

Osher Lifelong Learning Institute

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Four Questions

- Who am I?
- Why do we care about the economics of health care?
- What's different about the economics of health care?
- What should we do about it?

Why do we care about the economics of health care?

- It's very expensive.
- We spend a lot.
- We don't appear to be getting value for money.

National Health Spending, in Billions, 1960–2011*



*Selected rather than continuous years of data shown prior to 2008. Years 2010 forward are CMS projections (September 2010 data release) Source: Centers for Medicare and Medicaid Services (CMS), Office of the Actuary.

National Health Spending as a Share of GDP, 1960–2019*



*Selected rather than continuous years of data shown prior to 2008. Years 2010 forward are CMS projections (September 2010 data release). 2009 reflects a 1.7 percent contraction in GDP, a 4.0 percent increase in health spending, and revisions to the national health expenditure accounts, which resulted in recognition of higher spending levels. Source: Centers for Medicare and Medicaid Services (CMS), Office of the Actuary.

National Health Spending Per Person, 1999–2011*



*Selected rather than continuous years of data shown. 2011 is a projection. Source: Centers for Medicare and Medicaid Services (CMS), Office of the Actuary.

Major Programs as a Share of Total Federal Outlays, 1970–2010



Note: Spending shares computed as percent of federal outlays. All outlays reflect federal spending only (i.e., Medicaid outlays reflect the federal portion of Medicaid). Source: Congressional Budget Office, The Budget and Economic Outlook, Fiscal Years 2011 to 2021 (January 2011), www.cbo.gov.

Spending Distribution, by Payer, 2009



*Includes Departments of Defense and Veterans' Affairs health care, as well as the Childrens' Health Insurance Program (CHIP), worksite health care, Indian Health Service, workers' compensation, maternal and child health, and vocational rehabilitation.

Note: Figures may not add to 100 percent due to rounding.

Source: Centers for Medicare and Medicaid Services (CMS), Office of the Actuary.

Total Health Expenditure per Capita, U.S. and Selected Countries, 2008



Source: Organisation for Economic Co-operation and Development (2010), "OECD Health Data", OECD Health Statistics (database). doi: 10.1787/data-00350-en (Accessed on 14 February 2011).

Notes: Data from Australia and Japan are 2007 data. Figures for Belgium, Canada, Netherlands, Norway and Switzerland, are OECD estimates. Numbers are PPP adjusted.



Total Health Expenditure per Capita and GDP per Capita, US and Selected Countries, 2008



Source: Organisation for Economic Co-operation and Development (2010), "OECD Health Data", OECD Health Statistics (database). doi: 10.1787/data-00350en (Accessed on 14 February 2011).

Notes: Data from Australia and Japan are 2007 data. Figures for Belgium, Canada, Netherlands, Norway and Switzerland, are OECD estimates.

Per Capita Health Spending



Total Health Expenditure as a Share of GDP, U.S. and Selected Countries, 2008



Source: Organisation for Economic Co-operation and Development (2010), "OECD Health Data", OECD Health Statistics (database). doi: 10.1787/data-00350en (Accessed on 14 February 2011).

Notes: Data from Australia and Japan are 2007 data. Figures for Belgium, Canada, Netherlands, Norway and Switzerland, are OECD estimates. Numbers are PPP adjusted.





Figure 2. Amenable mortality in 31 OECD countries, 2007 or last year available

Note: (1) 2006 data for France, Germany, Denmark, Korea, Italy, Mexico, Norway, Poland and Sweden ; (2) 2005 data for Hungary, Luxembourg, New Zealand, Slovak Republic, Spain and United States; (3) 2004 data for Australia and Canada; (4) 2003 data for Portugal.

Source: WHO Mortality Database 2010, OECD calculations.



Figure 5. Annual change in amenable mortality, 1997 to 2007 (or last year available)

Note: (1) 2006 for France, Germany, Denmark, Korea, Italy, Mexico, Norway, Poland and Sweden ; (2) 2005 data for Hungary, Luxembourg, New Zealand, Slovak Republic, Spain and United States; (3) 2004 data for Australia and Canada; (4) 2003 data for Portugal.

