care system by funding the DEcIDE (Developing Evidence to Inform Decisions about Effectiveness) Network to expand developmental consortium in diabetes, cancer, cardiovascular disease, and distributed data network models utilizing clinically rich data from electronic health records.
  - AHRQ will use ARRA investment to funds to continue support for the development of a research framework that organizes the major methods topics and prioritizes critical areas for new research on methods, including validation.

Evidence Generation (4)

- AHRQ will use the ARRA investment to fund meritorious grant applications that were not funded in FY 09.

Dissemination and Translation

- The ARRA funds will primarily be used to support grantees in developing and implementing innovative approaches to integrating comparative effectiveness research findings into clinical practice and health care decision making.
- A smaller investment will strengthen the infrastructure supporting these activities, including the John M. Eisenberg Clinical Decisions and Communications Science Center whose workload will substantially increase.

Research training and Career Development

- AHRQ will provide institutional support to increase the intellectual and organizational capacity for larger scale programs in comparative effectiveness and allow fellowship training opportunities.
- Through grant mechanisms, funding will support the career development of clinicians and research doctorates focusing their research on the synthesis, generation and translation of new scientific evidence and analytic tools for comparative effectiveness research.

Citizen's Forum

- Formally engage stakeholders at the critical stages of identifying research needs, study design, interpretation of results, development of products, and research dissemination through a variety of mechanisms that are both inclusive and transparent
- Support programs in citizen awareness addressing the use of comparative effectiveness evidence in health care decision-making

The following individuals/organizations submitted written comments for consideration by the Federal Coordinating Council for Comparative Effectiveness Research

88 comments

Individuals

Theodore Chow, MD, FACC
Linda DeCarlo
Grace E. Jackson, MD
Amy Menefee
David Thomas Martella
Rachel Nosowsky
Cliff Shannon
Bill Wright

Senator Herb Kohl, Chairman, Senate Special Committee on Aging

Organizations

AdvaMed
American Academy of Hospice and Palliative Medicine
American Association for Clinical Chemistry
American Association of Naturopathic Physicians
American Association of Neurological Surgeons/Congress of Neurological Surgeons
American Board of Orthopaedic Surgery
American Clinical Laboratory Association
American College of Cardiology
American Heart Association - National Center
American Medical Group Association
American Osteopathic Association
American Psychological Association
American Society of Health-System Pharmacists
American Society of Clinical Oncology
American Urogynecologic Society
American Urological Association
Association of Clinical Research Organizations
AstraZeneca Pharmaceuticals

Bloomberg School of Public Health, Johns Hopkins University
Blue Cross Blue Shield Association

California Department of Public Health
California Office of Statewide Health Planning and Development
Center for Advancing Health
Center for Perioperative Research in Quality
Center for Pharmacoeconomic Research, University of Illinois at Chicago
Center for Policy Research and Analysis
Child and Family Policy Center
Children's Health Specialists
Citizens for Midwifery
Community Catalyst
Community Resources, LLC
Coverage Policy Unit

eHealth Initiative

Friends of SAMHSA
Frontier School of Midwifery and Family Nursing

George Washington University
Gundersen Lutheran Health System

Health Equity Associates, LLC

Independent Scientific Research Advocates

Journal of the American Medical Association

Lakes Inter-Tribal Epidemiology Center

Marshfield Clinic
Martin, Blanck & Associates, LLC
Medical College of Wisconsin
Medscape, LLC
Meharry Medical College
Mental Health America
Merck Childhood Asthma Network, Inc.
MGH Center for Child and Adolescent Health Policy
Morgan Stanley Children's Hospital of New York-Presbyterian
M2S, Inc.

National Alliance on Mental Illness
National Association of Children's Hospitals and Related Institutions
National Coalition of Mental Health Consumer/Survivor Org
National Hispanic Medical Association
National Initiative for Children's Healthcare Quality
National Patient Advocate Foundation
National Pharmaceutical Council
Nemours Health and Prevention Services
Nutricia North America

Oregon Health Sciences University

Partnership to Improve Patient Care
Parkinson Pipeline Project
Patient Safety Solutions, LLC
Powers, Pyles, Sutter & Verville PC
Prescription Policy Choices

RCHN Community Health Foundation

Samueli Institute
Shore Health System
Society of Thoracic Surgeons
SomaliCAN
SPAN USA
Standard Biologics, Inc

University of Colorado and Children's Hospital
University Hospitals of Cleveland
University of Illinois at Chicago
University of Pittsburgh
University of Wisconsin
United States Psychiatric Rehabilitation Association

Virtual Radiologic Corporation

Submitted by
Cynthia Crummey
American Board of Orthopaedic Surgery
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The American Board of Orthopaedic Surgery appreciates the opportunity to comment on the value of comparative effectiveness research. Founded in 1934, The American Board of Orthopaedic Surgery provides a 2 step process for initial certification of candidate orthopaedic surgeons and is responsible for the recertification process in orthopaedic surgery, and hand surgery and sports medicine subspecialties. As a part of our dual mission to serve the public and the medical profession we have ingrained specific elements of ethics, professionalism and evidence based practice in multiple areas of our process. To be eligible for the Board certification process, residents must satisfactorily complete an accredited 5 year training program in Orthopaedic surgery. For the initial certification process, we have developed a psychometrically valid examination that tests cognitive expertise in Orthopaedic Surgery (Part I). If successful in Part I, candidates may apply for an Oral Examination (Part 2) after approximately 2 years of independent practice. For the second part of the initial certification, candidates must successfully pass a 360 degree peer review evaluation process prior to sitting for the part II oral examination. Our peer review process employs a standard tool that represents the 6 core competencies, accrues input from multiple types of observers (colleagues, partners, administration and nursing), specifically assesses ethics and professionalism and is unique to our Orthopaedic surgery process. The part 2 examination is an oral examination for which the candidate must submit 6 months of operative cases in a standard format to our proprietary database. In the part 2 examinations, candidates present their own cases to 6 different Board certified volunteer examiners. Candidates are graded on a variety of skills including use of evidence based medicine, ethics and professionalism and systems based practice. Further, The ABOS owns and operates a recertification processes that includes a variety of recertification alternatives that are equally robust and are designed to both protect the public and meet the needs of busy practicing orthopaedic surgeons. Integral to the recertification process is the option of a recertification oral examination. Again for this examination, candidates that have been in practice for almost 10 years submit cases to our proprietary database providing another important evaluation of orthopaedic practice. We believe that this process developed by the American Board of Orthopaedic Surgery has high value to the diplomate and serves to protect the public good.

Though a small percentage of physicians, orthopaedic surgeons provide “cradle to grave” medical care to nearly 25% of the population. As such, orthopaedic care is a high priority to the public. The direct cost for musculoskeletal care and rehabilitation is on the order of 800 billion dollars. In 2004, HHS identified the care of arthritis and nontraumatic joint disorders as conditions as being of special significance and were among the first to be addressed by the Effective Health Care Program. The ABOS recognizes the need for effective health care programs in arthritis, nontraumatic joint disorders and also in the care of the injured patient. The ABOS believes continued evaluation of practice patterns of practicing orthopaedic surgeons gives it the unique opportunity to report on and improve certain aspects of care.

The ABOS is strongly supportive of comparative effectiveness research as an important tool in the fabric of medical decision making and its accumulation of information on orthopaedic practice, including procedures and outcomes, through the certification process provides ABOS a unique opportunity to conduct such research. As part of our commitment to this research, the ABOS has partnered with the Dartmouth Institute of Health Policy and Clinical practice to design, execute and publish a number of articles that are based on observed orthopaedic practices using our proprietary database. We have published or will soon publish articles that describe geographic variation in various orthopaedic practices, trends in practice patterns for the treatment of various conditions, the differential effectiveness of certain procedures in the treatment of various conditions and the effectiveness of educational programs in Orthopaedic surgery. These manuscripts, published in rigorous peer review journals can improve orthopaedic practice and are, therefore, useful to both our colleagues and the public.

Because we have useful data in our proprietary database that has been systematically collected over a number of years, the ABOS is in a unique position to continue to report on issues of effectiveness, device utilization, geographic practice variation and other important issues in Orthopaedic Surgery. Constructively employed, works of this type should be reported to give both physicians and patients a better understanding of the ramifications of personalized medical decisions. Hopefully, works of this type will stimulate innovation, further research and not stymie progress. We will continue our independent work in this area for the benefit of the profession and for the value to the public. Such initiatives will also have translational benefit in related fields of surgery and musculoskeletal health. We are eager to work with the Department of HHS in furthering the work that will lead to improved, clinically useful evidence-based guidelines and new educational formats that provide safe, effective treatment, while conserving the resources available for healthcare.

Novel projects that partner with the individual Boards that control the certification process for their diplomates in the various specialties could yield the next generation of performance improvement in the specialty of orthopaedic surgery and other specialties.

Respectfully submitted,

John Gray Seiler, III MD, President, American Board of Orthopaedic Surgery
Harry Herkowitz, MD, President–Elect, American Board of Orthopaedic Surgery
Shep Hurwitz, MD, Executive Director, American Board of Orthopaedic Surgery

For further information on the American Board of Orthopaedic Surgery: abos.org

Background References:

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Garber AM, Tunis SR. Does Comparative –Effectiveness Research Threaten Personalized Medicine. New England Journal of Medicine. Vol. 360, 9, 1925-1927, 2009

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Anglen JO, Weinstein JN and the ABOS Research Committee. Nail or Plate Fixation of Intertrochanteric Hip Fracture: Changing pattern of practice. A review of the American Board of Orthopaedic Surgery Database. Journal of Bone and Joint Surgery. 90, 700-7007, 2008.
Garrett We, Swiontkowski MF, Weinstein JN, Callaghan J, Rosier RN, Berry DJ, Harrast J, DeRosa GP and the research committee of the American Board of Orthopaedic Surgery. Journal of Bone and Joint Surgery. 88, 660-667, 2006.
Herkowitz HN, Weinstein JN, Callaghan JJ, DeRosa GP and the American Board of Orthopaedic Surgery. Spine Fellowship Education and its Association with the Part II Certification Examination. Journal of Bone and Joint Surgery. 88, 668-670, 2006.

Current ABOS Research Projects

1) Board Certified and Non Board Certified Orthopaedic Surgeons- differences in outcomes, cervical spine.
2) Arthroscopic shoulder surgery, changes in practice for subacromial decompression.
3) Shoulder surgery, changes in practice for rotator cuff conditions.

Submitted by
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I am responding to the invitation to provide comment to the Coordinating Council pertaining to CER (comparative effectiveness research). As the Director of the Great Lakes Inter-Tribal Epidemiology Center, one of twelve "epicenters" currently residing in Indian Health Service Areas, I would like to invite our involvement in the education and application of CER consistently when working in our Tribal communities. I am just now learning more about CER, and am understanding that CER may be (or has been) the standard process for clinical research and program evaluation as health care reform proceeds. The Tribal Epidemiology Centers began as a result of legislation in 1996 and have built trusting relationships with Tribal communities in order to increase data collection, analysis and use in health care decision making. We play a vital role in advocating for increasing representation of American Indians in data samples, data accuracy and translation of research in the community.

Actually, I would like to propose a conference call between the Coordinating Council and Directors of the 12 Tribal Epidemiology Centers (or face to face if possible) to explore how we can be involved and therefore, including the US indigenous population. I recommend that the meeting also include members of HRAC. Currently, American Indians carry a high burden of disease and are underserved. Unless we increase American Indian research, data and

representation, any health care system designed will continue to under serve this population. Please call me at your convenience and I will be pleased to coordinate a meeting.

Submitted by
Catherine DeAngelis, MD, MPH
Editor-in-Chief
Journal of the American Medical Association
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Comparative Effectiveness Research should comprise the following components:

1. A well thought out design to answer a specific, important question or questions. This design should include context, objective(s), populations to be studied, specific study design, expected and then actual results and conclusion(s).

2. Funding should be based on relative importance of the study to health of the public as compared to other proposed studies

3. A definite time line that can be completed realistically considering the population (numbers and types of individuals available) and other resources needed to complete the study.

4. Periodic reporting of results to determine the likelihood of completing the study. Scare funding should not be allocated to those studies that clearly cannot meet the time line indicated.

5. Peer review of the study results and publication with no further funding for that research if results do not meet expectations for that study

Submitted
Karen Lencoski, JD, MBA
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Email: klencoski@auanet.org

The American Urological Association (AUA), the pre-eminent professional association for over 16,000 urologists worldwide and almost 10,000 in the U.S., greatly appreciates the opportunity to present our suggestions for comparative effectiveness research priorities to the Federal Coordinating Council. The long-standing mission of the AUA is to promote the highest standards of clinical urologic care through education, research, development of clinical guidelines, and the formulation of healthcare policy. The public health burden of urologic disease in the U.S. is large and growing, with an estimated annual impact of over $11 billion. Urologists are the specialists who most often diagnose and treat prostate cancer, the second leading cause of cancer deaths among men in the U.S. Urologists treat many other conditions common to Medicare beneficiaries, including urinary tract infections, benign prostatic hyperplasia (BPH), and urinary incontinence. Over fifty percent of the patients who see urologists are Medicare beneficiaries. We heartily endorse the Administration's focus on comparative effectiveness research (CER) as

an evidence-based, systematic way to identify the best treatments for specific patient populations and to generate the critical information that will help guide both physicians and patients through the complex decision process to select the most appropriate treatment. Medical specialty societies are uniquely positioned to identify evidence gaps in care, and where CER should be focused.

The AUA nominates three areas that warrant further investigation in a CER framework.

I. *Prostate cancer treatment*.

In 2008, an estimated 200,000 men were newly diagnosed with prostate cancer in the U.S., and about 29,000 men died from the disease. Prostate cancer is one of the most common cancers in men, and a significant health problem. Significant prostate cancer disparities exist between rural and urban populations and across racial and ethnic groups. Several studies have demonstrated that patients with prostate cancer in rural areas are more likely to be disadvantaged due to being diagnosed at later stages, receiving different management, being uninsured or underinsured, and having less desirable outcomes than their urban counterparts. African American men have prostate cancer mortality rates that are more than twice the rates observed in other racial and ethnic groups, and compared to white men are less likely, across all age groups, to receive treatment for prostate cancer, especially when diagnosed with more advanced cancer. Because prostate cancer is the second-leading cause of cancer deaths in men, these disparities are particularly significant. Appropriate PSA testing has helped with early detection of prostate cancer, but PSA is not equally available to the above noted populations.

Moreover, depending on whether the cancer is aggressive or slow growing, the range of options can vary significantly, and patient preference regarding treatment side effects and quality of life plays a particularly prominent role in prostate cancer treatment choice. In addition, prostate cancer is a focus of the Medicare program: it has been identified as one of eight high cost conditions selected for the Physician Resource Utilization Report pilot program authorized by Congress in the Medicare Improvements for Patients and Providers Act of 2009 (MIPPA). Yet, despite its prevalence, cost and complexity, there is a distinct lack of evidence comparing the treatment options for localized prostate cancer, These options include:

- Active surveillance (watchful waiting);
- Radical prostatectomy, which includes both conventional and robotic surgeries; and
- Radiotherapy, which includes brachytherapy, proton beam, and Intensity-Modulated Radiation Therapy.

The benefits and risks (e.g., incontinence, impaired bowel function, reduced sexual function) of each of these options must be carefully weighed by the patient and his family in consultation with his physician. CER studies should compare long term treatment option outcomes such as overall survival, quality of life and patient satisfaction for different patient populations (e.g., age, race, tumor characteristics, genetic profile, etc).

II. *Sustained public/private support for a robust quality infrastructure*.

All healthcare reform proposals are predicated on the presumption that a robust and well-developed quality infrastructure exists. However, this is not uniformly the case. The infrastructure varies substantially by provider type (hospital, dialysis facility, specialist

physicians) and condition (diabetes, cardiovascular disease, prostate cancer). There are several building blocks fundamental to the creation and maintenance of this essential infrastructure. First, basic clinical research provides the evidence needed to formulate clinical guidelines. In turn, evidence-based clinical guidelines are a prerequisite for the development of quality performance measures, and clinical registries provide the data to revise guidelines, test measures, provide comparative performance information and benchmarks, identify areas for quality improvement and highlight areas that require additional research.

We ask for support for the development and maintenance of the quality infrastructure through creation of a public/private partnership, under the auspices of AHRQ or NIH, both of which are positioned to accept private funds. This venue could be used to pool the resources of those public and private stakeholders, including government, business, private insurers, research entities, and medical specialty societies, all of whom have a vested interest in quality measurement and improvement and evidence based medicine.

III. –*Comparison of Imaging Modalities for Major Urologic Conditions*. A number of analyses conducted for MedPAC have established that at least some portion of the rapid rate of increase in physician ordered imaging services is attributable to duplicative or inappropriate imaging. Under the Deficit Reduction Act of 2005 (DRA), Congress reduced reimbursement for some imaging studies to exert control over this area. The AUA is embarking upon a comparative effectiveness study of imaging modalities for ureteral stones, with the intent of producing evidence-based guidance on the most effective and efficient imaging for this condition to disseminate to urologists, primary care practitioners and others who may treat this condition. The AUA requests that the Council consider the comparative, evidence-based study of imaging modalities for urologic and other conditions as an important focus for comparative effectiveness research. Such guidance across a range of conditions could go a long way to help the medical profession order only those imaging studies that are most effective and appropriate for the condition in question.

Submitted by
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ldspeaking@aol.com

The comments below were submitted verbatim numerous time. Possibly initially sent to a large mass (for instance a list serv or other media) and encouraged interested parties to submit the written statement.

Comparative Effectiveness Research is essential to determine the etiologies of chronic illness and to determine those treatments that are effective versus those treatments that merely attempt to suppress symptoms while ignoring the underlying cause of the illness. In 2004, the Milken Institute (non-partisan, non-profit) issued its report, *An Unhealthy America: The Economic Burden of Chronic Disease* citing the most prevalent chronic illnesses in America as lung disease, heart disease, hype rtension, mental illness, cancer, diabetes, and stroke. ; Fifty percent of all Americans have at least one of these chronic illnesses. Each of these chronic illnesses has an environmental contribution in its etiology that rarely is identified or evaluated. Yet billions of dollars are spent---often wasted—by trying to suppress symptoms without identifying the cause

of the illness. The healthcare costs and dollars of lost productivity can be found, state by state, on their website www.milkeninstitute.org.
For years, there has been a debate whether certain chronic illnesses are psycho-somatic, or illnesses emanating from the body with psychiatric sequelae. Those who insist these illnesses are psychosomatic have never fully evaluated the patients to determine whether an underlying physical illness might be contributing to the psychological features. The phenomenon of a healthcare practitioner ascribing a psychiatric diagnosis to a real physical illness is eloquently penned by Harvard researcher Jerome Groopman , M. D. in his book *How Doctors Think*. Repeatedly, Dr. Groopman documents that serious and even life-threatening illnesses go undiagnosed by "well-trained" physicians who have=2 0a pre-conceived idea of what the patient should have, and are inexperienced in the patient's particular presenting diagnosis. Illnesses from celiac disease to Wilson's disease have been missed by physicians. In both of these cases, the patients would have died without the correct diagnosis which was later made by a more thorough and experienced doctor.

This issue of misdiagnosis due to inexperience raises grave questions about medical competency, medical training, patient outcome, and healthcare costs. In every instance of misdiagnosis, the patient is harmed and loses faith in a medical care system that should be wiser.
The Gold Standard research model in medicine which can clarify many issues of accurate diagnosis and effective treatment is the Environmental Control Unit (ECU). Consistent with President Obama's insistence on transparency and integrity in government, there is no area more important than healthcare where transparency and integrity are imperative. We need o bjective, accurate, non-lobbied data and outcome inform ation if we are to reverse the downward spiral of chronic disease and its enormous financial burden on U. S. citizens, personally and financially. Each of the above seven chronic diseases is on the rise. We must stop this trend by identifying the causes, eliminating them, and provide treatments that restore the patient's health rather than merely medicate the symptoms. An Environmental Control Unit is the research tool that can accomplish our best medical goals with complex medical conditions.

An ECU is a set of patient care rooms either on a wing of a medical facility, or located in a free-standing building. The air on the ECU is filtered to be free of any chemicals and the ECU is constructed with low- or no toxicity building materials. No fragrances are allowed on the Unit, and temperature and humidity are controlled. The specially-trained medical staff is instructed in the protocols necessary to identify and monitor the patient's symptoms, obtain baseline data on each patient, and monitor each patient as modifications to the patient's environment (air, food, water) are made. The 24-hour medical staff is available to document the impact of each carefully determined change for each patient. The test results are then assessed by the medical staff, and specific courses of treatment are identified for not only each patient, but also for symptom clusters that were previously considered unrelated. Japan has several ECU's.
This scientific approach is crucial for illnesses thought to be "purely" psychological (mental illness, chronic fatigue, fibromyalgia, etc.) as well as for patients with illness primarily somatic (COPD, cardiac disease, etc.). The data collected through an ECU will demonstrate the etiologies and treatments that are accurate and effective and end the needless and unproductive controversy between psycho-somatic and somatic illness for some well-described disease states.
Once delineated, psychological counseling and/or psychotropic medication may be required to stabilize the patient.

Of course there another, related perspective: Those patients with neurological illnesses which have an environmental component as a possible cause. *Harrison's Principles20of Internal Medicine* 16th Edition 2005 New York, McGraw Hill p 2408 , includes the following possible causes for Parkinson's Disease: Valproic acid, Fluoxetine, Lithium carbonate, alpha methyldopa, typical antipsychotic medications, manganese, methanol, carbon disulfide, carbon monoxide, anti-emetics, and possibly n-hexane to name a few. Yet these etiologies often go unexplored in patients with Parkinson's Disease.

Another related area for research funding is evaluating the human health consequences of chronic exposure to low levels of toxic chemicals. Cigarette smoke is a paradigm for many environmentally-triggered illnesses. Once thought to be harmless, with package labeling dispelling any health concerns in the 1960's, through observation and research we have come to learn that cigarette smoke causes multi-system disease that can lead to death. Lung cancer, heart disease, stroke, asthma, vasculitis, and low birth weight are all consequences of exposure to cigarette smoke, whether one smokes or whether one is exposed to second-hand smoke. This is not surprising considering cigarettes contain more than two hundred chemicals that were applied in the growing of tobacco through the production of the final pr oduct.
Other chemicals cause human illness as well, and increased incidence of illness has also been established between environmental chemicals and asthma, prostate cancer, and many other illnesses. These findings have been published in a wide variety of medical journals, and research into the environmental causes of disease is spread among many research institutes, therefore, the vast amount of information regarding the environmental impact on health is poorly centralized. We already have an unfortunate baseline describing chronic disease as reported in the Milken report. Funding is needed to conduct research that will identify the cause of illness and describe the best treatments. Funding an ECU will accomplish this and spawn an improvement in medical education so physicians will be better trained to diagnose and treat complex medical conditions.

Dr. Adrienne Sprouse presented this statement at the Listening Session in Washington, D. C. on April 14, 2009. I support this plan and ask the FCC to recommend its funding.

Submitted by
Naomi Aronson, PhD
Executive Director, Technology Evaluation Center
Blue Cross Blue Shield Association

Blue Cross and Blue Shield Association's Statement to the Federal Coordinating Council on Comparative Effectiveness Research Listening Session (May 13, 2009)*
I am Naomi Aronson, Executive Director of the Technology Evaluation Center, speaking for the Blue Cross and Blue Shield Association (BCBSA). Collectively, BCBS Plans provide healthcare coverage for 1 in 3 Americans. BCBSA strongly supports advancing comparative effectiveness.

Our priority recommendations are based on the potentially large populations affected; recognized "gaps" in the evidence; known disparities in outcomes; need for evidence specific to affected

subpopulations; and the need for evidence to inform patient preferences in selecting among treatment alternatives.

Our first priority is management of chronic stable angina. Coronary heart disease is the leading cause of death and a major cause of disability in the U.S.

Specifically, we call for research that compares:

- optimal medical management;
- percutaneous coronary interventions (including bare-metal versus drug-eluting stents); and
- coronary artery bypass grafting (including on-pump versus off-pump techniques).

We also want to know what works best in specific subpopulations: women; racial and ethnic patient groups; the elderly; diabetics; individuals with co-morbid conditions; and the exercise impaired.

Given the complexity of comparisons, the starting point should be a comprehensive systematic review. Identifying gaps in the evidence will set priorities for new studies.

Our second priority is treatment of localized prostate cancer.

One in 6 men in the U.S. will be diagnosed with prostate cancer. African-American men are disproportionately affected, having higher disease incidence and mortality; however, a recent Agency for Healthcare Research and Quality (AHRQ) report found no randomized, controlled trials that stratified patient outcomes by race.

Overall, there is a well-known lack of evidence comparing management strategies for localized prostate cancer, namely:

- active surveillance;
- radical prostatectomy (including the manner performed, i.e., robotic or conventional); or
- radiotherapy (conformal therapy, brachytherapy, proton beam, or intensity-modulated radiotherapy).

The outcomes should include overall survival, quality of life, adverse effects, and costs. Specific variables examined should include race, age and, of course, tumor characteristics. The recent AHRQ systematic review has demonstrated the dearth of comparative studies. Recognizing that launching randomized, controlled trials of this complexity would be a resource-intensive undertaking, we suggest that a thoughtfully designed observational study could be efficient and informative. Such an observational study could focus questions for subsequent trials.

Our third priority is cross cutting: how to translate knowledge of what works to care that will work.

What interventions can improve clinician and patient adoption and use of evidence-based care? When is it more effective to target change at the organizational level, the community level, or the individual level? What approaches and incentives to dissemination and adoption are most effective and under what circumstances? We must know how knowledge of what works can be translated to health care that will work.

The Blue Cross and Blue Shield Association appreciates the Council's efforts to set priorities for comparative effectiveness research. Thank you for the opportunity to present today.

Submitted by
Ron Manderscheid, PhD
Global Health and Civil Sector, SRA International, Inc.
and Department of Mental Health
Bloomberg School of Public Health, Johns Hopkins University
Ronald_Manderscheid@sra.com

Dr. Clancy and Other Council Members:
My name is Dr. Ron Manderscheid. I am the Director of Mental Health and Substance Use Programs at SRA International and Adjunct Professor in the Department of Mental Health at the Bloomberg School of Public Health at Johns Hopkins University. Previously, I held research and managerial appointments at the National Institute of Mental Health and at the Substance Abuse and Mental Health Services Administration.

I am here to speak on behalf of the 107 mental health and substance use prevention and treatment organizations that comprise the Whole Health Campaign. The Campaign seeks good universal health insurance coverage, good integrated care, and good prevention services for persons with mental or substance use conditions. We strongly support national health reform efforts and have prepared eight policy analyses that address key topics of reform.

I would like to make three very brief points today:

First, and most important, the federal comparative effectiveness research enterprise must be guided by consumer and family input. Consumers and families have the direct, lived experience of major health problems, as well as direct experience with successful and failed interventions. They can provide important and needed advice on priority setting and ongoing operations.

