Improving Health Care: Incentives, Cost-Effectiveness, and Public Policy

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Learning Objectives

• Distinguish the difference between cost-benefit and cost-effectiveness terms based on the academic or policy and practice change process settings
• Outline a cost-effectiveness, cost-benefit, or return on investment model exemplar for motivating and making change

Outline

• What exactly is health economics?
• What are the many types of cost studies?
• How could we apply these types of studies to the study of a particular intervention?

What is health economics?

Positive Use of Economics

• Develop theories of expected responses to changes in incentives
  – Assume the objective for individuals and organizations when developing the theory
  – Do not assert that consumers should value different things (length and quality of life) in a particular way
• Allow consumers to express their own preferences
• Study how people, organizations, and governments behave
  – Test whether the assumed objective explains behavior
• Revise theories if they are unable to explain behaviors

Normative Use of Economics

• Ask whether there is something wrong with the market such that the government needs to impose a regulation
• Use data about tradeoffs individuals are willing to make
• Aggregate and assume that this represents tradeoffs society is willing to make
• Project changes in health or other outcomes with an innovation in care or policy
• Compare the costs of innovation with the benefits from innovation
• Make a policy recommendation
Positive/Normative Feedback

Positive/Normative Feedback

Develop Interventions

Perform Economic Evaluation of Interventions (Normative)

Make Policy Recommendation

Observe Behavior

Make Inferences About Reasons for Behavior Based on Economic Theory (Positive)

What are the many types of cost studies?

Comparative effectiveness (CER)

- Term we hear a lot about in the news
- Multiple definitions, even within the United States
- None are cost-effectiveness but they are worth a quick review to understand how quality measures can be thought of as a way to influence policy before we add cost

Types of Cost-Outcome Analyses

<table>
<thead>
<tr>
<th>Type of Analysis</th>
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<tr>
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After this slide, I'd like to give 30 seconds of pondering music so that students can consider what is and is not in the combination of the three definitions.


Kevin Frick, 12/30/2009
### Types of Cost-Outcome Analyses

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<td>Cost-utility</td>
<td>Expression in quality or disability adjusted life years</td>
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### Natural units

- This is not a question of natural and "unnatural" units
- Rather natural units are things we can measure as actual physical/clinical measures
  - Blood pressure changes
  - HbA1C changes
  - Changes in visual acuity
  - Changes in BMI
- Compare with "constructed measures"
  - Particularly QALYs, DALYs, and dollars that are measures of abstract concepts over time

### Important Note

- Cost-utility is a subset of cost-effectiveness
  - Not because it is expressed as incremental dollars per incremental natural unit
  - But because it is expressed as incremental dollars per unit of something
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### Cost minimization

- Not all studies that end up being cost minimization studies start as cost minimization studies
- Often expect different outcomes but upon empirical analysis find similar outcomes
- Realize that it is only necessary to ask which costs less

### Similar outcomes

- Do not have to be identical
- Could be not statistically significantly difference
- Could be not clinically different

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### Multiple outcomes issues

- This could be thought of as researchers just “giving in” and not being able to think of a way to combine things
- However there are times when the results may be both outcomes and satisfaction with the process of results may affect individuals with such diverse interests that it is impossible to combine across measures and individuals
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<td>Cost-benefit</td>
<td>Express outcome in dollars—how much monetary burden is avoided</td>
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### Return on investment

- Closest to cost-benefit analysis since it involves only dollars and cents
- However, the perspective is also important
  - In other words, whose cost and whose benefits are considered matters
    - Society as a whole?
    - The whole health care system?
    - A specific health care payer?
    - A particular health care provider/facility?
    - The patient
- Return on investment tends to focus on a particular provider or facility

### Exemplar

**Guided Care**

- Described in more detail
- Practice-based team including a registered nurse, 2-5 physicians, and other office staff

**Guided Care Nurse**

- Performs a comprehensive assessment at home
- Creates an evidence-based care guide
- Monitors and coaches the patient monthly
- Coordinates the efforts of all of the patient’s providers of healthcare
- Smooths the patient’s transitions between sites of care
- Promotes patient self-management
- Educates and supports family caregivers
- Facilitates access to appropriate community resources
### Basic Guided Care Results—Annualized Rates

<table>
<thead>
<tr>
<th></th>
<th>Guided Care (N=433)</th>
<th>Control (N=402)</th>
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<tbody>
<tr>
<td>Hospital admissions</td>
<td>0.75</td>
<td>0.96</td>
</tr>
<tr>
<td>Hospital days</td>
<td>4.14</td>
<td>5.77</td>
</tr>
<tr>
<td>SNF admissions</td>
<td>0.18</td>
<td>0.28</td>
</tr>
<tr>
<td>SNF days</td>
<td>2.67</td>
<td>4.90</td>
</tr>
<tr>
<td>ED visits</td>
<td>0.36</td>
<td>0.43</td>
</tr>
<tr>
<td>Primary care visits</td>
<td>9.85</td>
<td>10.13</td>
</tr>
<tr>
<td>Specialist visits</td>
<td>8.36</td>
<td>7.89</td>
</tr>
<tr>
<td>Home healthcare</td>
<td>0.96</td>
<td>1.27</td>
</tr>
<tr>
<td>DME items</td>
<td>4.05</td>
<td>3.14</td>
</tr>
<tr>
<td>Tests</td>
<td>36.32</td>
<td>33.14</td>
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### Details on the basic results

- None of the differences were statistically significant

### Conversion to dollars

- Assume 55 patient case-load
- Apply average per unit cost
- Basic result suggests $171,000 saving on medical care for the 55 patients
- Basic analysis suggests a $96,000 cost for the guided care nurse
- Net savings of $75,000
- Difficulty is that the confidence interval includes the potential for greater expenditures

### Take away messages

- Comparative effectiveness has attracted a lot of policy attention but is not necessarily going to be accompanied by cost data
- Cost-effectiveness is a term that is broadly used but has a particular academic meaning that is reflected in the literature
- To change policy we often need to describe something that is over a shorter period than academic cost-effectiveness articles focus on and with a more limited perspective than academic articles focus on