Source: WHO Mortality Database 2010, OECD calculations.

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Figure 11 - Life expectancy at birth, total population, 1960 and 2007 (or latest year available)

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Figure 10 - Life expectancy at age 65 by gender, 1970 and 2007 (or nearest year available)

But there are benefits.

- Life expectancy has increased over time
- Greater medical care use improves outcomes
- Makes it hard to cut medical spending arbitrarily—I only use medical care that's needed and beneficial; cut some one else's wasteful and unnecessary spending.

What's different about the economics of health care?

- Difficulties in defining the "product"
- Patient's role in the "production" process
- Presence of uncertainty and role of insurance
- Asymmetric knowledge between doctor and patient; between patient and insurer
- Externalities

Assumptions of the perfect market (Adam Smith)

- Atomistic competition--many buyers and sellers; sellers can enter the market easily
- Well-defined product, especially with regard to quality
- Perfect information, especially with regard to the price of the good
- Certainty, i.e., you know the consequence of buying the good

What do we get when the assumptions hold?

NIRVANA

A perfectly competitive market results in **allocative** efficiency – resources are used without any waste and people get just what they want

But,

- Outcome of competitive market depends on the initial distribution of resources (income, wealth, insurance coverage)
- Government may have legitimate role in altering initial distributions, based on social decisions that value alternative distributions, i.e., depending on how market treats low income, sick, and uninsured

Economic characteristics of the "perfect" insurance market

- Goal of insurance is for the "lucky" to compensate the "unlucky"
- Insurance works best when
 - Likelihood of adverse event is unpredictable for individuals (insured has no control over likelihood of event), but predictable for population
 - Value of potential loss is well defined
 - Insurance premiums reflect average expected risk/cost of population

What makes health insurance different?

- Adverse selection—you know your health risks much better than the insurance company.
 - Free rider problem in non-group market
 - Prior medical screening
 - Exclusions for pre-existing conditions
 - Mandatory coverage
- Insures against the cost of treating illness, not the value of poor health.
 - No meaningful way to measure health
 - Lifetime limits and maximum benefits
- Changes your valuation of the cost of care at the point of purchase induces you to use more care than if you were uninsured.
 - Co-insurance and high-deductible policies
- Tax deductibility of private insurance premiums for many people
 - Leads to purchase of "too much" insurance

Is there a role for government?

- Two questions/issues that need to be addressed
 - Is the market competitive, i.e., consistent with the definition of perfect competition?
 - Is the initial distribution of resources socially acceptable?
- In an ideal situation, the market is competitive, which implies that the government needs to worry only about distribution, which it can affect by income taxes and subsidies.
- Government doesn't need to mess with market mechanism that establishes the price of the product.

Two contrasting views

http://www.youtube.com/watch?v=Jng4T

http://www.youtube.com/watch?v=gCbV6

Definition of the product: by level of aggregation

Most Disaggregated – The individual service

- Fee for service (physician services)
 - Procedure coding terminology (CPT, HCPCS)
- Cost of care or charges for care (institutional services)
 - Total of charges or costs for all individual services provided during stay

Intermediate Level of Aggregation

- Episode of illness
 - Hospital stay
 - Onset to termination
 - Time period for chronic care
- Bundle of care
 - Pre-natal, delivery, and post-natal care
 - Pre- and post-operative care for surgery
 - Acute and post-acute care for hospitalizations
- Highly Aggregated Person-year (capitation)

Definition of the product: by "type" of medical services

- Services used routinely by patient
 - Regular check-ups
 - Well-child pediatric care
 - Garden variety colds, flu
 - Chronic care management
- Services provided routinely by physician: allows assessment of physician's reputation, i.e., the physician's reputation is the stand-in for the quality of the service
- Rare/infrequent cases from both patient and physician perspectives: life threatening or potentially catastrophic health consequences or rare diagnoses – don't happen often and not routinely treated by any particular physician

More special characteristics of the medical care product

- Physician can't produce medical care and store it in the warehouse, i.e., the act of production is usually simultaneous with the purchase of the product
- Can't test the product before you buy it
- Can't return or exchange the product if you don't like it or it doesn't work

Marketability

- Key condition for market approach to work is that the goods and services traded need to be fully marketable, i.e., the product needs to be well defined, tradeable, and easy to price.
- Fundamental characteristic of medical care market is the incomplete valuation of health and cost risks associated with incidence and treatment of illness – hard to assess ex ante value and quality, and therefore hard to assess prices.