Second, the federal comparative effectiveness research enterprise must build infrastructure and train researchers. Currently, the mental health and substance use prevention and treatment fields lack the infrastructure and trained personnel to undertake comparative effectiveness research and bring needed innovation to the field. I know of only two comparative effectiveness studies done for either field. It is critical that the mental health and substance use fields not become backwaters in an ocean of progress: We do know that a person cannot have good health without also having good mental and addictive health. Hence, developing appropriate infrastructure will be important to the entire health enterprise.

Third, the federal comparative effectiveness research enterprise must be designed broadly. Specifically, it must span treatment, prevention, promotion, and health determinant interventions designed both for persons and for populations. To achieve better balance in expenditures on person and population interventions, we recommend that at least one-quarter of federal comparative effectiveness research expenditures be devoted to population interventions.

Also, comparative effectiveness research must span traditional research boundaries. For example, we need to be able to understand the joint effects of targeted depression and diabetes treatments, since these conditions very frequently co-occur together. Failure to consider such joint effects in the past has resulted in a situation where public mental health clients die 25 years prematurely.

In closing, the Whole Health Campaign looks forward to dramatic improvements in mental health and substance use interventions as a result of comparative effectiveness research. We want to support the Council in any way that we can because we recognize the vital importance of your work.

Thank you very much for the opportunity to testify today.

Submitted by
Grace-Marie Turner
President and founder
The Galen Institute – a nonprofit research organization dedicated to patient-centered health reform solutions
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To the members of the Federal Coordinating Council for Comparative Effectiveness Research:

Thank you for requesting comments and suggestions from the public about the role of comparative effectiveness research in American health care. It is widely agreed that doctors and patients need improved information about medicines and treatments to make the best decisions about patient care. As you know, many of us are concerned about how our country's program of comparative effectiveness research will be structured, what type of information will be gathered, and how it will be used. I would like to share some of our concerns with you now.

President Obama has repeatedly told us that we won't have to give up the health care we have if we're satisfied with it. In his Questions and Answers document during the campaign, he further stated that his **"plan will not tell you which doctors to see or what treatments to get. …No government bureaucrat will second-guess decisions about your care."**

Yet now the Federal Coordinating Council for Comparative Effectiveness Research, created through the economic stimulus bill, will have new and untested power over comparing medical treatments.

The real intent of the legislation came out in draft language from House Appropriations Chairman David Obey (D-Wis.), declaring that drugs and treatments "that are found to be less effective and in some cases, more expensive, will no longer be prescribed." This caused a political uproar, with some legislators urging that the council be strictly limited to "clinical" effectiveness studies and not allowed to embark on "cost-effectiveness" studies. We urge the council to focus exclusively on clinical effectiveness in directing research.

Many Americans are concerned about any federal policy that moves decisions away from patients and their doctors and puts them in the hands of federal authorities. I am concerned that the board could be susceptible to political influences and far removed from the unique medical needs of individual patients. Though the members of the council surely are well-intentioned, one body simply cannot judge what is best for all Americans.

The idea behind comparative effectiveness research is to make recommendations on the merits of competing medical treatments. While the idea of this "evidence-based medicine" sounds attractive – everyone wants to get better value for their health spending – giving a governmental or even quasi-governmental body authority over people's health choices is more likely to interfere with quality care than to improve it.

Experts from Europe and Canada, where comparative effectiveness agencies already are established, warn that this is far from the glide path to saving money and improving the quality of care that many political leaders believe.

Professor Michael Schlander, a well-respected German physician, medical researcher and economist, found that decisions by the National Institute for Health and Clinical Excellence in the U.K. have actually led to higher spending for the National Health Service, not the savings that had been expected.

The complexities of the clinical decision-making process are enormous, including the necessity of taking into account the needs of patients who may fall outside norms. Individual differences in responses to drugs and treatments are shoved aside, especially disadvantaging patients who do not respond well to standard care.

The central problem lies in having the federal government serve as the ultimate decision-maker in comparative effectiveness reviews. CER certainly has a place in the health care system in which multiple entities are analyzing and reviewing research, but one centralized government decision-making body simply cannot take into consideration the individual needs of multiple payers and 300 million Americans.

It is imperative that America use CER to provide the highest quality of information, not to dictate how doctors and patients use that information.

A centralized system conceived to compile information about the relative effectiveness of medical treatments would quickly turn into a tool to reward doctors who follow recommendations and punish those who don't. Doctors and hospitals would be directed to follow the recommendations, and their reimbursement – and risk of lawsuits – likely would depend on compliance. Comparative effectiveness boards, not doctors, would be making decisions about which treatments would be available, and the system would become more and more rigid as doctors fear going against the rules.

It is also evident that comparative effectiveness could stifle innovation.

If allowed to dictate the preferred practice of medicine, comparative effectiveness essentially replaces the experience, wisdom and knowledge of physicians with bureaucracies that reduce

decisions to formulas. In the name of protecting their bottom lines, public and private health care plans would likely refuse to cover treatments and procedures that didn't have the approval of this centralized agency.

Physicians and hospitals, fearing lawsuits, would also be much less likely to try treatments not yet analyzed and approved by the comparative effectiveness body – even if early evidence suggests a treatment might work for a particular ailment or set of patients.

And medical companies would be less likely to pursue research on new and potentially life-saving drugs, biologics, and medical devices when faced with another major bureaucratic hurdle to introducing their products to market. Ultimately, funds for new research would shrivel.

We cannot allow bureaucracy to replace innovation.

A centralized process of CER decision-making would slow the adoption of new medicines and other innovations in medical practice, including surgeries. The health sector would become more rigid and less open to innovation in the process. Federal standards simply cannot be flexible enough to accommodate the ever-changing and evolving nature of any science, including or perhaps especially medicine.

Those with experience in CER abroad say it is almost impossible to integrate clinical findings and cost estimates because they use different methods of evaluation. As a result, many subjective decisions are made in what is believed to be an objective scientific process.

A new study from the Institut économique Molinari in France says that approval processes in Europe are increasingly "tough, heavy-handed and costly … Despite the best intentions, the inevitable consequence of these regulations is to push up the cost of innovation substantially, to undervalue its benefits and to reduce the number of new products by making certain projects unprofitable."

I urge you to put patients first in all you do and in your coordination with federal agencies and Congress. Comparative effectiveness reviews must focus on creating quality information about medical treatments and then allow doctors and patients to make decisions, without limiting their freedom.

Thank you again for receiving my comments.

Submitted by
Marc H. Gorelick, MD, MSCE
Professor and Chief, Section of Pediatric Emergency Medicine
Medical College of Wisconsin
Milwaukee, WI

I am writing regarding the Federal Coordinating Council for Comparative Effectiveness Research, authorized by the ARRA. As a clinical effectiveness researcher with nearly 20 years of experience in pediatric emergency medicine, I have a strong interest in this extremely important initiative. I hope the Council will consider the following points as they proceed with their work:

-- Diagnostic and therapeutic interventions frequently differ in their effectiveness in children compared with adults. Moreover, the measures of effectiveness needed to evaluate services may be different. Any program of CER must account for those conditions and services that are relevant to children, and use methods (including outcome measures) that are appropriate to the population under study.

-- Emergency physicians, and emergency departments, have a unique role to play in CER for both adults and children. First, the ED is often the point of contact for many individuals with both acute and chronic conditions, especially among populations with limited access to regular sources of care. Second, the spectrum of illness and injury treated in the ED is broad. Acute illness and injury is the primary cause of morbidity and mortality for children. In addition, for many chronic conditions, such as asthma or diabetes mellitus, much of the morbidity is in the form of acute exacerbations requiring emergency care. Finally, the ED is frequently at the nexus of care, with interconnections across disciplines and settings.

-- Much comparative effectiveness research is conducted in single settings or systems of care, posing a threat in terms of power and generalizability. Indeed, many of the questions that remain unanswered relate to uncommon conditions or outcomes that have proven challenging to study. Multicenter research networks provide a promising means of addressing such pressing questions, and use of such networks is the best way to ensure that CER is adequately powered for important but uncommon conditions or outcomes. Examples of such problems include pediatric trauma, life-threatening medical illness in children (such as sepsis and severe asthma), and issues related to special populations (such as children with special health care needs).

Thank you for your consideration, and I look forward to seeing the work of the Council as it progresses.

Submitted by
Daniel L. Cohen MD, FRCPCH(UK), FAAP
Martin, Blanck & Associates, LLC
Clinical Quality, Medical Management and Patient Safety

I presume that the approach going forward will include, in addition to new traditional controlled studies or meta-analyses of currently published studies focusing on specific clinical interventions—procedures, medications, diagnostic studies, etc—the utility of programs such as disease management or case management which are now highly touted, but to date have shown mixed results. The way we provide therapy may likely be as important as the specific therapy provided regarding outcomes. The reason I mention this is because it is through partnerships between patients and providers that best outcomes may be achieved. For example treating hypertension may be more effective when anti-hypertensive medications are provided as part of a comprehensive hypertension management program, not simply as stand alone interventions. Of course the null hypothesis is that comprehensive DM programs result in little improvement per se, but that is why the universe has given us Chi Square.

Submitted by
Bill Wright
justapatient@verizon.net

Dear Members of the Council.

I have served as a public patient safety advocate for the past six years.

As a supporter of the President's healthcare agenda, I have been shocked repeatedly, when hearing the contents of this agenda, that the public issues surrounding the elimination of medical errors are missing.

Besides saving more that 200,000 lives annually, safer medical care could reduce the financial burden on American taxpayers by more than $4 Billion every year.

Let me encourage your support of the reinstatement of "Patient Safety" as a major item on the national agenda by your Council.

"In patient safety circles, I am also know as **"justapatient".**

Submitted by
Peter Dayan, MD, MSc
Associate Director and Fellowship Director Division of Pediatric Emergency Medicine
Morgan Stanley Children's Hospital of New York-Presbyterian
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To the Council:

An appropriately large proportion of the discussion on comparative effectiveness research has regarded specific interventions for specific disease states.

However, knowledge translation research must not be overlooked. The emergency setting provides a unique environment wherein strategies to bring knowledge to the bedside that have been studied in other settings (e.g. in-patient setting) may not be applicable or effective.
I hope that the discussants will consider the importance of performing research that compares the effectiveness of different implementation strategies, such as decision support, on patient outcome for an array of diagnostic tests and therapeutic interventions in the ED setting.
We are behind other countries in knowledge translation research; now is an opportune time to catch up.

Submitted by
Glen T. Schumock, PharmD, MBA, FCCP
Director and Associate Professor
Center for Pharmacoeconomic Research
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My name is Glen Schumock. I am Associate Professor in the Department of Pharmacy Practice at the University of Illinois at Chicago (UIC) and Director of the Center for Pharmacoeconomic Research. The Center for Pharmacoeconomic Research is part of the UIC College of Pharmacy and is affiliated with the UIC Institute of Health Research and Policy, and Center for Health Services Research. Importantly, the UIC Center for Pharmacoeconomic Research is the coordinating center for the Chicago-Area DEcIDE Center, one of 13 DEcIDE Center that are part of the Agency for Healthcare Research and Quality (AHRQ) Effective Health Care (EHC) Program.

As you know, the level of spending on health care in the US exceeds that of all other countries in the World. In 2007, health care expenditures in the US rose 6.1% to $2.2 trillion, or 16.2 percent of gross domestic product. By 2017, total expenditures are expected to reach $4.3 trillion. While the US spends more on health care and prescription drugs then other countries, data are mixed as to the value it gets for the money spent. For example, with a life expectancy of 77.5 years, the US ranks twenty-second among 30 OCED counties, with the average for OCED countries being 78.3 years. The US also has the lowest kidney transplant survival rate, the third highest rate of deaths from medical errors, and the third highest infant mortality rate among OCED countries.

Part of the problem in the US is that we do not have good information to make decisions when selecting among treatments for a specific indication. In particular, there is increasing awareness of the limited information provided by traditional randomized clinical trials to inform decisions about therapeutic alternatives as applied in actual practice. The randomized controlled trial (RCT) has long been recognized as the "gold standard" for evidence on the efficacy of innovative medical care interventions, particularly drugs, and RCTs are required by the FDA to market a new drug product. The pivotal Phase III RCT sponsored by a pharmaceutical company in the drug development process has a specific purpose – to establish the efficacy of the new drug (i.e., Can the drug work?). Yet it is now increasing understood that the traditional RCT does not provide the information necessary for practitioners to understand how the agent works in normal practice (Does the drug work?), and how it compares to existing agents.
These are the questions that CER answers. Thus, while traditional phase III RCTs have a clear purpose – that being to provide efficacy data to support market approval of a new drug, these trials do not typically provide the direct evidence required by decision-makers to make selections between therapeutic alternatives. Comparative effectiveness studies, on the other hand, are designed to generate such evidence and thus are more relevant to actual practice. Both types of studies are important and together complete the breadth of evidence needed for effectively evaluate therapeutic options.

I strongly support the work that AHRQ has conducted to-date in the area of comparative effectiveness research (CER). The Agency has developed a sound infrastructure that includes dozens of centers and hundreds of researchers from across the United States. These centers and researchers have produced important results and advanced the field of CER from a place of relative obscurity a few years ago to one that is now routinely discussed in the lay press. The EHC, which is comprised of the DEcIDE Centers, CERTS, and EPCs, among others, represent a wealth of experience and expertise; and these centers should remain the center point of the CER efforts going forward.

While the work that had been conducted under the EHC Program has been extremely successful, it is my opinion that more needs to be done to ensure that the findings of CER results in actual changes in practice. AHRQ should use funding provided under the ARRA legislation to ensure that physicians and other health care practitioners have access to results of CER and are able to translate the findings into their own practices. By doing so, AHRQ will better ensure that the American public is benefitting from the investments made in CER. I also believe that the Agency can expand the types of CER conducted, to include both retrospective observational studies and prospective clinical trials.

The ARRA funds present an unprecedented opportunity to both expand the important infrastructure already developed by AHRQ to conduct CER, but also to expand the scope of the work conducted.

Submitted by
Todd A. Lee, PharmD, PhD
Center for Pharmacoeconomic Research, University of Illinois at Chicago
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The following statement reflects the views of the University of Illinois at Chicago (UIC) Center for Pharmacoeconomic Research. The Center for Pharmacoeconomic Research is part of the UIC College of Pharmacy and is affiliated with the UIC Institute of Health Research and Policy through the Center for Health Services Research. Importantly, the UIC Center for Pharmacoeconomic Research is the coordinating center for the Chicago-Area DEcIDE Center, and has been actively involved in comparative effectiveness research (CER) for several years.

Researchers associated with the UIC Center for Pharmacoeconomic Research conduct studies evaluating the comparative effectiveness and cost effectiveness of medications and other medical technologies. Too often new drugs are approved and marketed in the United States (US) without sufficient evidence available to understand the relative benefits and risks compared to existing agents. Pharmaceutical companies rarely have incentives to compare their agents to reasonable therapeutic alternatives. Yet this is the type of study necessary for patients and healthcare providers to make informed treatment decisions when considering treatment alternatives. Given its unique position to facilitate research for the public good, it is imperative that the federal government take the leading role in supporting the generation of new evidence that directly compares relevant treatment alternatives – just as the Agency for Healthcare Research and Quality (AHRQ) has done through the Effective Health Care (EHC) Program.

While the work conducted by AHRQ to-date in the arena of comparative effectiveness has been noteworthy, we feel that there should be greater consideration of economic factors in future CER. Incorporation of costs is an integral part of informed decision-making, and as such understanding of the cost implications of therapies should be a central element of comparative effectiveness research. The relevance of costs highlighted by the current budget pressures faced by US healthcare payers and likely will have to become one of the explicit criterion by which policy is guided as US healthcare, as currently structured, becomes unsustainable. Information about costs allows us to understand not only the direct differences in terms of clinical outcomes but also the value of interventions and whether or not they represent an efficient use of resources.

We would note that AHRQ EHC Program is well conceptualized and executed, and provides an existing infrastructure on which to build for the conduct of CER. Further, the DEcIDE Centers, CERTS, and EPCs represent a wealth of experience and expertise. With appropriate funding, this resource has the capacity to do much more than it has in the past.

We also feel that CER should continue to use a variety of study designs to generate evidence about the comparative effectiveness, comparative safety, and cost effectiveness of medical interventions.

Observational studies, pragmatic clinical trials, and other study designs offer complementary information with varying resource requirements and we believe it is important to continue to take

advantage of a broad array of study designs as well as to examine new ways to collect and organize the data and conduct these types of analyses.

Finally, we would support a broad agenda for future CER that focuses on the evaluation of important new medical technologies, interventions and programs. Not only do we need to understand comparative effectiveness of treatments for a particular disease, but we also need to understand the value and impact of preventative health care interventions, programs for medication therapy management, diagnostic technologies, and disease management programs. Not only is the generation of this evidence important, but its uptake into practice is critical, and new approaches for dissemination and translation of CER will be essential to inform and change practice in healthcare that balances the interests of all stakeholders.

The ARRA funds present an unprecedented opportunity to expand the important infrastructure already developed by AHRQ to conduct CER. In doing so, we can usher a new era of evidence-based decision making into the US healthcare system that will benefit all Americans. The UIC Center for Pharmacoeconomic Research stands ready to continue to assist in this endeavor.

Submitted by
Cliff Shannon
shannon@JHF.org

The Pittsburgh Regional Health Initiative (PRHI – www.prhi.org) is among the country's first multi-stakeholder, regional healthcare improvement coalitions and was a founder, and now fiduciary agent, of the Network for Regional Healthcare Improvement (NRHI). PRHI's board of directors includes representatives from the region's hospitals, its physician community, major private and public healthcare purchasers, consumer advocates, and insurers. Our stakeholders believe strongly in the power of such regional collaborations to test and disseminate quality and efficiency improvements that will have the greatest effect on patients and cost.
We at PRHI associate ourselves with the recommendations you have received from NRHI. In addition, we want to bring to your attention unique PRHI projects that could define and shape comparative effectiveness research (CER) by building on experience from regional projects and demonstrating the value of a leadership role for regional quality coalitions like PRHI to advance CER.

While many regional healthcare coalitions concentrate on encouraging quality improvement through public reporting, PRHI has focused on initiating clinical quality improvement projects, and on measuring results on the basis of patient outcomes. Because PRHI has been able to tap into the singularly comprehensive clinical database of the Pennsylvania Health Care Cost Containment Council (www.phc4.org), most projects are measured in terms of unequivocal patient outcomes: e.g., risk-adjusted rates of in-hospital mortality, complications and 30-day readmissions; incidence of hospital-acquired infections.
When PCH4 data is not available, we work with our project partners to develop data and measures that track patient outcomes. For instance: (a) partnering with the Centers for Disease Control and Prevention and the region's hospitals on central line-associated bloodstream (CLAB) infection project that resulted in a 68% reduction in CLAB's; (b) a regional cardiac

arterial bypass graft (CABG) improvement project that showed initial, highly variable outcomes among cardiac centers and individual surgeons, and then engaged the surgeons in creation of a regional cardiac registry that was followed by lower mortality and complication rates.
Current PRHI-sponsored quality improvement projects that we believe respond to CER priorities are described below very briefly. Please note that these projects are organized both to demonstrate effective quality improvement approaches and disseminate them within local (outpatient and inpatient) care networks and the entire region. We believe that further regional demonstrations could build on these projects to advance CE knowledge.

- Chronic Obstructive Pulmonary Disease (COPD)/Readmissions Project. This is an ongoing project that engages two local hospitals and several affiliated primary care practices that admit COPD patients to them. Readmission rates among chronically ill individuals are a significant problem, and the 30-day COPD readmission rates at the participating hospitals exceeded 25%. As a result of improved transitions of care from hospital to community, and augmentation of primary care with deployment of a care manager (including home visits), significant reductions in readmissions are being achieved. Interim success is sufficiently dramatic and unequivocal that the region's largest commercial insurer has already made performance improvement payments to the participating hospitals. There is an excellent opportunity for implementing the COPD project model across the region and adapting it for other chronic diseases with high readmission rates. This could be designed and replicated by comparing hospital experiences when different hospitals with demographically similar service areas are designated for intervention/no intervention.

- Integrating Treatment in Primary Care Project. This is a recently initiated, privately-funded project that engages five community health centers. The goal is to demonstrate patient-level, practice-level and system-level outcomes through evidence-based practice for patients with chronic disease and co-morbid mental health/substance use conditions. Many chronically ill patients have co-morbid medical problems, which are often exacerbated by co-occurring behavioral health problems, including depression and hazardous or addictive use of legal and illegal substances. These problems correlate with high hospital admission and readmission rates, and much higher cost. The project goal is to demonstrate significant reductions in 30- and 90-day readmission rates through training of primary care staff in effective screening methods for depression (IMPACT depression intervention) and substance use (SBIRT - Screening, Brief Intervention, Referral and Treatment). If successful in proving better patient outcomes and return-on-investment, PRHI will seek to disseminate and reimburse for these interventions throughout the regional healthcare system. A meaningful project would compare FQHCs' patient outcomes when SBIRT and IMPACT are implemented, as contrasted with outcomes in non-participating FQHCs or outcomes within the experimental sites, pre- and post-interventions.

- Polypharmacy and Medication Reconciliation. This is a recently completed series of demonstrations, the results of which made such a compelling case for widespread action that a follow-up project is contemplated. Through its "Healthcare Champions" program, PRHI recruits teams of caregivers to conduct explorations of important patient care issues. The most recent iteration, organized as "Pharmacy Agents for Change," engaged

8 teams of clinical pharmacists in related studies of polypharmacy and chronically ill patients. The teams documented medication error frequency, lapses in care coordination and transitions of care, and patient falls among chronically ill patients. Design and implementation of specific interventions demonstrated the benefits of physicians, clinical pharmacists, and nurses collaborating on systematic medication documentation and reconciliation (med rec). The project also raised awareness of polypharmacy issues among providers and changed prescribing practices. Results point to the potential for reduced medication cost, lower utilization of high-risk polypharmacy combinations, and fewer adverse drug reactions and patient injuries, that could be proven through a rigorous RCT. Such research could demonstrate the ROI for med rec in reducing hospital admission and readmission rates and average length-of-stay, and improving patient quality of life and functionality.

- Improving Chronic Disease Care by Small Primary Care Practices and Safety Net Providers. This is a series of recently initiated and impending PRHI projects. PRHI's overarching goal is to prove the feasibility of developing formal or informal local accountable care networks, through which community hospitals and affiliated/aligned primary care practices would share electronic patient information, enable primary care provider direct access to hospital specialists, and coordinate care in both the inpatient and outpatient settings. The goal is show that through such local accountable care networks patient outcomes can be improved, particularly among high-risk patients. All three projects promise financial rewards for delivering more effective care, which could be measured by savings accrued through reduced hospitalizations.

Our unifying premise is that trends in healthcare reimbursement and outcomes-based performance measurement will require that many/most community hospitals and primary care practices re-invent themselves and their relationships. Community hospitals are already under significant financial stress, and inevitable changes in healthcare payments make it untenable for most of them to rely financially on filling beds. The small practices that admit 90+% of patients to community hospitals are also under significant financial stress, lack resources to make needed changes, but will be penalized if they do not adopt EHR's, etc. These hospitals and the practices that admit to them, however, have an opportunity to transform themselves into high-quality, efficient networks for both primary care and acute episodes of care. We propose that any of the following projects be enhanced, tracked and standardized to prove the relative effectiveness of aligning payment with desired outcomes (reduced ER visits, hospitalizations and re-hospitalizations):

1. CMS EHR Demonstration Project, for which southwestern Pennsylvania is one of four sites, and through which 140 small primary care practices will be able to earn substantial amounts for EHR implementation and attainment of CMS chronic care quality measures. Because EHR costs are only part of the challenge for small practices, PRHI and Highmark Blue Cross Blue Shield have formed a strategic

partnership to provide $1 million in customized staff training, technical help and business management assistance for participating practices.

2. Regional Chronic Care Demonstration Project, sponsored by the Pennsylvania Governor's Office of Health Care Reform, through which two dozen small primary care practices and safety net clinics will receive financial incentives for participating in PRHI-coordinated practice coaching, collaborative learning, and patient registries which will enable participants to implement the Chronic Care Model.
3. Transforming Safety Net Clinics into Patient-Centered Medical Homes, a collaboration with the Commonwealth Fund, through which PRHI will work with 12 federally qualified health centers to transform them into Patient-Centered Medical Homes (PCMHs).

In conclusion, we believe that research and dissemination of research findings at the regional level is unequivocally essential to realizing the quality improvements and returns-on-investment that are integral to CER success. As described above, PRHI projects are continuing to bring about relevant, measurable advances at the regional, state, and national level. We hope that significant funds will be set aside for regional research and dissemination projects and look forward to working with you and others.

Submitted by
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American Society of Health-System Pharmacists
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Good afternoon. My name is Cynthia Reilly and I am the Director of the Practice Development Division at the American Society of Health-System Pharmacists. ASHP represents 35,000 pharmacists, pharmacy students, and pharmacy technicians who practice in hospitals and health systems. Pharmacists' expertise in medication use ensures that drug therapies are used safely, effectively, and in a cost-conscious manner. I appreciate the opportunity to present the Society's perspective on comparative effectiveness research, or CER, to the distinguished members of the Federal Coordinating Council for Comparative Effectiveness.

ASHP is a member of the Alliance for Better Health Care, which advocated for inclusion of comparative effectiveness research funding within the American Recovery and Reinvestment Act of 2009. The Society is also publisher of *AHFS DI*, a comprehensive, independent reference on the clinical use of medications, which is recognized through federal legislation under Medicare Part B, Medicaid, and Medicare Part D as an official compendium. For over 50 years, *AHFS DI* has followed sound and high-quality editorial processes to synthesize complex evidence for dissemination and use by a broad range of stakeholders, including prescribers, pharmacists, individuals who make health-policy and coverage decision, patients, and others. ASHP believes there is significant need to compare the effectiveness and safety of specific drug therapies within pharmacologic classes, drug therapies within different classes, and drug

therapies with other treatment modalities. *AHFS DI* can serve as a foundation for medication information to support CER and ASHP looks forward to participating in this research. Today, ASHP requests that the Council consider three CER recommendations related to health care delivery systems that represent critical information needs to improve patient outcomes:

- Optimal practice models for delivery of patient care,
- Strategies for using IT-enabled decision support for delivery of CER, and
- Best practices for disseminating and implementing CER.

