



**Update on Comparative Effectiveness  
and Health Information Technology  
Legislation and Policy Developments,  
and Impact on Pharmacoeconomics**

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**MODERATOR**  
**Jean Paul Gagnon PhD, RPh**, Senior Director, Public Policy,  
Aventis Pharmaceuticals Inc, Bridgewater, NJ, USA

**SPEAKERS**  
**Diana Brixner RPh, PhD**, Executive Director, Pharmacotherapy  
Outcomes Research Center, University of Utah, Salt Lake City,  
UT, USA  
**Bryan R. Luce PhD, MBA**, Chair, ISPOR Health Science Policy  
Council & Senior Vice President, Science Policy, United  
BioSource Corporation, Bethesda, MD, USA  
**Jean Paul Gagnon PhD, RPh**, Senior Director, Public Policy,  
Aventis Pharmaceuticals Inc, Bridgewater, NJ, USA  
**Joel Hay PhD**, Professor, USC Department of Pharmaceutical  
Economics & Policy, Los Angeles, CA, USA




**Update on Comparative Effectiveness  
Legislation and Considerations  
to Ponder**

**Jean Paul Gagnon PhD, RPh**  
Senior Director, Public Policy  
Aventis Pharmaceuticals Inc.  
Bridgewater, NJ, USA



**ISPOR Health Science Policy Council  
Mission**

To advise the Society on important  
science, research and policy issues  
in pharmacoeconomics and  
outcomes research.



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The views expressed in this  
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**Talking Points**

- Legislation
- Considerations

### CE Past Legislative History

- CE offered as Frist-Clinton amendment to Medicare Modernization Act (MMA) (P.L. 108-173, Sec. 1013) in 2003
  - Purpose - syntheses of information to improve Medicare, Medicaid and State Children's Health Insurance Program (SCHIP) beneficiaries health care
- CER Act of 2008 - S.3408, Senators Baucus and Conrad, July 31, 2008
  - Purpose to advance evidence on how diseases, disorders and other health conditions can best be prevented, diagnosed, treated and managed

### CE Past Legislative History

- 2009 American Recovery and Reinvestment Program - H.R. 1
  - Comparative Effectiveness Research
    - Purpose: "Healthcare Research and Quality" - AHRQ to use funding for CER under Section 1013 of the Medicare Prescription Drug, Improvement, and Modernization Act
  - Adoption and Use of Health Information Technology (HIT)
    - Purpose: The Secretary shall, using amounts appropriated under section 3018, invest in the infrastructure necessary to allow for and promote the electronic exchange and use of health information

### Transforming the Health Care Delivery System: Proposals to Improve Patient Care and Reduce Health Care Costs

Senate Finance Committee - April 29, 2009

- Policy options for reducing costs and improving quality
  - Options would create incentives for health care providers to focus on high quality care and to closely coordinate with a patient's other doctors and providers

### Infrastructure Investments: Tools to Support Delivery System Reform - Comparative Effectiveness Research

- Finding Out What Works in Health Care -
  - Establish a long-term or permanent framework to set national priorities and conduct comparative clinical effectiveness research (CCER)
  - Establish a private, non-profit corporation that would generate and synthesize evidence with CCERs
    - Institute governed by a multi-stakeholder board
    - Institute could contract with AHRQ, the NIH and other federal and private entities to conduct CCERs
    - Free standing Institute would help maintain objectivity and minimize political influence, it would be periodically audited by the GAO

### Infrastructure Investments: Tools to Support Delivery System Reform - Comparative Effectiveness Research

- Ensuring Credible and Objective Research
  - Development of methods and standards for such research
    - Independent, expert committee charged with developing methodological standards for this type of research should be established.
    - Research could be guided by expert advisory panels or subject to a peer review process
- Transparency and Public Input
  - Public comment and input should be integral to CCERs
  - Options include:
    - Comment on research agenda, design, draft reports, priorities, and dissemination approaches
    - Peer-review of research designs and findings
    - Research findings publicly disseminated and easily understood


### Infrastructure Investments: Tools to Support Delivery System Reform - Comparative Effectiveness Research

- Patient Safeguards -
  - Institute considers patient subgroup responses to different strategies when designing/approving studies
  - Institute disseminates findings but prohibited from issuing medical practice or coverage and reimbursement recommendations
  - Create limits on the use of the research by HHS
    - Process must be transparent
    - Relies on all available evidence
    - Considers effects on beneficiary populations
    - Allows for public comment on draft proposals using the (CER) information
  - This would prohibit HHS agencies from creating a fast-track process for automatically linking the research findings to coverage or reimbursement decisions in public programs.




