

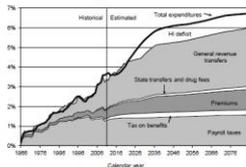


## Healthcare spending and outcomes

### Macroeconomic issues impacting radiation oncology

1. **Shifting Payer/Case Mix**
  - a) Most demand in oncology from publicly insured patients
  - b) Demographic shift into Medicare
  - c) Competition from chronic disease management with oncology increased
2. **Decelerating Price Growth**
  - a) Public budgets will not meet demand at current prices
  - b) Growth in costs outpacing inflation – Unsustainable in the long term
  - c) Risk based payments – quality/safety
  - d) Commercial cost shifting limited

Figure 8.02 – Medicare Sources of Non-Interest Income and Expenditures as a Percentage of the Gross Domestic Product

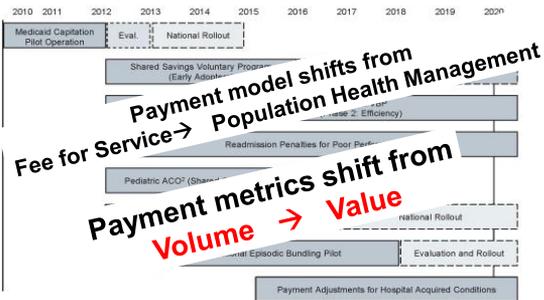


2012 ANNUAL REPORT OF THE BOARDS OF TRUSTEES OF THE FEDERAL HOSPITAL INSURANCE AND FEDERAL SUPPLEMENTARY MEDICAL INSURANCE TRUST FUNDS

Adapted from the Advisory Board, 2014.



## Major Milestones in the PPACA (“Obamacare”) Implementation



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conceptos

### Health Policy

Original Contribution

#### Changing Physician Incentives for Affordable, Quality Cancer Care: Results of an Episode Payment Model

By Lee N. Newcomer, MD, Bruce Gould, MD, Ray D. Page, DO, PhD, Sheila A. Donelan, MS, and Monica Perkins, PhD

UnitedHealthcare, Minnetonka, MN; Northwest Georgia Oncology Centers, Marietta, GA; Cancer Disasters, Fort Worth, TX

**Abstract**  
 Purpose: The source of the cost savings is enigmatic...subset analyses confirmed statistically valid decreases in hospitalizations and usage of therapeutic radiology...  
 Results: Five volunteer medical groups were compared with a large national payer registry of fee-for-service patients with cancer to examine the difference in cost before and after the initiation of the payment change. Between October 2009 and December 2010, 810 patients with breast, colon, and rectal cancer were treated using the episode payments. The registry-predicted fee-for-service cost of the episode cohort was \$98,121,388, but the actual cost was \$64,700,116. The predicted cost of chemotherapy drugs was \$7,519,504, but the actual cost was \$20,094,417. There was no difference between the groups on multiple quality measures.  
 Conclusion: Modifying the current fee-for-service payment system for cancer therapy with feedback data and financial incentives that reward outcomes and cost efficiency resulted in a significant total cost reduction. Eliminating existing financial chemotherapy drug incentives paradoxically increased the use of chemotherapy.



Outcomes databases now? different

Risk based population difference at

Robust and database es

Part of a big

• "Advanced analytics a core element i

• "It's a mistake to matters... (It) req capabilities, not in data into the fabric

• Barton & Court...

**Harvard Business Review**

GETTING CONTROL OF **BIG DATA**

How does the reality of information use change the art of management?

**AAPM 2014 innovation**  
56<sup>th</sup> Annual Meeting & Exhibition • July 20-24, 2014 • Austin, TX

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Outcomes databases will support the transition to accountable care

1. Increase adherence to evidence-based guidelines.
2. Focus investments on services that drive value.
3. Improve patient-clinician communication.
4. Leverage networks to advance quality and reduce costs.

Adapted from the Advisory Board, "Six imperatives for success under accountable care," 2014.

