

Comparative Effectiveness Research: Why Should You Care?

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Plan of talk

- The determinants of health care costs.
- What is CER and why should we care?
- Two examples of CER.
 - Predicting the impact of coronary bypass surgery on mortality.
 - A computerized handheld decision-support system to improve PE diagnosis
- Current status of CER

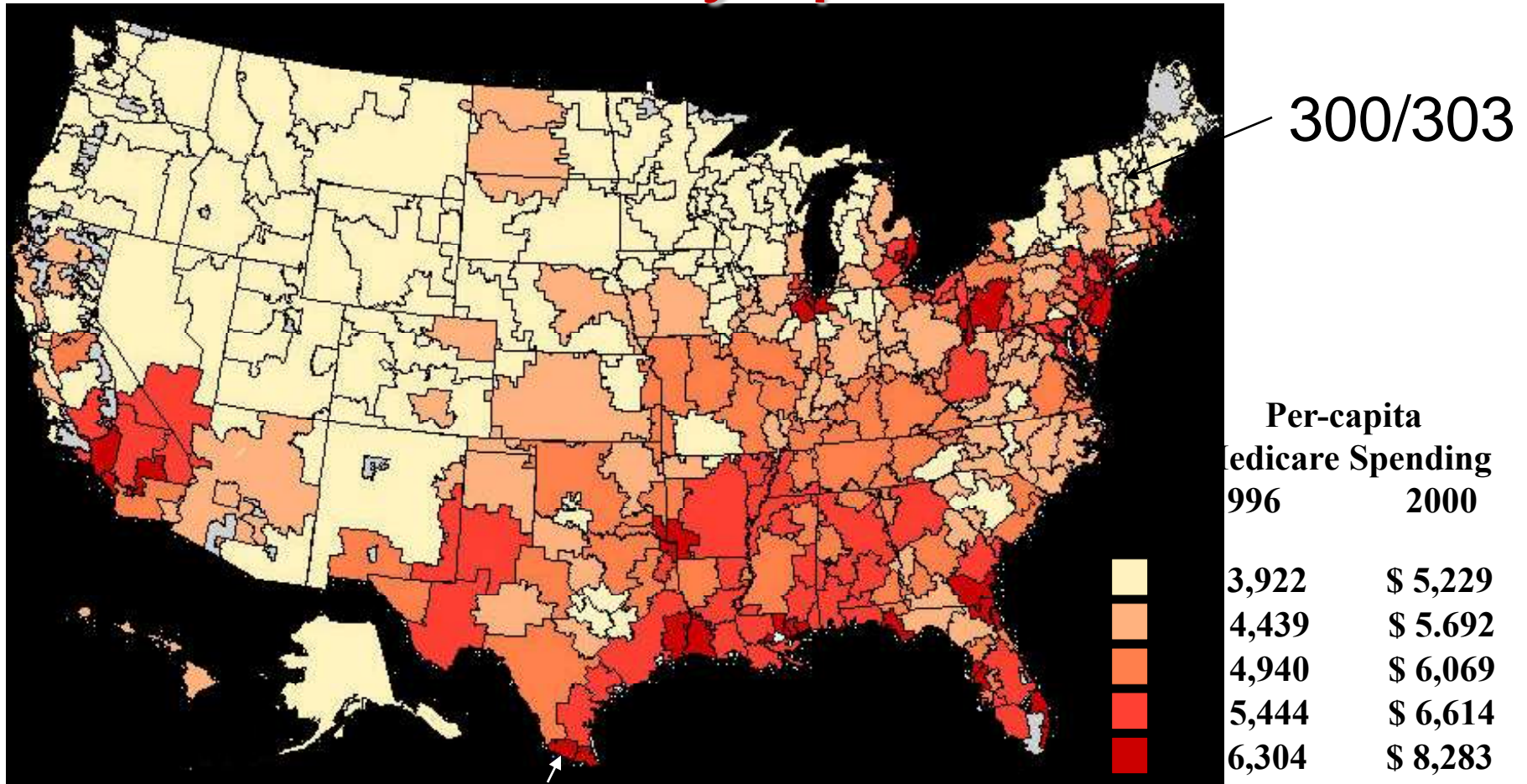
What drives the costs of health care?

- The availability of expensive technology
- Technological innovation
- High prices
- Uncertainty about effectiveness
- Profit-taking
- Imperfect markets
- Patients need; doctors decide; someone else pays.