As described by the Dartmouth Atlas, the quality and cost of care is inconsistent across geographic regions, with much of this inconsistency attributed to variation in the care setting and the health care professional that provides the service. Under Medicare Part D, pharmacists provide medication therapy management services that include formulating medication treatment plans; monitoring and evaluating patients' response to therapy; performing medication reviews to identify, resolve, and prevent medication-related problems; and coordinating and integrating MTM services within the broader health care services provided to patients. Pharmacists also participate in chronic disease management and prevention activities under collaborative practice agreements with physicians. MTM programs and published research have demonstrated that pharmacist management of disease and drug therapy significantly improves patient outcomes, while reducing overall health care costs. However, there is limited research that directly compares this practice model to models in which care is provided by other health care professionals or interdisciplinary teams. ASHP believes such research would demonstrate best practices and strongly recommends models of care as a research priority for CER.

A critical element of CER is ensuring that research findings reach the point of care where clinicians, together with patients, can use the information to make informed treatment decisions. Electronic health records and other technologies are expected to provide point-of-care information; however use of these technologies is currently limited, as described in a recent *New England Journal of Medicine* study that found less than 2% of hospitals have fully implemented an electronic health record with clinical documentation, test and imaging results, CPOE, and decision support. Decision support technology has great potential to deliver CER findings, but strategies for creating and integrating these programs within other technologies, as well as barriers to implementation, are not well-studied. ASHP encourages the Council to support research that compares approaches for using clinical decision support and other technologies in the translation and implementation of CER.

In addition to technology, other effective dissemination and translation techniques are needed to ensure that CER findings are used to make informed decisions that improve patient outcomes. However, there are significant challenges in these activities. It has been estimated that there is a 17-year lag time between evidence generation and its widespread implementation. Many strategies have been used to enhance the rate and extent of adoption of evidence-based best practices, including clinical guidelines, continuing education for health care professionals, patient education tools, and most recently, academic detailing. However, these approaches are not well studied and results are variable. ASHP would encourage the Council to support research that compares the benefits and limitations of each approach in order to determine the strategy, or combination of strategies, that facilitates use of CER by each audience, including clinicians, patients, and payers.

Finally, based on ASHP experience as a drug information publisher, we encourage the Council to consider that, similar to drug information, CER research and dissemination efforts are not single events, but rather an ongoing process that requires sustainable and ongoing effort to ensure the currency and usefulness of the information as evidence evolves.

ASHP appreciates this opportunity to provide recommendations for CER. Along with our members, we look forward to collaborating with the Council and others to ensure that CER is not only useful, but also disseminated to clinicians, payers, and patients and subsequently translated into practice.

Submitted by
Phillip C Gioia, MD, MPH, FAAP, FACPM
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Please support the building of a universal health information network (uhin). In order to benefit from medical and health experience we should have uhin to quickly and efficiently evaluate health threats and health interventions. The uhin may also be used for administering the financing of health care and cost/effectiveness evaluations in a global context. The Kaiser Family Foundation surveys now show the majority of the public acceptable to health information networks and the possible privacy risks.
http://www.npr.org/templates/story/story.php?storyId=103458129 .

To develop the uhin efficiently the Federal and State governments with International cooperation should develop a publicly endorsed monopoly or authority to direct vendors and health care providers in enforceable acceptable standards and pay vendors for use of their expertise. The uhin may also be used as a single virtual payor with all payors having access for an administrative fee.

For more please see my web site http://pages.prodigy.net/pcgioia and book **The Way: Knowledge Balances Territory and Compassion** available at www.Amazon.com or available as a 800kb document file on request.

Submitted by
Robert S. Levine, M.D.
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Dear Council Members,
Comparative effectiveness research should include estimates of population level effectiveness as well as patient-level effectiveness. A growing body of research offers evidence that the same biologically efficacious treatment may be associated with increased or decreased disparities and/or increased or decreased mortality rates in different geographic areas. From the older literature, there is evidence that introduction of Sabin vaccine transformed poliomyelitis from a disease that predominantly affected whites to one that predominantly affected blacks (1,2). A similar problem, not so clearly related to access to care, led to intra-city disparities upon release of measles immunization in the divided community of Texarcana. Because of structural community inadequacies, the Texas side of the city was unprepared to translate research on measles immunization into practice while the Arkansas side of the city was ready. If "effectiveness" studies had been done only on the Texas side (or in communities like the Texas side), there might have been concern that the vaccine, though efficacious, was not effective. In fact, this is one reason the Texarcana study was done. Landrigan's research showed that biological efficacy or even effectiveness did not predict public health effectiveness (3). More recently, it has become clear that Medicare's decision to reimburse providers for screening mammography (4) as well as the introduction of HAART for HIV (5) and surfactant for neonatal respiratory distress (6) were all associated with increased disparities in most, but not all communities. Preliminary studies on breast cancer using Medicare claims data suggests that communities that appear to be successful in delivering mammography to both black and white elderly cannot be characterized by county-level estimates of the availability of medical resources or socioeconomic status. In summary, comparative effectiveness research that ignores public health success or failure, and public health comparative effectiveness research that ignores variation in community capability for translating innovation into practice could both lead to alpha- and beta- errors in effectiveness estimates.

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Submitted by
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Dear Sirs,

The disease specific focus of much of the proposed Comparative Effectiveness health services research to date risks a serious deficiency in both the impact and generalizability of the resulting work. In particular, those of us doing research in patient care quality and safety are concerned that the proposed clinical domain/disease focus will hamper major advances in our efforts to reduce medical error, enhance the design and impact of healthcare information technology, and improve quality. Moreover, the targeting of specific clinical topics means that other domains/topics will be excluded from priority consideration yet some of these may be superior laboratories for the initial evaluation of quality/safety/informatics interventions that ultimately will have broad-reaching impact.

I implore you to consider adding comparative effectiveness priority research areas to include critical cross-cutting research questions (e.g., clinical decision making, human-technology partnership, team coordination and continuity of care) and evaluation of general intervention/improvement methodologies (e.g., simulation-based training and assessment, computer-based clinical decision support).

I would be happy to discuss these concerns with you further.

Submitted by
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Senate Special Committee on Aging
Independent Drug Education and Outreach
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The Problem

Currently, pharmaceutical sales representatives are one of the most common ways doctors receive information about the latest drugs on the market. However, most of the information they provide is designed to market their company's products, rather than serve as an unbiased source of data about the range of pharmaceutical treatments available to patients. With evidence showing that interaction with pharmaceutical sales representatives can impact doctors' prescribing patterns, it is important to ensure that physicians have access to independent information that is well-researched, comprehensive, and objective.

The Solution

Academic detailing programs send trained pharmacists, nurses, and other health care professionals into doctors' offices to disseminate independent data about the benefits, risks, costs, and comparative effectiveness of the full array of pharmaceutical options for patient treatment, including low-cost generic alternatives.

- **Fund grants or contracts to develop educational materials.**
  - The grantee or contractor would develop educational materials showing the relative safety, effectiveness, and cost of prescription drugs, including generic and over the counter alternatives and non-drug treatments for selected conditions. These materials would include brochures, handouts, and electronic information accessible to both patients and doctors.
  - Entities that can demonstrate clinical expertise in pharmaceutical research, such as medical and pharmacy schools and academic medical centers, would be eligible to apply.
  - Applicants may not receive financial support from any manufacturer of the drugs being reviewed.
  - AHRQ will review and approve the accuracy and effectiveness of the materials on a bi-yearly basis.

- **Fund ten grants or contracts through AHRQ to dispatch trained medical professionals into physicians' offices to discuss and disseminate the unbiased educational materials.**
  - Public entities and nonprofit groups would be eligible to apply for the grant or contract, as would other entities that demonstrate the capacity to train and deploy the medical professionals to disseminate and discuss the materials.
  - Applicants may not receive financial support from any manufacturer of the products being discussed.

- The grant or contract recipients would hire and train appropriate staff, identify health care providers to be the recipients of the outreach, and evaluate the effectiveness of the program on both cost and prescribing behavior.
- Regulations would also be in place to ensure the accuracy and timeliness of the information being distributed, to prevent conflicts of interest, and to promote the effectiveness of the program.

The Cost

There is documented cost savings in the states that already have academic detailing programs in place. Analysis of a program in Pennsylvania found that drug expenditures for a single class of drugs were reduced by roughly $120 per doctor per month for patients in the state program. Among the heaviest prescribers, the reduction was $378 per doctor per month for just one class of drugs. A study in the New England Journal of Medicine projected that for every dollar spent on academic detailing, two dollars can be saved in drug costs. This kind of academic detailing program would likely pay for itself and create additional cost savings for the federal government, private insurers, and patients. Most importantly, it will help ensure that patients receive the most appropriate, highest quality treatment.

Written statement of the Association of periOperative Nurses (AORN)
Patrick Voight RN BSN MSA CNOR; President
Linda Groah RN MSN CNOR FAAN; CEO

Thank you for giving AORN the opportunity to address the Council on the very timely and important issue of comparative effectiveness. We want to emphasize three points:

1. Data collection from **nursing sources** is a critical element to inform **effectiveness** decisions;

2. **Standardized data** available from the point of patient care is essential to inform **comparative** analysis.

3. **Syntegrity** creates an opportunity for a national surgical data repository that could be used to measure quality outcomes and potentially be used for comparative effectiveness studies to decrease cost and improve quality.

Since the 1980's the Association of periOperative Registered Nurses (AORN) has been a pioneer in developing and promoting the Perioperative Nursing Data Set (PNDS), a standardized language for documentation and evaluation of the care provided in the operating rooms of our nation's hospitals and ambulatory surgery centers. As a 501(c)(6) association based in Denver, AORN represents over 43,000 registered nurses and has a history of patient centered safety and quality activities.

The guiding premise of the PNDS effort was to assist perioperative nurses in documenting the care they gave before, during and after the surgical procedure, while providing a foundation for examining and evaluating the quality and effectiveness of that care.
While effectiveness within a hospital or surgery center was informed by this data, the ability for comparison between providers was rarely available because each facility customized the PNDS to their environment.

In early 2008, AORN initiated the development of an electronic and standardized perioperative framework referred to as Syntegrity.

This standardized perioperative framework is not intended to replace current information and documentation systems, but is designed to be incorporated into existing software. Most hospital surgical IT vendors already license AORN's PNDS but again, this is often customized for a specific facility. With the emphasis on electronic and standardized data collection coming from the federal government, the Syntegrity framework is poised to fill that emergent need. AORN is acknowledged nationally as the association that establishes evidence based standards and recommendations for care of the surgical patient. Syntegrity incorporates these standards and recommended practices into the database. Thus, Syntegrity creates an opportunity for a national surgical data repository that could be used to measure quality outcomes and potentially be used for comparative effectiveness studies to decrease cost and improve quality.

Here is a concrete example of how Syntegrity could be helpful for infection prevention: Syntegrity includes current CMS requirements for documentation on infection prevention processes. This "pop up box" requires the nurse to document from the choices in the electronic field or provide an explanation for any exception. This standardized, electronic data capture now becomes available for a repository from which specific analysis may be performed to measure the effectiveness of the CMS requirement. It is important to emphasize that the data collection by the nurse is already part of most surgical processes – what Syntegrity does is STANDARDIZE the data collected in an ELECTRONIC format . This creates an opportunity for a national surgical data repository that could be used to measure quality outcomes and potentially be used for comparative effectiveness studies to decrease cost and improve quality.

As further guidance to the Coordinating Council on the important priorities of health reform that AORN believes are impacted by the consideration of comparative effectiveness, we provide the following information and specific AORN resources that are meaningful to this discussion.
Quality improvement must play an essential role in health care reform efforts ensuring reform not only expands coverage, but also improves the care patients receive.

- AORN standards and recommended practices are a key resource. AORN is acknowledged nationally as the association that establishes evidence based standards and recommendations for care of the surgical patient. Syntegrity incorporates these standards and recommended practices into the database.
- AORN's Perioperative Nursing Data Set (PNDS) is a standardized language that facilitates the documentation and evaluation of the care provided by perioperative nurses.
- AORN has embarked on an initiative to create a standardized perioperative framework (Syntegrity) that will be integrated into hospital and surgery center electronic perioperative information systems.
- The essential role of the RN as Circulator and the value added of the registered nurse first assistant underscore the role of perioperative nurses in achieving quality and may be informed with comparative effectiveness analysis arising from data made available through Syntegrity data repository.

Performance measurement is a core building block to provide high quality affordable care. Information that is grounded in good evidence will support quality improvement, payment

reform, and enable better clinical and consumer decision-making. This information can tell us which care is leading to better outcomes and which treatment options are more cost effective.

- AORN supports the National Priorities Partnership convened by NQF
- AORN supports Stand for Quality

Investment in **health information technology** should be linked to improving care. Health information technology (HIT) represents an important means of advancing quality measurement and improvement. But HIT can only help improve the quality of care if it is designed to more effectively collect performance information.

- AORN Syntegrity provides a standardized perioperative framework (SPF) that will be integrated into hospital and surgery center electronic perioperative information systems to provide evidence for quality improvement in the operating room.
- Syntegrity creates an opportunity for a national surgical data repository that could be used to measure quality outcomes and potentially be used for comparative effectiveness studies to decrease cost and improve quality.

Performance measurement must be dramatically expanded, but measurement is not enough. Expanded efforts on all fronts to foster greater use of **performance information to support clinical improvements** and the delivery of more cost effective care, expand public reporting, and expand the use of performance information to promote changes in payment to promote value.
In conclusion, we want to emphasize three points:

- Data collection from **nursing sources** is a critical element to inform **effectiveness** decisions.

- **Standardized data** available from the point of patient care is essential to inform **comparative** analysis.

- **Syntegrity** creates an opportunity for a national surgical data repository that could be used to measure quality outcomes and potentially be used for comparative effectiveness studies to decrease cost and improve quality.

For further information from AORN or to set up an information briefing, contact Craig Jeffries, AORN Public Policy Consultant at CJeffries@AORN.org.

Submitted by
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Since our founding in 1992, the work of the Center for Advancing Health (www.cfah.org) has been guided by three principles:

- That scientific **evidence**, while always evolving, offers the best guide for positive changes in the health of the individuals and the nation.
- That individuals, sick or well, will only benefit from the expertise of health professionals and available technologies if they have the knowledge, skills, judgment and willingness to **engage** in their health and health care over time.
- That minimizing the social and behavioral barriers to people's engagement in their health and health care will contribute to **equity** of opportunity for health for all.

Determining priorities for comparative effectiveness research (CER) comes at a time in our nation of great uncertainty, but also a time of enhanced scientific and political opportunity. At the CFAH, we acknowledge the complexity and significant challenges that this coordinating council faces at this critical time in our history.

Rather than nominating one condition over another (which is outside the core expertise of the CFAH), we simply offer that priorities for CER should be on high volume and/or high cost conditions for which there exist significant variations in practice AND multiple treatment or diagnostic options. Research priorities and methodology should also factor in any systematic variations in disease prevalence or treatment response across different populations, as well as consider known health disparities in treatment provision.

It is our belief that substantial efforts must be expended to build public interest in and support for CER. These efforts should be focused on communicating the value of and application of CER for everyone's health and health care. It is, therefore, our primary recommendation that your effort to advance public understanding of CER and even more critically, develop TRUST in the value and output of an institute(s)/body(ies) devoted to CER, be as important as a debate about "who's on first" with regard to selecting priority areas of study.

At the CFAH we recognize that as a society we have often been lulled into believing that new scientific discoveries, that "wonder pills" and technology are the keys to living well. And that more treatment and/or more costly treatments are frequently equated with quality. This expectation and preference for the latest, often "high-price" option means that apparent advances in the number and variety of treatment options creates both a solution AND a problem. However, we also know that advances in scientific knowledge can only increase health and quality of life IF people are able to make informed decisions about their health care. In addition, people must be willing to change life-long habits and manage complicated medical regimens.

The success or failure of modern medicine is increasingly dependent on an individual's ability to engage more fully in their own health.

For example, here are some observations of our president and founder, Jessie Gruman, when she conducted over 200 interviews with patients and their families about their experience with health care for her book *AfterShock, What to do When the Doctor Gives You - or Someone You Love a Devastating Diagnosis*. She learned that the vast majority of them were surprised at what they were expected to know and do, and overwhelmed when they grasped (however dimly) that their actions and their choices could make the difference between receiving good care and bad and could even contribute substantially to the quality and even the length of their lives. She also learned that they often felt abandoned in their attempts to find the right care and administer it for themselves or their loved one. Surprised, overwhelmed and abandoned…not exactly criteria associated with making sound decisions. If CER is to meet its potential, we must address the realities and concerns of an already compromised patient.

So we would like to offer five potential strategies to engage the public:

1. Align early and often with trusted public advocacy groups and spokespersons to disseminate basic information about the need for and the value of CER.
2. Institutionalize the participation of consumers and patient advocates in the reviews and dissemination of findings.
3. Be fully transparent about the selection and study process for treatment reviews.
4. Make all findings directly available to the public in accessible formats.
5. Share potential outcomes and/or consequences of CER reports in various "real-life" scenarios for the average patient and physician (downside and upside from each perspective).

Lastly, it is of great concern to the CFAH that opponents of CER have grabbed rhetorical high ground with negatively framed language specifically designed to frighten people. Thoughtful perspectives from a variety of trusted sources are urgently needed to provide the public with a more balanced understanding.

Thank you again for this opportunity to add input to your important process.

Submitted by
David Thomas Martella
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Our medical system has failed. This problem doesn't touch one person, or ten, or one hundred, this problem touches every citizen of The United States of America. This problem has probably touched all citizens in one way or another, either as a victim, or friend or family member of a victim. The hospitals and the doctors they employ have either killed or maimed someone the reader of this letter has known. That is how far the government, insurance companies, and "we" the citizens, including all employees of the medical system, have let this happen right in front of our eyes without any action, and with what little action already taken, not the best results.

I have had the same doctor who told me they are sorry I couldn't get justice also tell me that doctors won't testify against each other.

There are bills being passed in the "billions of dollars" range to help with our medical system. My broken left leg has already cost the government almost fifty thousand dollars and will continue to cost the government through my upcoming amputation. The amputation is due to an infected rod (pseudomonas aeruginosa, coagulase negative staphylococcus) that was placed into my lower left leg, tib-fib break that never broke the skin. The only time my skin was open was in the operating room at Skyridge Medical Center in Cleveland, TN. The operation was done by Dr. Rickey Hutcheson. I filed several complaints with The TN Department of Health, (case #'s TN00021037, 200802582, 200802547), with no action taken so far. The hospital has already been let off the hook by a "surprise attack investigation" which never included me, you're welcome to get a copy of that review at the East TN Regional Office, the last two complaints mentioned have been handed over to another office, the Office of Health Care Facilities, for whatever action they deem appropriate. This means no action will be taken. If you multiply the fifty thousand dollars already spent on me times just one percent of our population on the same insurance I'm on (Medicare) the cost to the government is now around one hundred and fifty billion. Why can't these doctors be held accountable for that money? Why is the government gladly and generously paying for their mistakes?

If someone doesn't pay their child support the government threatens to take away their drivers license and put them in jail. If someone has a dog and it bites another person, the government arrests the dog owner. Where's the involuntary manslaughter or reckless endangerment charge for the medical field. The government of The United States of America has made "murder" a common word for the common people to have to deal with when it comes to the problems with hospitals or doctors. The government of The United States of America has made it legal for hospitals and doctors to get away with murder and reckless endangerment cases pertaining to their patients. Where's the justice in that? I'll answer that for the government, since they aren't brave enough to stand up and do the right thing. There is no justice in these situations, but you, the government, doesn't care. Do you think the Founding Fathers of this country would have stood for this? Remember, "No Taxation Without Representation". Do you think Abraham Lincoln would have stood by and let this happen? He thought to much of every citizen alike to let this happen to any of his people, but now, you answer these questions because you, the government of The United States of America, deep down in your heart and soul know the answer, whether you say it out loud or not. The lawyers of this great country are doing more right now for the rights of all citizens than the government. The lawyers know there can and should be no caps on pain, suffering, and death, and we appreciate that.

The Malpractice Laws are designed for monetary compensation from the hospitals and doctors to the patient for the services the patient received when something went wrong. It's to late for an apology and a set amount of money at this stage. We're tired of the way the government allows and the doctors and hospitals insurance companies having the power to control the "buy out system" the hospitals and doctors go through for their unprofesionalism. Where is the retribution in that system? There are enough doctors going to school that would be glad to take over the offices on Main Street of the unprofessional and unethical doctors running the medical field. Even politicians seem to get into more trouble than doctors. Why?

The doctors try to fix problems, but most of them really don't "help" anyone when a large percentage of patients are leaving sicker than when they came to the hospital. Then, most get a "second opinion doctor" who tells the patient what the other doctor did wrong and has to spend their valuable time fixing botched up work from another doctor. That's how it was worded in my case. Well, the United States citizens will no longer stand by and let this happen. Instead of caps and apologies, I think it would be better to assure the population as a whole that the hospitals and doctors WILL be held accountable for their mistakes, instead of patients dying or being maimed by our medical system. Also, it costs the common people (in my case, one thousand dollars for a medical review of my file from a specialist in a contingence state) money that a large percentage doesn't have. I had to get a loan to start a medical malpractice lawsuit. That is unfair, and the government knows this is true.

Justice is what the common people long for, the government of The United States of America stands for, and what the politicians on Capitol Hill are withholding. What went wrong? Maybe, no one in Washington D.C. is looking at this problem from the right angle. The solution to this problem is not to condemn the hospitals or doctors of this great country, the solution to this problem should give all citizens alike the confidence of their medical system and to give the medical system back its reputation in which it has strayed. I don't want our future generations to go through what we have HAD to go through. Should they "inherit" this problem?

This is corruption at its best. The insurance companies of the hospitals and doctors are controlling this situation, and you (the government) know it. Is that what they're talking about when they say "monopolize"? Well, if so, the government of The United States of America is allowing this to happen. Is it like this in other countries, let's say, with "socialism"?

Stand by me, as two warriors should, and help the hurt, infected, dying, and families of the dead, etc., citizens of The United States of America not be the only ones being held accountable for the infected rods, bad joint replacements, etc. We were just the ones putting our trust in hospitals and doctors who are fouling up, the patients were just innocent bystanders laying on the hospital beds while the doctors were performing the operations.

Thank you for your time and attention.

Submitted by
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National Pharmaceutical Council (NPC)
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Good afternoon. My name is Gary Persinger, Vice President for Health Services Research at the National Pharmaceutical Council (NPC). On behalf of NPC, I would like to thank you for providing this opportunity to comment on comparative effectiveness research (CER) and the activities of the Coordinating Council. This is a critical discussion focused on providing health care decision makers with timely, balanced, and high quality clinical evidence to help inform their decisions and improve patient health outcomes.

About the National Pharmaceutical Council
Briefly, the National Pharmaceutical Council sponsors and conducts scientific analyses on the appropriate use of pharmaceuticals and the clinical and economic value of improved health outcomes through pharmaceutical innovation. CER and its foundation of high quality scientific evidence are important areas of focus for NPC. It is our goal to ensure that sound evidence is recognized by independent experts, considered appropriately by private and public payers, reflected adequately in benefit designs, and incorporated into clinical practice. NPC was established in 1953 and is supported by the nation's major research-based pharmaceutical companies.

Chronic Diseases Afford Greatest Impact
It is clear today that health care costs are rising at an unsustainable rate, making it reasonable for CER priorities to focus on medical conditions with the greatest impact on morbidity and cost. These include chronic conditions such as cardiovascular disease, chronic respiratory diseases, cancer, diabetes, arthritis, and serious mental health conditions. CER should not be limited to the drugs used to treat those conditions, but rather, it should be extended to all relevant health care services including medical and surgical procedures, diagnostics, and medical devices.
In addition, this research should include alternative health care delivery methods and insurance benefit designs. The proposed prioritization of research topics and studies in these areas of medicine, their associated research time frames, final study outcomes, and related information should be made transparent to all stakeholders and should be disseminated in a timely manner.

Key Additional Factors for Consideration
It also will be important for the Federal Coordinating Council to consider several key questions as it assesses the CER-related research conducted by Federal agencies and departments and develops recommendations for selection of the highest priority research.

- First, what strategies can be employed to ensure the continuous evaluation of new evidence related to specific health care technologies – for example, how best to determine when a health technology assessment should be revised based on new clinical information?

- Second, how can CER be employed optimally in a manner that preserves incentives for the continuous innovation of health care technologies in areas of unmet need?

- Third, how can CER at a broad population level be balanced with the goals and rapid scientific advancements in the area of personalized and stratified medicine in order to encourage the development of targeted therapies for subpopulations?

- Fourth, what research should be conducted to define rigorous, high quality, and validated CER methodologies that are focused on providing timely, accurate and balanced information in order to assist clinical decision making?

    - This research should include, but not be limited to, defining how best to address the full range of health effects of a new technology, including quality of life, functionality, and productivity, as well as how best to appropriately characterize the strengths, weaknesses, and limitations of various underlying health technology assessment analytic techniques.

- Lastly, what support is required for the development of new CER methodologies, such as analysis of non-randomized studies of treatment effects using secondary databases, practice-based clinical practice improvement studies, more accurate modeling and simulation techniques, and methodologies that ensure optimal interpretation and application of CER in a variety of patient care settings?

The National Pharmaceutical Council welcomes the opportunity to be a part of this critical dialogue and stands ready to assist the Coordinating Council as it moves forward in developing recommendations to ensure coordination and best use of resources for CER.

Thank you.

Submitted by
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BACKGROUND

Consumers spend millions of health care dollars annually on Complementary and Alternative Medicine (CAM) practices and therapies that have limited or no solid medical evidence base and which may interact adversely with existing treatments or even exacerbate existing medical conditions. No widely-accepted systematic and rigorous process exists for collecting safety and efficacy data on these untested CAM practices. The Scientific Evaluation and Review of Claims in Healing (SEaRCH) program addresses this national need through a well-documented,

transparent process for evaluating CAM practices and therapies. SEaRCH performs a systematic assessment of the methodologies, techniques, and outcomes reported for CAM practices and compares these to existing medical practices and methodologies. SEaRCH provides a rapid, cost-effective screening before time and money are spent on future research or evaluation of untested practices.

SEaRCH has grown through public and private partnerships over the last decade. The original SEaRCH concept began in 1996 with a mandate from Congress to document and evaluate CAM therapies and practices. In 1997, through collaboration with the Centers for Disease Control and Prevention (CDC), the Office of Alternative Medicine (OAM) at the National Institutes of Health (NIH) developed the Field Investigation and Practice Assessment (FIPA) program and conducted several large-scale evaluations of CAM practices. The FIPA program was extended in 2003 under the Congressionally-mandated CAM Research for Military Operations and Healthcare (MIL-CAM) program and was further developed as the Epidemiological Documentation Service (EDS) through a subcontract to the National Foundation of Alternative Medicine (NFAM). The EDS program was transferred to the Samueli Institute in 2008 where it was further developed and renamed SEaRCH.

The Samueli Institute is currently refining and expanding SEaRCH to enable more rapid throughput and assessment of CAM practices. SEaRCH fits well into the existing Samueli Institute research portfolio, which includes the Prospective Outcomes Documentation System (PODS) for conducting clinical observational studies, the Institute's Systematic Review program, and its capacity for conducting rigorous pre-clinical research through its network of laboratory partners.