**AAPM 2014 innovation**  
56<sup>th</sup> Annual Meeting & Exhibition • July 20-24, 2014 • Austin, TX

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Problems: Outcomes databases and evidence based medicine

- Clinical trials and meta-analyses of clinical trials generate level 1 evidence
- However:
  - RCT's very expensive
  - Limited in scope and length (5-10 years)
  - Focused on relatively narrow criteria
  - Very difficult (and expensive) to use to answer questions not prospectively identified
- An Outcomes database can permit evidence generation in a structured, prospective fashion

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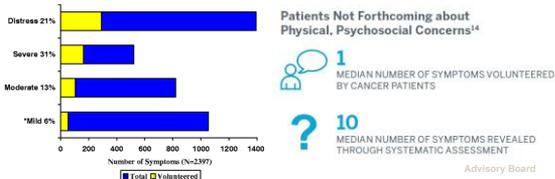
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Problems: Structure & consistency in evidence collection



<sup>14</sup> 6% of the total mild symptoms were volunteered  
 Shoemaker, Cleveland Clinic J of Med, 2011, 78: 25-34  
 Homsli, Supportive Care in Cancer, 2006

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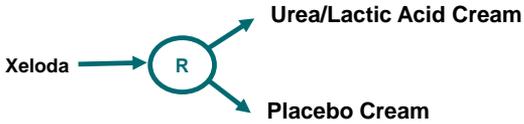
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Problems: How to measure patient outcomes

- Patient reported outcomes may be superior to provider assessed outcomes, depending on the situation
- An example: N05C5 Prevention of capecitabine induced hand-foot syndrome: urea cream vs. placebo




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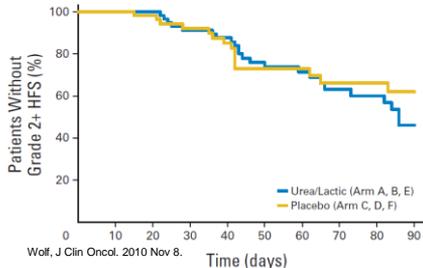
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Problems: How to measure patient outcomes




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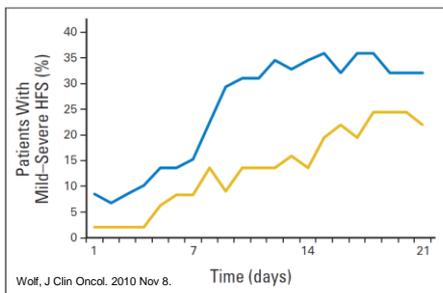
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Problems: How to measure patient outcomes



Wolf, J Clin Oncol. 2010 Nov 8.




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Problems: Selective perception of toxicity and interventions

- **Anchoring biases** – Tendency to tie future perceptions to the reference point of first observations
- **Confirmation biases** – Selectively process information that confirms prior beliefs
- **Availability biases** – If you can remember it, it must be important




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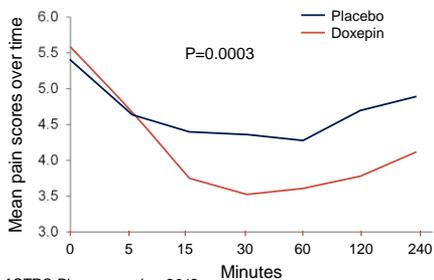
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**N09C6 Primary Endpoint**  
**Mean Mouth & Throat Pain Over Time (N=140)**



Miller, ASTRO Plenary session, 2012




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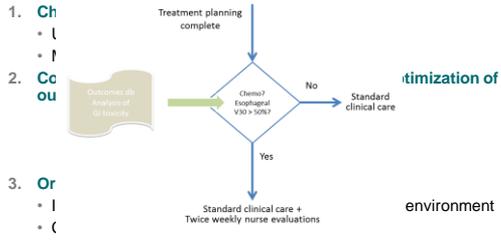
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### Outcomes Data in Radiation Oncology – Conclusions



Barton & Court, *Harvard Bus Review*, Oct. 2012.

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