

**Current Issues in U.S. Health Economics:**  
**Summary for Health Economics Course (ECN 132)**

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- The health care industry can benefit greatly from economic analysis, especially microeconomic analysis.
- More than many other areas of economics this theory needs to be modified or extended to accommodate institutional features.
- In particular health consumers are buying a product they know little about (information) with someone else's money (third-party payment) due to insurance (uncertainty).
- The big current issues always include the increasing cost of health care.

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## **A. Overview of U.S. Health Market**

### **Total expenditures in 2007**

- \$2,320 billion
- \$7,600 per capita (Based on population of 307 million)
- 16.8% of GDP (Based on GDP of \$13,800 billion).

### **Use of Funds**

- The big three (hospital, physician, drugs) are 68% of total.

### **Source of Funds**

- 47% public and 53% private.
- Only 11% is out-of-pocket. Third payment is key feature of health market.

### **Trends since 1900**

- Expenditure risen dramatically and continuously and forecast to continue.
- Dramatic switch away from out-of-pocket payment to insurance.
- Hospital days little changed but costs much larger as more labor-intensive.
- More physician visits but smaller share of pie.
- Drugs decreased but now increasing share of pie.
- Nursing home care and home health care are growth areas.
- Health care expenditures have risen everywhere in the world. The U.S. has the largest expenditures because of higher base and higher growth rates.

### **Future**

- Pressures exist for continued increase. Forecast is for 20.0% of GDP in 2015.
- At same time U.S. is a real outlier and radical change is possible.

**Use of Funds in 2007**

<b>Category</b>	<b>% of Total</b>	<b>Trend since 1960</b>	<b>Biggest Issues</b>
Hospital	34	Static	Managed care; technology
Physician	22	Static	Managed care; physician income
Drugs & Supplies	13	Up	Formularies; technology
Other professional	10		
Nursing Home	6	Up	Government; aging and switch to
Home Health	2	Up	Government; aging and switch to
Administration costs	7	Up	Standardization
Public Health	3	Up	Unsure
Research	<u>3</u>	Down	Switch from government to private
Total	100		

**Source of Funds in 2007**

<b>Category</b>	<b>% of Total</b>	<b>Biggest Issue</b>
<b>Public (47%)</b>		
Medicare	19	Insolvency; consumer choice; drugs
Medicaid	15	States; managed care; elderly poor; children
Other public	13	
<b>Private (53%)</b>		
Private insurance	35	Employers providing less; reaching uninsured.
Out-of-pocket	11	
Other private	<u>7</u>	
Total	100	

## B. Health Insurance

### General Principles

- Risk-pooling is the reason insurance works.
- Risk-aversion is the reason consumers purchase insurance.
- Adverse-selection can lead to failure of insurance markets
- Moral hazard can lead to welfare loss due to excess consumption of health services (Pauly, and Manning et al RAND study).

### Health Insurance Coverage

- Much insurance is **employment-related** or government provided.
- 47 million in 2005 or **16% were not covered by insurance.**
- Young adults are the main uninsured group (40% are 18 to 34 years).  
But many others are also uninsured, including children.  
Related to socio-economic characteristics.
- Even many full-time workers are not covered.

### Recent Trends in Health Insurance

- Switch from indemnity FFS to managed care (PPO and HMO).
- Percentage uninsured rose in early 1990's, fell in late 1990's and is now rising again.
- Employer costs rose little in mid to late 1990's but now increasing considerably each year.

### Future

- Insurance is a key choice variable of consumers and is price-responsive.
- Movement to encourage insurance with higher copays and use of medical savings accounts to permit tax deductibility of out-of-pocket payments.
- Great concern about increasing uninsured despite government efforts to encourage markets for uninsured, e.g. by pooling over employers and recent Children's Health Insurance program.
- Currently big concern to move towards more universal health insurance cover, though not necessarily single payer.

## C. Managed Care (PPOs, POS and HMO)

### Quality and Quantity

- Very fast growth with indemnity insurance essentially eliminated.
- Recent anecdotal criticisms of access to care (quality and quantity) have led to actual reduction in HMO, so PPO is now dominant in much of U.S.
- Studies indicate much of the care in managed care is good (Miller and Luft).