The patient as a production input: adjustment for heterogeneity

- Not really needed for payment at most disaggregated product definition, e.g., fee for service
- As product aggregation increases, need to adjust for patient-level severity or riskiness
 - Diagnosis related groups for inpatient hospital care
 - Resource utilization groups for nursing home and post-acute care
- Patient-level risk adjustment for capitation
 - Hierarchical co-existing conditions classification
- Essential for quality measurement

Uncertainty – Demand Side

- Uncertain incidence of illness is rationale for insurance—to protect against financial consequences of illness/injury
- Imperfect information between patient and insurer creates selection/screening issues in marketing insurance
- Insurance also creates "moral hazard," i.e., tendency to overuse services

Uncertainty – Supply Side

- What's the diagnosis?
- Which treatment is expected to have the best outcome?
- How should multi-dimensional outcomes be weighted?

Value of information

- Even without uncertainty, the extent of specialized knowledge required to diagnose and treat many illnesses creates a second marketability issue
- Information is very hard to price, i.e., place a value on, because you often don't know its value until after you've purchased and consumed it.
- Imperfect information also makes it very difficult to define and measure quality, i.e., difficult to distinguish between a random bad outcome and a bad outcome that should/could have been avoided, but also need information on patient as well as provider to make this assessment ex post.

Solution to the information problem: the principal-agent relationship

- Patient is the "principal" who delegates most authority for decision-making to the physician – why?
- Physician is the "agent" who, by accepting the delegation implicitly agrees to make decisions in the patient's "best interest."
- Agency relationship physician is supposed to act in your best interest, i.e., be your agent, because you lack relevant information and knowledge
 - Trust and professional ethics reinforce agency
 - Profit and income motives can create conflict of interest

Other examples of asymmetric information?

- Consumer electronics—no big deal
 What TV to buy
- Complex financial securities—big deal
 - Mortgage backed securities
 - Credit default swaps
 - Bernie Madoff

Medical ethics as response to non-marketability of information and knowledge

- Ideal
 - Provide care that patient "needs" regardless of ability to pay
 - Provide care regardless of financial selfinterest
- Reality
 - Profit considerations play significant role in treatment decisions: whom to treat and what to provide
 - Poor and uninsured generally receive much less care

Hammurabi's solution to the problem of imperfect agency

"...and if a doctor shall cheat his patient by overcharging for medications, then shall a finger of his left hand be cut off."

Code of Hammurabi, 2300 BCE

Agency is also complicated by third-party insurance

- Patients+providers+payers (insurers)
- When patients are not the payers, then payer's interests add another degree of complexity.
- Physicians may have multiple fiduciary obligations:
 - To employer (hospital or clinic)
 - To insurer (bonuses; incentive payments)

Financial arrangements can create conflict of interest.

- How and how much the patient/insurer pays
- How the physician is compensated, i.e., earns income
 - Owner residual claimant on practice's profits
 - Employee straight salary or some type of incentive compensation
- The physician's ownership interest in other medical resources (equipment, drug stocks, specialty hospitals, ambulatory surgery centers)

Externalities

- An externality occurs if a private activity imposes costs or benefits or benefits on other people.
- Primary example is vaccination and herd immunity
 - If I benefit from your being vaccinated because of herd immunity, then I have less incentive to incur the cost of vaccination
 - Justification for public intervention
 - Free vaccines
 - Mandatory vaccination
- Other examples
 - Smoking
 - Obesity
 - Negative externality higher health costs increase other people's insurance premiums
 - Positive externality decreased life expectancy helps Social Security trust fund
- Non-monetary (moral/emotional) externalities are also relevant
 - Motivated by altruism
 - Could also be a self-interested motivation

If we agree that there's "market failure," what should we do about it?