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Per-capita spending across intensity quintiles

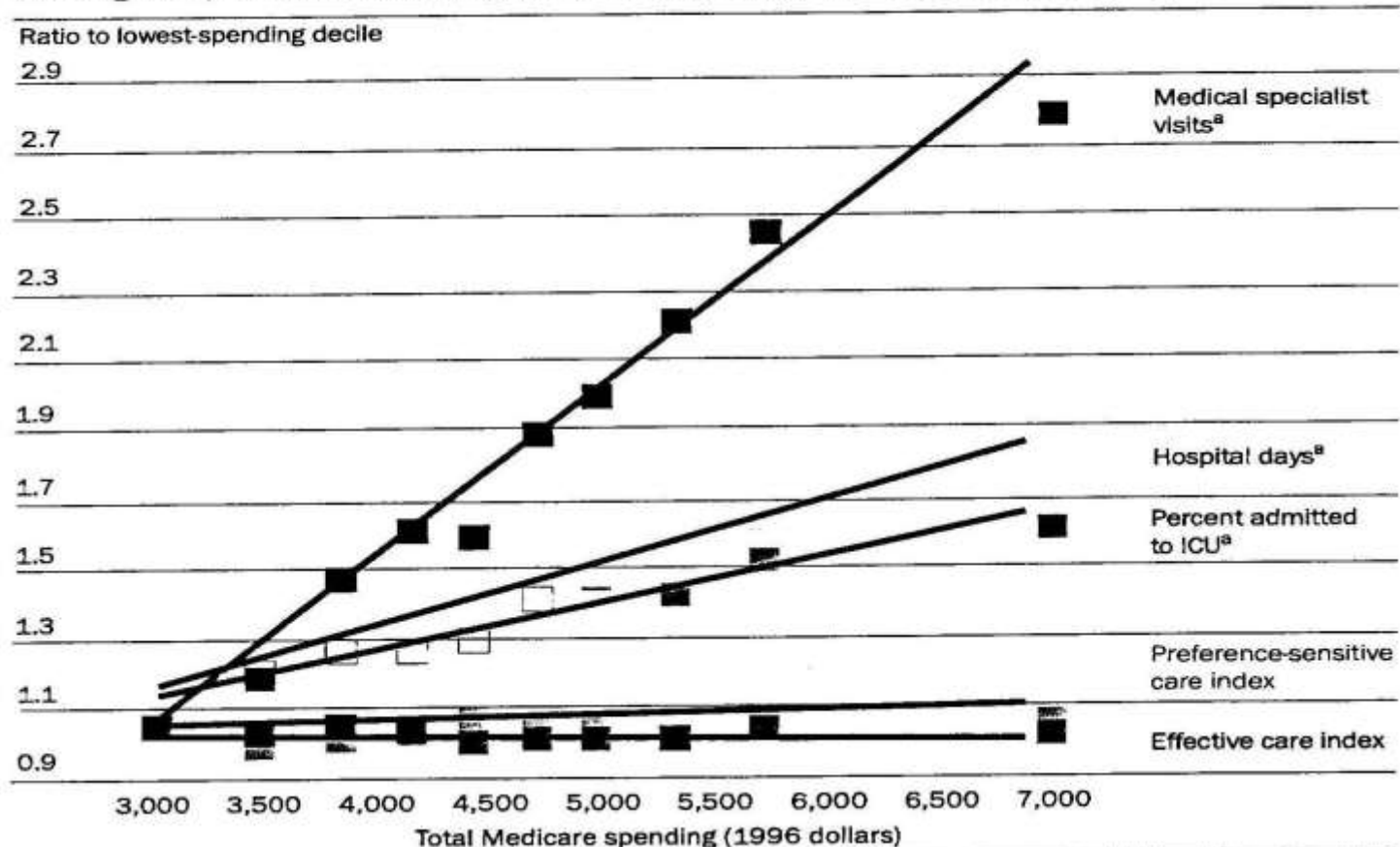