## Talking Points

- Legislation
- *Considerations*



## Considerations to Ponder

- AHRQ, NIH, and the Secretary will use ARRA funds to evaluate and develop comparative clinical effectiveness research (CCER) methodologies and to conduct CCERs for predetermined priorities
- ARRA investment in EMR/EHR/PHR/eRx will yield aggregated electronic data bases practitioners and researchers could search using clinical management software for CCE information
- Use of CCERs in coverage and reimbursement decision making by payers is unclear
- Issues exist around the definition of “cost” and when and how it should be used



## Considerations to Ponder

- Evidence needed on the usefulness and benefits of value methodologies for health care providers, patients, and payers
- Unclear if providers and patients know how to use CCER Guides and whether they are using them to make health care decisions
- Research needed on when CCER reports expire and should be reexamined
- Periodic monitoring or auditing of procedures and processes for conducting and using CCERs may be necessary to assure quality for providers, patients, and payers
- Focus of providers, patients and payers will be on *Value and Evidence*, not cost and efficacy



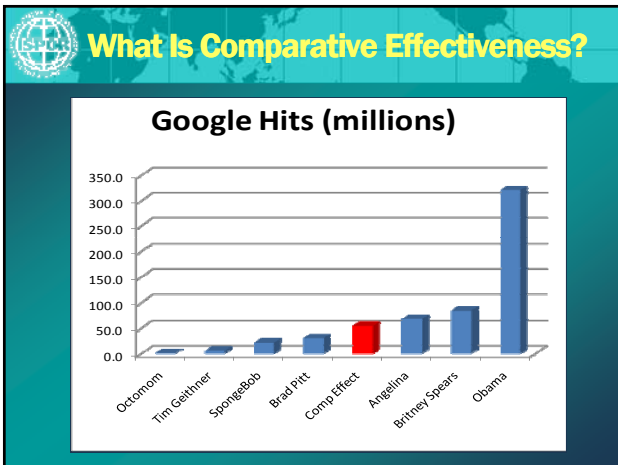
## Summary

- Policy Options
- Considerations




### What is Comparative Effectiveness, and Why Do We Need It?

**Joel Hay PhD**  
 Department of Pharmaceutical Economics & Policy  
 University of Southern California  
 Los Angeles, CA, USA



- ### Evidence is Important
- We spend \$2.7 trillion on health care annually
  - Rand estimates that 1/3 of this medical spending is harmful or useless
  - \$900 billion per year! This is larger than the Obama stimulus package

### Developing A Center For Comparative Effectiveness Information

High-level consideration of a new U.S. entity to assist in developing evidence for decision making based on effectiveness.

by Gall R. Wilensky

**ABSTRACT:** Interest in objective, credible comparative clinical effectiveness information has been growing in the United States, both by those who support competitive behavior in health care and by those who support administered pricing. The Medicare drug benefit has heightened interest in better information, although the potential payoff is even greater for medical procedures than for drugs, since procedures account for more of the health care dollar. Careful consideration needs to be given regarding the appropriate structure, placement, financing, and function of an agency devoted to comparative effectiveness if it is to achieve its objective: a mechanism to support better decision making in health care. [Health Affairs 25 (2006): w572-w580 (published online 7 November 2006; 10.1377/hlthaff.25.w572)]

**A**MONG THE MANY CONTROVERSIAL FEATURES of the Medicare Prescription Drug, Improvement, and Modernization Act (MMA) of 2003, none has caused more discussion than the provision stating that the center