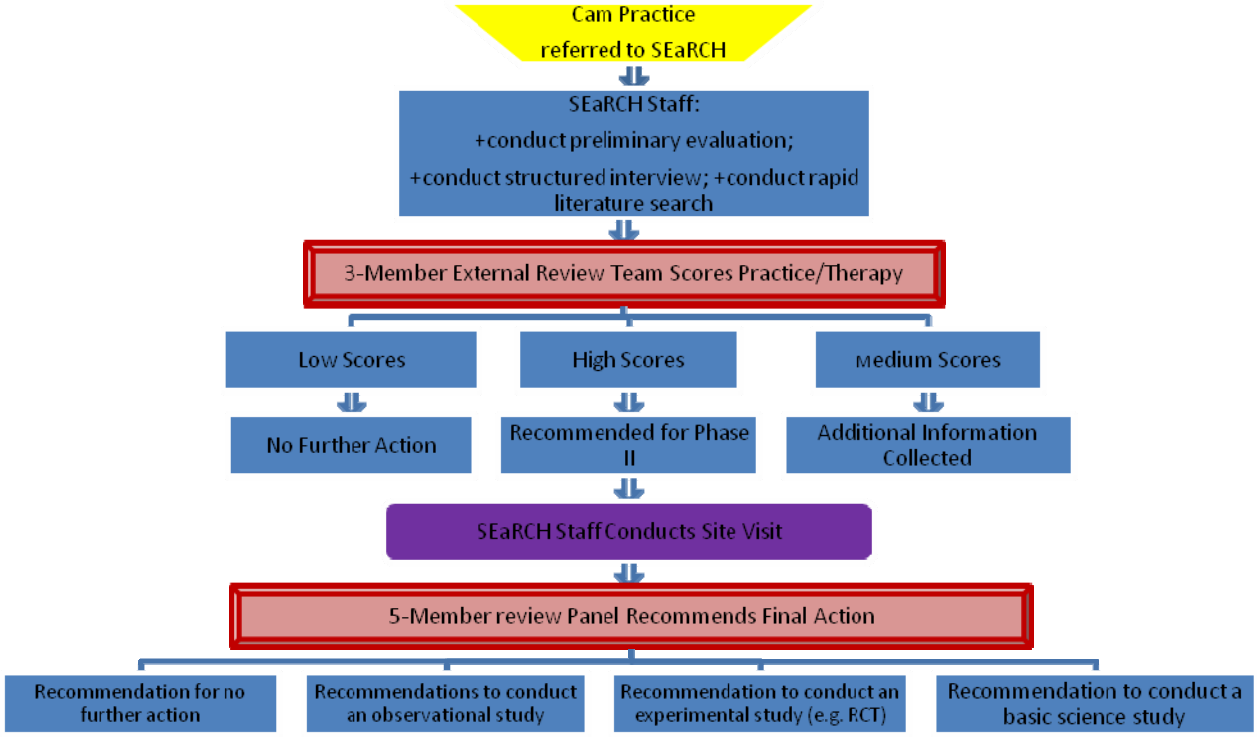
GOALS AND OBJECTIVES

In the highly competitive and resource-limited world of medical research, many potentially valuable CAM therapies and practices are often left uninvestigated. The **goal** of the SEaRCH program is to systematically and rigorously evaluate CAM practices, therapies, and claims worldwide to determine if they warrant further scientific investigation and research. The **long-term is goal** is to identify safe, effective, and affordable CAM treatments that warrant the time and effort for further testing and comparison against existing therapies. The specific **objectives of the expansion** of SEaRCH are to: further develop the methodology and toolkit for evaluating healing claims, build a team of scientific reviewers and partners, systematically identify candidate CAM practices, employ the methodology to prioritize and make recommendations to perform comparisons of CAM practices and therapies with existing therapies, and to communicate the initial findings from these evaluations to the public. SEaRCH methodology will be available for use for CAM therapy, practice and claims by CAM practitioners, the National Center for CAM (NCCAM), the office on Cancer CAM at the NCI, the CDC and the Department of Veterans Affairs - all of who have expressed a need for such a methodology and approach.

SEaRCH PROCESS

SEaRCH employs a rigorous two phase evaluation process: Phase I: Practice/Therapy data compilation and screening; Phase II: Therapy or Practice Site Visit and direct data collection and Final Review and Recommendations (See Exhibit).

When a therapy or practice is referred to SEaRCH for evaluation, Phase I begins with compilation of basic information and documentation. SEaRCH staff does a preliminary evaluation through contacting the principal investigator/therapist and identifies any missing data elements. SEaRCH staff then conducts a rapid literature search to amass data on comparison practices. The SEaRCH staff also conducts a structured interview with the principal investigator/therapist to obtain additional specific data on the history and current breadth of the practice reach. Phase I culminates with three external scientists/practitioners reviewing the amassed data using a rigorous scoring approach which supports the range of CAM therapies, practices, and procedures. Low scores in the Phase I screen lead to constructive reviews sent to the principal investigator/therapist and a recommendation of no further action. Mid-range scores lead to requests for additional information from the principal investigator/therapist and/or additional SEaRCH staff background research. Based on this new information, the practice/therapy may be reviewed again or recommended for no further action. High scores in screening are recommended for Phase II. In Phase II the SEaRCH staff performs a highly structured site visit. The data collected on the site visit is added to the practice/therapy file with the staff recommendation for action. The entire file is then evaluated by the same external team who conducted the screening review plus two new members. The review team is expected to reach consensus and write a comprehensive report to recommend a specific research protocol involving the practice/therapy or recommend no further action.



SUMMARY

SEaRCH is a systematic, rigorous methodology for evaluating unusual and novel claims for improving health. Through its iterative protocol driven process SEaRCH can critically evaluate and triage the multitude of claims for healing, and select the ones with the most capacity and promise to make a difference for community and global public health. The consumer medical and health services communities will benefit from SEaRCH because resources and efforts can be focused on the CAM practices with the greatest validity and most promise. An expanded rapid through put capacity will enable SEaRCH to widely serve the heath care community and become the standard approach for evaluation of CAM therapies.

Submitted by
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Members of the Council, thank you for the opportunity to speak with you today.
My name is John Lewis. I am Vice President of Public Affairs for the Association of Clinical Research Organizations, ACRO. Our members have more than 70,000 employees who are involved in research in more than 60 countries around the world. Working primarily for pharmaceutical and biotechnology companies that sponsor clinical trials, ACRO companies perform a wide range of activities, from providing assistance with study design through regulatory submission, across the spectrum of clinical trials, from phase I first-in-human studies through phase IV post-market evaluations. In addition to clinical trials, our members' expertise includes: health services research; patient registries; safety surveillance and other public health activities; data management, analysis and reporting, biostatistics; and the topic at hand today, comparative effectiveness research.

I would like to make three points:

First, to generate the maximum impact from the research dollars allocated by the American Recovery and Reinvestment Act (ARRA), we should use as much currently available data as possible as the basis for comparisons between alternative treatments. This includes Phase IIIb and Phase IV studies that use active comparators, and are reported to the FDA today, as well as a wide range of other data sources; from electronic health record systems to health care claims databases, and databases of various government health plans such as CMS and Veterans Affairs. Special attention should be paid to the methods and standards used to aggregate, analyze and report this data. In allocating ARRA funds to this endeavor, priority should be given to organizations with a successful and demonstrable track record of working with large of amounts of data from disparate sources.

Second, when meta-analysis of existing data is an insufficient method to reach the desired research endpoint, new clinical trial designs are needed. As research organizations that specialize in complex trial design, we would be pleased to participate in any effort to establish the

methodologies and standards by which these trials are conducted and to carry out these important and complex trials.

Third, because expertise on CER resides in both public and private entities, every effort should be made to encourage public-private collaboration in the design, conduct, analysis, and reporting of CER. We believe such collaboration should extend to include research sponsors, patients, providers and other stakeholders. We realize that the composition of this Council was established by legislation and did not provide for the inclusion of industry representation. Nevertheless we urge the Council to seek the required expertise to carry out this research whether in private, government or academic settings.

ACRO currently participates in the FDA's Clinical Trials Transformation Initiative, the NIH Biomarkers Consortium and several other similar collaborations and we could envision a similar collaborative process working in this regard. In the Biomarkers Consortium, for instance, one of our members, Quintiles Transnational, is playing a lead role in statistical and data analysis on a project involving the review of existing clinical trials data for a specific metabolic disorder.

As global leaders in clinical research, ACRO members are well suited to aid in the design, conduct and analysis of CER. We stand ready to work with all the stakeholders – pharmaceutical and biotechnology companies, academic and other researchers, patient groups, prescribers, payers, and government agencies – in shaping and executing a CER portfolio that will promote continued innovation in drug development rather than limit it.
Thank you.

About ACRO

The Association of Clinical Research Organizations (ACRO) is the professional organization of companies whose focus is clinical research. The association provides an active voice for the CRO industry, which provides specialized services that are integral to the development of drugs, biologics and medical devices. ACRO helps its members improve the quality, efficiency and safety of biomedical research. ACRO member companies employ more than 70,000 professionals worldwide. For more information, please visit www.acrohealth.org

Submitted by
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I would like to thank all the members of the Council for providing me with the opportunity to address you today. As a physician-attorney who has devoted his career to improving patient safety and healthcare quality, I would like to discuss briefly the potential medical legal implications of the scientific findings deriving from comparative clinical effectiveness research.

The Potential Liability and Risk Management Implications Deriving from the Results of Comparative Clinical Effectiveness Research

Many physicians may find it controversial enough that the results of comparative clinical effectiveness research may impact their future reimbursement. This controversy could intensify if the results of these studies could be taken into account in liability actions, also.

What potential legal weight might the results of these studies have in liability actions? What would these studies need to have taken into account in arriving at their conclusions for a physician to be able to use adherence to them as a shield? What would need to be taken into account to permit the other side to use them as a sword against physicians for not following them (or even for following them resulting in a bad outcome)?

A close cousin to comparative clinical effectiveness research (controlled clinical trials) has carried varying degrees of weight in medical liability actions in the past. As the standard of care has slowly evolved from local determinations of "what would a reasonable physician have done under similar circumstances" to what is the recognized best evidence based practice(s) to employ, the results of these studies have acquired more heft in liability actions.

Comparative clinical effectiveness research will likely be somewhat similar in its evolution and probable applications in medical liability actions. What may well turn out to be different about comparative clinical effectiveness research are at least two things:

- Reimbursement (in whole or in part) may turn in the future upon proof of following the recommendations deriving from this research; and

- To get their results into the mainstream more quickly and cost effectively than the very expensive and time-consuming controlled clinical trials), comparative clinical effectiveness research may be conducted through the analysis of large electronic databases to link certain practice patterns with superior value clinical outcomes.

Especially in the case of studies whose results are produced by the analysis of large clinical databases (often derived from the use of electronic medical records), there would need to be certain safeguards built in to ensure fairness and accuracy in using the fact of adherence or non-adherence with best practices as a basis for liability or exoneration. Some of the factors that would need to be taken into account during these studies when applied to demonstrate potential negligence (or lack thereof) for not following their care recommendations would be:

- **Pre-treatment Severity of Illness**: Did the plaintiff in a particular action exhibit a comparable clinical condition and severity of illness to those in the study whose results are being introduced either as a sword by the plaintiff or a shield by the defense?

- **Statistically Significant Conclusions:** Were there enough patients in the samples comparing interventions to be able to conclude with an acceptable level of statistical significance that the variations in clinical outcomes were due to the differences in the interventions and not due to chance?

- **Impact of Other Clinical and Non-Clinical Factors:** Were there other countervailing factors occurring during the comparative effectiveness studies other than the interventions being evaluated (e.g. preventive measures, lifestyle changes, environmental influences, etc.) which were not sufficiently "teased out" of the analysis of the results so as to open to question the conclusions for recommending one specific intervention over another?*

As these comparative effectiveness studies begin to be conducted and their results disseminated, it will be important that physicians know the extent to which they may be able to rely upon them as an affirmative defense in medical liability actions. It will also be important for these studies to be carried out with the above considerations in mind to ensure that their results may be judged as fair and accurate to provide assurance that following their care recommendations will meet or exceed the standard of care.
I thank again all members of the Council for providing me the opportunity to make this statement to you on this historic day for those of us who have devoted our careers to improving the quality and safety of healthcare.
***The foregoing three bullet points have been excerpted from an upcoming online article to appear in the April, 2009 edition of "Risk Review" copyrighted by the Princeton Insurance Company (http://www.princetoninsurance.com)**

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Introduction and Summary
The primary message of this statement is the importance of including addiction and mental disorders in the scope of work supported by comparative effectiveness research. The basic comparative effectiveness question for these conditions is to understand the cost and quality implications to the overall health system of continuing to under treat both conditions in systems that are siloed and distinct from mainstream health and health care.

The role of comparative effectiveness research in reforming our health and health care systems depends in part on the scope of the research that is undertaken. This statement supports that the Council consider a broad scope of comparative effectiveness research. Specifically, the Council should consider the relative effectiveness of research on policy, the organization, financing and delivery as well as the prevention, treatment, and recovery of addiction and mental disorders. Including both addiction and mental illness in the scope of your consideration is essential to achieving the goals of health reform for two reasons. First, the prevalence of addiction and

mental disorders suggests that other health conditions and illnesses coexist in large segments of the population. Experience as well as empirical evidence suggests that positive outcomes for general medical and other chronic illness requires in part simultaneous treatment of addictive disorders. Second, the cost of untreated addiction for our health care system is significantly more than the cost of extending treatment for addiction disorders and the same holds for mental disorders.

Policy Research

While there are many public policies that impact addiction disorders, most are not health policies but found in such areas as criminal justice, housing, transportation, etc. The basic policy question for comparative effectiveness research is the impact of recognizing addiction disorders as preventable and treatable health conditions. Can we weigh the relative cost and impact of extending treatment to the 90% of 23.6 million people affected who do not receive any treatment, but represent more than 70% of people incarcerated in correctional facilities at state and county levels? For the 6% of adults with serious mental illness, is community based comprehensive care a more efficient, humane, and effective form of care than warehousing in county corrections facilities that result for example in Los Angeles County jail being the largest 'mental institution' in the US today. In this case, before we can look at the relative effectiveness of one treatment versus another it is essential to understand the relative effectiveness of investing in making treatment available through insurance and or public mechanism versus the effect and cost of leaving 90% of those with addiction disorders untreated.

Organization, Financing, and Delivery of Addiction Prevention, Treatment and Recovery Services

Others have noted the gap in health care that exists between what we know that works, and what is actually used to promote well being. Experience and some research suggests, that the latest evidence based interventions are underused, less often because of a lack of technical knowledge, and more often because the organization, delivery and financing of these interventions represent barriers to the adoption and use of proven practices. Understanding optimal designs for the organization, delivery and financing systems that promote the use of what science tells us works, is critical. For example, The Network for the Improvement of Addiction Treatment (NIATX) represents an empirically established approach to improving efficiency, eliminating redundancy, and streamlining systems that provide access to and delivery of effective interventions. The Council should consider the relative effectiveness of approaches to delivery system improvement and change as part of the scope of your work.

Preventing, Treating and Supporting Recovery

Empirical based interventions are available to prevent, treat, and support recovery from addiction disorders. These standards, backed by controlled and peer reviewed research, unfortunately compete with a wide range of practices, beliefs, traditions and philosophies used in many contexts to prevent, and treat addiction. The NQF standards should be a foundation from which analysis of addiction treatment interventions are examined. In addition, greater understanding is required for the relative prevalence and applicability of 'natural or self directed' recovery processes. Finally, while pharmacology and behavioral therapies together offer great promise for managing addiction disorders, their development and market use is hampered by perceptions of

'poor market potential' at this time. The comparative effect of accelerating the development of these and other new interventions is a critical area of investigation.

Submitted by
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Chairman and Committee Members, I am Dr. Elena Rios, President & CEO, the National Hispanic Medical Association, a non profit association in Washington, DC representing Hispanic physicians. The NHMA mission is to improve the health of Hispanics and other underserved. The NHMA supports policies that will reform public health and medical services to decrease health care disparities and improve health status of Hispanics and other vulnerable groups.
The Unequal Treatment Report highlights the recommendations needed to decrease health care disparities – educate the leadership about health care disparities, diversify the health care workforce, expand cultural competence training, expand data collection with racial/ethnic and language variables and support research on the system's responsiveness to minority populations – access, utilization patterns, performance measures, innovation, and "collecting data on race, ethnicity, and language of preference is a quality of care as well as a civil rights issue."
Evidenced-based public health and medicine strategies are necessary to decrease variation of service delivery that impacts and rations care to Latinos, especially in our poor neighborhoods. We know from the annual AHRQ National Health Care Disparities Reports that our community has the worst access and quality care compared to non-Hispanics in the nation.
The U.S. is facing a tremendous growth of the diversity in the population. According to the Census Bureau, by 2042, one out of four Americans will be of Hispanic origin. We support the Obama Administration deliberations to help shift health care delivery based on increased services for acute and chronic disease to a systemic approach with integrated care in a region that is responsive to its population and focuses on prevention first. Medical treatment should be based on comparative effectiveness value of treatment strategies that produce the greatest benefit for the Hispanic community at the lowest cost.
We recognize that comparative effectiveness research is about value in health care. According to the report, HHS in the 21st Century, "assessments of value should include measures of both individual and societal costs and benefits that result from research on prevention and treatment as well as methods of organizing, delivering and paying for services."
Yet, despite this research being supported by the federal government over the past several years, we recognize there have been alarms sounded - the Congressional Black Caucus says beware of producing information for ' a one size fits all' approach that could decrease access to treatments for minority patients; and Amgen and Johnson and Johnson in the HHS in the 21st Century report cautioned that cost comparisons could lead to increased costs and rationing care.
However, we believe that comparative effectiveness research will add to the body of knowledge for reducing health disparities for 1) physicians to use to improve quality care for patients; as well 2) for administrators to use to improve health systems of delivery in the following priority areas:

1. Cultural competence and health literacy research in order to ultimately change behaviors and improve lifestyle in our communities

2. Effective ways of communicating with Hispanic patients and their families
3. Knowledge about health disparities interventions between hospital systems and clinics that have longstanding experience with Hispanic physicians and their patients
4. Innovative research targeted to Hispanic patients and their families
5. Integrated care that is outcomes based – and with mental health and oral health as well as physical health

Besides supporting comparative effectiveness research studies, there is a need to develop the mechanisms to share the research results with our minority provider community. HHS could lead the development of public private partnerships with Hispanic health care professionals and community based leaders about rewarding caregivers or showcasing providers who deliver high value care to Hispanics and to increase Hispanic physicians and others to participate in focus groups to develop mechanisms for information dissemination to providers in our communities. HHS should take this opportunity to develop Hispanic health professional researchers by targeting the untapped pool of Hispanic health professional students and residents and graduate students interested in serving in their communities.
Lastly, given the growth of the Hispanic population, there is a need to create regional areas for Hispanic health research and follow the health care decision-making in the health systems.
For more information, contact NHMA – 202-628-5895

Submitted by
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Who is proposing this research project?

The Frontier School of Midwifery and Family Nursing (FSMFN), American Association of Birth Centers (AABC), Duke Clinical Research Institute (DCRI) and Orases Consulting Corporation (OCC) have collaborated to develop a methodology for a study of optimal birth and an online registry of obstetrically uncomplicated pregnancy, labor, birth and postpartum/newborn care outcomes and the practices applied in achieving those outcomes. FSMFN is dedicated to educating nurse-midwives according to the best available evidence for collaborative practice in all birth settings. AABC is dedicated to developing a seamless experience for mothers within a system in which the institutions and care providers effectively collaborate to offer high quality, evidence-based maternity care. DCRI, consultants for the project, plan to establish the first registry on “normal” birth for comparative research by any researcher seeking such a data set. OCC, specialists in computer systems design, provide programming for the web-based data collection and reporting, system maintenance and technical support. The work to date has been conducted by volunteers with minimal funding from the AABC and FNS foundations for computer services.

Who will participate in this study?

All types of providers of maternity care services practicing in all settings are invited to participate in the proposal for a study of optimal birth. To date, 68 clinical sites that include midwife and physician collaboration in home, birth center and hospital sites have agreed to participate and over 22,000 childbearing women have been entered into the data base. When fully implemented, it is estimated that 200 sites will be participating.

The study instrument includes a profile of the practice and site, demographics of the mother, a description of the care that was provided, the outcomes of that care and the level of the mother's satisfaction with her care. It is available for review at www.birthcenter.org. Over the past four years the instrument has been developed and beta tested. A pilot study of five sites by a doctoral student at the FSMFN is currently under way to further test reliability and validity of the data. Funding for the full implementation of the project is being requested.

Why is this study important?

This study is needed to provide current information for policy decisions, removal of barriers to implementation of the midwifery model of care, and the importance of educating for collaboration within the professions and institutions providing that care. Although the outcomes and cost benefits of nurse-midwifery care in a variety of settings have been reported over the years, a current, comprehensive, prospective study of comparative practices that led to improved outcomes is lacking. This study is designed to provide current information on what constitutes optimal birth and how it may be best achieved.

The hypothesis is that optimal birth is best achieved when the mother makes an informed choice based on the best available evidence about her birth environment, primary care provider and family or other support personnel; participates in the decisions made about her care and medical intervention; and when midwives, obstetricians and nurses work collaboratively to focus on the individual needs of each woman and family they serve.

Background

Eighty years ago the Frontier Nursing Service (FNS) demonstrated that nurse-midwives could provide a model of care in a remotely rural, underserved area that was safe, satisfying and cost effective. In fact the care provided by FNS nurses resulted in such a dramatic improvement in maternal and newborn outcomes that the Metropolitan Life Insurance Company on analysis of the data recommended that the FNS model of care be adopted nation-wide. For the past eight decades, nurse-midwives, as primary care providers referring to obstetrical specialists as medically indicated, have continued to document improved maternal newborn outcomes at lower cost but midwifery has not yet been fully integrated into our health care system.
Now, well into the first decade of the twenty-first century The Cochrane Review of reliable research on maternity care world-wide, has recently reported that all women should have access to, and be encouraged to use, midwifery led units. Midwifery is the gold standard of primary care in the 29 countries with better infant mortality rates than seen in the United States.

Therefore it is relevant in this time of change to ask – why, when there is so much evidence supporting the health and cost benefits of midwifery care do we continue to educate so many surgeons and minimally support midwifery education while expressing concerns about rising Cesarean Section rates that increase costs without any significant improvement in birth outcomes? Why alternative measures for pain relief are not available to all laboring women such as hydrotherapy, choice of positions, or self administered Nitrous Oxide which is a proven safe, affordable and effective method of pain relief in labor that is being used in all settings in other countries across the globe but only available in the United States in a few teaching centers? It could be said that we have marginalized the basic needs of the majority of healthy women anticipating an uncomplicated childbirth experience by exposing them to routines designed for women with complications of labor and birth who need acute care services.

Policy implications for activating change

Workforce development

To educate a nurse-midwifery workforce in the United States we have relied on an adequate supply of nurses. Although enrollment in these education programs is up, we would benefit from offering to our unemployed young people a program like the Cadet Nurse Corp that was introduced during WW II under "the Bolton Act". It would serve to more rapidly prepare to meet projected demands not only for childbearing women for an aging population.

We should teach evidence based midwifery instead of obstetrics in all nursing and medical schools so that students receive an evidence-based orientation to the care of the majority of women rather than a disease and fear-based orientation to the minority of women experiencing this essentially normal life event. This is a better foundation for basic students making career choices for specialization.

It has become clear that nursing may not be the only pathway to midwifery education. To expand the midwifery workforce that this study will indicate is needed, education, certification and licensure for direct entry to the profession needs to evaluated, standardized and barriers removed.

Removal of existing barriers

We cannot produce midwives if we do not have access to clinical training sites. It is a strange paradox that we import foreign trained physicians to fill obstetric residency programs here to focus on the pathology and surgical intervention of child birth while midwifery students increasingly are sent to foreign lands for clinical experience. To bring the ratio of midwives to obstetricians in balance with the ratio of the estimated 80 percent of healthy women giving birth to the 20 percent needing medical or surgical intervention and to meet the staffing needs of clinical teaching sites, we must look at directing tax dollars to fund midwifery and obstetric residency programs to match the women served, residencies that include instructing these two very different professional groups to work together to bring their individual talents to the care of each woman served.

Autonomy in practice and payment for services

Autonomy in practice and equitable payment for services must be assured. To pay a midwife 65 percent of the payment afforded physicians for the time and education intensive care that

improves maternal and newborn outcomes is discriminatory. Midwives must be paid as any other licensed primary care provider and birth centers must be paid like any other health care facility. Midwifery-led units like birth centers should be included in the formation of the "health care homes". Midwifery and advanced practice nursing units established as a seamless part of a collaborative health care system would greatly improve access to quality care in both rural and urban underserved areas.

Conclusion

Although this represents a paradigm shift, there is no better place for beginning reform for efficient utilization of the health care system than providing midwifery time and education-intensive care to expecting mothers when they are most open to learning family health improvement measures. Mothers provide much of the primary health care to their families and are the major decision makers for when, where and to whom they will entrust their family's medical care needs. The cost of birth continues to rise. The current gap between maternity care practices and the available evidence is widening. Evidence-based collaborative midwifery and obstetrical care is an important part of the solution for reducing costs, expanding access to quality care and improving the birth outcomes. It must continue to be evaluated as it develops. A normal birth registry and a study of optimal birth is a step in the right direction for achieving that end. Without this paradigm shift, it is doubtful that the United States will ever reach its goal of optimal health outcomes for all mothers and babies.

Submitted by
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The Consortium for Citizens with Disabilities (CCD) believes that comparative effectiveness research is, and should continue to be, an important tool in helping patients and providers distinguish between the effectiveness of both existing and emerging treatment options. Having better evidence to support the clinical effectiveness of a wide range of health care interventions has the potential to lead to improvements in the quality of care and could potentially maximize the impact of the health care dollars spent in this country.

CCD, a coalition of national disability-related organizations, urges caution, however, to pursue comparative effectiveness research in a manner that does not lead to inappropriate restrictions in coverage of and access to assistive devices, therapies, treatments, medications, and long term services and supports for people with disabilities and chronic illnesses.

Many of the assistive devices, technologies, and therapies used by persons with disabilities to be functional and live independent and fulfilling lives have widespread application and are generally accepted by physicians and other health care professionals. Because many of these devices and technologies do not have to undergo the rigors of FDA review, the formal evidence base for such treatments may be less developed than other areas of health care.

With respect to all devices, therapies, and medications, it is important to recognize that disability conditions vary widely in severity and complexity. There are often multiple comorbid conditions in play and many disabilities are low prevalence, making specific and meaningful clinical effectiveness studies challenging to pursue. Ethical questions and other factors often make double-blind clinical trials in this area non-viable. Even well-grounded research on the general population can be easily misapplied to the disability and chronic illness populations, especially persons with intellectual, behavioral and cognitive disabilities.