McAllen

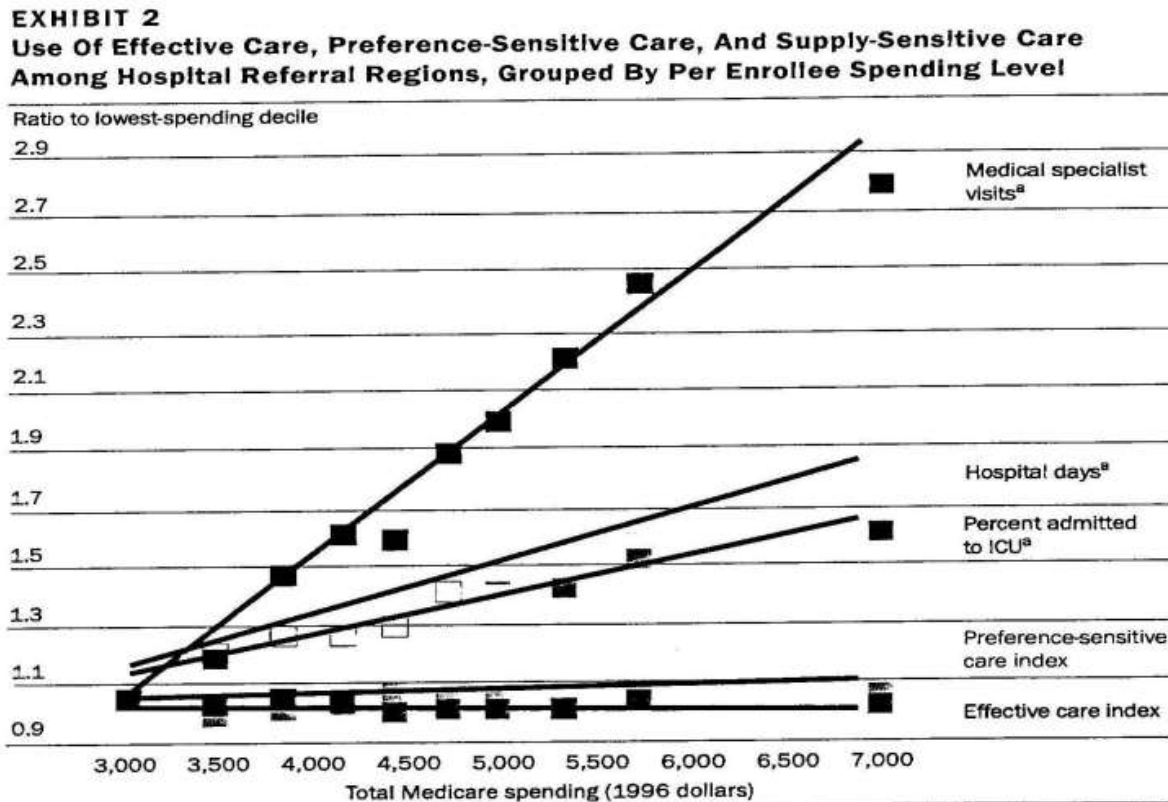
Ratio: High to Low: 1.61 1.58

What expenditures drive small area variations?