### Costs

- One-time cost savings of 10-20 % (controlling for favorable selection into HMOs).
- Trend then appears to be same as non-managed care.
- High costs relative to premia has led to failure of managed care companies.

### Future

- Much discussion of access to care in managed care (yet little discussion of e.g. thousands of hospital deaths in any system).
- Weakness of employer provision of insurance is employer choice can lead to loss of doctor.
- Problems for the seriously long-term unhealthy in managed care.
- Medicaid will go completely to managed care. But what happens when off Medicaid?
- Medicare would like more managed care but has had problems so far.
- Enthoven favored managed competition. This has not succeeded in lowering costs.
- More measurement of quality. Managed care can collect the data and need this to encourage consumers to buy their product.
- In late 2008 stronger support for moving to universal health insurance, though not to a single-payer system.

## D. Economic Evaluation of Health Services

### Cost Benefit Analysis

- Tool used by economists.
- Replace demand and supply curves by social marginal benefit and social marginal cost curves.
- Sixth stool GUAIAAC test (Neuhauser and Lewicki) shows importance of using marginal analysis.

### Cost Effectiveness Analysis

- Avoids putting dollar value on benefits by considering costs per unit of benefit.
- Life-years saved is often the unit of benefit.
- Quality-adjusted years of life (QALY) brings in benefit via backdoor.

### Future

- Economic evaluation will be used much more in the U.S.
- Pharmaco-economics leading the way.

## E. Users (Individual Demand for Health)

### Grossman Model of Health Demand

- Utility depends on health stock (H) rather than health services per se.
- Health capital is in turn produced by medical inputs (m).
- Utility:  $U = U(x, H)$  where x is other goods.  
Health prodn:  $H = H(m)$   
Budget:  $I = x + p_m m$
- When person is sick the production possibilities curve (possible combinations of x and H that can be obtained given the income I) shifts in leading to higher medical inputs though lower utility.

### Individual Demand

- $m = f(\text{price, coinsurance rate, time price, } p_x, \text{ income, health status, age, education})$
- Price elasticity of health is low. E.g. RAND experiment found -0.17 to -0.22.
- Income elasticity of health is low but positive. So health is a normal good.
- Health demand is responsive to the time cost.

## **Future**

- The primary consumer choice is the health insurance policy, not inputs given the policy.
- So health insurance choice is the key part of consumer demand.

## **F1. Physicians**

### **Physician Quality and Quantity**

- Physician quality is viewed as very high (after Flexner 1910 report).
- Physician quantity is viewed as adequate to high

### **Physician Income**

- Very high.
- In 2004 median physician income was \$180,000 and range was \$150,000 (GP) to \$235,000 (general surgery).
- Human capital investment explains some of this, but high rate of return of 20%.
- Third party payment and licensing explains some of this.

### **Future**

- Continued reduction in physician flexibility due to monitoring by others.
- Potential reduction in physician income due to increased competition and substitution to nurse-practitioners.

## **F2. Hospitals**

### **Quality and Quantity**

- Quality is viewed as high (major shift from hospice to acute care since 1930.)
- Quantity is adequate with some excess capacity.

### **Costs**

- In real 2002\$ costs per patient day up from \$100 in 1950 to \$300 in 1970 to \$1300 in 2003.
- Much of this increase is due to higher staffing levels and greater technology.
- Cost-shifting has greatly reduced.

### **Future**

- Reduced cost-shifting problem for research, education, uninsured, complex cases, autopsies.
- Perhaps more for-profit hospitals (currently low %).
- Further consolidation and some down-sizing.

## **F3. Nursing Homes and Home Health Care**

### **Quality and Quantity**

- Nursing home quality viewed as often being high.
- Nursing home quantity is adequate in some states and inadequate in others.
- Part of problem is that medical system is geared to acute not long-term care.

### **Costs**

- Not viewed as being excessive as much of the labor is nurses and lower-skilled.
- Concern that expanding nursing home and home health care will substitute for currently "free" family care.