In fact there are many potential applications of comparative effectiveness research to areas other than acute care medicine such as long term services and supports for these populations. It is critical that the outcomes of such research are not misapplied or used to broadly establish coverage rules that trump an individual's circumstances and specific needs.

For these reasons, the CCD believes that comparative effectiveness research is not a substitute for the clinical judgment of the physician or health care professional in consultation with the patient. In the absence of double-blind clinical studies, due consideration should be given to reliable observational studies and consensus medical opinion, along with the clinical judgment of the health care professional. This is particularly important for people with complex, disabling, or chronic conditions.

Comparative effectiveness research is very important and has the potential to bring down health care costs over time by improving the quality of care. CCD supports the pursuit of comparative effectiveness research as long as there are meaningful protections to prevent inappropriate restrictions in coverage of and access to health care and long term services and supports for people with disabilities and chronic conditions.

Submitted by
Richard W. Olson
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AstraZeneca Pharmaceuticals LP (AstraZeneca) is pleased to submit the following comments on comparative effectiveness research priorities in the American Recovery and Reinvestment Act to the Federal Coordinating Council (FCC) for Comparative Effectiveness Research (CER) in advance of the public listening session on Tuesday, April 14, 2009.

AstraZeneca is a leading global healthcare company dedicated to the research and development of new medicines in therapeutic areas including cardiovascular, gastrointestinal, oncology, respiratory, and neuroscience. AstraZeneca is committed to the discovery of drugs that will allow patients to lead longer, healthier and more productive lives, and to supporting scientifically robust research that improves the delivery of effective, high-quality care to patients. AstraZeneca is also committed to patient health; including helping ensure that patients have access to the most appropriate therapies in the most appropriate setting.

Healthcare reform is a top priority for our nation's policy makers. AstraZeneca believes that today's discussions – whether about healthcare coverage or healthcare costs - are important steps toward enhancing patient health and improving the quality of healthcare in the United States.

AstraZeneca believes CER, the comparison of one diagnostic or treatment option to one or more others, is an important component of healthcare reform. The goal of CER is to conduct or support research to evaluate and compare the clinical outcomes, effectiveness, risk and benefits of two or more medical treatments and services that address a particular medical condition. CER offers the promise of improving healthcare quality and outcomes by making it easier for patients and their doctors to choose the best treatment or treatments through evidence-based decisions. Yet, given today's financial challenges and political dynamics, AstraZeneca is concerned that CER could be used to deny coverage or reduce payments for interventions, thus limiting patient access to treatment options.

At AstraZeneca, we are committed to ensuring that patients and their health care providers have the best information available to support their decisions regarding treatment. In support of that commitment, we have been, and continue to be, engaged in CER activities. To ensure patients and their health care providers receive the most value from CER, AstraZeneca is proud to share the principles that guide our discussions related to this issue:

Outcomes First

Focus on improving individual patient outcomes rather than short-term, population-based cost control.

Drive, Not Limit Innovation

Encourage the development of innovative healthcare interventions and not be utilized as the sole rationale for product approval, coverage, pricing, or reimbursement decisions.

Research Across All Interventions

Employ rigorous, transparent research methodologies applied across the range of healthcare interventions and treatment modalities.

In addition, AstraZeneca believes:

- The current decentralized approach to conducting CER in public and private settings has yielded highly useful information in an efficient manner. If CER is centralized, it should be a public/private partnership, funded from both public and private sources, focus on the patient, and be distinct from any organization making coverage and policy decisions.

- Funds applied to CER should focus on diseases where there is a significant burden to the patient and the health system. For example, the impact of providing better care to patients with chronic diseases such as diabetes, asthma and heart disease, could be

profound if the breadth of research includes comparative benefit designs, prevention programs, delivery systems and medical and behavioral interventions.

- CER offers the promise of improving healthcare quality and outcomes by making it easier for patients and their doctors to choose the best treatments.

- CER, when focused on clinical-effectiveness and not short-term cost-effectiveness, will encourage the development of innovative interventions.

AstraZeneca thanks you for the opportunity to comment on CER. We look forward to continuing to engage in a thoughtful dialogue around this important component of the future of our healthcare delivery system in the US. If you have any questions, please do not hesitate to contact Christie Bloomquist at (202) 350-5545 or Christie.Bloomquist@astrazeneca.com or Brian Maloney at (202) 350-5542 or Brian.Maloney@astrazeneca.com.

Submitted by
Winifred S. Hayes, RN, MS, PhD
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Dear Sir or Madam:

The following is being submitted on behalf of Dr. Winifred S. Hayes, President and CEO of Hayes, Inc. Hayes, Inc. is a leading provider of evidence-based health technology assessments that serves health plans, government agencies, hospitals, health systems, and consumers. Hayes also provide consulting services to help these same constituents put our research into action to improve patient care and outcomes. Today, Hayes clients serve over 200 million consumers and patients.

Statement of Dr. Winifred S. Hayes:

To the Federal Council for Comparative Effectiveness Research:

You asked the American public to share potential solutions for our current healthcare crisis. Thank you for opening this dialog and your willingness to include all citizens to help improve America's healthcare system.

I have worked in health care for nearly 40 years, as a nurse, an educator, a researcher, and in the healthcare business sector. Twenty years ago, I founded Hayes, Inc., a health technology assessment company that provides evidence-based research reports on new, emerging, and controversial health technologies to health plans, government agencies, hospitals, health systems, and consumers. We also provide consulting services to help these same constituents put our

research into action to improve patient care and outcomes. Today, our clients serve over 200 million consumers and patients. In the interest of transparency and disclosure, I have a vested interest in the synthesis, dissemination, and application of the expanded base of clinical evidence that would be created under Stimulus Act funding provisions. As such, I am fully committed to improving the safety and quality of healthcare through decisions grounded in evidence. This is my passion, this is my mission, and I believe this is the cornerstone of any meaningful healthcare reform efforts.

With my front-row seat in healthcare, I have thought a lot about why our health care system lags other developed nations. The factors that follow, I believe, are among the most important:

- Failure to effectively and efficiently integrate scientific evidence into healthcare decision-making, resulting in overuse, misuse, and even (in some instances) underuse of health technologies.
- Insufficient, and in many cases poorly designed and executed, comparative effectiveness and cost effectiveness research.
- Adoption of newly-approved technologies before evidence supports it, which contributes to spiraling healthcare costs without commensurate improvement in patient care.
- Perverse financial incentives that drive premature dissemination of new medical technologies even when they do not improve patient care or outcomes.
- Lack of efficient and effective methods to keep clinical practitioners up-to-date on "best evidence" and "best practice" at the time of need.
- A consumer population that is largely overwhelmed with navigating the health care system and finding the right evidence-based resources to make the best health care decisions.
- Uneven and untimely health care access and quality.
- Continued erosion in employer-sponsored health insurance.
- Insufficient focus and allocation of resources to health promotion and disease prevention.

I believe that the comparative effectiveness funding provided for in the Recovery Act (ARRA) will help to stem the tide of rising healthcare costs and will provide research that is sorely needed for payers, providers, and consumers to make better healthcare decisions. To maximize the impact of this funding, I believe the council must focus on primary comparative effectiveness research. There are a number of private sector entities, including Blue Cross Blue Shield Association's TEC Program, Federally-funded Evidence-based Practice Centers, and my firm, Hayes, Inc. that are already positioned to help payers, providers, and consumers synthesize existing and new evidence and integrate the resulting conclusions into the healthcare decision making process. If the Federal Government ultimately assumes the primary role for synthesis of evidence, it will short-circuit these private sector initiatives, add a layer of bureaucracy to the system, and politicize the process.

With this as a backdrop, the following are my recommendations to make best use of the new Federal funding for comparative effectiveness research and improve acceptance and buy-in from the healthcare community at large:

- Coordination and prioritization efforts of the Federal Coordinating Council for Comparative Effectiveness Research must include the private sector in setting the research agenda. Questions about which treatments, technologies, medicines, and

procedures to compare are best posed by the hospitals, universities, manufacturers, consumers, providers, and private research organizations that are at the front lines of healthcare.

- Let the private sector determine how to put the resultant clinical evidence into practice. As noted above, the private sector has already made progress in accomplishing this and I encourage you to build on this base. Federal involvement in putting research results into practice will be seen as a form of rationing.
- Create an environment where providers and consumers have access to the best available clinical evidence. Federal support of the dissemination of comparative effectiveness and cost effectiveness research findings, including digital and user-friendly ways to do so, is needed.
- Allow the private sector to respond to the improved evidence base in making healthcare decisions and avoid an expanded federal policy role that determines coverage and reimbursement beyond the current CMS structure. This approach will allow for public dialogue and solutions and will be less politicized and ultimately better accepted in the healthcare community.
- Encourage all healthcare-accrediting organizations to create standards that require the consideration of scientific evidence in healthcare decision-making. If a technology is adopted in spite of weak evidence, the standards should address a mechanism to evaluate the technology's impact on patient safety, clinical outcomes and comparative value, specifying patient indications and contraindications.
- Fund the creation of patient registries by the private sector. Consider incentivizing industry participation. Universal industry participation is essential if patient registries are to be successful.
- Facilitate public discourse around the meaning, role and importance of clinical evidence, clinical significance, utility, comparative effectiveness and cost-effectiveness as these terms relate to healthcare services, costs, benefits and, ultimately, the choices we make.

Implemented in this manner, the additional funding for comparative effectiveness research provided in the Stimulus Act will eliminate many of the healthcare industry issues I articulated at the start of this letter. I would welcome an opportunity to discuss these and other ideas and recommendations further and to support our healthcare reform efforts.

Submitted by
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There is a wide variation in the human xenobiotic (foreign chemical) metabolism pathways that is conserved across most advanced life forms on earth. These polymorphous pathways include the Cytochrome P-450s and N-acetylation, but, at least in humans, also lesser known pathways such as glucuronidation, methylation, sulfoxidation, sulfation, glycination, and esterases such as paraoxonase and pseudocholinesterase.

This genetic diversity in the metabolism of xenobiotic chemicals would not exist if it was not evolutionarily advantageous to species or populations as a whole.

A key point is that some metabolism pathways will not only detoxify toxicants, but they can also activate carcinogens. Thus, while some individuals may have a slow xenobiotic metabolism pathway--and may be more prone to toxicity buildup rather than carcinogen activation, others individuals have a fast xenobiotic metabolism pathway, which may reduce toxicity buildup but may tend to activate carcinogens and thus increase their risk of cancer. This wide diversity in individual metabolism guarantees that no matter what the toxic exposure, some individual or another in the population is likely to survive in order to preserve the genome.

In fact, this diversity is so great that if on were to add up all the "sensitive" subpopulations, they would probably include the majority of the population. To quote a former director of the U.S. National Institutes of Health (NIH): "Everyone is sensitive to something".

In short, the genetic diversity in individual metabolism of toxics by humans and animals provides robust protection for species and populations in the face of the ever changing environment which has existed on earth over the course of billions of years.

Given these genomics, it is "contrary to nature" to adversely select against individuals who bear genetics which benefit the species.

To paraphrase Sheldon Samuels of the AFL-CIO, failure to protect sensitive subpopulations is social, as opposed to natural, selection against those individuals. But in the case of those polymorphous xenobiotic metabolism pathways with a very high frequency in the genome, such social selection is also contrary to long term species survivability.

In the near future, technology will allow the inexpensive determination of individualized detoxicogenomic profiles, such as by using gene-chips. The National Institute of Environmental Health Sciences (NIEHS) Environmental Genome Project (EGP) has been studying the genetics of the xenobiotic metabolism pathways since 1992 http://www.niehs.nih.gov/research/supported/programs/egp/ and comparative toxicogenomic databases are now being created. http://ctd.mdibl.org/ This may soon allow personal biochemical analysis and individualized medical treatment to be provided at low cost.

We implore the Federal Coordinating Council (FCC) for Comparative Effectiveness Research (CER) to not use simplistic models in designing their research studies, that may provide results on the purported effectiveness of simplistic treatments that under a single-payer or socialized medicine economy instituted under health care "reform" in the U.S. may be used to severely limit choice of treatment to only those previously deemed effective on large groups, including the treatment choice of those with chronic illness that consequently face medical indigency.

Examples of some of the economic and political forces presently at work to constrain treatment choice include:

We have seen complaints about the British National Institute for Health and Clinical Excellence (NICE) report on Chronic Fatigue Syndrome (CFS) and Myalgic Encephalomyelitis (ME) being used to limit the treatments for CFS/ME patients in Britain to Cognitive Behavioral Therapy (CBT), Graded Exercise Therapy (GET), and psychiatric drugs. CFS and ME are in fact symptomatic aggregates of conditions with a diversity of causes, and the few approved treatments in Britain either do not work or are counter-productive in many cases. When combined with a single-payer health care system, this effectly results in denial of individualized treatment for at least medical indigents.

Similarly, in the U.S., we have seen the American Psychiatric Association (APA) re-writing the DSM-V psychiatric manual to try to enlarge the category of purported "somatoform disorders" to include about 15% of primary care patients which they label as having "functional somatic syndromes" such as CFS/ME and Fibromyalgia (FM), and to impute a psychological mechanism of "somatization" to their genesis, in order to try to apply "psycho-social" and psycho-pharmaceutical treatments. Further, the DSM is intended to be "harmonized" with the World Health Organization (WHO) ICD-11 medical coding manual, so that this expansion into medicine by American psychiatry may be promulgated worldwide.

We believe that these regressive efforts to psychiatrize the patients of numerous medical specialties and those who use alternative medical treatments are counter-productive, and are contrary to the progressive possibilities of personalized genetic and biochemical analysis and individualized medical treatment which may soon become possible through modern technology.

We urge the FCC-CER to lead the future towards increasing medical knowledge and improving individualized medicine, rather than to allow its research to be used to regressively promote the rationing of treatment choices for the masses in the name of purported cost savings.

Thank you.

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Submitted by
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My name is Amalia Punzo, MD. I am unable to attend Tuesday's session on Effectiveness Research and would like to contribute a written request prior to the session.

I am a physician trained originally in Internal Medicine. I subsequently gained further training in Integrative Medicine and Homeopathy as a way to address my patient's chronic disease conditions and to practice more holistically with an eye towards safety and disease prevention.

I would like the Council to include homeopathic treatment for both acute and chronic disease states in their research considerations. There are many studies which validate the effectiveness of homeopathic treatment for a wide variety of acute and chronic ailments including otitis media, diarrhea, fibromyalgia, flu, allergic rhinitis, rheumatic disease, mild traumatic brain injury, respiratory conditions, etc...Recently the UK has conducted a large scale public health project looking at the cost effectiveness of homeopathic treatment in primary care, since in Europe homeopathic medicine is much more widely prescribed and accepted. This study reflected favorably on homeopathic treatment and also showed marked cost-savings. In countries where socialized medicine is practiced, it is important to show efficacy as well as cost savings. Our medical educational system focuses almost exclusively (excepting in cases where surgery is indicated) on pharmaceutical approaches to diseases to the exclusion of homeopathic or naturopathic medicine. It was my patients who initially shared with me their experiences using complementary/alternative approaches and for that I am extremely grateful. I subsequently took it upon myself to learn more about these therapies, since there was little to no CAM education in the world of conventional medicine. As a primary care practitioner I was eventually able to treat most diseases more effectively resulting in far less toxicity than when I practiced purely pharmaceutical medicine. It is my sincere hope that we will see well- designed and coordinated clinical outcomes research projects performed in the upcoming years which include homeopathic medicine. The public is more aware than their providers in many cases and wonder why it is that their physicians are not more educated about complementary, alternative, and integrative approaches to disease.

In the last several years I have been trained as an Improvement Advisor by the IHI and am intimately involved in Quality Improvement at my organization. I would like someday to put these QI/Outcomes research skills to good use in conducting such clinical outcomes trials using practice-based research networks that include homeopathic medical treatment. I am hopeful that this administration will pave the way to finance high quality clinical and community outcomes research using a variety of non-pharmaceutical approaches to both acute and chronic disease. I would be happy to provide references to the research studies that I referred to at the beginning of my email.

Submitted by
Daniel B. Fisher,MD,PhD
Steering Committee
National Coalition of MH Consumer/Survivor Org.
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The National Coalition of MH Consumer/survivor Org. would like to see NIMH research funds available for:
1. determining the comparative effectiveness of peer-run and peer-assisted crisis respite services as an alternative to psychiatric hospitalization.
2. research into the degree to which psychosocial, recovery-oriented community supports can reduce the use and cost of of medication.
3. Degree to which peer-run warmlines can reduce the use of emergency room and hospitalization by psychiatric consumers
4. Major psychosocial, and peer related factors involved in persons recovery from mental illnesses when used with medication compared to medication to medication alone as is being practiced in most locales now

Submitted by
Barbara Goldsmith, PhD
President, American Association for Clinical Chemistry

The American Association for Clinical Chemistry appreciates the opportunity to provide comments to the Federal Coordinating Council for Comparative Effectiveness Research in regards to how the Department of Human Services should allocate the $400 million in comparative effectiveness research funding it received under the American Recovery and Reinvestment Act of 2009. We believe this research is critical to gathering the evidence-based data on the utility of health services needed by health care providers to improve the quality of patient care.

AACC strongly supports the purpose of this Council, namely to coordinate the comparative effectiveness research (CER) activities of the federal agencies and to assist the Department in prioritizing future research projects. We believe this approach can reduce overlapping initiatives among the agencies and lead to a more cohesive research agenda. Further, AACC applauds the Council's efforts to engage the health care community and public in this deliberative process. We believe this is important to ensuring that the selected research studies meet the needs of caregivers and relevant best practices organizations.

Although there are many worthy areas for research, AACC recommends that the Coordinating Council include Acute Coronary Syndrome, Heart Failure, Diabetes Mellitus and Cancer, particularly as they as apply to laboratory medicine, among its national priority areas. We think cardiac care, diabetes and cancer need to be addressed given the prevalence of the diseases and their impact on patients, families and the health care delivery system. Also, we recommend that the scope of CER include the evaluation of approaches to health care delivery and care management that foster effective application of personalized medicine.

AACC strongly believes that the Council must maintain the focus of CER on gathering and disseminating knowledge for improving clinical decision-making and patient outcomes rather than emphasizing its cost effectiveness aspects. AACC believes CER must not be used to restrict medical decision-making, hinder technological innovation or, most importantly, limit patient access to effective treatment options. We appreciate the opportunity to provide this input to the Council and look forward to working with you as this process moves forward.

AACC is the principal association of professional laboratory scientists--including MDs, PhDs and medical technologists--and is the leading laboratory association in the realm of evidence-based medicine. AACC's members develop and use chemical concepts, procedures, techniques and instrumentation in health-related investigations and work in hospitals, independent laboratories and the diagnostics industry worldwide. The AACC provides international leadership in advancing the practice and profession of clinical laboratory science and its application to health care. If you have any questions, please call me at (617) 879-0267, or Vince Stine, PhD, Director, Government Affairs, at (202) 835-8721.

Submitted by
Dominic Hodgkin, Ph.D.
Associate Professor
Institute for Behavioral Health
Heller School of Social Policy and Management Brandeis University, MS 035
Waltham MA

To: The Federal Coordinating Council for Comparative Effectiveness Research
From: The Workgroup on Comparative Effectiveness in Behavioral Health, Institute for Behavioral Health, Heller School for Social Policy and Management, Brandeis University
We welcome the new administration's initiative to expand funding for comparative effectiveness research. This initiative has particular relevance to behavioral health care, the area where our own research is focused. It is relevant because behavioral health care (which includes mental health and alcohol and drug abuse treatment) has been particularly prone to some of the problems that comparative effectiveness research is intended to address. These problems include:

- Rapid provider adoption of costly new psychotropic medications, often in the absence of any head-to-head trials demonstrating their superior effectiveness over existing, less costly medications.
- Slow dissemination of certain other effective medications that are mainly used in public sector settings, e.g. naltrexone for alcoholism.
- Under-utilization of approaches with a strong evidence base, such as cognitive behavioral therapies.
- Persistence of non-evidence based practices, such as sub-therapeutic dosing of methadone.

We therefore encourage the Coordinating Council to make sure that some of the new federal funding is directed toward comparative effectiveness research in behavioral health care.
At the same time, we note that these studies will need to go beyond merely measuring 'average' effectiveness of a medication or treatment across the whole population treated. Previous studies

have found that a given medication can have widely different effects across patients, which might be masked by an average effect. We are pleased to note that the enabling legislation takes account of this and calls for studies of subpopulations.
Targeting federal funding for comparative effectiveness research also offers the chance to compare treatments that have been relatively less studied, for example some psychotherapies that are less easily standardized across providers. In some cases this might involve comparing different ways of delivering a given treatment, e.g. web-based treatment versus traditional treatment with counselors.

Many behavioral health care purchasers and providers are frustrated with the current lack of knowledge, and eager to learn more about what works to help patients. They would be likely to act upon the findings that would result from future comparative effectiveness research, for example by disseminating information, removing institutional barriers, and redesigning incentives. In conclusion, behavioral health care may be an especially fruitful area for finding results with policy implications.

Members of the Workgroup on Comparative Effectiveness in Behavioral Health:
Dominic Hodgkin, Associate Professor (chair),
Constance Horgan, Professor and Director, Institute for Behavioral Health
Elizabeth Merrick, Senior Scientist
Gail Strickler, Senior Research Associate
Eve Wittenberg, Senior Scientist

Submitted by
Tony Coelho
Chairman
Partnership to Improve Patient Care

Dear Federal Coordinating Council Members:
As you convene the first of three meetings this afternoon to hear from the public concerning their views on the implementation of comparative effectiveness research (CER) under the American Reinvestment and Recovery Act of 2009 (ARRA), I would like to express support of CER that is transparent, patient-centered and considers the broader body of evidence, the patient's individual needs and preferences, and the physician's clinical expertise.
The Partnership to Improve Patient Care (PIPC) was formed in November 2008 to support new comparative effectiveness research proposals that are centered on patient and provider needs, raise awareness about the value of well-designed CER and promote the important role of continued medical innovation as part of the solution to cost and quality challenges in health care.
PIPC members, representing a diverse, broad-based group of health care stakeholders, are dedicated to working together to promote CER that protects patient access to innovative treatment options; supports the ability of patients, doctors and other health care professionals to choose the care that best meets the individual needs of the patient; and, fosters continued medical innovation. Comparative effectiveness research can be a valuable tool to "learn what works in health care" and support good clinical decision-making. At the same time, such research can be misapplied in ways that restrict patient access to optimal care, undermine physician/patient

decision-making, and discourage continued medical progress. Below is a list of PIPC Supporting Principles that we believe must be met to ensure that patients and providers interests remain paramount:

- Define CER as a tool to improve patient care;
- Enhance information about treatment options and about how to close the gap between care known to be effective and the care patients receive;
- Focus on communicating research results to patients, providers and other decision-makers, not making centralized coverage and payment decisions or recommendations;
- Provide information on clinical value and patient health outcomes, not cost-effectiveness assessments;
- Design studies that reflect the diversity, including racial and ethnic diversity, of patient populations and communicate results in ways that reflect the differences in individual patient needs;
- Assure that studies are technically excellent and appropriate;
- Require open and transparent processes where all stakeholders have input into research priorities and design and have an equal voice in governance of a CER entity;
- Examine all aspects of health care including care management, medical interventions, benefit design, and processes of care for all patients;
- Support continued medical advances, including personalized medicine and other advances that can help improve patient care and control health care costs;
- Recognize the unique nature and value of targeted therapies that benefit specific groups of patients with rare and orphan diseases.

CER has the potential to transform healthcare and better inform patient and provider decision-making. Focusing on improved quality is the best way to achieve a more sustainable and affordable healthcare system, and comparative clinical research can help us reach this goal. It is important to distinguish comparative clinical effectiveness research which focuses on health outcomes from cost-effectiveness research, which can be misused in ways that deny individuals access to the medical care that is best for them based on arbitrary cost thresholds. Working with PIPC, I will strive to make sure CER is centered on patient needs and does not become a basis for denying patients access to the care they need.

On behalf of PIPC's member organizations, I look forward to working with you to advance CER that improves the lives of all Americans.

Thank you for your consideration.

Submitted by
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The American Urogynecologic Society (AUGS) appreciates the opportunity to provide comment to the Federal Coordinating Council for Comparative Effectiveness. AUGS is a health care organization comprised of clinicians and scientists dedicated to advancing research, education and patient care in the area of female pelvic medicine and reconstructive surgery. AUGS believes significant investment from the $1.1 billion in funds for comparative effectiveness research provided by the American Recovery and Reinvestment Act of 2009 should be granted to areas focused on pelvic floor disorders. AUGS is committed to ensuring that these investments would be well spent and would yield better patient outcomes.

Although pelvic floor disorders (PFD), including disorders of urinary and/or bowel control, and pelvic organ prolapse are common and costly, these conditions are relatively understudied. Of these disorders, urinary incontinence is the most common.

A recent report from the Pelvic Floor Disorders Network, funded by NICHD, and published in the *Journal of the American Medical Association* (JAMA) reports that pelvic floor disorders are common and serious conditions impacting women in America. This report sited that of the women who reported any symptoms of a pelvic floor disorder, 16% experienced urinary incontinence, 9% reported fecal incontinence and almost 3% had symptoms of pelvic organ prolapse. These numbers increased with age with half of all women over 80 being affected. One out of 11 women will undergo surgical treatment for pelvic organ prolapse and urinary incontinence in her lifetime. In February another study was published in the *New England Journal of Medicine* that demonstrated that weight loss resulted in a 47% drop in weekly incontinence episodes. These findings confirm that weight loss can be considered a first-line treatment for women with incontinence. These two articles demonstrate that there are so many things we are still discovering about these conditions and additional research funds need to be allocated to encourage further investigation and education of these disorders that are associated with depression, isolation, and decreased quality of life.

There are three key areas where we believe comparative effectiveness research could identify treatments that would yield better outcomes and care for women who suffer from pelvic floor disorders.

Stress Urinary Incontinence

Improvements in surgical treatment of urinary incontinence will improve the quality of life for American women and reduce associated health care costs. Surgery for treatment of stress urinary incontinence (SUI) is common and increasing, with 135,000 surgical procedures done in the US, an approximately 45% increase from 1988[1]. Ongoing efforts to select the most appropriate initial surgery and comparative trials to compare surgical therapies to non-surgical treatments, including pelvic floor exercises are needed.

Approximately 10-40% of women have recurrent or persistent SUI after a continence procedure and therefore re-operation rates after surgery for urinary incontinence are high, with at least one third of women undergoing repeat surgery during her lifetime [2,3]. Few data are available to guide surgical treatment of recurrent or persistent SUI, although it is commonly accepted that repeat continence procedures are associated with higher failure rates and that failure rates increase over time[4-6]. Comparative effectiveness trials are urgently needed to guide the care of women with persistent or recurrent SUI.