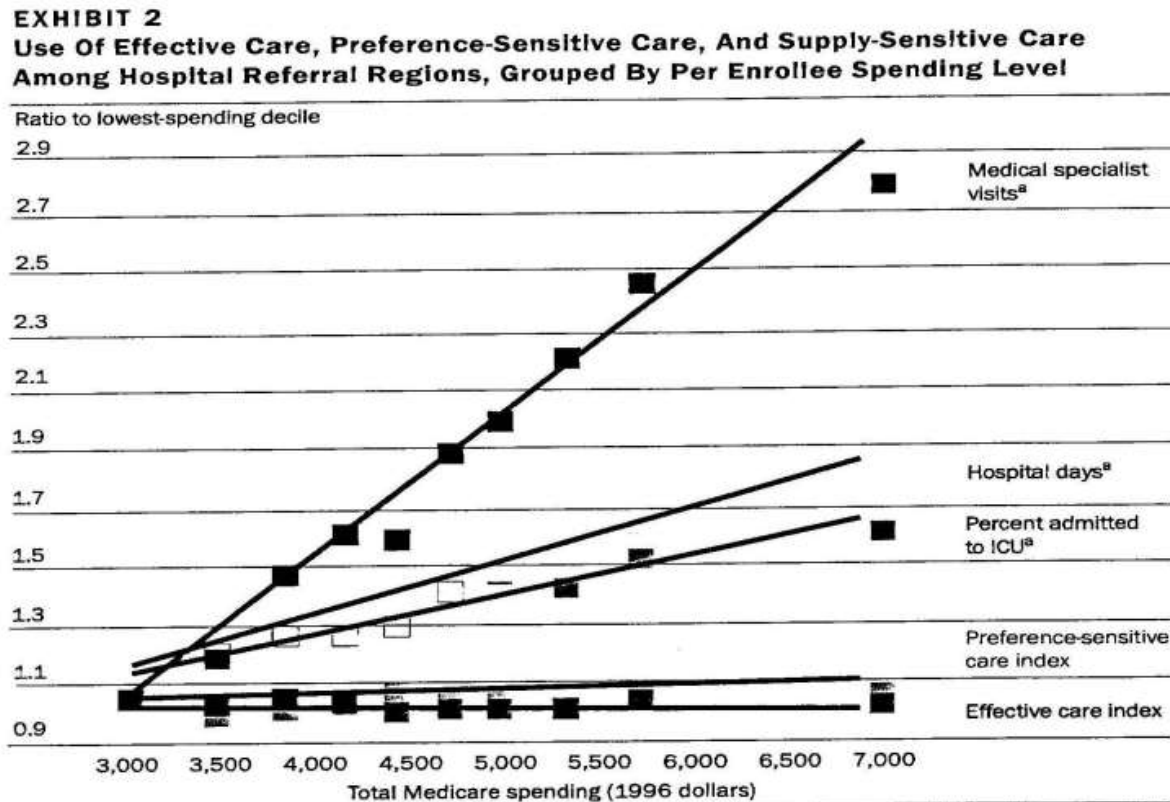
EXHIBIT 2
Use Of Effective Care, Preference-Sensitive Care, And Supply-Sensitive Care
Among Hospital Referral Regions, Grouped By Per Enrollee Spending Level



The steeper the slope, the greater the gap...



The steeper the slope, the greater the gap...between high and low intensity regions



A rationale for CER

- Good evidence → service rates the same in low and high utilization regions.
- Weak evidence → higher rates in regions with high utilization.
- Will better evidence reduce unwanted variation in health care practices?

What is CER and why should we care?

The Promise of CER

Information to help doctors
and patients make choices

Background of CER

- 1960- occasional CER projects
- 2003: Congress appropriates \$24M to AHRQ to compare the effectiveness of treatments.
- 2007-2008: the concept of a U.S. national program to compare health care interventions
- 2009: Stimulus package: \$1.1B for CER
 - Also funded Institute of Medicine study to set national priorities for CER
- 2010: health reform legislation created a public-private organization to do CER

The IOM Committee's working definition of CER

The **generation and synthesis** of evidence that compares the **benefits and harms** of **alternative methods** to prevent, diagnose, treat, and monitor a clinical condition, or to improve the delivery of care.

The purpose of CER is to assist consumers, clinicians, purchasers, and policy makers to **make informed decisions** that will improve health care at both the individual and population levels.

Source: iom.edu/cerpriorities

What's unique about CER?

It includes all of the following

- **Direct, head-to-head comparisons.**
- Broad range of topics.
 - tests, treatments, strategies for prevention, care delivery and monitoring
- A broad range of beneficiaries:
 - patients, clinicians, purchasers, and policy makers.
- **Study populations representative of clinical practice**
- Focus on **patient-centered decision-making**
 - tailor the test or treatment to the specific characteristics of the patient.

Two examples of CER

- Predicting the effect of coronary bypass surgery on mortality
- A computerized handheld decision-support system to improve PE diagnosis

The defining characteristic of
CER is its purpose:

to provide evidence for patient-
centered, individualized care.

“Patient-centered”

