What is health economics?

ECON 43565
Bill Evans
Fall 2016

Two major themes in this class

• What are the economic aspects of key health issues?

• What can economists add to the discussion of
  – The production of health?
  – The delivery of health care?

Both themes are easy to motivate

• Health care sector is one of the largest in the economy
  – $3.0 trillion in spending in 2014
  – $9,523/person
  – 17.5% of gross domestic product
  – 45% expenses covered by governments
• Costs are expected to continue to rise
  – Prices rising faster than other sectors
  – Aging population
Despite the spending, some problems

- High uninsurance rates
- US tends to have poor outcomes compared to other countries
Fiscal concerns as well: Medicare

- Started in 1965
- Federal health insurance program for
  - Those 65 and older
  - Disabled
  - End-stage renal disease
- Components
  - Part A: Hospitalization (mandatory)
  - Part B: Ambulatory care (voluntary)
  - Part D: Prescription drugs (voluntary)
Medicare Statistics -2015

• 57 million recipients

• $540 billion in net outlays (expenditures minus premiums)

• 15% of the federal budget

• 3.0% of GDP
Questions to consider?

- What will additional taxes do to the labor market?
- What will cuts in benefits do to the health of beneficiaries?
- Will changing eligibility age alter retirement?
- Will reductions in spending discourage innovation?
- These are all economic questions

What is economics?

- Behavioral science
- Develop models that can
  - Predict/explain behavioral patterns
  - Can be falsified with data/experimentation
- Starting point – actors are purposeful
  - Firms seek to maximize profits
  - People want to maximize utility
- Important characteristics of economics is its predictive nature – given a change in constraints – how will actors respond?

Solutions

- Increase taxes
- Increase retirement age
- Reduce benefits – increase cost sharing
- Reduce rate of growth of Medicare spending
- Means-test Medicare
What can economics add to the study of health?

- Theoretical – modeling the role of incentives
- Empirical – detecting whether distortions occur and measuring the responses to external events

What is the primary lesson of economics?

Incentives matter

Economics in health

- Economics is at its best when it demonstrates that incentives matter in seemingly uneconomic settings
- Applied to many non-business settings
  - Families
  - Crime
  - Governments
  - Addictive substances
  - Health care

- Economists have been successful in demonstrating that incentives matter a great deal in the health sector
- Has altered
  - The way people think about problems
  - The structure of the industry
  - Policy response to certain circumstances
- The problem: Most do not like what economists have to say
Example 1: Small Group Reform

- Most insurance is provided by employers
- Large firms are “self-insured”
- Smaller firms/self employed must purchase insurance for their workers
- Small groups tend to have
  - Higher prices
  - Prices that are volatile
  - Therefore, smaller firms less likely to provide ins.
- Price also is a function of worker characteristics

![Percent of Firms Offering Health Insurance](chart.png)

- Higher priced groups are women, older workers, minorities, chronic health problems
- Concern: prices for some groups too high
- Solution: Reform the small group market by eliminating pricing based on sex/race/age
- Goal: reduce prices and therefore enhance ability to pay for insurance
- Nearly all states have adopted some version of small group reform

What is the economist’s prediction (Rothschild and Stiglitz)

- Policy lowers prices for some by forcing others to pay more for insurance
- What is the natural response of the low priced insured’s (e.g., young people)?
  - They leave the market since their price has increased
- As the young exit the market, only higher risk people remain
- These laws increased costs, decreased availability
Example 2: An Obesity (Cutler et al.)

- Rapid increase in obesity since 1970
  - In 1970, 14% of the population was obese
  - Today, rates are around 36%

- Differs from long-term increase in weight since the turn of the century

- Increase in obesity is broad based – all groups have been impacted

Obesity Rates Over Time

<table>
<thead>
<tr>
<th>Group</th>
<th>% Obesity 1971/74</th>
<th>% Overweight 1971/74</th>
<th>% Obesity 2009/10</th>
<th>% Overweight 2009/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>14.6</td>
<td>47.7</td>
<td>35.7</td>
<td>69.2</td>
</tr>
<tr>
<td>Males</td>
<td>12.2</td>
<td>54.7</td>
<td>35.5</td>
<td>69.2</td>
</tr>
<tr>
<td>Females</td>
<td>16.8</td>
<td>41.1</td>
<td>35.8</td>
<td>69.2</td>
</tr>
<tr>
<td>Black F.</td>
<td>29.7</td>
<td>82.1</td>
<td>58.6</td>
<td>82.1</td>
</tr>
</tbody>
</table>

- A rise in obesity is caused by
  - Reduction in energy expended
  - Increase in calories consumed

- What are some candidate reasons for the rise in obesity
  - TV/video games
  - Lack of exercise
  - Super-sized meals
  - The ‘built’ environment (no one walks anymore)
  - So many people quit smoking, increased weight

What does a theory about the rise in obesity have to explain?

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An economic model

• Why are people eating more?
  – The price of food has dropped

• Why has the price of food declined?
  – Technological progress

• Why does it not impact other countries?
  – Local production/sales of food make technological progress less of an impact on food prices

An economic model of technological change

• Major advances in food preparation such as vacuum packing, microwaves, freezing, preservatives, etc.

• Technology has reduced the time and direct cost of food preparation

• Evidence: time spent on food preparation among non-working mothers has fallen 50% in past 25 years

How will technological change alter calories?

• Greater variety of food (e.g. junk food now much more prevalent – reduced cost)

• More calories/dollar

• More meals (almost all of the increase in calories has been an increase in calories between meals, not calories within meals).


• All consumer prices 137%
  • Fresh fruit 276%
  • Fresh vegetables 252%
  • Dairy products 96%
  • Frozen food 83%
  • Frozen potatoes 93%
  • Potato chips 77%
  • Ground beef 90%
  • Soda 53%
Example 3: Should we raise taxes on smokers?

- What fraction of the adult population smokes in 2014?
  - State with lowest rate
  - State with the highest rate:
- Down from a historic high of around 45% in early 1950s
- Estimated to cause 440,000 deaths/year in the US (1/5th of all deaths)
- Generate $80 billion in lower productivity, $100 billion in additional medical care

Pigouvian tax

- Can use taxes to reduce costs of externality
  - What is externality?
- Classic example: pollution
- Poor health is no exception: can tax any behavior that causes harm to others (junk food, alcohol, cigarettes)
- Question: what is the appropriate tax?

Cigarettes

- Taxed at the local/state/federal level
- Excise tax – per pack
  - 101 cents/pack Federal
  - 148 cents/pack average across all states
  - High:
  - Low:
- Local taxes
  - $1.50/pack in NYC, $1.18 in Chicago, $3.00 Cook county
- Tobacco taxes raise $35 billion at the local/state/federal level
- Another $8.5 billion in tobacco settle payments

- 440K deaths, $100 billion in health care, $80 billion in lost productivity and only $35 billion in revenues
- Clearly cigarette taxes are too low?
- Smoking does not only generate costs to nonsmokers – there are some “benefits” as well