The NIH has invested in comparative effectiveness trials for women with uncomplicated SUI. The NIDDK Urinary Incontinence Treatment Network recently reported in the SISTEr Trial that cure rates after continence surgery are considerably lower than previously reported[7]. Unfortunately, only a small minority of women in this trial had undergone a prior continence surgery: 13% in the sling group and 15% in the Burch group. A second comparative effectiveness trial has just completed enrollment, but given the similarity in inclusion/exclusion criteria, it is likely that the network will enroll a similar percentage of women with recurrent or persistent SUI after a prior continence procedure.

Therefore, despite the high incontinence prevalence rates and high re-operation rates, there are no adequately powered randomized trials investigating the optimal method for treating SUI in this population of women. Without advanced understanding of the consequences and optimal surgical strategies for SUI, treatment in this important area of women's health is advancing slowly.

Prolapse Surgery

Three to six percent of women will develop pelvic organ prolapse during their lifetime, with half reporting significant impact on her quality of life secondary to the prolapse[8]. Surgical therapy is the gold standard for the treatment of pelvic organ prolapse. Pelvic organ prolapse is the main indication for hysterectomy in women over the age of 50. In 1997, approximately 225,000 surgeries were performed for pelvic organ prolapse in the United States with a direct cost of $1.12 billion dollars[9].

While numerous surgical options are available, relatively few comparison studies have been performed. In a recent Cochrane review, only 22 studies of significant quality and follow-up could be included in the review. Astonishingly, these 22 studies included less than 3,000 patients to compare the effectiveness of different surgeries for pelvic organ prolapse[10]. Many more studies with adequate power are needed to determine the best surgical procedures. Randomized trials with long term follow-up to access cure, risks for failure, and complications are drastically needed. Without comparative effectiveness studies, women and their surgeons do not know the best procedures to perform to help relieve women of this common health problem.

Randomized Trials and Mesh Registry

In an attempt to improve surgical repairs of pelvic organ prolapse, many surgeons have begun the use of vaginally placed mesh to strengthen the native tissues. Currently very little data exists to support this treatment option, yet its use is growing in popularity. The use of mesh adds cost and potential complications to the procedure, with little data to support improvement in outcomes or reduction of surgical failures. We are very interested in accessing comparative

effectiveness research dollars to support randomized surgical trials and/or for the development and use of clinical registries, clinical data networks, and other forms of electronic health data that can be used to generate or obtain outcomes data.

The medical community would benefit greatly through the creation of a patient registry that tracks the use and effectiveness of surgical mesh for the treatment of pelvic organ prolapse and stress urinary incontinence. The collection of pre- and post-market data is key to understanding why mesh erosions occur and what can be done to eliminate the risk to patients.

Establishing a national registry is a large project and one which can not be done by one organization alone. AUGS would like to work with NIH and partner with the FDA and CMS to create a mesh registry that improves outcomes while saving patients from medical complications and the need to undergo multiple costly surgeries.

Conclusion

AUGS sincerely appreciates the support our members have received and the work we have been able to accomplish to date through government supported grants. Millions of women are impacted by pelvic floor disorders. Comparative effectiveness studies are needed to determine best practices and therapeutic options. Thank you for your attention to our requests and this important area of research in women's health.

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Submitted by
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My name is Teresa Lee, and I am here on behalf of AdvaMed, the Advanced Medical Technology Association. AdvaMed represents the medical device and diagnostics products industry, and our members produce nearly 90 percent of the health care technology purchased annually in the United States.

We greatly appreciate the opportunity to comment today on HHS's implementation of comparative effectiveness research funds allocated to AHRQ, NIH and the Secretary in the American Recovery and Reinvestment Act of 2009. We have comments on three subjects today: (1) transparency and stakeholder input; (2) selection of the comparative effectiveness research priorities; and (3) content of the research topics.

Transparency and Stakeholder Input

First, regarding transparency and stakeholder input, we have been pleased to hear of the Obama Administration's strong commitment to "openness and transparency," particularly in relation to operations around comparative effectiveness research and that the Council "looks forward to hearing from all parties as it moves ahead." AdvaMed values the Council's conduct of this listening session today as a major first step in considering stakeholder input. In keeping with the Administration's emphasis on openness and transparency, we urge the Council to make public all of its meetings in order to keep the public informed of the priority-setting process, and to enable on-going input. Furthermore, we urge the Council to make its draft findings and recommendations available for public comment before they are finalized and submitted to the President and Congress. This approach will enhance the credibility of the Council's findings and recommendations by enabling fully informed decision-making with input from patients, clinicians, health care providers, and scientific and clinical experts employed by manufacturers who have firsthand experience with how various topics would be relevant for clinical practice.

Selection of Comparative Effectiveness Research Priorities

Second, regarding comparative effectiveness research priorities, AdvaMed recommends that HHS first focus on efforts to improve the infrastructure for comparative effectiveness research. Using the Recovery Act funds to improve health services research workforce training would be one good way to lay the groundwork for any longer term efforts to bolster comparative effectiveness research. In particular, we think that sponsorship of interactive forums where comparative effectiveness grantees can work shoulder-to-shoulder with private sector researchers would be valuable so that these clinical and technical experts can learn from one another. Another priority area should be the development of improved pathways to translate research into practice. As you know, one study found that it takes 17 years on average for clinical research results to enter into mainstream practice. To ensure that comparative effectiveness research

successfully advances practice, we should invest in developing better methods and tools to make sure that clinicians and patients understand and integrate research findings.

With respect to specific research subject areas, AdvaMed recommends that the comparative effectiveness research agenda be prioritized with a focus on areas that have major clinical significance and that will have the greatest impact on delivery of health care to patients in the United States. By way of example, chronic disease management and hospital-acquired infections and conditions represent significant comparative effectiveness research opportunities. Selecting comparative effectiveness research priorities along these lines would be consistent with the recommendations set forth by the IOM in its 2003 report "Priority Areas for National Action: Transforming Health Care Quality." From a public health standpoint, it makes sense to follow a broad-based approach that is not purely disease-based, but rather includes preventive care and behavioral health as means to improve quality.

We also recommend that the Council be inclusive in the research priority areas selected, so that the process of care, including the services involved, clinician capability, and other factors are taken into account in assessing comparative effectiveness. This is particularly important in assessment of medical devices.

Content of the Research Topics

Third, AdvaMed supports using comparative effectiveness research to inform medical decisions. The purpose of comparative effectiveness research should be to provide better evidence for physicians and patients to use in making individual clinical decisions. It should enhance, not hinder or preclude, a physician's ability to exercise independent professional medical judgment in providing care to patients, so that patients have access to the interventions that best meet their individual needs and circumstances. That is why it is essential that clear, comprehensible study results be disseminated to physicians and the patients whom they treat. It is why comparative effectiveness findings should not result in one-size-fits-all coverage recommendations.

Finally, we believe that the comparative effectiveness research pursued should focus on clinical effectiveness, not cost effectiveness. As stated in the Conference Report to the Recovery Act, the purpose of the comparative effectiveness funding is for the conduct or support of research on "*clinical* outcomes, effectiveness, risk and benefits" (emphasis added). We note that on March 4th, NIH announced its new initiative called the "NIH Challenge Grants in Health and Science Research," which may use funding designated by the Recovery Act specifically for comparative effectiveness research. The NIH listed several topics that would include cost effectiveness analysis. To use the Recovery Act's comparative effectiveness funds in this manner would run contrary to the statement in the Conference Report language and for this reason, we recommend against this application of the funds. Moreover, using this research to deny access to appropriate treatments for individual patients with individual medical histories and individual needs should not be the objective. AdvaMed supports the conduct of clinical comparative effectiveness research and believes that such research will ultimately improve quality of care and have a favorable impact on overall efficiency in the health care system.
Thank you for your time today.

Submitted by
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American Academy of Hospice and Palliative Medicine
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Dear Dr. Haddix and members of the Federal Coordinating Council,
We are writing to provide input into how to most effectively allocate the new CER resources.

Several reports from the National Institute on Health[1] and the Institute of Medicine[2] have called for substantial investments in palliative care research. While the growth of our field has been remarkable, the knowledge base to support basic elements of clinical practice still remains small. The need to evaluate efficient, patient-centered care delivery systems has grown even more critical. CER activities that address critical research questions in palliative care will help align CER with the critical areas identified by the National Quality Forum Priority Partners as fruitful areas to achieve systemic improvement in health care. [3]

The ***American Academy of Hospice and Palliative Medicine*** recommends the following strategies be integrated into the CER priorities:

1) Integrate palliative care outcomes into a broad range of CER.
Along with studying the comparative impact of interventions, pharmaceuticals and devices on the outcomes of survival and function, all CER in the seriously ill patient population should look at palliative care outcomes related to the burden of disease. These outcomes include:

- Quality of life including disease-related burden of pain and other symptoms
- Patient and family experiences with care

When comparing program interventions, additional outcomes to be measured should also include:

- Quality of care including the quality of communication and alignment of care and its outcomes with patient preferences, and care transitions

2) Target CER efforts to develop the evidence base for the clinical interventions that best ameliorate pain and other symptoms.
Ample evidence demonstrates that patients with serious illness experience a multitude of profoundly distressing symptoms. A conservative estimate suggests that of the 1 million persons who died in a U.S. hospital in 2001, 324,000 had fatigue, 280,000 had loss of appetite, 244,000

[1] National Institutes of Health, **National Institutes of Health State-of-the-Science Conference Statement on Improving End-of-Life Care** State-of-the-Science Conference Statement. December 6–8, 2004. http://consensus.nih.gov/2004/2004EndOfLifeCareSOS024html.htm

[2] Marilyn J. Field and Christine K. Cassel, Editors; Committee on Care at the End of Life, Institute of Medicine**. Approaching Death: Improving Care at the End of Life. 1997** www.iom.edu/CMS/3809/12687.aspx

[3] Palliative and end-of-life care is one of six priority areas identified by the National Quality Forum as critical for improving our national health care delivery. http://www.nationalprioritiespartnership.org/PriorityDetails.aspx?id=608

had shortness of breath, 232,000 had dry mouth and oral ulcers, 208,000 had cough, 196,000 had pain, 148,000 had confusion, 148,000 had depression, 140,000 had nausea, 92,000 had difficulty sleeping, and 88,000 had vomiting. The reasons for this distressing state of affairs are many but almost all stem from an approach to medical research that has often viewed symptoms and suffering as interesting primarily insofar as they guide the physician to a correct diagnosis.[4] The prevailing philosophy dictates that once the diagnosis is made (e.g., cancer) and the disease is treated (e.g., chemotherapy), the symptoms will dissipate. What should be done to relieve suffering during treatment or when a disease can't be treated or cured is rarely discussed, and certainly has not been adequately researched. It is not surprising, therefore, that a recent NIH-supported comprehensive review of research revealed that data that should guide the treatment of late life symptoms are not only inadequate but in many instances completely absent. High quality evidence informing symptomatic management is glaringly lacking for even the most common, highest impact symptoms such as dyspnea. Concerted application of CER to routinely used clinical interventions could yield important advances in improving treatment of common, distressing symptoms.

3) Compare palliative care delivery models.

The last year of life consumes almost 30% of lifetime Medicare expenditures[5], and evidence for the positive impact of both hospice and palliative care programs on both quality of care and cost of care is accumulating.[6] However, the knowledge base is sorely lacking in methodologically rigorous studies that illuminate which processes of care and specific program interventions and models are the most effective. Although we understand that comparisons of service delivery models have not typically been an object of study via CER, we believe that applying CER to palliative care models would yield important and actionable information that is critical for informing efficient, higher quality late life care. In particular, the palliative care field needs studies to illuminate best care models for difficult populations, such as minorities and nursing home patients, and to reduce health outcome disparities and inform policy debates about shaping reimbursement policies.

4) Create the infrastructure needed to carry out CER in patient populations using palliative care.

The NIH State of the Science Consensus Panel noted that research in palliative care is hampered by an under-funded, under-resourced research sector specific to palliative care. The NIH panel recommended*:*

> *"Create a network of end-of-life investigators and well-defined cohorts of patients to facilitate coordinated interdisciplinary, multi-site studies. This should include establishing new networks of end-of-life investigators as well as expanding existing networks (such as the National Clinical Trials Cooperative Groups) so they have a critical mass of end-of-life investigators and appropriate study populations. These*

[4] on Gunten CF. Interventions to manage symptoms at the end of life. J Palliat Med. 2005;8 Suppl 1:588-94.
[5] Hogan C, Lunney J, Gabel J, Lynn J Medicare beneficiaries' costs of care in the last year of life. Health Aff. 2001 Jul-Aug;20(4):188-95.

[6] Dartmouth Medical School. Center for the Evaluative Clinical Sciences. The Dartmouth Atlas of Health Care, 1998. Chicago, IL : American Hospital Publishing, 1998. http://www.dartmouthatlas.org

networks should enhance training of a new generation of interdisciplinary scientists (through funding mechanisms, such as K-awards, T32s, and R25s).”

This directly supports an existing priority of the National Institute on Aging: 05-AG-101* Data Infrastructure for Post-Marketing Comparative Effectiveness Studies.

“*The challenge is to create the data infrastructure that will enable comparisons of particular therapies, prescribing patterns, and benefit designs on health outcomes. Problems with currently available studies include omission of key patient groups (such as the elderly in nursing homes), lack of information on adherence and outcomes in polypharmacy, lack of information on outcomes across different insurance benefit designs, and lack of information on actual prescribing patterns and outcomes across regions and over time. “*

In summary, we believe that comparative effectiveness research in hospice and palliative medicine can yield many benefits for patients, providers, and our healthcare system. In the coming decades more Americans than ever will be facing their later years of life, and we must therefore ensure that these priorities are integrated within CER.
Thank you for this opportunity to participate in this inquiry. We would be happy to provide more information for clarification.

Submitted by
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Dear Federal Coordinating Council:

This statement is written with respect to the allocation of money (1.1 billion dollars) from the 2009 Recovery Act fund for the purpose of achieving Comparative Effectiveness Research.

Recommendation #1 Prioritize the End of Corporate Fraud

Research into the comparative effectiveness of medical treatments is a laudable goal, but only if it does not repeat the same errors of the past. When, in the early 1990s, medical journals, medical schools, residency and postgraduate training curricula, and health care facilities came under the influence of Evidenced Based Medicine (or EBM), the favored treatments in American medicine came to reflect the following values and priorities:

1) symptom suppression (rather than elimination of root cause of illness)
2) short-term studies (e.g., Randomized, Placebo Controlled Trials)
3) fraudulent research designs (e.g., placebo washout/lead-in)
4) concealment of data unfavorable to the interests of the drug industry
5) academic censorship (e.g., non-disclosure and confidentiality agreements)
6) distortions in the medical literature (ghostwriting, file drawer effect)
7) treatment by consensus (rather than treatment based upon science)

Each of these developments contributed to the hegemony of sham standards of care.

Effectiveness Research will be meaningless if it repeats these errors of the past.

Recommendation #2 Focus Upon Basic Science and Biology

The current system for approving new medications and medical devices emphasizes proof of efficacy in principle, *rather than proof of effectiveness in fact*. This system has given rise to the introduction and widespread use of one, after another, copycat therapies based upon dubious definitions of benefit (e.g., checklists of subjective symptoms in psychiatry; measurements of "risk factors" and surrogate endpoints as substitutes for real progress in ameliorating the symptoms of chronic disease). Most critically, the past 20 years of American medicine have diverted attention away from the study of basic physiology and the mechanisms of disease.

Unless and until the treatment paradigm in American medicine returns to an emphasis upon root causes of illness and disease, and upon the eradication or amelioration of those causes, the system of healthcare will continue to reflect interventions which are largely futile for patients.

What might be done:

1) identify environmental sources of illness and map the epidemiology of risk factors and diseases related to same
[e.g., the U.S.A. needs a national equivalent of Green Cross International]

2) re-evaluate national healthcare policy with respect to HPDP
[Health Promotion / Disease Prevention]

-- verify or refute high cholesterol as the necessary and sufficient cause of heart disease

-- verify or refute the existence of cumulative safety thresholds for diagnostic radiology

-- verify or refute the long-term harmfulness of the current immunization schedule (particularly, with respect to autoimmune dysfunction, diabetes, asthma, obesity, and neurobehavioral syndromes)

-- verify or refute the long-term harmfulness of fetal ultrasound

-- verify or refute the long-term hazards of fluoridation

-- verify or refute the validity of Gallo's work, positing HIV as the cause of AIDS

[see Nortin Hadler's books: *The Last Well Person* and Worried Sick]

Recommendation #3 Prevent and Mitigate Iatrogenic Harm

The allopathic model of medicine is failing America because authorities will not acknowledge the unnecessary harmfulness of synthetic chemicals. All of the existing training programs, textbooks, Board Certifications, and treatment algorithms emphasize the use of pharmaceuticals that are based upon short-term drug trials, and short-term studies in lab animals. Yet, human subjects (at least, in the U.S.A.) are increasingly encouraged to consume multiple medications for life. This philosophy of lifetime, prescription drug dependence ignores the scientific realities of what happens to patients under the influence of chronic medication.

Unless and until health care providers, policy makers, and regulators recognize the problems of *allostatic load* (the body's adaptations to therapy which ultimately result in diminishing benefits or worsening disease) and prioritize the avoidance, amelioration, and/or reversal of *target organ toxicity*, no amount of "effectiveness research" will be meaningful.

What might be done:

1) effectiveness research must involve considerations of treatment UTILITY (Benefits *and* Hazards)

2) effectiveness research must include considerations of **Target Organ Toxicity** [e.g., how various treatments harm the diseased organ] and **allostatic load** [e.g., how various treatments induce changes in gene expression which may result in delayed but potentially long-lasting effects]

3) effectiveness research must include considerations of treatment effects upon the **environment** (e.g., xenobiotic diffusion via sewage; air pollution from hospital incinerators) and environmental effects upon treatment (proximity of treatment facilities and patients to radon, radioactive waste, Superfund or other toxic waste sites, petrochemicals, etc)

Recommendation #4 Recruit the Best Treatments from Around the World

The federal government gives lip service to the importance of research in the areas of complementary and alternative systems of health care. However, the U.S.A. has become a pharmaceutical oligarchy which permits no challenge or rival to allopathic medicine. No amount of effectiveness research will be meaningful unless and until the yoke of pharmaceutical authoritianism is broken. Ideally, effectiveness research will incorporate the "best treatments" (herbs, diet and lifestyle modification, environmental modification) from around the world.

Recommendation #5 Protect the Privacy of Patients and Physicians

Given the pervasiveness of corporate fraud and the denigration of integrity within the American health care system – particularly, as these have progressed in the era of Evidence Based Medicine -- patients and physicians require protection from harmful practices. Treatment facilities, insurance companies, and State Medical Boards mandate compliance with corporately shaped, corporately biased Group Think.
Clinicians have lost the right to practice medicine by using their best clinical judgment, informed by an understanding of basic science, direct observation, and the consideration of the unique circumstances of each and every patient.

It is extremely unlikely that America's pharmaceutical oligarchy will ever be displaced or transformed into the kind of system which serves mankind, rather than profit and power. This being so, the ***results of effectiveness research must not be allowed to infringe or violate the privacy of patient***s, nor the rights of clinicians who desire the freedom to honor the ethical principles of patient autonomy, physician beneficence, and physician non-maleficence.

What might be done:

1) patients and providers must be allowed to opt out of electronic medical records system, health care registries, and other databases where biological and social information can -- and most likely will -- be used to ration health care, restrict employment or travel, or reduce entitlements

2) patients must be protected from medical tyranny (i.e., medical blackmail --- the allocation of therapies or benefits based upon compliance with dubious and potentially harmful treatments)

3) health care providers must be protected from medical tyranny (i.e., medical blackmail in the form of Pay-for-Performance programs, "Consensus" Statements, Sham Peer Review/Disruptive Physician proceedings, etc).

Summary

Effectiveness research is a laudable goal, but only if it is conducted in a way which avoids the tragic errors of the past (i.e., the corporate medical fraud which has gained traction under the influence of EBM, the Daubert decision of 1993, the Prescription Drug User Fee Act, the Bayh-Dole Act, Direct-to-Consumer Advertising, etc), and only if it anticipates new challenges of the future.

Particularly in the context of emerging technologies (brain mapping, gene mapping, high-speed information exchange), there will be ever more opportunities for the leaders of allopathic medicine -- and for the leaders in government -- to enslave, rather than to serve, the providers and consumers of health care.

Ultimately, effective health care must also be ethical health care. This will require a return of integrity in the conduct of American medical research. It will also require a health care system which prioritizes the delivery of services that are consistent with fundamental human rights, and with the human species' duty to protect (rather than to plunder) the planet's biosphere.

Thank you for the opportunity to contribute these ideas and opinions.

Submitted by
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I write to day to express my concern about the impending termination of the Partnership Program of the Cancer Information Service as of January 2010. I am especially concerned given the current stimulus package opportunity to maintain the community infrastructure and employment of a cadre of highly trained cancer control specialists. The stimulus package provides a unique opportunity to maintain this effective and high quality program in the community during your planning process to determine the future initiatives to translate science into practice and address health disparities.

Given the historical mistrust of researchers and federal government by minority communities, and the fact that these same communities bear a disproportionate share of the cancer burden, we simply cannot afford to purposely cause a break in the relationship between community organizations and the National Cancer Institute. The current plan to "pause" and reconsider the paradigm is high on risk and has no reward when taken in the context of community partners.

The translation of science into practice is the logical end-point for bench science. It is also the beginning point for public health practice. Both researchers and practitioners must engage in this natural shared responsibility. Community partners – whether they are churches, clinics, health departments, or local cancer control coalitions – need the expert, unbiased guidance and support of the Partnership Program in order to target audiences, select or adapt programs, implement and evaluate evidence-based programs, and plan strategically for the future. This is difficult work, and work that cannot be done solely via electronic media or avatar.

I understand that other Partnership Program models could potentially be more effective or efficient but the truth now is that NCI is the current sole custodian today of the trust between minority communities and NCI. And although NCI supports a number of projects via grants, none provide ongoing, comprehensive coverage throughout the United States. As such, NCI needs to maintain an ongoing presence and some level of face-to-face, personal engagement with minority and rural communities until a new paradigm can be designed, procured and implemented.

Specifically, I strongly urge you to implement these policy actions:

1. Implement a transition strategy where current Centers are funded through stimulus dollars at a level sufficient to maintain these core functions:
   a. link NCI to community organizations
   b. link communities to NCI
   c. build capacity of community organizations to interpret, adapt and implement evidence-based programs
   d. communicate future plans of NCI in such a way as to promote the community's acceptance and trust
   e. facilitate a smooth transition to new model(s)

2. Incorporate local community organization leaders into the redesign process, not just representatives from national organizations (e.g., community health workers, community development corporation leaders)

3. Accelerate the planning process as much as possible so a new procurement process can avoid missed opportunities to innovate in the field.

To be certain, community trust is the prime concern here. Yet, there is one other concern I believe to be important.

The current workforce of the Partnership Program is a unique and valuable part of our country's infrastructure. In these times when local and state health departments, as well as voluntary associations and other non-profit organizations, all across the country have hiring freezes or some combination of furloughs and lay-offs, we simply cannot and should not weaken our already fragile public health workforce. I believe my suggestion of funding Centers so that core functions may be maintained until the next iteration of the Partnership Program is in place will serve to minimize the short-range harmful impact on the workforce.

In addition to my practical, low-cost policy suggestions, I have several important questions:

(1) I would like to have a copy of the full evaluation results of the Partnership Program evaluation that was conducted about a year ago and included community collaborator feedback;

(2) I would like to have concrete action steps that demonstrate NCI's commitment to "community trust" that go beyond the study group

(3) I would like to know why NCI thinks a gap in service to community and the loss of 80-100 jobs is acceptable when one looks at the effort and investment in saving and creating jobs through the Recovery Act.

In closing, given the recent historic investment in Economic Recovery Act, NCI has the mandate to uphold its responsibility to community partners and make preservation of this part of the public health workforce a high priority. You can do this by taking the steps I have suggested in this correspondence.

This is an important leadership opportunity.

I look forward to your response and action to implement these recommendations.

Submitted by
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Thank you for the opportunity to comment. I am Secretary of the Community Health Worker (CHW) interest group of the American Public Health Association. I was also a principal author of HRSA's CHW National Workforce Study (2007) and convened an invitational conference in 2007 to draft a national research agenda on CHWs.

I strongly recommend that your plans include significant studies of the cost-effectiveness of CHW interventions. Past studies suggest a great potential for CHWs to reduce total costs for programs such as Medicaid, Medicare and SCHIP but the data are limited. There has been increasing interest in CHWs but policy has been slow to respond due to an inconclusive evidence base, largely due to methodological weaknesses and inconsistencies in past research. A group of leading researchers is planning a follow-up conference to recommend common metrics for CHW effectiveness and cost-effectiveness early in 2010.

CMS is currently testing CHW approaches to interventions such as excessive Emergency Room utilization (Medicaid) and diabetes self-management (Medicare) but neither initiative is rigorously studying cost-effectiveness of CHW methods. Minnesota has recently (February 2008) authorized hourly reimbursement for CHW services under Medicaid, the first State to do so. Various reports such as the IoM's "Unequal Treatment" (2002) have recommended greater roles for CHWs. The 2009 SCHIP reauthorization specifically includes mention of CHW roles in outreach and education. The recent NIH Challenge Grants announcement includes three Topic Areas which specifically mention CHWs: 05-MD-102* (Prevention of Chronic Diseases in Disparity Populations), 05-MD-105* (Health Literacy) and 09-MD-101 (Creating Transformational Approaches to Address Rural Health Disparities).

It would be helpful to all these agencies to have a coherent, coordinated interagency approach to understanding the full potential of this workforce. HRSA's Maternal and Child Health Bureau obtained private commitments of some $2 million for a large scale CHW cost-effectiveness study in 2000-2001 but the project was cancelled by the incoming Administration. The present economic recovery appropriation is an ideal vehicle for such an investment.

I would be happy to provide further information and contacts.

Submitted by
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Good evening:
On behalf of Bayer HealthCare Pharmaceuticals Inc., we are writing to notify the Council and the Office of the Secretary that we intend to submit a written statement for consideration regarding comparative effectiveness research.

We understand from the Federal Register notice published on April 10, 2009, that interested persons registering for the public meeting on April 14th notify the Office of the Secretary of their intent to submit a written statement for consideration by the Council. Although we are not submitting our comments at this time, consistent with the information in the Federal Register notice, we write today to notify the Council and the Office of the Secretary of our intent to do so in the near future.

Please let us know if you have any questions in the interim.

Submitted by

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California Office of Statewide Health Planning and Development

Mark B. Horton, M.D., M.S.P.H.
Director
California Department of Public Health

States and local jurisdictions, with Medicaid, SCHIP, public health and a variety of other programs, will directly benefit from the results of Comparative Effectiveness Research.