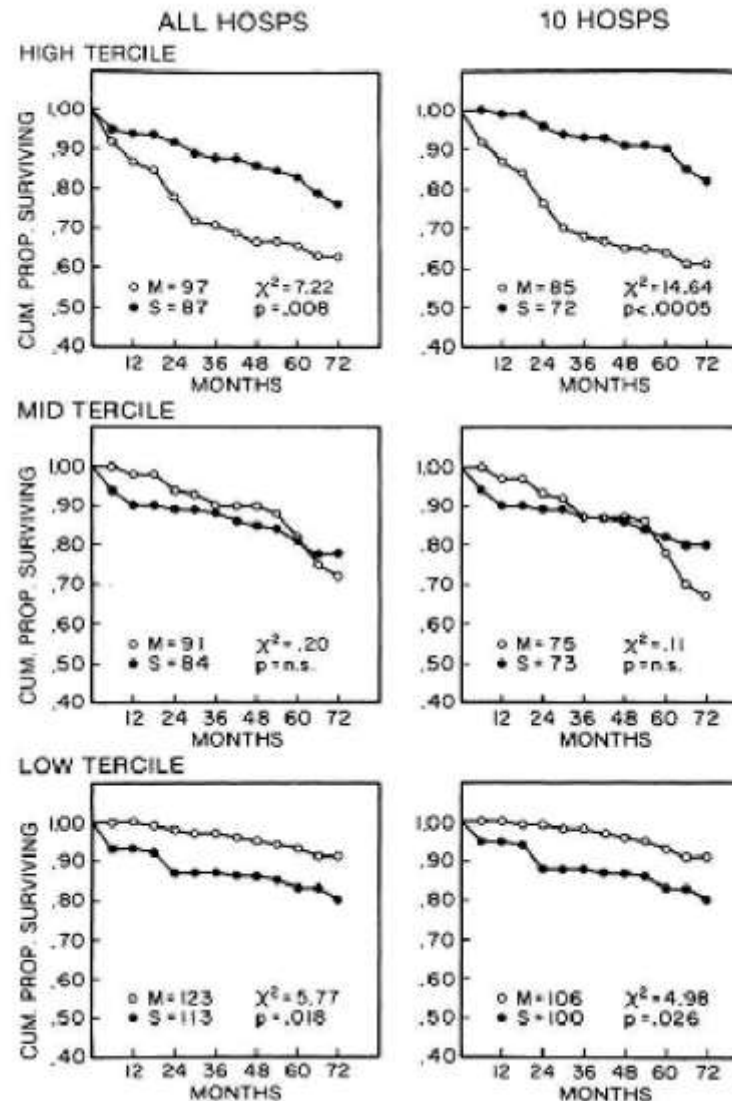
- Suppose a RCT shows that $A > B$, but many patients got better on B.
 - Lacking any additional knowledge, you should prefer **A**.
- Is it possible that some patients would have done better on **B**?
 - Can we identify them in advance?
 - Demographic predictors
 - Clinical predictors

Outcomes in the VA Coop Study

- 508 medical patients in the VA Coop Study of Bypass Surgery vs. Medical Management.
- Developed a 4-variable rule to predict 5-year mortality.
- Applied it to each patient randomized in 1972-74.
- Grouped patients into terciles based on similar predicted 5-year risk of death
- Compared mortality in surgery vs. medical patients in each risk group

Outcomes in the VA Coop Study

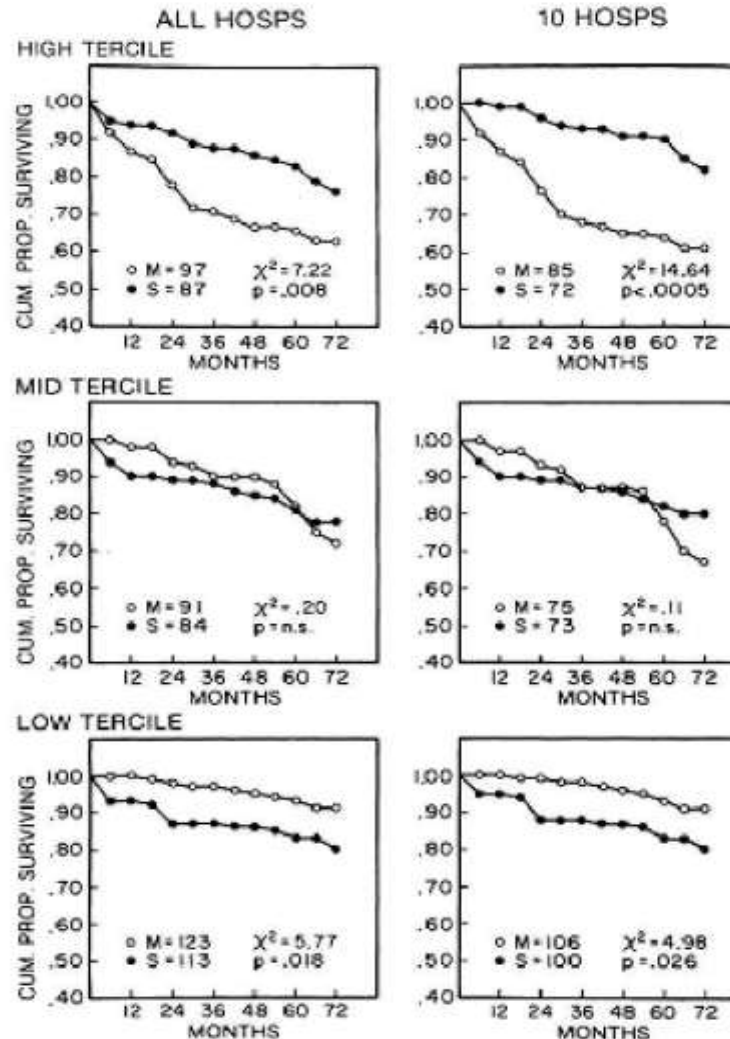
BYPASS SURGERY AND SURVIVAL / *Detre et al.*



