Comparative Effectiveness Update

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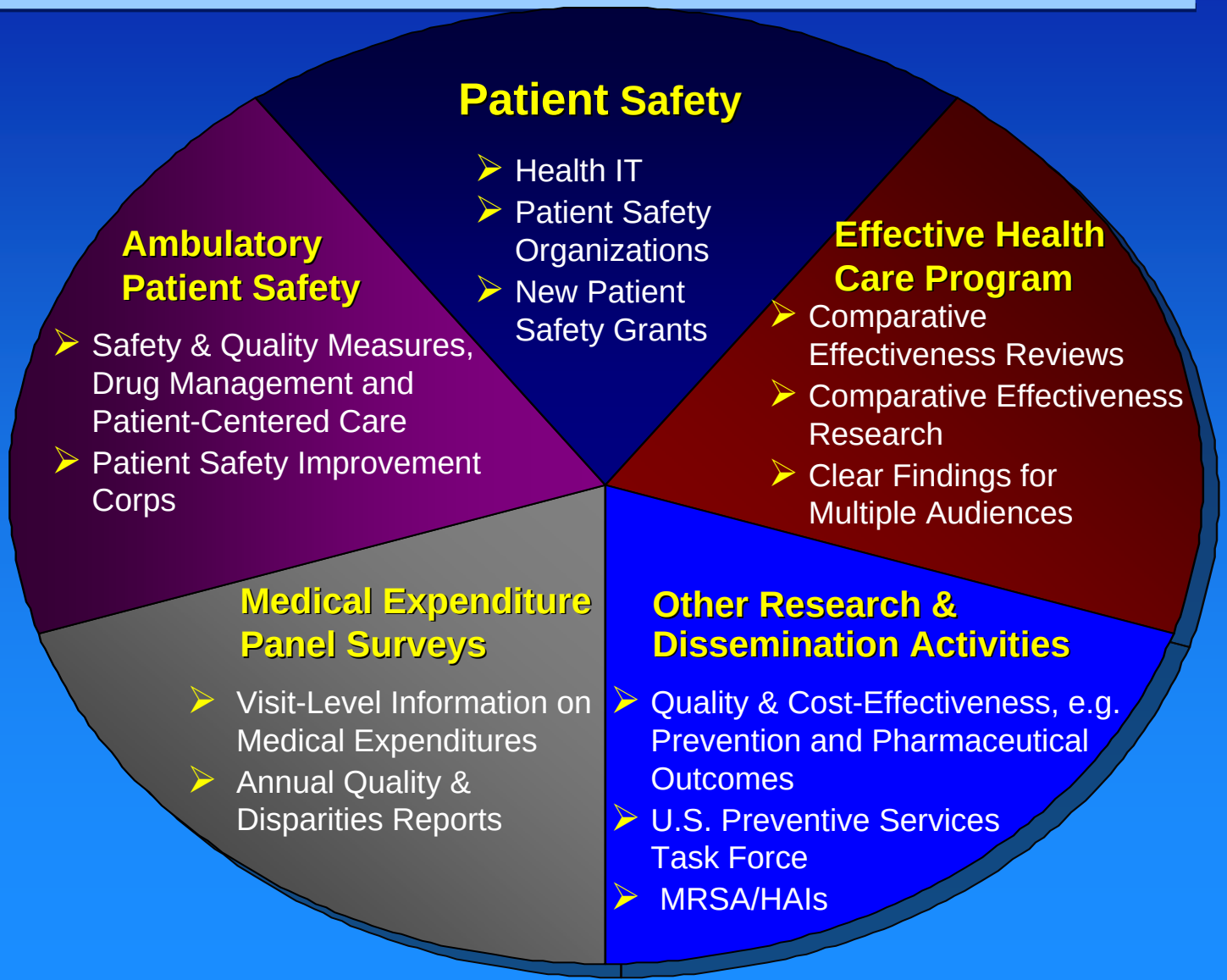
The STEEEP Challenge in Context

- In 2001, IOM observed that a “quality chasm” exists
- IOM defined quality care as care that is safe, timely, effective, efficient, equitable, and **patient centered**
- We continue to face large variations and inequities of care
- Translating scientific advances into clinical practices that benefit patients
- $2.3 trillion in annual spending, yet 45 million are uninsured

