



*Income Differences and Health Care
Expenditures over the Life Cycle
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Empirical facts

- Medical expenditure rises with age.
- Low-income people spend less than high-income people at young ages, more from 40 onwards.
- Low-income people more likely to spend nothing in a year, or to have very high expenses.
- High-income people consume more preventive care.

The author's model

- Households choose how much to spend on preventive and curative health care.
- There is a trade-off between per period consumption and length of lifetime.
- High-income households invest more in preventive health care.
- This explains their higher relative health-care costs when young, lower relative health-care costs when old, and greater life-expectancy.

Smoking and obesity

- Obesity is not mentioned in the paper. Smoking is mentioned once in a footnote.
- Smoking has a dramatic effect on health and longevity. Obesity is a risk factor for diabetes and other diseases.
- Both are strongly correlated with socio-economic status.
- How much of the difference in age profiles of health-care costs is due to preventive care, and how much to lifestyle?

Education

- Education is also barely mentioned in the paper.
- Smith (2004) – Except for cancer, which is an equal opportunity disease, education strongly predicts disease onset among older adults. Why?
- Evidence that those with more education adhere better to treatment regimes.
- Do the educated have lower rates of time preference? Are they genetically fitter?

Time preference

- Many forms of preventive care (giving up smoking, not drinking to excess, losing weight) don't cost anything, but involve present pain for future gain.
- What would a model with heterogeneous rates of time preference look like?
- Existing model may overstate potential impact of policy interventions.

Preventive care

- Data in paper on socio-economic differences in preventive care relates to diseases of old age (prostate and breast cancer).
- Paper would be strengthened by citing evidence socio-economic differences in preventive care during childhood e.g., Newacheck and Halfon (1988).
- Socio-economic differences in take-up of preventive care exist even in countries where care is free (Goddard and Smith, 2001).
Why?

How does preventive care in childhood affect health outcomes in late life?

- Health in childhood affects adult health – Case and Paxson
- But how large is the effect of preventive care received in childhood?

How does preventive care in childhood affect health outcomes in late life? (cont'd)

Recommended Immunization Schedule for Persons Aged 0 Through 6 Years – United States 2011

Vaccine ▼	Age ►	Birth	1 month	2 months	4 months	6 months	12 months	15 months	18 months	19–23 months	2–3 years	4–6 years	
Hepatitis B ¹	HepB		HepB			HepB							
Rotavirus ²				RV	RV	RV ²							Range of recommended ages for all children
Diphtheria, Tetanus, Pertussis ³				DTaP	DTaP	DTaP	see footnote ³	DTaP				DTaP	
<i>Haemophilus influenzae</i> type b ⁴				Hib	Hib	Hib ⁴	Hib						
Pneumococcal ⁵				PCV	PCV	PCV	PCV				PPSV		Range of recommended ages for certain high-risk groups
Inactivated Poliovirus ⁶				IPV	IPV	IPV						IPV	
Influenza ⁷						Influenza (Yearly)							
Measles, Mumps, Rubella ⁸							MMR			see footnote ⁸		MMR	
Varicella ⁹							Varicella			see footnote ⁹		Varicella	
Hepatitis A ¹⁰							HepA (2 doses)				HepA Series		
Meningococcal ¹¹											MCV4		

Source: Center for Disease Control and Prevention, "Immunization Schedules," <http://www.cdc.gov/vaccines/recs/schedules/downloads/child/0-6yrs-schedule-pr.pdf>

Relationship between income and health-care costs

- To what extent are income quintiles stable over the lifetime?
- Findings of the model are sensitive to the assumptions about the correlation between parental income and the subsequent income of the individual as an adult.

Comparison of U.S. with other countries

- Model predicts that U.S. will have a steeper growth in medical expenditure over the life-cycle than countries in which the poor have better access to health care.
- This is supported by the data.
- But cross-country differences may reflect rationing and social norms.

Conclusion

- Author's findings are persuasive and have important policy implications.
- Model fits many observed facts about health inequalities in the U.S.
- Suspect he over-estimates the welfare gains from universal health-care coverage and free preventive medicine.