Detre et al.
Circulation.
1981;63:1329.

Outcomes in the VA Coop Study

BYPASS SURGERY AND SURVIVAL / *Detre et al.*



This is an example of “**treatment response heterogeneity**”

Detre et al.
Circulation.
1981;63:1329.

Conclusions

- The risk of death across risk groups differs by treatment:
 - Surgery group: similar
 - Medical: worse in high risk groups
- Four clinical variables predict the effect of surgery relative to medical management.
- These variables could help patients decide between surgery and medical treatment.

A follow-up study

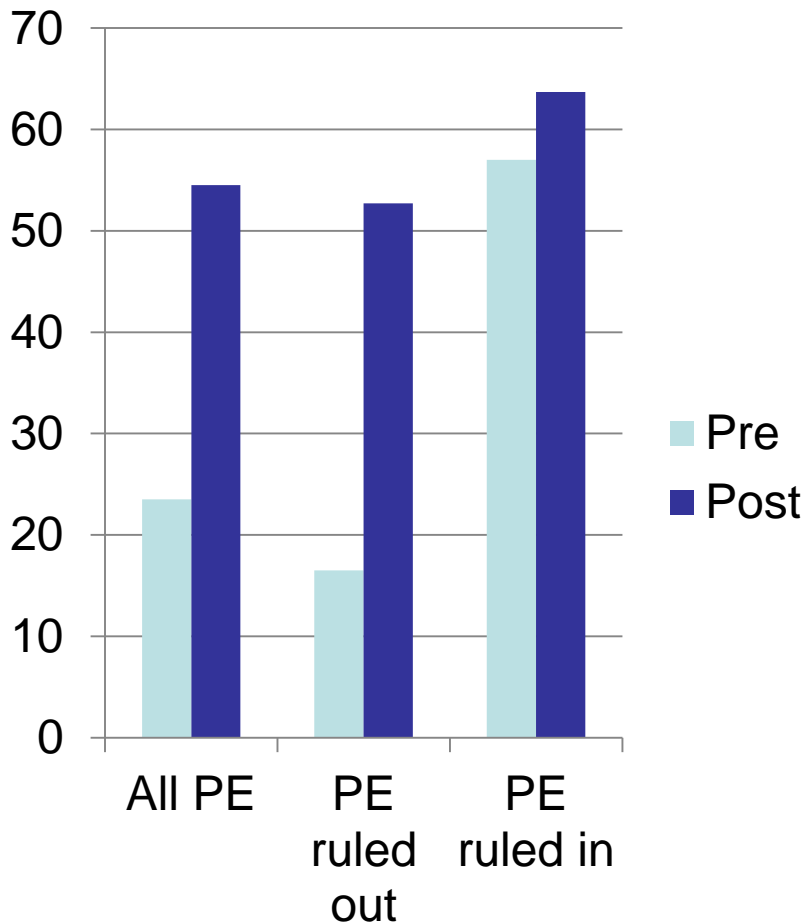
A computerized handheld
decision-support system to
improve PE diagnosis: a RCT