AHRQ's Mission

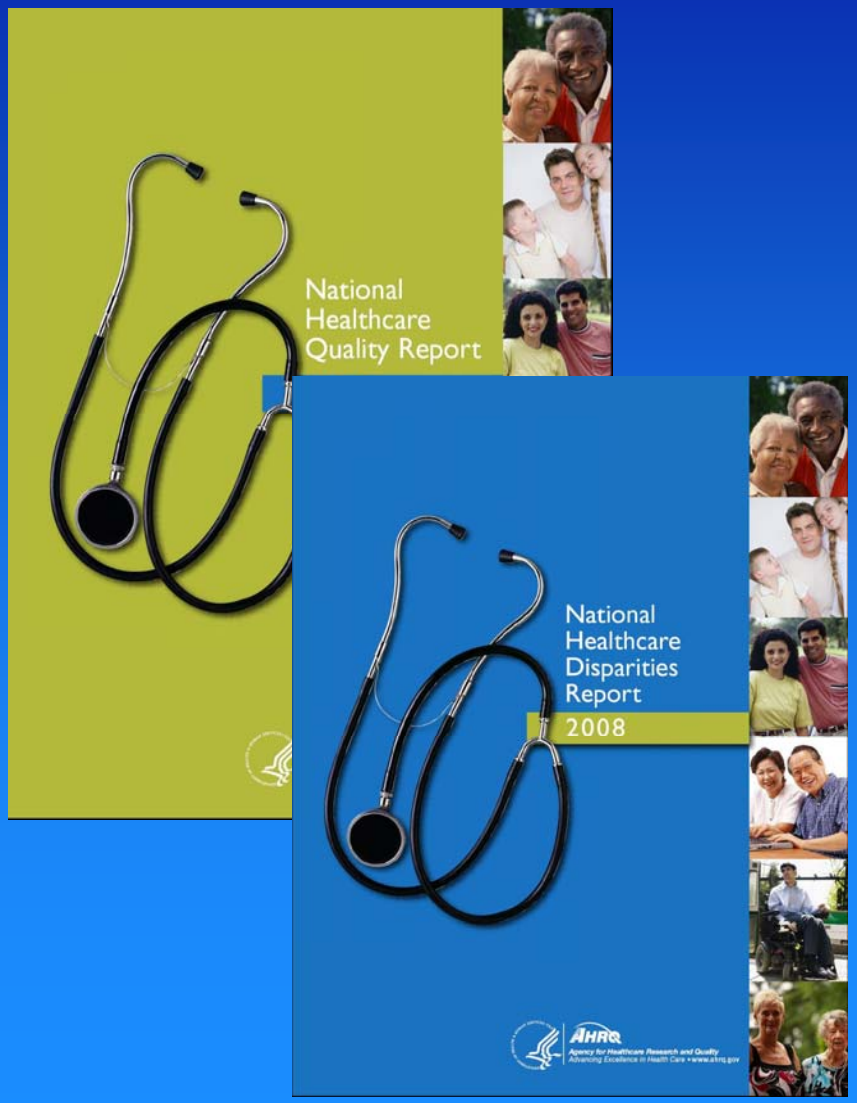
Improve the quality, safety, efficiency and effectiveness of health care for all Americans

AHRQ Priorities



2008 Healthcare Quality and Disparities Reports

- Health care quality is suboptimal and improves at a slow pace (1.8% annually for core measures; 1.4% for all measures)
- Reporting of hospital quality is spurring improvement, but patient safety is lagging
- Disparities persist in health care quality and access
- Some disparities exist across multiple priority populations



2009 reports coming soon

What is Comparative Effectiveness Research?

Comparing Evidence: Medical vs. Semiconductor Research

"When I was doing semiconductor device research, it was expected that I would compare my results with other people's previously published results and that I would comment on any differences. But it seemed to be different in medicine. Medical practitioners primarily tended to publish their own data; *they often didn't compare their data with the data of other practitioners, even in their own field*, let alone with the results of other types of treatments for the same condition."

Andy Grove
Intel co-founder, prostate cancer patient
Forbes May 13, 1996

Patient-Focused Care: The Challenge of Many Options

CER: Patient-centered Health Research

Is this treatment right?

Is this treatment right **for me**?