- ### Evidence Eras in the US
- 1970's: Health Technology Assessment (HTA)
  - 1980's: Effectiveness Research
  - 1990's: Outcomes Research
  - 2000's: Evidence-Based Medicine
  - Of Late: "Comparative Effectiveness Research"
  - Coming?: "Payment for Outcomes"
- 22

- ### Why Don't We Know What Works?
- Current institutions under-provide such data. In terms of medical interventions, estimates of the share of existing interventions that have a solid evidence base vary, though many researchers believe the share is "well below half."
  - David Eddy, a leading advocate of evidence-based medicine, estimates the share to be as low as 15 percent.

### The New York Times

March 19, 2009  
Prostate Test Found to Save Few Lives

By Gina Kolata

The PSA blood test, used to screen for prostate cancer, saves few lives and leads to risky and unnecessary treatments for large numbers of men, two large studies have found.

The findings, the first based on rigorous, randomized studies, confirm some longstanding concerns about the wisdom of widespread prostate cancer screening. Although the studies are continuing, results so far are considered significant and the most definitive to date.

The PSA test, which measures a protein released by prostate cells, does what it is supposed to do — indicates a cancer might be present, leading to biopsies to determine if there is a tumor. But it has been difficult to know whether finding prostate cancer early saves lives. Most of the cancers tend to grow very slowly and are never a threat and, with the faster-growing ones, even early diagnosis might be too late.

The studies — one in Europe and the other in the United States — are "some of the most important studies in the history of men's health," said Dr. Otis Brawley, the chief medical officer of the American Cancer Society.

In the European study, 48 men were told they had prostate cancer and needlessly treated for it for every man whose death was prevented within a decade after having had a PSA test.

Dr. Peter B. Bach, a physician and epidemiologist at Memorial Sloan-Kettering Cancer Center, says one way to think of the data is to suppose he has a PSA test today. It leads to a biopsy that reveals he has prostate cancer, and he is treated for it. There is a one in 50 chance that, in 2019 or later, he will be spared death from a cancer that would otherwise have killed him. And there is a 49 in 50 chance that he will have been treated unnecessarily for a cancer that was never a threat to his life.

## Medicine is not Evidence-Based

### Scientific Evidence Underlying the ACC/AHA Clinical Practice Guidelines

**Context** The joint cardiovascular practice guidelines of the American College of Cardiology (ACC) and the American Heart Association (AHA) have become important documents for guiding cardiology practice and establishing benchmarks for quality of care.

**Objective** To describe the evolution of recommendations in ACC/AHA cardiovascular guidelines and the distribution of recommendations across classes of recommendations and levels of evidence.

**Results** Among guidelines with at least 1 revision or update by September 2008, the number of recommendations increased from 1330 to 1973 (+48%) from the first to the current version, with the largest increase observed in use of class II recommendations. Considering the 16 current guidelines reporting levels of evidence, only 314 (19%) of 2711 total are classified as level of evidence A (median, 11%), whereas 1246 (median, 48%) are level of evidence C. Level of evidence significantly varies across categories of guidelines (disease, intervention, or diagnostic) and across individual guidelines. Recommendations with level of evidence A are mostly concentrated in class I, but only 245 of 1305 class I recommendations have level of evidence A (median, 19%).

**Conclusions** Recommendations issued in current ACC/AHA clinical practice guidelines are largely developed from lower levels of evidence or expert opinion. The proportion of recommendations for which there is no conclusive evidence is also growing. These findings highlight the need to improve the process of writing guidelines and to expand the evidence base from which clinical practice guidelines are derived.

