Current Issues in Health Economics: An Economist's Perspective

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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 2002

- 14.8% of GDP.
- $5,400 per capita.
- $1,550 billion.

Use of Funds

- The big three (hospital, physician, drugs) are 67% of total.

Source of Funds

- Approximately 45% public and 55% private.
- Only 14% 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 17.7% of GDP in 2012.
- At same time U.S. is a real outlier and radical change is possible.

Use of Funds in 2002

Category	% of Total	Trend since 1960	Biggest Issues
Hospital	31	Static	Managed care; technology
Physician	22	Static	Managed care; physician income
Drugs & Supplies	14	Up	Formularies; technology
Nursing Home	7	Up	Government; aging and switch to
Home Health	2	Up	Government; aging and switch to
Other professional	10		
Admin & insurance	7	Up	Standardization
Public Health	3	Up	Unsure
Research	2	Down	Switch from government to private
Construction	1	Down	None
Total	100		

Source of Funds in 2002

Category	% of Total	Biggest Issue
Public (45%)		
Medicare	16	Insolvency; consumer choice; drugs
Medicaid	16	States; managed care; elderly poor; children
Other public	12	
Private (55%)		
Private insurance	36	Employers providing less; reaching uninsured.
Out-of-pocket	14	
Other private	5	
Total	100	

B. 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 GUAIAC test 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 more.
- Pharmaco-economics leading the way.

C. Health Insurance Coverage

General Principles

- Risk-pooling is the reason insurance works.
- Adverse-selection can lead to failure of insurance markets
- Moral hazard can lead to welfare loss due to excess consumption of health services.

Health Insurance Coverage

- Much insurance is **employment-related** or government provided.
- 43.6 million in 2002 or **15.2% were not covered by insurance.**
- Young adults are the main uninsured group (almost 50% 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. E.g. 16.8% of 18-64 full-time workers.

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 will be the key choice variable of consumers and will be 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.
- This black mark on the U.S. will not go away.

Health Insurance Coverage

	1990	1992	1994	1996	1998	2000	2002
Any Private Plan	73.2	70.7	70.3	70.2	70.2	71.9	69.6
Via employment	60.3	57.9	57.1	61.2	62.0	63.6	61.3
Difference	12.9	12.8	13.2	9.0	8.2	8.3	8.3
Any Gov Plan	-	-	-	-	24.3	24.7	25.7
Medicare	13.0	12.9	12.9	13.2	13.2	13.5	13.4
Medicaid	9.8	11.4	12.1	11.8	10.3	10.6	11.6
Military	-	-	-	-	3.2	3.3	3.5
Not covered	13.9	15.0	15.2	15.8	16.1	14.2	15.2

D. 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(price, coinsurance rate, time price, p_x, 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

- Health insurance choice is the key. The primary consumer choice is the health insurance policy, not inputs given the policy.

E1. 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 2002 median ohysician income was $160,000 and range $120,000 (GP) to $255,000 (surgeon).
- 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.

E2. 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.

E3. 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.

E4. Pharmaceutical Drugs

Quality and Quantity

- Quality is high.
- Quantity is too low for some people as 30% of prescription costs paid out-of-pocket.
- 2004 Medicare 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 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.

F. 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 and PPO is now dominant.
- Studies indicate much of the care in managed care is good.

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 is coming more common.
- More measurement of quality. Managed care can collect the data and need this to encourage consumers to but their product.

F. Government

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+Choice changes are very ambitious.

H1. Distribution and Access within U.S.

Quality and Quantity

- Lack of insurance the entire population is unique to the U.S. amongst developed countries.
- But some question as to seriousness of this in terms of health outcomes.
- Great concern about recent trend of increasing uninsured.

Costs

- Superficially not expensive to expand health insurance to all.
- But then currently insured would try to switch to freely provided insurance.

Future

- No change as change requires dismantling employer-provided insurance.
- If change does occur it may begin with expansion of tax breaks to self-employed and further development of non-employer based insurance for these people.

H2. 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 wealthy countries
- The real action is in poor 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 countries systems are radically different from U.S. This suggests radical change is possible here.

Sources

- Thomas E. Getzen, *Health Economics: Fundamentals and Flow of Funds*, 2nd Edition, Wiley, 2003 is an accessible text.
- *Health Affairs* is best current accessible journal for health economics.
- *NEJM* and *JAMA* have some good material but it can be slanted.
- *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).
- Much material is now available on the web and not just at the library.