Given these potential benefits, it is critical that the priorities of state and local jurisdictions be given consideration in evaluating various Comparative Effectiveness Research strategies. For example, many jurisdictions, such as California's Medi-Cal program, have on-going

investigative agendas designed to improve program effectiveness that can be considerably amplified by Federal support. Such efforts would extend beyond purely clinical protocols to include the evaluation of public health, community-based, and behavioral strategies that may enhance the effectiveness of public programs.

States and local jurisdictions also have strengths and advantages that compliment Federal Comparative Effectiveness Research programs. These strengths and advantages include

functional relationships with academic partners, access to a variety of special demographic, cultural, and linguistic populations, and a direct knowledge of how potential interventions may work in their local environments.

Submitted by
Susan Hodges, President
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Maternity care, one of the largest sectors of the health care system, clearly needs the Council's attention and needs Comparative Effectiveness Research (CER) funds directed to it.

Over 4 million women give birth to over 4 million babies each year in the US. Research tells us that around 80% of those women go into labor relatively healthy, but nearly all are subjected to inappropriate practices and unnecessary medical interventions that result in high rates of complications and morbidity. Multiple organizations have compiled extensive systematic reviews of the research about many aspects of maternity care, and the evidence clearly demonstrates that much of what is done in US maternity care is unnecessary and often harmful, and very costly, resulting in poor outcomes.

We urge the Council to recognize the enormous importance of maternity care, both for the economy and for the lifelong outcomes for babies, mothers and families, and to make use of the large body of available research comparing outcomes of typical obstetric practices and protocols with the supportive care of midwives, in and out of the hospital.

The recently released report, *Evidence-Based Maternity-Care: What It Is and What It Can Do*, from Childbirth Connection in New York City (http://www.childbirthconnection.org/article.asp?ck=10575) , is the most recent and most complete analysis of the evidence relevant to birth practices. This report states that "Effective maternity care with least harm is optimal for childbearing women and newborns." It is also optimal for taxpayers, who directly pay for nearly 40% of births through Medicaid, but also for those who will need to pay for the harms that result from ineffective care, sometimes for a lifetime. The report also examines the many barriers to optimal care.

Despite spending far more on maternity care than any other country, the US has dismal outcomes relative to other developed countries high infant mortality rates, stagnant or rising maternal mortality rates, high maternal morbidity rates, high rates of preterm birth, high rates of low birth weight babies, and relatively low rates of breastfeeding success. The other industrialized countries, who spend less and get better outcomes, use midwives as primary health care providers for pregnant women, because midwives are trained to support normal (physiological, undisturbed) birth, and only refer to obstetricians those women who actually need their skills.

One example of a problem that needs attention is the record high rate of cesarean section, which cost us much more than normal vaginal births. Over 1 in 3 women now give birth by major abdominal surgery, although research shows that the benefits for mothers and babies break even

at a rate of 10 to 15%. Overuse of cesarean section is having short and long term impacts on the health of mothers and babies and will likely impact the whole health care system for years to come. Indeed, cesarean section and induction of labor are cited as factors in the continuing rise in late preterm birth, which greatly increases the risks for long term health and educational difficulties for the babies involved. Furthermore, more than 800 hospitals in the US now have policies to not allow women to attempt vaginal delivery for a pregnancy following a cesarean section, even though there is ample evidence that vaginal birth after cesarean (VBAC) is a healthier choice for the majority of such mothers and their babies.

Women can find out more about a used car than they can find out about their obstetrician or their local hospital, because only two states are required to publicly report birth outcomes and interventions for hospitals, and there is NO reporting for individual obstetricians. Combined with the lack of transparency and accountability, few women and their families are aware that most maternity care is not based on research evidence, or that where and with whom they choose to give birth are independent risk factors for whether they have induced labor, cesarean section, or episiotomy (another overused surgical procedure) and a myriad of other practices and interventions. This lack of transparency about how their providers practice and what happens in their local facilities makes finding appropriate care very difficult for women and families.

We hope CER will not only look at Comparative Effectiveness Research for maternity care, but also consider how government agencies can help the public understand the need for evidence-based practice that is so desperately needed in maternity care.

We are asking CER to look at the extensive existing evidence comparing the care practices used by midwives, who have excellent outcomes in and out of the hospital, with the care practices used by obstetricians in hospitals that result in abnormally high rates of interventions and complications. Obstetricians are extremely skilled specialists in the pathologies of pregnancy and childbirth. However, unlike nearly every other sector of health care, most pregnant and birthing women and their babies are healthy and do not need the skills these expensive specialists possess. In no other area of health care do we expect (and pay for) physicians to provide interventive and invasive “care” that is not medically indicated.

Midwives on the other hand are trained in the normal processes of pregnancy and childbirth, with an understanding about when greater intervention is needed. Most of the other developed countries with better outcomes and lower costs use midwives to attend most women and babies. Indeed, the Midwives Model of Care (see below), which provides respectful, individualized care that includes education, support, and appropriate use of technology, has been shown to not only improve outcomes overall, but to also help reduce disparities among women at risk for poor outcomes due to race, ethnicity, income-level, and other demographic factors, while reducing costs.

We urge the Council to examine the current research and work with all stakeholders, including consumer advocacy organizations and midwives, to direct CER funds toward maternity care. We also need to develop an appropriate national data set of criteria for optimal maternity care. This will allow providers, facilities, payers, and most importantly, women and their families to determine the appropriate facilities and providers that will offer them optimal care and give their

babies the best start possible.

Thank you for your attention to these very important concerns and for your consideration of the need to use Comparative Effectiveness Research to bring about better and more cost-effective care and outcomes for all mothers and babies in the US.
Sincerely,

Citizens for Midwifery Board of Directors
Susan Hodges, President
Arielle Greenberg
Carolyn Keefe
Nasima Pfaffl
Willa Powell

The Midwives Model of Care
The Midwives Model of Care is based on the fact that pregnancy and birth are normal life processes.
The Midwives Model of Care includes:

- Monitoring the physical, psychological, and social well-being of the mother throughout the childbearing cycle
- Providing the mother with individualized education, counseling, and prenatal care, continuous hands-on assistance during labor and delivery, and postpartum support
- Minimizing technological interventions
- Identifying and referring women who require obstetrical attention

The application of this woman-centered model of care has been proven to reduce the incidence of birth injury, trauma, and cesarean section.

Submitted by
Hazel H. Moran
Senior Director of Healthcare Reform
Mental Health America
Alexandria, VA
hmoran@mentalhealthamerica.net

Members of the Federal Coordinating Council for Comparative Effectiveness Research, I would like to thank you for the opportunity to provide public comment on CER and the Council's activities.

My name is Hazel Moran, and I am from Mental Health America, America's oldest and largest advocacy organization concerned with all aspects of America's mental health. In fact we celebrate our Centennial this year. Given our longstanding interest in the public's health we are the founder of the National Working Group on Evidence-Based Health Care (The Working Group), which is a collaboration of approximately 40 patient and consumer organizations, professional societies, providers and other interested stakeholders that want to help shape the initiatives in evidence-based healthcare (EBH) in order to close the gap between our knowledge

and ordinary practice. As such, I am pleased to speak on behalf of consumers and patients in support of comparative effectiveness research.

Since 2005, we have worked to broaden participation of patient groups in all aspects of EBH to improve the usefulness of this information for consumers and clinicians as well as to assure that the locus of decision making remain with the patient and his/her clinician. We focused principally on comparative effectiveness reviews and evidence dissemination as two key components of the EBH movement.

Through information exchange and engagement in public dialogue, the Working Group has emphasized the importance of balancing an understanding of scientific research with real-world clinician expertise, each individual patient's needs and history as well as their perspectives and preferences. The Working Group strives to empower patients and consumers by involving them in designing and prioritizing research, as well as reviewing evidence and contributing to its translation, dissemination and implementation. For example, Mental Health America participated in the review and dissemination of several publications including AHRQ's Summary Guides on the Off-Label Use of Atypical Antipsychotic medication and the treatment of Depression. Our involvement has been viewed as constructive and helpful we would like to continue to engage in the growing federal CER effort by helping to deepen patient involvement in CER. To generate the balanced and practical clinical evidence that the legislation envisions, it will be critical for the Council to ensure that all those conducting federal CER incorporate the patient and clinician perspective into the direction and design of CER.

The creation of new evidence and new decision support techniques to inform patient's treatment decisions offer great potential to improve care. To help realize this progress, patients and consumers can provide important support to federal CER research in three principal ways.

First, they can advise on topic selection. Second, by specifying the information they need to make decisions about their care, patients can help determine what data should be captured in CER. Third, patients can provide valuable public support for the CER dissemination and implementation.

In the Federal Register Notice for this meeting, you specifically asked for individuals making comments to respond to six questions. We would like to respond to those questions with three recommendations:

- **Create a national citizens' advisory board to help HHS** better understand the perspectives and values of the general public when designing and disseminating CER. This is critically important to make sure that the full continuum of issues are considered when making policy recommendations regarding the implementation of CER findings. A good model for this is the Citizens Council that the UK's NICE convenes.[2] NICE charges the Council with conveying the views of the public both to the Institute and to the groups that NICE commissions for appraisals and clinical guidelines.
- **Establish an explicit channel for patients to advise HHS on CER.** The FDA's Patient Representative Program is an excellent model for this kind of participation.[1] The program educates patients to be effective advisors, and then includes them on advisory boards that

correspond to their particular medical experience. HHS could similarly inform patients on some basic scientific and methodological concerns of CER and then solicit their input. Additionally, these patients must be trained and supported to effectively engage in this process. HHS should, as part of the patient advisory function, design and implement a systematic program to educate and support the patients so that they can effectively engage in these technical discussions. The establishment of an HHS Office of Patient Values and Inclusion can ensure that patients assist in all aspects of developing the systems to deliver therapies for the major medical problems we face as a nation, managing chronic disease in an era of discovery. More recognition of these patient assets is needed along with support for training and development. The establishment of such an Office can assure this.

- **Sponsor research that is designed to improve clinical decision making by both clinicians and patients.** Research that considers the individuality of health conditions and factors such as family history, individual experience in treatment and patient values and preferences is needed. Designing CER trials that mine the heterogeneity of response for identifiable sub-groups and that include outcome variables that are aligned with patient preferences should improve the clinical applicability of the work. Patient involvement in trial design would assist in improving the relevance of their findings. Integration with the developing HIT architecture should ensure that decision support tools informed by CER and systematic reviews are included in this new technology – moving knowledge to the bedside in order to craft individual treatment plans for individual patients.

Greater roles for patient advocates are essential to advance medicine in collaboration with scientists and physicians to interpret the effectiveness of therapies. Understanding the experiences of patients and the public is important to helping organizations work more effectively to evaluate and improve services. People should have the opportunity to be actively involved in shaping the organization and the delivery of health and social care services for their communities. Changes that are made to the delivery of services should be based on their experiences and views.

The National Working Group on Evidence-Based Health Care appreciates the opportunity to provide the Federal Coordinating Council on Comparative Effectiveness Research with specific comments on its activities as it relates to comparative effectiveness research. The Working Group plans to submit formal comments to the Council with further detail on our recommendations.

Submitted by
Perry D Cohen, Ph.D.
Director, Parkinson Pipeline Project
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My diagnosis with Parkinson's disease 13 years ago directed my life toward developing new roles for patients in medical research and health care. Previously, my doctoral level business school education focused on systems analysis and organizational development and 20 years experience as a management consultant gave me wide exposure to health care and medical research at all levels and with many vantage points. What I did not already know about dynamic systems approaches to management of quality service systems, I learned from active participation in the IOM roundtable on evidenced based medicine, which has detailed the concepts of "learning health systems." These pathways to transform health care provide a context for CER priorities. In earlier priority setting comments I have focused on the role of the patient with serious chronic illness as distinct from the role of consumer with interests in public safety, and suggested that patients empowered by IT via information access and networking with peers are underutilized in our provider oriented delivery system.

My vision for future learning health care systems puts an emphasis on the role of disease oriented sub-specialists as leaders and educators to not only conduct rigorous randomized controlled studies for regulatory approval, but at the same time to provide the 'academic detailing' for community doctors in the context of clinical trials in continuous processes of introducing new therapies (medical innovation). The focal point for from medical research to health care is the community network of providers who treat chronic diseases like PD and provide the bridge to link innovation and quality in knowledge transfer both ways between the sub specialist academic knowledge leaders and the patients

Patients and their doctors will be involved in the system by aggregation and incorporation of electronic medical records (EMR) of physicians and personal heath records (PHR) of their patients into a data base or a distributed network of data elements that will enhance the available information for both doctors and patients through regular updates of data and downloading of research findings as they become available. Issues of privacy and identity will be addressed and ways to enhance communications between doctors and patients will be tested. Data generated will be available for tracking safety over the life cycle of a medical product, quality and utilization management, as well as observational research and other patient oriented activity. Problems of implementation of IT solutions and managing the change process can be addressed through demonstration projects.

In spite of the promised benefits to both cost and quality of medical care, US providers have been slow to adopt these information technologies. The ARRA recognizes the lack of incentives for participation and allocates major funding to buy cooperation from reluctant providers. Care must be taken in implementation of such an approach that we do not merely automate our sub-optimal system. The way to avoid this is to pay for creation of system improvements as well as incentives for providers.

Key among the system improvements, especially given the immediate scale-up of activity

necessary to provide short-term economic stimulus through longer term investments in technology is to enhance the roles of patients and patient advocacy organizations to keep policy decisions focused on patient relevant goals, and enhance the capabilities of these organizations to evaluate and use these technologies. This human resource capacity development will be necessary to gain the trust of patients being asked to share their case history for the common good regarding maintenance of privacy and confidentiality of personal data that can be used against them. Disease specific patient advocacy organizations are among the few kinds of organizations that are trusted by patients to represent our interests faithfully in the execution of privacy and confidentiality standards. The establishment of trust of patient groups should be a major criterion for the designation as a gate keeper to control the collection and aggregation of patient data, whether the patient organization elects to take on this role itself or endorse a third party with greater technical capability. Our experience with implementation of advanced telecommunications networks over the internet indicates that even large non-profit mission-driven advocacy organization generally lack the technical skills and IT capacity to perform the transactions necessary to maintain the data flows required to make optimal use of the data. These facts point to high priority investments in infrastructure development effort up front to enhance the capacity of patient organizations to understand the value and manage the powerful HIT tools expected. Existing coalitions of patient groups, such as the Working Group that have been set up to represent patient interests are ideal for this development activity

Experience from the unintended consequences HIPPA, designed to protect patient privacy, illustrate the difficulty to pre-specify all the special cases where the rules do not apply or have negative effects. Training and development of patient organization boards and executive staff about how to evaluate the HIT implementation plans, including case examples, for their decisions regarding endorsement to their members and their own role in as gatekeeper to represent interests of their constituents

Similar to the key role of patient organizations to make the on-going judgments about standards for data exchange and aggregation, trustworthy input from specialty professional organizations with expertise to define and update knowledge structures, and validate results from aggregate data is necessary to make this process credible and meaningful. Investments in human resources and expertise to manage processes for gaining consensus on technical issues among specialty doctors and patients are necessary to make the systems adaptable over time.

Submitted by
Karen E. Howard
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American Association of Naturopathic Physicians (AANP)
Washington DC
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The American Association of Naturopathic Physicians (AANP) applauds the Obama administration for its commitment to outcomes research and determining best practices. We recommend that this perspective include the evaluation of alternative systems of healthcare. While conventional medicine's focus on treatment of disease has produced many benefits—especially in acute and life-threatening conditions, its effectiveness for the treatment of chronic

disease or the promotion of health is limited. This failure has been a major cause of the out-of-control healthcare costs plaguing the nation.

We propose a project that tests a new model of primary care; one that incorporates the best of what both conventional and complementary and alternative medicine can offer and focuses on prevention, health promotion, and treatment of the whole person. This project involves taking advantage of health information technology and electronic medical records in a practice-based research network (PBRN) containing both conventional and naturopathic medical practice. This PBRN will provide a laboratory to compare "real world" effectiveness and cost-effectiveness, initially in the area of type 2 diabetes.

There is at present a severe shortage of primary care physicians. A number of proposals have been put forth as to how to fill that shortage and many of these are aimed at increasing the number of medical students going in to primary care. However, there are also a number of proposals to utilize the skills of other licensed healthcare practitioners and expand access to patient-centered primary care in both federally funded and private health care offerings—e.g., naturopathic doctors (NDs), nurse practitioners, physician assistants, and health coaches.

Naturopathic medicine is a system and philosophy of medicine that has been in use for over 100 years. The AANP represents licensed naturopathic physicians who are trained at fully accredited four-year residential medical programs. Graduates of our medical schools serve as primary care physicians and have the same training in the basic and clinical sciences as conventional medical doctors. In addition, NDs receive training in a variety of core treatment methods including nutrition, botanical medicine, homeopathy, pharmacology, physical therapy, and minor office surgical procedures. Some licensed naturopathic physicians are also trained in traditional Chinese medicine, acupuncture and Ayurvedic medicine as well as clinical specialties such as natural childbirth. Therefore, naturopathic medicine and NDs provide the ideal laboratory to test a complement to the present primary-care-deficient model of health care.

Researchers at naturopathic academic clinics initiated a practice-based research network (PBRN) and are proposing to expand this network in collaboration with Oregon Clinical and Translational Research Institute (OCTRI) at Oregon Health & Science University (OHSU), Kaiser Permanente, and the University of Washington School of Public Health. The PBRN will also include a number of naturopathic private practices. The data coordinating center will be the newly established center for clinical informatics at the Helfgott Research Institute, National College of Natural Medicine (NCNM). EMR systems compatible with the data in the OCTRI data warehouse will be implemented at participating naturopathic institutions and practices. The EMR system under consideration is EPIC, the same system as used by OHSU, Kaiser and University of Washington clinics. The Helfgott clinical informatics center will coordinate system and coding compatibility among the ND agencies and OCTRI. It will work with OCTRI to securely archive the growing database while making de-identified and customized datasets available to researchers. The proposal calls first for retrospective and pilot prospective studies to test the feasibility of protocols based on an informatics approach to naturopathic medicine outcomes research and to characterize the populations before going on to more definitive study. If there are positive results with comprehensive treatment, the treatment and the outcomes data can be examined for factors associated with improvement.

We propose as our initial disease focus to study type 2 diabetes (T2D). T2D is epidemic and often inadequately controlled (only 37% in adequate glycemic control) by approved treatments. Nearly half (47.9%) of US diabetes patients also use complementary and alternative medicine (Garrow & Egede 2006; Yeh, Eisenberg, Davis & Phillips, 2002). The Diabetes Prevention Program (DPP) conclusively demonstrated that diet and lifestyle changes could prevent diabetes more effectively in a susceptible population than metformin (58% reduction in incidence versus 31%). The DPP lifestyle intervention used lifestyle coaches and a focus on weight loss and exercise, and although it proved less expensive per case of diabetes prevented than pharmacological management alone, it still presents a substantial cost to implement. ND practices will be used to test modifications to this model that include a primary care setting allowing diabetes prevention to be incorporated into patients' overall focus on health. It may be even more effective, e.g., through the inclusion of nutritional supplementation (Bartlett & Eperjesi, 2008; Farvid, Jalali, Siassi & Hosseini, 2005; Bonnefont-Rousselot, 2004)), and potentially, more cost-effective.

Diabetes is paradigmatic of endemic chronic diseases for which NDs have specified well rationalized treatment protocols of which the elements, individually, show promise but which have not been tested in combined practice. A pilot comparative effectiveness study of naturopathic medicine in T2D is currently underway in Seattle.

It is also important to stress that this PBRN can be used to test components of primary care that can also be incorporated into conventional practice. Diabetes is an important chronic condition but is only one of many conditions toward which the informatics-based research infrastructure that we propose can be targeted. Once the system is established for diabetes, it can be extended to any health condition. For prevention studies, long observation periods will be required and the informatics system developed under this proposal will be in place for such studies. The functions of the naturopathic PBRN and its data coordinating center will include recruitment of participating NDs, aiding in the selection and implementation of EMR systems, prioritizing research questions and developing research protocols, facilitating ethical approvals as well as the extraction, compilation, analysis and archiving of naturopathic clinical and economic data parallel to standard conventional medical data.

Summary

We propose the establishment and funding of a PBRN that includes both conventional and naturopathic primary care physicians to act as a laboratory to test components, approaches and models of primary care that can include the best of what conventional and complementary and alternative medicine have to offer. The PBRN will initially address Type 2 diabetes, but can also be used to determine the best approaches to general primary care/family practice, pain, and other chronic disease conditions.

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Submitted by
Justin Starren, MD, PhD, FACMI
Marshfield Clinic
Marshfield, Wisconsin

Thank you for inviting me to speak today. My name is Justin Starren. I am a physician, who specializes in a field called biomedical informatics. I make my living, by researching how the availability and presentation of information to patients, physicians, nurses, and other members of the healthcare team can improve healthcare delivery with respect to its patient-centeredness, effectiveness and efficiency, timeliness, safety, and equity.

I work at Marshfield Clinic, the largest private group medical practice in Wisconsin, one of the largest in the United States, with 783 physicians representing more than 80 different medical specialties, 6,490 additional employees, and more than 45 locations spread across over 25,000 square miles. The reason that I left my position at Columbia University in New York, three years ago, is that over the past 40 years, on its own, Marshfield Clinic developed and acquired sophisticated tools, technology, and other resources that complement and support the population health management mission and strategy of the Clinic. These include an electronic medical record, a data warehouse, an immunization registry, a telehealth network, and an epidemiological database that enable research studies of both the effectiveness and cost of healthcare interventions. All of these components together comprise our electronic health record (EHR). Our electronic health records go back to 1960 and contain 9.1 million patient-years of data. In 2007 we closed the last of our paper chart rooms and are now essentially paperless.

The fact that we are essentially paperless was not our goal we have proved beyond a shadow of doubt that an effective electronic health care record partnered with the right clinical care systems allows us to achieve the “holy grail” of comparative effectiveness research: to improve our quality of care while simultaneously reducing costs. And if you have doubts, which you should, simply ask CMS about Marshfield clinic's performance in the Physician Group Practice Demonstration Project.

The reason I am speaking to you today is to strongly encourage you, as you look at comparative effectiveness research, to include the evaluation of the comparative effectiveness of different types of EHR-mediated interventions. I feel compelled to speak about this for two main reasons: (1), my concern about the narrowness of CBO's definition of comparative effectiveness; (2), my concern that people are considering the value of electronic health records without understanding the totality of what an effective system does for the healthcare delivery team, from patient to physician.

The CBO defines comparative effectiveness as "a rigorous evaluation of the impact of different options that are available for treating a given medical condition for a particular set of patients."

Practically, this is interpreted to mean drugs, devices and surgical procedures. I fully support the notion that this research requires rigorous evaluation. But we need to expand this definition to include electronic interventions that are only possible through an EHR.

Most of acute healthcare delivery today occurs at hospitals which serve as a nexus of multitudinous, complex, competing, reactively configured, poorly coordinated processes, directed toward a person, who in this context, represents a complex, physiologically unstable (acutely ill) organism. Furthermore, this care is delivered by a team whose membership not only changes by the hour and whose members are frequently unfamiliar with each other, and consequently who operate under wide ranging assumptions about the status of the patient and their role in at patient's care. In short, poorly informed patients are being treated with poorly informed processes administered by poorly informed nurses directed by poorly informed physicians, supported by poorly informed laboratory, diagnostic, and pharmacy services. Unless we address this context in an energetic, direct, and rigorous manner the benefit of knowing the most effective treatment for a medical condition in a given set of patients will be severely limited.

The context of preventive and subacute healthcare delivery is not any better. This portion of healthcare delivery occurs in an ambulatory care environment that is characterized by competing provider organizations, who incompletely share information about patients. Information that requires expertise in using a highly specialized vocabulary and set of concepts that frequently intimidates patients and their families, without imparting much understanding, let alone the ability to communicate that information to multiple providers.

Healthcare delivery cries out for applied research, comparative effectiveness research that evaluates the impact of different options for providing timely, accurate, understandable and actionable information to all members of the healthcare team, from patient to provider. Hence, my concern that many who are evaluating the value of electronic health records in the context of healthcare delivery reform do not understand the totality of an effective electronic health record.

We are not talking about the importance of an electronic version of the written medical record. We are not talking about a bridge from the billing system to the clinical care system, which is where many of the commercial electronic health records started. We are not talking about an electronic tool that provides non--essential convenience to patients or providers. Quite frankly, the current national discourse on value of EHRs at the level of asking whether “EHRs improve quality and reduce cost.” This is equivalent to asking whether “drugs” treat “disease.” From comparative effectiveness research we know that optimal care is only achieved if we:

- Know what disease we are treating;
- Choose the right drug;
- In the right dose;
- Administered at the right time; and,
- Delivered through the right route.

We also know that if we get any of those factors wrong, we may not only fail to cure the patient, we might make them worse.

The same is true of EHRs. There are many different EHRs on the market. Each one can be configured in many different ways.

At this point, the literature on the impact of EHRs is largely anecdotal. It has been well demonstrated that some electronic interventions at some institutions improve quality. In other setting, seemingly similar interventions show no effect. There have also been widely publicized cases where the quality of care was negatively impacted. Unfortunately, the current state of our knowledge of the interaction between EHRs and quality is analogous to the days when most medical journal articles were single case reports or small series.

By using and integrating EHR tools into rationally designed care and care measurement processes, Marshfield clinic, through it's participation in the CMS PGP Demonstration Project saved CMS over $25 million in the first two years of this demonstration, while meeting or exceeding 27 out of 27 possible quality metrics. We are just scratching the surface of what can be done.

Instead, the national discourse on EHRs and health care quality should be focused on what are the attributes and relative value of electronic systems and tools that effectively and efficiently capture clinical data; provide decision support at the point of care; help convey true understanding and meaning to patients about what they are experiencing; assists patients in making truly informed decisions about their health care; in a manner that engages its patients in a way that motivates advancement of healthy behaviors; and, the nation understanding the performance of our health care system in rightly caring, in an effective, efficient, and compassionate manner for its citizens.

Submitted by
Marcie Granahan
CEO
United States Psychiatric Rehabilitation Association
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Dear Sir or Madam:

On behalf of the United States Psychiatric Rehabilitation Association, I would like to submit the following statement for consideration by the Federal Coordinating Council on Comparative Effectiveness Research.

Psychiatric rehabilitation principles and psychosocial supports have been successfully employed for more than 30 years to bring about recovery in individuals with mental illnesses. Psychiatric rehabilitation, including such modalities as supported employment, supported education, and assertive community treatment, have assisted individuals to live a meaningful and satisfying life in the community. Psychiatric rehabilitation promotes recovery, full community integration and improved quality of life for persons who have been diagnosed with any mental health condition that seriously impairs their ability to lead meaningful lives. Psychiatric rehabilitation services are collaborative, person directed and individualized. These services are an essential element of the health care and human services spectrum, and should be evidence-based. They focus on

helping individuals develop skills and access resources needed to increase their capacity to be successful and satisfied in the living, working, learning, and social environments of their choice.