For more information, see the article by Ticevic et al. in the Journal of the American Medical Association, 2009;301(8):831-841. www.jama.com

## Why a Hierarchy of Evidence?

- Randomized controlled trials are the only way to estimate unbiased treatment effects
- In any observational dataset (cohort, case control, pre/post, etc.) there is always the possibility that treatment effects are biased by observable or unobservable confounders
- It is impossible to test whether the methods and variables used to correct treatment bias are correct

## RCTs Better Than Other Studies

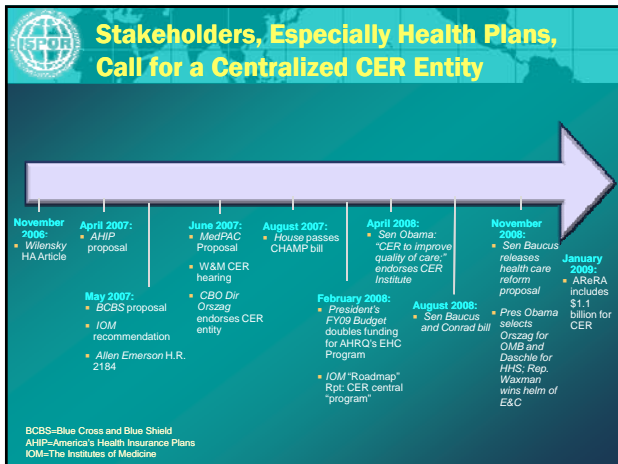
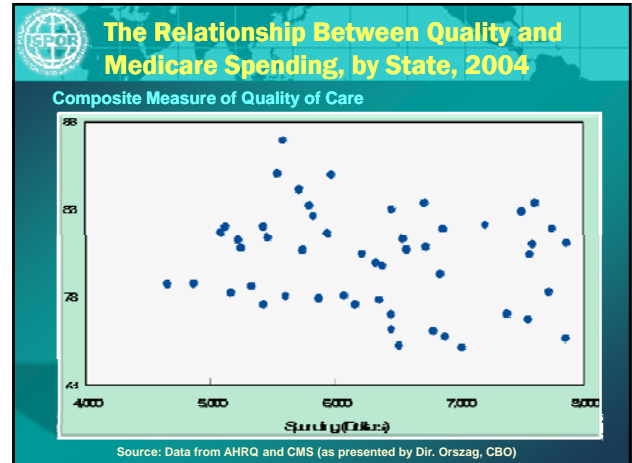
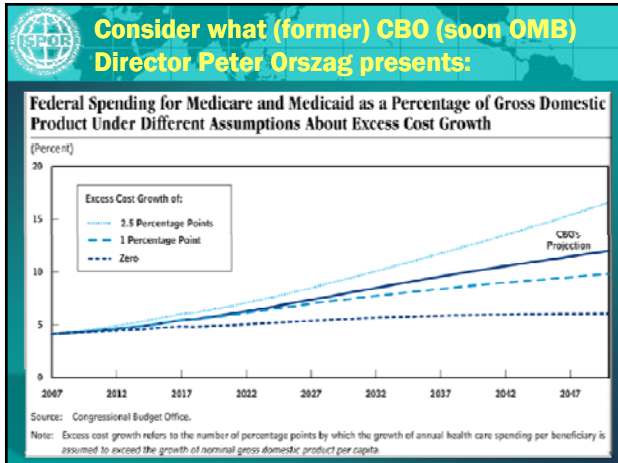
- All treatment selection methods use un-testable assumptions
  - Propensity score methods require a crucial assumption that unobservable factors are random
  - Heckman selection bias methods require distributional assumptions
  - Instrumental variable methods require IVs



## The Evidence Wave

**Bryan R. Luce, PhD, MBA**  
 Chair, ISPOR Health Science Policy Council  
 & Senior Vice President, Science Policy,  
 United BioSource Corporation,  
 Bethesda, MD, USA

Today, the US is experiencing a new "Evidence Wave."



- ### American Recovery and Reimbursement Act of 2009 includes...
- \$1.1 billion for CER efforts
    - \$300 M for AHRQ
    - \$400 M for NIH\*
    - \$400 M OS (\$1.5M for IOM priority setting)
  - Establishes the Federal Coordinating Council for CER
- \* Trial seed money!