The Cycle of Evidence

Coopey M, Nix MP, Clancy CM. Translating Evidence Into Evidence-based Nursing Practice and Evaluating Effectiveness. *J Nurs Care Qual 21(3): 195-202*

An Unprecedented Investment

- AHRQ's Effective Health Care Program created by Medicare Modernization Act of 2003
- Program has published more than 45 products, including guides for clinicians and consumers
- The American Recovery and Reinvestment Act of 2009 includes $1.1 billion for comparative effectiveness research, including $300 million to AHRQ

AHRQ Comparative Effectiveness Research

Policymakers

Effective Health Care

Particle Beam Radiation Therapies for Cancer

A SUMMARY FOR POLICYMAKERS

Particle beam radiation therapy (PBRT) is an alternative to other types of radiation therapies for treating cancer. This summary reviews the different types of PBRT, their potential advantages and disadvantages, and their current uses. At present, there is very limited evidence comparing the safety and effectiveness of PBRT with other types of radiation therapies for people with cancer. Therefore, it is not possible to draw conclusions about the comparative safety and effectiveness of PBRT at this time.

POLICY ISSUE

PBRT has theoretical advantages that might make it safer or more effective than other types of radiation therapy for treating certain cancers. However, PBRT facilities are not available in many areas and are expensive to build and operate. Moreover, there is limited clinical evidence that directly compares PBRT with other types of radiation therapy. Policymakers must weigh several considerations when deciding whether to invest in or use PBRT. This summary outlines the theoretical pros and cons of PBRT and provides a profile of the costs and current uses of this technology.

BOTTOM LINE

- Most studies of PBRT have looked at its use in treating tumors that are inoperable or adjacent to critical body parts, such as tumors of the eye, head, neck, and spine.
- Over 60,000 people worldwide have been treated with PBRT since the 1970s.
- There are at least 30 operating PBRT facilities in the world; 7 are in the United States.
- The current cost of building a PBRT facility in the United States ranges from $20 million to $175 million, depending on the size and scope of the facility.
- Evidence about the effectiveness and harms of PBRT compared with other cancer treatments is lacking.

SOURCE The source material for this summary is a Technical Brief, *Particle Beam Radiation Therapies for Cancer* (2009). The Technical Brief was prepared by the Tufts Medical Center Evidence-based Practice Center. The Agency for Healthcare Research and Quality (AHRQ) funded the Technical Brief and this summary. This summary was developed using feedback from policymakers who reviewed preliminary drafts. The full Technical Brief is available at www.effectivehealthcare.ahrq.gov.

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September 2009

Clinicians

Effective Health Care

Clinician's Guide

Premixed Insulin Analogues

A COMPARISON WITH OTHER TREATMENTS FOR TYPE 2 DIABETES

Premixed insulin analogues are an option for treating adults with type 2 diabetes. This guide summarizes clinical evidence comparing the effectiveness and safety of premixed insulin analogues with other insulin preparations and oral diabetes drugs. This guide does not address the use of insulin in pumps. It does not address the effectiveness of insulin treatment for people with type 1 diabetes, women with gestational diabetes, or people younger than 18 years old. It also does not cover evidence about the effectiveness of dietary and other lifestyle modifications for treatment of type 2 diabetes.

Clinical Bottom Line

- Premixed insulin analogues and premixed human insulin have similar effects on glycosylated hemoglobin (A1c), and rates of hypoglycemia are similar.
  LEVEL OF CONFIDENCE ● ● ●
- Premixed insulin analogues help achieve lower postprandial glucose levels than premixed human insulin.
  LEVEL OF CONFIDENCE ● ● ●
- Premixed insulin analogues help achieve lower A1c levels than long-acting insulin analogues used alone, but rates of hypoglycemia are higher.
  LEVEL OF CONFIDENCE ● ● ●
- Premixed insulin analogues are linked with more episodes of hypoglycemia than oral diabetes drugs.
  LEVEL OF CONFIDENCE ● ● ●
- Premixed insulin analogues help achieve lower A1c levels than oral diabetes drugs used alone.
  LEVEL OF CONFIDENCE ● ● ○

CONFIDENCE SCALE
The confidence ratings in this guide are derived from a systematic review of the literature. The level of confidence is based on the overall quantity and quality of clinical evidence.
HIGH ● ● ● There are consistent results from good quality studies. Further research is very unlikely to change the conclusions.
MEDIUM ● ● ○ Findings are supported, but further research could change the conclusions.
LOW ● ○ ○ There are very few studies, or existing studies are flawed.

Clinical Issue

Type 2 diabetes is a complex metabolic disorder characterized by insulin resistance in peripheral tissues and an inability of the pancreas to compensate by increasing insulin secretion.