- What's the best way to define the product?
- How should prices be determined?
 - medical care
 - insurance
- Can quality be measured and, if it can, how should it be measured?
- How do you adjust/allow for differences in patients' characteristics and preferences?
- What's the best mix of markets and government?

Current government involvement

- Provides medical care directly (VA, public hospitals and clinics) – purchases medical care inputs
 - Hires doctors and nurses
 - Owns buildings and equipment
 - Has drug formulary
 - Doesn't necessarily provide for free
- Professional licensure
- Regulates capacity (somewhat)
- Regulates introduction of new drugs and equipment
 - Primarily for safety and efficacy
 - Not for cost-effectiveness or comparative effectiveness
- Funds basic research

Current government involvement

Provides insurance: Medicare & Medicaid

- Public insurance is largely a consequence of market failure, i.e., where private markets fail to develop.
- It's socially desirable because it enables insured to obtain medical care on a timely basis
 - Altruistic motive want people to be healthy
 - Investment motive early treatment and diagnosis less costly; less reduction in human capital
- Purchases medical services on behalf of beneficiaries

Growth in Per Enrollee Spending for Common Benefits,*

Medicare vs. Private Health Insurance, 1970–2009



*Common benefits refers to benefits commonly covered by Medicare and private health insurance. These benefits are hospital services, physician and clinical services, other professional services, and durable medical products.

Source: Centers for Medicare and Medicaid Services (CMS), Office of the Actuary.

Defining the product

- Individual services, as in fee-for-service
- Bundles or episodes
- The person per year (capitation)
- Problem of measuring quality
 - May be easier to measure quality of HMOs than of individual providers

How should prices be determined?

- The problem with fee-for-service is not that it's per service, but that fees are wrong/distorted.
- Improve how the market works
 - Greater competition among providers
 - More price transparency--example of internet price comparisons (vimo.com)
 - Is shopping for Lasik the same as shopping for a hip replacement or for cancer care?

Shopping for Health Care

- Comparison Shopping for Health Care (NY Times) By DEALBOOK (June 11, 2010)
- Can Price Shopping Improve Health Care?
 By Barbara Kiviat Monday, Apr. 19, 2010 (Time Magazine)
- Shopping for health care prices can be pretty confusing 5/9/2006 By Julie Appleby (USA TODAY)
- Target 5 Finds Flaws In Ads For LASIK Surgery
 Few Customers Appear To Receive Lowball Price (Sept. 25, 2003)

Is Medicare Part D a market success story? Ezra Klein Answers.

- David Brooks echoed Paul Ryan's argument that the Medicare Prescription Drug Benefit's "costs are 41 percent below expectations"
- "The reduced estimates reflect a higher market penetration of generic drugs and a decline in the number of new drug products that are expected to reach the market during this period."
- "There's another reason Part D has been cheaper than projected: Seniors aren't signing up. The Congressional Budget Office estimated that 93 percent of Medicare enrollees would participate. Instead, 77 percent did."
- "Since 2006 the first year of the benefit Medicare Part D's average premium has risen by 57 percent. Between 2010 and 2011, premiums rose by 10 percent."

Can government get the prices right?

- Most OECD countries seem to do OK.
- Effects of prices can be monitored and changed over time, if right administrative structure is established.
- Public insurance plans only, or all insurance plans?

What else can/should government do?

- Promote competition among providers and insurers.
 - More vigorous enforcement of anti-trust
 - Expand supplies of competing providers
- Alter structure of subsidies to purchase health insurance.
 - Eliminate tax deductibility of private health insurance
 - Provide vouchers (or tax credits) based on income and possibly health status.
- Set floors or minimum standards for insurance policies.
- Mandate minimum (catastrophic) coverage, but allow people to supplement...with their own money.

What can we do?

- Try to improve the quality of the political debate.
- Frame the issues as the appropriate mix of markets and government, not as a false dichotomy between free markets only and single-payer, government run.
- Understand that any change is going to take time; no overnight miracles or catastrophes.
- Recognize legitimate differences in values.
 - Personal freedom and responsibility
 - Societal obligations