- ### So, the Future (Relative to CER), Given...
- IOM, Payers, Clinical Leaders, Academics, Politicians all calling for:
    - Investment in evidence (generally)
    - New CER Institute (specifically)
  - Obama as President
  - HHS on board
  - Orszag as OMB

- ### So, the Future (Relative to CER), Given...
- Baucus: Senate Finance (with Conrad on board)
  - Kennedy: Senate HELP
  - Waxman: House Energy & Commerce
- in light of...*



### The Financial Crisis, with...


- Health Costs believed to big part of problem
- Evidence generation believed to important element of the solution
- Waning political opposition to new evidence policies
  - Traditional opponents somewhat co-opted as included stakeholders



### Conditional Coverage (including P40) being tested by...

- Medicare
- NICE
- Canada
- Other EU countries

*with...*




### ...Systematic Reviews by DERP, IQWiG, and Others

- Finding no direct, H-H comparisons, concluding: "no evidence of difference"

*...being interpreted (incorrectly) by some payers as...*

- Evidence of **no** difference!

*All of which means (to me)...*



### ...that we will continue to see...

- Sustained federal funding for CER to include
  - Federally-funded comparative trials
  - Investment in infrastructure (especially HIT, EMR)
  - More \$ for traditional systematic reviews/HTA activity
- Strengthening "conditional coverage" policies by CMS, and possibly major private payers
- Increased CER trial activity by manufacturers to preempt the above

*However...*



### Traditional Comparative Trials are 1) Costly; 2) Take Lots of Time, e.g...

- **Women's Health Initiative:** \$725 M; 5.2 yrs; follow up to 2010
- **ALLHAT** (Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack) Trial: \$135 M; 5 yrs
- **CATIE** (Clinical Antipsychotic Trials of Intervention Effectiveness): \$40 M; 4 yrs

*and can be...*



### Risky Ventures for Manufacturers, e.g...

- **PROVE IT** (Pravastatin or Atorvastatin Evaluation and Infection Therapy–Thrombolysis in Myocardial Infarction) trial\*
- **ENHANCE** (Effect of Combination Ezetimibe & High-Dose Simvastatin vs. Simvastatin Alone on the Atherosclerotic Process in Patients with Heterozygous Familial Hypercholesterolemia) trial

*Neither trial concluded in favor of the sponsors' products.*



## Thus...

Although the new CER evidence wave is, in large part, an enlightened approach to...


- Improve health care decision-making
- Better target medical products and HC services
- Contain costs

*...to my mind, CER trials are unsustainable without transformational change in generating evidence*



## Three Potential Transformational CER Initiatives: CMTP, CTTI, PACE

- **Center for Medical Technology & Policy (CMTP)**  
(Collaborative stakeholder and proof of concept movement)
- **Clinical Trial Transformation Initiative (CTTI)**  
(Movement to streamline operations, logistics, and regulatory inefficiencies)
- **Pragmatic Approaches to Comparative Effectiveness (PACE) Initiative**  
(Streamlining analytical...including Bayesian adaptive... methods)




## Some CER Trial Questions to Address

- How can we make maximum use of the evidence we have when designing a CER trial?
- When do we know (what is the minimal threshold) when we have “just enough” evidence for a real world (read, coverage decision maker; clinical guideline committee) decision? Is there any such thing as “ $p = .05$ ” in the real world?
- To what extent can dynamic predictive simulation reduce risk of failure? Or improve opportunity for success in designing the pragmatic trial?



## Some CER Trial Questions to Address (continued)

- Can comparative effectiveness trials be designed to evaluate heterogeneity of treatment effect; of patient preference, adherence, etc.? (Role for adaption process?)
- Can we design continuous learning trials to mirror IOM’s “learning health care system” concept? For instance, can we adapt the trial design as we gain experience in a drug’s place in therapy?



## Some CER Trial Questions to Address (continued)

- How much does cost, time and/or risk need to be decreased for a manufacturer to be willing to fund a CE trial of its product? (e.g., what is the ROI elasticity?)
- To what extent can/should Phase 3/3B be coordinated with CER needs of payers?