Roy et al

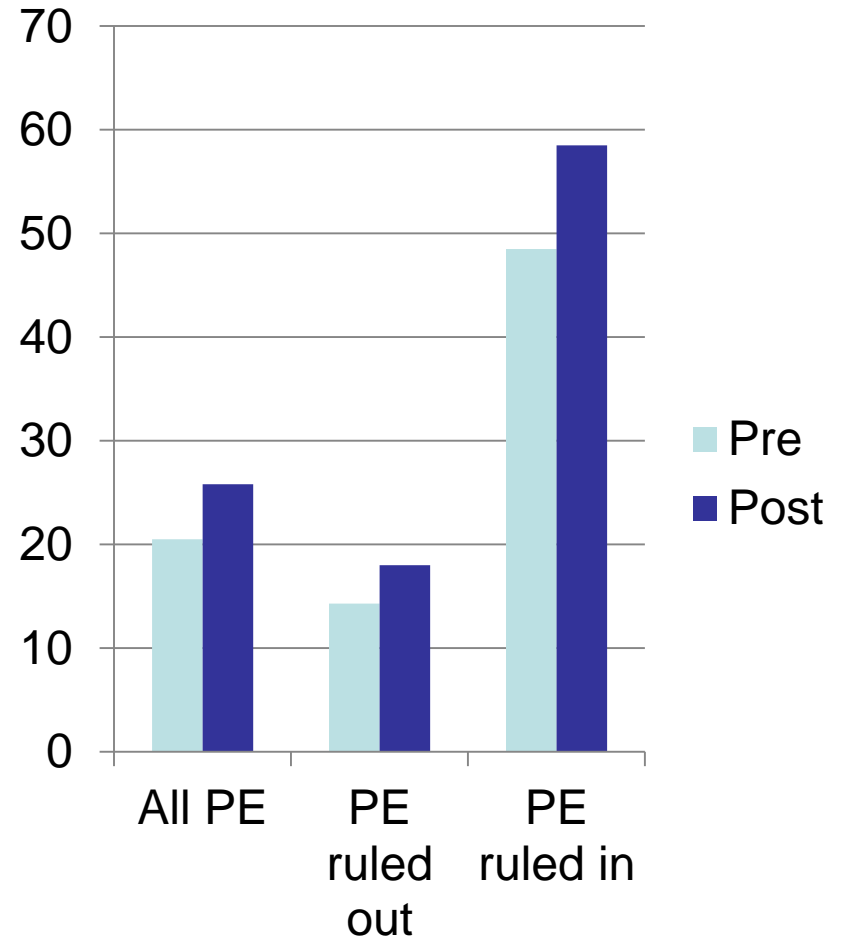
Ann Intern Med. 2009;151:677-
686.

% with correct Dx strategy

Computer-based aid



Paper-based aid



Current status of CER in the federal government

CER in the federal government

- **AHRQ:**
 - CER well-established but funding reduced
- **NIH:**
 - no CER line budget item.
- **PCORI:** The Patient-Centered Outcomes Research Institute:
 - Established by 2010 health reform legislation
 - Public-private
 - Better funded, in start-up mode

PCORI shall:

- Set research priorities
- Establish a research project agenda
- Fund research
 - Primary research
 - Synthesize existing evidence: systematic reviews
- Peer-review CER funded by PCORI
- Post CER results on its website

PCORI will outsource key services

- Management of the research
 - Solicit proposals, peer-review them, and make awards.
 - Contract management
 - AHRQ and NIH will be preferred providers
- Disseminate the research findings
 - AHRQ is the designated contractor (\$25M/year)

PCORI Funding

- The Affordable Healthcare Act establishes a PCORI Trust Fund as follows:
 - Government and private insurance will pay a tax on each insured life.
 - Estimated annual funding: **\$500M**
 - Not subject to annual Congressional appropriation

The political future of CER

National Survey of Attitudes toward CER

- May 2010
- 2,017 US respondents
- Representative population claimed
- 37% participation
- 19% not insured; 72% good or better health

Americans' Support for Government Funding of CER

All respondents	62%
Democrats	71%
Republicans	51%
Independents	60%

Gerber et al. Health Affairs; 2010;29:1872-81.

Use of CER	Support (%)	Oppose (%)
Compare treatments	68%	10%
Decide coverage for new Rx	52%	22%
Decide coverage for old Rx	48%	24%
Info on value for outcomes	48%	26%
Decide which treatments will incur ↑ out-of-pocket costs	15%	62%

Patient s want information to inform decisions but not if it narrows their options.

The political future of CER

- PCORI funding is safe in the near term as long as the Administration supports it.
 - It could be bargained away to save something else.
- It does have bipartisan public support.
 - It's linked to containing cost increases, which the public fears (The ACA limits the role of PCORI-funded CER in coverage decisions).
- We have a role to play correcting misinformation.

The Promise of CER

Information to help doctors and patients make better decisions