USPRA would like to see a portion of the $400 million in funding for the National Institutes of Mental Health allocated to comparative effectiveness research on crisis residential services as an effective alternative to psychiatric hospitalization. Current studies in this area suggest crisis residential services result in more successful outcomes and a quicker return to the community than traditional psychiatric hospitalization. In addition, USPRA recommends comparative research is developed to examine the degreed to which psychiatric rehabilitation services reduce the use and cost of hospitalization and medication.

Thank you for your consideration.

Submitted by
Alan Mertz
President
American Clinical Laboratory Association
Washington, DC

I am Alan Mertz, President of the American Clinical Laboratory Association. ACLA members develop and perform laboratory testing providing physicians with information that is central to the prevention, diagnosis, treatment, and management of virtually all disease. Laboratory testing provides critical information in 70% of health care decision making, yet spending on laboratory services accounts for less than 3 % of U.S. national health care expenditures.

Laboratory testing is one of the most cost-effective components of our health care delivery system. For example, consider that a *six dollar* glucose test is the primary screening tool for prevention and/or early diagnosis of diabetes – a disease left undetected and untreated that will cost tens of thousands of dollars and untold suffering. While more complex genetic and molecular tests cost more, they often have an immediate substantial benefit for prevention, targeted treatment and management of disease.

There is growing interest in better evidence to support relative benefits and risks of alternative interventions used to treat particular health problems, to drive more efficient use of limited health care resources. Proponents contend that such evidence can contribute to more efficient use of limited health care resources. Although the greater emphasis of CER by far has been on therapeutic modalities, laboratory testing is integral to CER. Laboratory values are essential in CER, including identifying patients to be studied in CER of therapeutic interventions (e.g., to be enrolled in clinical trials or for other prospective or retrospective studies) and for quantifying baseline characteristics, assessing intermediate outcomes, conducting subgroup analyses, and more. You cannot measure the comparative effectiveness of treatments & outcomes for the major chronic disease cost drivers (heart disease, diabetes, cancer, kidney, etc) without utilization of laboratory services. In fact, studies have shown that lab testing is underutilized for these diseases. Other key considerations for CER are the availability and use of laboratory testing data in registries, claims databases, electronic health records, and other sources. There is also increasing interest in CER of diagnostic technologies, with some attention to laboratory

testing. Certainly, some of the new, genomic-based tests could become subject to CER themselves.

An important consideration of CER involving laboratory testing is the relationship between CER, which is typically a population-based form of inquiry, and personalized medicine. Based on growing knowledge about inter-individual genetic variation that influences drug selection, laboratory testing is helping to determine how specific patients are likely to respond to a given drug. It is of significant importance that as CER develops, it will not diminish or counteract progress in personalized medicine, but be able to integrate protocols and study technology that will accelerate this new frontier of medicine.

Another caution -- comparative effectiveness will be a failure if it looks at health care spending in individual silos and uses short time horizons. Comparing different laboratory tests without looking comprehensively at the "costs" (in dollars, health, and quality of life) of failing to prevent or diagnose disease early is bound to be a disaster. If CE looks only at a 5-10 year horizon, the cost of the tests and resulting preventative treatments might look high. Early screening, prevention, early diagnosis, and effective early treatment using the best technology available sometimes costs a more in the shorter (or even medium) term than doing nothing. It will be an error if CE programs stifle these approaches by limiting options and care. Continued innovation requires adequate reimbursement of the current technologies to finance research on the new technologies.

I hope you agree it is important for the clinical laboratory industry to be part of the equation in CER programs. We stand ready to support your efforts in all ways possible.

Submitted by
John D. Shaw
President
Next Wave
Albany, NY
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Our major recommendation is to move beyond traditional approaches and define comparative effectiveness as the approaches that yield actual improvement of quality on the ground, not simply more standards that take 17 years to implement.

Next Wave is one of 165 Supporting Organizations for **Stand for Quality.** To paraphrase function 6 in its recently released report "Building a Foundation for High Quality, Affordable Health Care: Linking Performance Measurement to Health Reform" - Comparative Effectiveness Measurement should not an end unto itself. An appropriate role for the HSS Office of the Secretary is to support evaluation of how best to get the tools developed by NIH and AHRQ into routine use by practitioners in their daily practices.

Our current health care system does not do this well. Only slightly more than half of existing best practices are actually implemented. Simply creating additional best practices as we have

done traditionally will give us more of the same. What is needed is innovation and increased focus on non-traditional approaches that have been overlooked in bringing standards into use:

- Evaluate better ways of engaging patients in their own chronic care.
- Evaluate which types of community grass roots efforts have achieved rapid and effective implementation for their types of communities (homogenous middle class, diverse immigrant populations, rural, inner city, etc.)
- Patient centered/cross agency (e.g. health, education, environment for children's environmental health issues)

Submitted by
John C. Ring, MD
Director, Office of Policy Research and Development
American Heart Association - National Center
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The American Heart Association (AHA) and its Division – the American Stroke Association – appreciate this opportunity to inform the work of the Council on comparative effectiveness research (CER). We share with other stakeholders – Congress, the Administration, healthcare professionals, policy-makers and, most importantly, patients – the conviction that this is a very important initiative.

The Association feels that our contribution to this key discussion is apropos for three reasons:

- The AHA has 'standing' in this matter, because we represent patients confronting medical problems of massive personal importance and public scope.
    - The Association is the oldest, largest voluntary health organization having as its sole Mission the "build(ing of) healthier lives, free of heart diseases and stroke".
    - Despite considerable progress, cardiovascular diseases and stroke remains the number one and number three killers of residents of the United States. Coronary heart disease alone accounts for one in five deaths. The total direct and indirect costs in 2009 are estimated to be $475.3 B.
- AHA professional volunteers are recognized leaders in research pertinent to this consideration. Last year, the Association invested $160 M, out of $642M in total revenue on research, second only to the Federal government as a funding source for cardiovascular diseases and stroke.
- That AHA is not conflicted. The Association does not accept government funding. Our relationships with industry are limited and fully disclosed on our websites. The primary source of our funding is the individual donations of millions of U.S. residents.

We commend the Administration and the Congress for taking an essential first step in creating an effective CER enterprise.

The Association has developed a document, scheduled for publication next month in *Circulation*, that articulates our principles for CER. They are twelve in number, organized into four broad categories.

1. CER should be conducted and interpreted according to fundamental, established and accepted scientific principles. Analyses need to be disseminated quickly, clearly and effectively to a wide variety of target audiences to have the desired impact. The determination of cost effectiveness requires the same scientific rigor as the determination of clinical effectiveness.

    a. Randomized controlled clinical trials determine efficacy and safety, which forms the basis for CER; several – CASS, TIMI, NASCET, ACAS, WASID, BARI and WARSS – are all landmark clinical effectiveness trials that meet the definition of CER.

    b. Some important questions, however, must be addressed in larger, more diverse patient populations. Different types of evidence are required to do this most effectively, e.g. evidence gathered from registries and other observational studies. This type of evidence may be a better representation of 'real world practice' and is often less expensive and time-consuming to perform, but it is also subject to important methodological concerns:

        - the role of chance;
        - the impact of selection, recall and protopathic bias; and
        - uncertainty re: extent of exposure, including misclassification of data.

    c. It is essential that all stakeholders understand the limits of every type of evidence considered and that that understanding in incorporated into decision-making at every level, from the individual clinical encounter to coverage decisions made by public and private insurers.

2. The goal of CER should be to determine the **value** of an intervention for patients.

    a. Research should define the most important metric: value. Value is the change in key patient-centered variables – clinical outcomes, quality of life and patient satisfaction – per unit investment. Determination of cost-effectiveness alone is insufficient to define value and may lead to unintended consequences: adverse clinical outcomes; and limited innovation. It is necessary to compare both clinical and cost effectiveness to determine comparative value.

b. Both comparative clinical effectiveness and cost-effectiveness need to be considered in the long-term. A focus on short-term gains alone is likely to have a particularly untoward effect on the wellness and prevention agenda.

c. CER, with its focus on the application of drugs and devices already developed and approved, is compatible with innovative healthcare research. All stakeholders should support limiting the use of high-cost products that are shown to be of marginal benefit from the perspective of individual patients.

3. CER should be applied to the care of individual patients, but should not be a substitute for sophisticated clinical judgment. Priority should be given to evaluating interventions that pertain to high-volume, high-cost chronic conditions; reduction of healthcare disparities; and filling gaps in current evidence-based guidelines.

4. The CER process must be transparent, fair and accountable so that findings are credible and actionable.

   a. Structure – governance and funding – are key. It must be inclusive, comprehensive and resistant to inappropriate influence from the public or the private sector. Apparent conflicts of interest raise skepticism and concern about participation by industry, despite its constructive and necessary role in the care process. Experience with the National Center for Health Care Technology, the Office of Technology Assessment and the Agency for Health Care Policy and Research underscore that this is more than a theoretical concern. It must – knowledgably and candidly – advance and balance the concerns of the individual patient and the public's health.

   b. A larger investment in CER will be required to realize its full potential.

   c. CER should not be funded at the expense of traditional forms of research that are supported through the National Institutes of Health, other public agencies and the private sector.

The Association has applied that position statement to the six questions posed by the Council on 4-10-2009 (*Federal Register* 2009;74(68);16398-99).

1. The Council should invest in the development and application of electronic health records, scientifically sound research methodologies, and a research workforce with the necessary size and skill set. This will require consensus on balance between utility and privacy/security. The Council should quickly develop and implement a robust system of evaluation to accurately and completely evaluate the impact of this initial investment and to direct future investment.

2. Short-term gain is more likely to be achieved by focusing on identifying and leveraging existing resources. Long-term gain will result from a careful consideration of priorities, coupled with better ways of estimating savings over time. Investments – both short and long-term – should prioritize the following: high-volume, high-cost chronic conditions; health care disparities; and evidence gaps in current clinical guidelines. These are not mutually exclusive, but need to be balanced, especially in terms of managing stakeholder expectations.

3. The Federal Government has a central role to play in CER for two reasons: it provides many of the services that need to be studied; and it has both a statutory and a moral obligation to advance the public's health. Development of infrastructure and of a process for prioritization are a good place to start.

4. Efforts limited to the public sector may be easier to implement rapidly and have the scope to inform broader efforts if the process is structured as an active learning system.

    a. Particular attention should be paid to the development of unintended adverse consequences, such as increasing health care disparities or limiting innovative research.

    b. Coordination of activity within the Federal Government is crucial for maximum effectiveness, especially over the short-term; the DHHS seems well-suited to performing this coordinating function, especially given the distribution of ARRA '09 funding.

5. A crucial step in advancing the CER enterprise is the establishment of a public-private partnership with transparency in governance and funding and conducted in a manner that is inclusive and fair.

6. Two actions would increase understanding and trust within the broader community: establishment of an utterly transparent process, with realistic opportunity for public response; and a clear statement of whether or not the Federal CER enterprise will inform coverage decisions made by the Government or make those decisions itself .

Thanks you for inviting the Association to participate in today's discussion. We look forward to working closely and constructively with the Council on this important issue. These public meeting represent a good start in making use of the nation's initial, though substantial, investment in CER.

Submitted by
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The purpose of this letter is two-fold. First on behalf of Nutricia North America (Nutricia) a leader in clinical nutrition, I would like to take this opportunity to commend all of you on being selected to serve on the Federal Coordinating Council on Comparative Research. The roles you play are paramount in helping our country's ongoing efforts to improve the quality of care in a cost-effective manner.

A leader in clinical nutrition, Nutricia North America specializes in development and sale of "medical foods" and specialized orphan infant formulas for the nutrition therapy of rare genetic, metabolic, allergic gastrointestinal and neurological disorders. The term "medical food" as defined in section 5(b) of the Orphan Drug Act (21 U.S.C. 360ee (b) (3)) is "a food which is formulated to be consumed or administered enterally under the supervision of a physician and which is intended for the specific dietary management of a disease or condition for which distinctive nutritional requirements, based on recognized scientific principles, are established by medical evaluation " [1].

"Medical foods are distinguished from the broader category of foods for special dietary use and from foods that make health claims by the requirement that medical foods be intended to meet distinctive nutritional requirements of a disease or condition, used under medical supervision and intended for the specific dietary management of a disease or condition. The term "medical foods" does not pertain to all foods fed to sick patients. Medical foods are foods that are specially formulated and processed (as opposed to a naturally occurring foodstuff used in a natural state) for the patient who is seriously ill or who requires the product as a major treatment modality."

The use of food in the treatment of disease was recognized as early as the 4th century BC and was a key component of the classical Hippocratic Oath. In that version of the oath, physicians were sworn to apply dietetic measures for the benefit of the sick. More recently, the value of medical foods for the treatment of certain conditions like Phenylketonuria (PKU) has become widely accepted as a standard of care.

Over the past 20-30 years, medical foods have played an integral role as primary therapy in many genetic, gastrointestinal and neurologic disorders in infants, children and adults. For example, in individuals with PKU, newborn screening, early diagnosis and use of medical foods early in infancy has prevented permanent retardation and improved quality of life in thousands. With proper use of medical foods, individuals with PKU are now enjoying a normal high quality of living. In patients with seizures unresponsive to drugs, medical foods, as part of a special diet, have been shown to either eliminate seizures completely or significantly reduced the number of seizures per day. Regardless of these outstanding medical benefits, knowledge of the efficacy of medical foods, as a cost-effective treatment of various diseases and conditions remains minimal at best in the U.S.

While no one can deny the impact that pharmaceutical drugs like antibiotics have had on the eradication of many diseases and the overall quality of health in general, clinical nutrition (medical food) as treatment continues to wage an uphill battle against a "Pavlovian" conditioned medical philosophy of a "pill for every disease". Medical foods, as either the primary or partial therapy in managing chronic diseases remain overshadowed by large pharmaceutical companies. In all cases where medical foods are used as therapy the cost is minimal when compared to medications. We agree that there is a important role for pharmaceuticals in treatment to many disorders, but where there is a role for medical foods, they should be considered as part of the therapy.

We strongly believe that there is room for both pharmaceuticals and medical food treatments in specific diseases where medical foods can play an integral role. More importantly, we believe patients should have choices in their treatments, as long as those treatments are found to be comparable.

As such, we welcome comparative effectiveness research studies that include comparisons of medical foods to pharmaceutical drugs especially in the treatment of pediatric epilepsy, pediatric food allergy, genetic metabolic diseases, adult diabetes, and Alzheimer's disease.

Thank you for your time and consideration in this important matter. Please feel free to contact me if you have any questions. We look forward to the progress made by your committee.

A leader in clinical nutrition, Nutricia International specializes in the manufacture, marketing and (mail-order) distribution of medical foods and infant formulas for the dietary management of rare genetic, metabolic, allergic gastrointestinal and neurological disorders.

Submitted by
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Dear Council Members,

Comparative effectiveness research will realize its potential to improve the quality of health care in the United States only to the extent that it is effectively disseminated to health care providers. Even the best, most objective data needs to be actively championed in order to make sure it is heard. The relatively limited impact of the federally-funded hypertension trial known as ALLHAT is a sobering reminder of that fact.[i] A large investment in research is ultimately wasted if not matched with a proportionate investment in effectively communicating the results.

Prescription Policy Choices urges the Council to prioritize adequate funding for the dissemination of comparative effectiveness research, including determining the most effective means for educating adult professionals.

Prescription Policy Choices is a national, nonprofit, nonpartisan, educational and public policy organization which provides objective research and expertise on prescription drug policies. We have worked with many states establishing and administering prescriber education programs (also known as academic detailing). Our white paper on this topic is available at: www.policychoices.org.

Submitted by
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Good afternoon, and thank you for the opportunity to speak this afternoon. On behalf of the Friends of SAMHSA, a non-profit organization dedicated to advancing SAMHSA's mission and visibility, I will be addressing the importance of comparative effectiveness research in behavioral health.

We recognize that it is not the charge of this council to recommend clinical guidelines for health care payment, or coverage or treatment. Yet in considering the needs of populations served by federal programs and opportunities, this council will recommend how to build and expand on current investments and priorities.
We appear today to urge the members of this committee not to overlook comparative effectiveness research in the area of behavioral health. Treatments for mental illness and substance abuse disorders must be studied and evaluated. Tens of millions of people require treatment for behavioral health disorders, so therefore much is at stake when determining how best to treat this population.

The Department of Health and Human Services has rightfully received a substantial amount of funds from the 2009 Economic Stimulus legislation recently passed by Congress and signed by the President. We all know that a healthy populace is a productive one, and economic growth cannot be initiated or sustained if the workforce is not well cared for.

Unfortunately, there is much to be disappointed about as well. While many HHS agencies will benefit from the funds allocated by the stimulus bill, there has been a glaring omission. The Substance Abuse and Mental Health Services Administration (SAMHSA) is not slated to receive any funding. As a result of this oversight, it is critical that we address behavioral health when setting priorities for comparative effectiveness research. If our country is to achieve its goal of a healthier and more productive society, behavioral health issues must receive the same attention as other chronic and acute diseases.

Because the issue today is funds from the economic stimulus bill, and the monies to be spent on health in conjunction with economic growth, I wanted to place on the record the economic cost of behavioral health disorders. In lost productivity, in emergency room visits and other health costs, the price tag is hundreds of billions of dollars. Also, consider the critical education that our children are deprived of when behavioral health disorders go undiagnosed and untreated. Untreated children face the high probability of becoming uneducated. Uneducated children leads to a weaker workforce. The link between effective behavioral health treatment and economic prosperity is not, by any stretch, a tenuous connection.

There are countless numbers of health disorders and diseases that require the attention of our government. Each and every one should be addressed using only the most effective treatments and prevention strategies. Yet in setting priorities, difficult choices must be made. It is hard to ignore the sheer numbers of those that require treatment for behavioral health disorders, as it is hard to ignore the money that can be saved with effective prevention and screening strategies.

The landmark mental health and addiction parity legislation that became law late last year has shown that our government is finally willing to take the bold action needed when it comes to behavioral health. Yet more action is required. Please, do what must be done in order to ensure that comparative effectiveness research involves behavioral health. It is a tough decision, one that may be politically or socially unpopular. But the right one.

Submitted by

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The National Initiative for Children's Healthcare Quality (NICHQ) is pleased to have the opportunity to provide input to the Federal Coordinating Council on Comparative Effectiveness agenda. NICHQ is an independent, not for profit organization committed to achieving a world in which all children receive the health care they need; our focus is to improve child health by improving the quality of children's heath care, a strategy well aligned with the purpose of comparative effectiveness research. We write today to urge you to include children's health care, broadly conceptualized, in your research agenda.

In order to develop our recommendations, we convened a policy advisory group consisting of both NICHQ senior staff and key external advisors from a broad set of organizations with deep expertise in children's heath care and public policy. The committee quickly came to a number of major recommendations for the Committee's consideration:

1) At least three compelling arguments call for including children's health care as a significant focus of the comparative effectiveness research agenda:
    a. children particularly depend on public sources of funds for their health care (Medicaid, SCHIP),
    b. the consequences of poor health and health behaviors in childhood have long term, costly implications, and
    c. the research base for child health has been historically under-funded.

2) The topics for emphasis for comparative effectiveness research in child health should reflect the unique characteristics of child health and children's health care, specifically, their
    a. Dependency on others, leading to the importance of supporting parental capabilities,
    b. Rapid pace of development, leading to the key role of developmental surveillance and preventive care,
    c. Distinct epidemiology, i.e., the increasing prevalence of a few highly significant chronic conditions such as obesity and asthma and mental health, coupled with the cumulative significance of a large number of relative rare conditions, and
    d. Relative economic disadvantage and cultural diversity
3) Relative economic disadvantage and cultural diversity Considering these characteristics, the scope of comparative effectiveness for children should extend beyond the medical system to include all areas where children live, learn and grow with a focus on assessing how they can best promote and maintain child health.

4) The comparative effectiveness agenda for children should build on the excellent work of previous Institute of Medicine Committees. We recommend the comparative effectiveness research agenda draw from the pediatric priorities articulated by the IOM Committee that established

Priority Areas for National Action. Relevant child health topics on this list included:

- Care coordination (cross-cutting)
- Self-management/health literacy (cross-cutting)
- Medication management—preventing medication errors and overuse of antibiotics
- Children with special health care needs
- Asthma—appropriate treatment for persons with mild/moderate persistent asthma
- Immunization—children and adults
- Major depression—screening and treatment
- Nosocomial infections—prevention and surveillance
- Pregnancy and childbirth—appropriate prenatal and intrapartum care
- Obesity

The key points we would emphasize in considering this list are:

a) A focus on cross-cutting themes (care coordination, family and self management support).
b) Consideration of children with special health care needs as a whole, as many of the issues in management (role of family, organization of services) are cross-cutting, as are many clinical issues (e.g., appropriate use of g-tubes or muscle lengthening procedures).
c) Attention to improving birth outcomes—and, correspondingly, care in pre-conception, prenatal, intrapartum and newborn care—as these are the biggest drivers of infant and maternal mortality and responsible for substantial health care cost as well.
d) Attention to children's mental health, both preventive and therapeutic, especially given the apparent growth in prevalence and long-term implications of mental health conditions.
e) A continued focus on both prevention and treatment of childhood obesity as this is increasingly a major driver (with smoking) of poor health outcomes.
f) A particular focus on addressing conditions relevant to populations experiencing disparate health outcomes (e.g., sickle cell disease, obesity, asthma, mental health).

We also urge a broad conceptualization of comparative effectiveness research. Comparisons of clinical treatments are necessary and valuable; comparisons of models of practice, care financing, information systems, population-based strategies, and practice supports and the like are also crucially important to

arrive at a more effective health care system for children and all Americans. Parents, patients and other consumers should be involved in the formulation, prioritization and communication of this research.

We, the undersigned (CEO of NICHQ and members of Policy Advisory Committee), are extremely supportive of a strong program of comparative effectiveness research and want to make sure that children can also benefit from this new and exciting endeavor. We are available to offer advice in prioritizing areas of children's health comparativeness effectiveness with you.

Submitted by
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I marked my 10th college reunion with a miscarriage. It was my first pregnancy, and although I was well past 30, I was not remotely prepared for the physical loss, let alone the emotional one.

I flew home to the East Coast that night. When I arrived at the registration desk of a highly regarded academic medical center for a D&C the next day, I was handed an "informed consent" document typical of the period. It included provisions to the effect that excess specimens (which otherwise might be discarded) and information about me and the care I received might be used for research and that as a patient at an institution of higher learning, I agreed to this disposition. My profound grief temporarily gave way to outrage, and I marked up the document – an occupational predilection of a young lawyer regardless of distressed mental state – to allow the hospital to bill my insurance company for my treatment but not much more. I handed it back to the receptionist, who curtly informed me that I could sign the form "as is" or be denied treatment. I had no energy to put up a fight and was in too much pain to walk away, so signed a fresh copy with some vague intention to take it up again later.

Many years (and three healthy kids) later, I understand the significance of that simple consent – or really notification – process in enabling the clinical trials, health services research, and related public health activities so critical to learning about disease, developing new prevention strategies and interventions, and improving health outcomes. I appreciate that our expectation of continuous advances in science and medicine requires some measure of sacrifice. And I now recognize that it is imperative to make the best use possible of existing data and human tissue that otherwise would be discarded, especially as health care costs soar, resources disappear, and consumers, payors, and government officials increasingly and loudly demand that health care delivery and payment systems become more efficient and effective. Barak Obama pointed to the importance of health services research during his 2008 presidential campaign in his *Plan for a Healthy America*:

> One of the keys to eliminating waste and missed opportunities is to increase our investment in comparative effectiveness reviews and research. Comparative effectiveness studies provide crucial information about which drugs, devices and procedures are the best diagnostic and treatment options for individual patients. This information is

> developed by reviewing existing literature, analyzing electronic health care data, and conducting simple, real world studies of new technologies.

Congress embraced this approach in the American Recovery and Reinvestment Act ("ARRA"), appropriating $1.1 *billion* to comparative effectiveness research and establishing a Federal Coordinating Council for Comparative Effectiveness Research to "foster optimum coordination" and avoid "duplicative efforts". The legislation requires the Council, whose members were named in mid-March, to submit its first report to Congress on June 30, 2009, and in it to describe current activities and recommendations for use of the appropriated funds.

Yet we are in real danger of squandering the tremendous opportunities those funds provide to advance scientific knowledge and translate that knowledge to medical practice. Why? Because single-issue privacy hawks have succeeded in recent years in focusing public attention and concern on individual privacy rights without regard to the consequences for society. The foundational conceptions of a civil society or the common good seem almost entirely absent – or at best an afterthought – in current academic and political discourse on the "ethics" of research with human biospecimens and personal health data.

For example, the federal HIPAA Privacy Rule, which recently has been integrated in significant part and expanded upon in federal legislation through a section of ARRA titled the Health Information Technology for Economic and Clinical Health ("HITECH") Act, do not recognize research or public health activities as integral to a functioning health care system. The Institute of Medicine is just the latest organization to investigate the challenges this rule imposes to the pursuit of research and public health activities and recommends several policy changes aimed at mitigation. I have opined elsewhere that the challenges are due largely to the failure of the HIPAA Privacy Rule to recognize research as equally integral to the delivery of health care as accreditation, peer review, quality improvement, and other activities without which there is no ultimate accountability in the health care system. This failure, in turn, results in over-valuing "autonomy," a core privacy right that the HIPAA Privacy Rule is designed to protect.

To my knowledge, the cost of this construct to advancing knowledge and discovery and informing public policy has not been systematically weighed against the questionable benefits the HIPAA Privacy Rule and similar efforts bestow on individual rights. Fred Cate's brief but cogent piece delivered to the 2007 Privacy Symposium in Cambridge, *The Autonomy Trap*, explains how our overwhelming concern with individual choice or control, reflected in laws and regulations mandating various procedural protections, does not actually do a very good job serving its intended purpose of protecting substantive privacy rights. He argues forcefully that we should permit the use of medical records for research without individual consent, by recognizing the distinction between "privacy of the body – the right to refuse treatment or to choose among medically appropriate treatments – and privacy *about* the body." Quoting from Helena Gail Rubinstein's article, "If I Am Only for Myself, What Am I? A Communitarian Look at the Privacy Stalemate," 25 *Am. J. Law & Med.* 203 (1999), Cate observes that "relying on consent refuses to recognize 'in exchange for the vast improvements in medical care, a correlative responsibility on the part of the individual, as a potential consumer of health care services, toward the community. As individuals rely on their right to be let alone, they shift the burden for providing the data needed to advance medical and health policy information. Their individualist vision threatens the entire community[.]'"