## Comparative Effectiveness Studies: The Value of Research and Cost Analysis to Managed Care

Diana Brixner RPh, PhD  
Executive Director, Pharmacotherapy  
Outcomes Research Center,  
University of Utah, Salt Lake City, UT, USA




### Why Comparative Effectiveness: Payers need information beyond RCTs ...

Efficacy and safety in a small population with a restricted study protocol



**GAP**

**RCTs**  
Randomized  
Clinical Trials




**Patient  
Population**

Decision makers need real world information to make health care decisions for large populations within defined budgets


← Real World Data

ISPOR Real World Task Force Draft, July 25, 2006



### What is the Role of Comparative Effectiveness?

- To provide information between alternative therapies as to which works better in actual practice
- Sources for this information
  - Patient registries
  - Head to head observational studies
  - Systematic reviews
  - Retrospective comparisons
    - Insurance claims databases
    - Electronic medical Records



### Will Comparative Effectiveness be used for Cost-Effectiveness

- This is a concern by those who believe cost-effectiveness would limit access to medications
- However, we can not conduct comparative effectiveness in a vacuum that does not consider costs
- Payers will consider effectiveness and costs




### International Society of Pharmacoeconomics and Outcomes Research (ISPOR) Letter to CBO

“If we appropriately execute comparative effectiveness studies, then the cost-effectiveness analyses that are conducted also will improve based on a more accurate denominator.”

- ISPOR Past, Current and Elected Presidents

[http://www.ispor.org/workpaper/ispor\\_comments/index.asp](http://www.ispor.org/workpaper/ispor_comments/index.asp)



### The Controversy of Comparative Effectiveness

- Supporters believe CE to be a key part of reform to improve efficiency and direct money towards the most effective treatments
- Opponents believe CE will limit patient access to medical treatment, and be used to deny needed care
- These results may indeed help save money, but the real test is how they affect patient outcomes

Kelly Montgomery, About.com, Guide to Health Insurance since 2005, Health Insurance Blog

### The Comparative Effectiveness Scenario

- If 95% of patients improve on treatment regimen A, will insurers cover treatment regimen B if it only works for the remaining 5%?
- If treatment B costs 100 times as much as treatment A, how difficult would it be to get an exception?
- Development of new approaches
  - Coverage with evidence
  - Value Based Insurance Design

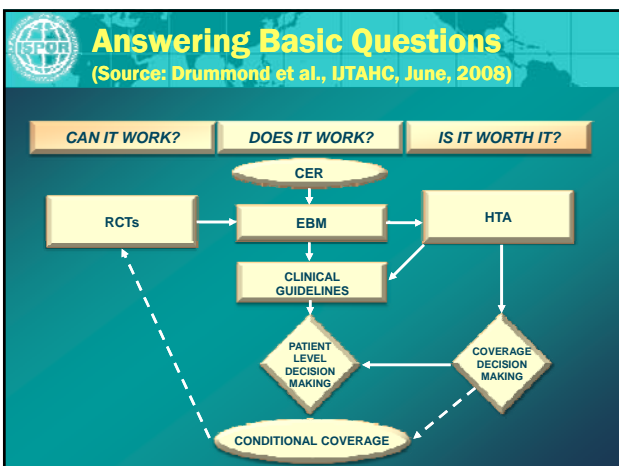
Kelly Montgomery, About.com Guide to Health Insurance since 2005, Health Insurance Blog

### Wall Street Journal: April 14, 2009

#### Push to Compare Treatments Worries Drug, Device Makers

By JANE ZHANG

WASHINGTON -- Federal health-care agencies are getting \$1.1 billion in economic-stimulus funds for research comparing the effectiveness of various treatments. But drug and medical-device makers, along with some members of Congress, say they are worried the findings will be used to limit patients' options.



### Summary

- What are MCO expectations for comparative effectiveness research?
  - Who will provide it
  - Who will evaluate it
  - How will it be delivered
- Will comparative effectiveness improve decision making?

### Summary

- Will cost be considered along side comparative effectiveness?
- How will formulary processes accommodate comparative effectiveness?

### Reaction & Discussion



**Thank you for attending**

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