### **Future**

- Growth in elderly potentially explosive.
- Impact depend on change in average length of time per person in nursing home.
- Growth pressures Medicaid which pays half nursing home costs (little discussed).
- Home health care appears to be under-utilized to date.

## **F4. Pharmaceutical Drugs**

### **Quality and Quantity**

- Quality is high.
- Quantity is too low for some people as 15% of prescription costs paid out-of-pocket.
- 2006 Medicare Part D expansion to cover prescription drugs for elderly.

### **Costs**

- Viewed as excessive when patented, but patents needed to encourage R & D.
- Viewed as reasonable after patent has run out.
- Formularies are recent attempt to discourage use of high cost drugs.

### **Future**

- Potentially explosive area.
- Consumers may demand access to better drugs due to recent liberalization of advertising to consumers.
- Consumers may be more selective in drug choice, preferring cheaper substitutes. (Currently go along with initial doctor advice and then not take if too expensive).
- Medicaid and other government will surely consider use of formularies.
- Genomic revolution may lead to many discoveries.
- Pharmaco-economics will increasingly evaluate cost-effectiveness of alternative drugs.

## **G. Government**

### **General Principles**

- Major reasons for government involvement in economy are
  - public goods: e.g. information (NIH)
  - externalities: e.g. infectious diseases
  - monopoly
  - market failure: e.g. Medicare as insurance market for over 65's would fail
  - equity: e.g. Medicaid

### **Quality and Quantity**

- Despite preference for private provision, government pays for half of health care.
- Medicare viewed as good quality and good quantity aside from drugs.
- Medicaid is viewed as low quality and quantity due to low reimbursement rates and failure to include the working poor.

### **Costs**

- Medicaid very aggressive on costs with low reimbursements and managed care.
- And Medicaid also tight on nursing homes (half of Medicaid costs).
- But big problem for state budgets.
- Medicare less aggressive but leader in DRGs etc. and does not provide drugs.
- Medicare predicted to run out trust fund within ten years.

### **Future**

- Medicaid managed care and more help to those leaving welfare.
- Medicare Advantage Plan (Part C) changes are very ambitious.

## H1. International Comparisons

### Quality and Quantity

- Most wealthy countries are viewed as having reasonable quality and quantity.
- U.S. is viewed as having best quality and quantity for all but poorest individuals.
- Yet measured outcomes - life expectancy and infant mortality - poor for the U.S. compared to other developed countries
- The real action is in poor countries versus developed countries.

### Costs

- All countries feel pressure.
- But only the U.S. has experienced such high growth rates.

### Future

- Health will creep up as fraction of GDP since health is superior good.
- Other developed countries' systems are radically different from U.S. This suggests radical change is possible here.

## H2. Medical Technology

- Big reason for increased health expenditures is doctors can do more.
- Cutler and McClellan (2001) consider five medical innovations (treatments for heart attack, low birthweight infant, depression, cataracts and breast cancer) and find all but last clearly have  $MB > MC$ .
- Will be a big reason (the biggest?) for further increased expenditures.

### H3. Obesity

- Example of unhealthy habits.
- More recent phenomenon than smoking and excess drinking.
- Obesity doubled from 15% in 1980 to 30% today.
- Associated especially with increased diabetes.
- Sturm (2002) compares to other risk factors and finds obesity has health impact similar to aging from 30 to 50 years and more than smoking and drinking.
- Chou, Grossman and Saffer (2004) use data on individuals over time and suggest that a big reason for increase in obesity / BMI is more restaurants.

### Sources

- Thomas E. Getzen, *Health Economics: Health Economics and Financing*, 3rd Edition, Wiley, 2007 is an accessible text.
- *Health Affairs* is best current accessible journal for health economics.
- *NEJM* and *JAMA* have some good material but for economic policy it can be slanted towards government intervention.
- *NEJM* in early 1999 had excellent eight-part series on The American Health Care System.
- State of the art economics best source is NBER working papers ([www.nber.org](http://www.nber.org)).