Medication regimens to lower glucose levels are a primary component of type 2 diabetes treatment. Although oral diabetes drugs are often effective, insulin is frequently required to achieve a desired level of glucose control. Twenty-eight percent of people with type 2 diabetes use insulin alone or in combination with an oral diabetes drug.

Premixed insulin analogues combine rapid- and intermediate-acting insulin analogues and were developed to provide more flexibility in treatment regimens. They are among several treatment options when insulin is needed to treat type 2 diabetes.

We do not have enough data to compare premixed insulin analogues with all treatment options. However, there is sufficient evidence to compare them with premixed human insulin, long-acting insulin analogues, and oral diabetes drugs.

SOURCE The source material for this guide is a systematic review of 45 research studies. The review, *Comparative Effectiveness, Safety, and Indications of Insulin Analogues in Premixed Formulations for Adults With Type 2 Diabetes* (2008), was prepared by the Johns Hopkins Evidence-based Practice Center. The Agency for Healthcare Research and Quality (AHRQ) funded the systematic review and this guide. The guide was developed using feedback from clinicians who reviewed preliminary drafts.

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Consumers

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Treating Prostate Cancer

A Guide for Men With Localized Prostate Cancer

Most men have time to learn about all the options for treating their prostate cancer. You have time to talk with your family and to discuss your options with your doctor or nurse. This guide can help you think about what is best for you — now and in the future.

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http//:effectivehealthcare.ahrq.gov

Plain Language Guides in English and Spanish

Fast Facts on Diabetes Pills

- Different kinds of diabetes pills work in different ways to control blood sugar (blood glucose).
- All the diabetes pills in this guide lower blood sugar.
- Combining two different kinds of diabetes pills can work better to lower your blood sugar than a single medicine.
- But combining two kinds of diabetes pills can make it more likely that your blood sugar will drop too low.
- Most diabetes pills can cause weight gain. One kind, metformin (Glucophage®), does not make you gain weight.
- Diabetes pills won't raise or lower your blood pressure enough to affect your health.

Hechos resumidos sobre las pastillas para la diabetes

- Diferentes tipos de pastillas para la diabetes funcionan de formas distintas para controlar el azúcar en la sangre (glucosa en la sangre).
- Todas las pastillas para la diabetes en esta guía bajan el azúcar en la sangre.
- El combinar dos tipos diferentes de pastillas para la diabetes puede funcionar mejor para bajarle el azúcar en la sangre que un medicamento individual.
- Pero el combinar dos tipos de pastillas para la diabetes puede aumentar la probabilidad de que el azúcar en la sangre se le baje demasiado.
- La mayoría de las pastillas para la diabetes pueden causar un aumento de peso. Una clase, la metformina (Glucophage®), no hace que aumente de peso.
- Las pastillas para la diabetes no le subirán o bajarán la presión arterial tanto como para afectar su salud.

AHRQ Operating Plan for Recovery Act CER Funding

- **Stakeholder Input and Involvement:** To occur throughout the program
- **Horizon Scanning:** Identifying promising interventions
- **Evidence Synthesis:** Review of current research
- **Evidence Generation:** New research with a focus on under-represented populations
- **Research Training and Career Development:** Support for training, research and careers

What Does It Mean to Be 'Patient-Centric?'

Technology and Consumers

- We create tools that make care more efficient for *clinicians*
- Consumers already are comfortable with the technology; they're leading us, not the other way around
- Consumers are demanding tools to make their care more about them; let's satisfy the demand!

Patient-Centered Research

- **If care is to be patient centered:**
  - Research and research outputs need to reflect this goal
- **Translational materials must accommodate differences in:**
  - Patient values
  - Patient preferences

Reconciling Research and Care

Retooling the enterprise to address a wide range of needs…

Low-Risk Patients

Higher Risk Patients

Where to From Here?

- Anticipating downstream effects of policy applications
- Eliminating uncertainty about best practices involving treatments and technologies
- Making sure that comparative effectiveness is “descriptive, not prescriptive”
- Creating a level playing field among ***all*** stakeholders, including patients and consumers
- Adopting a more integrated approach to achieving high quality health care
- Consistent and effective use of the same evidence to make different care decisions based on the characteristics, needs, and wishes of the individual

Comparative Effectiveness Update

- For more information visit:
  - www.effectivehealthcare.ahrq.gov
  - www.recovery.gov

Thank you!