Production of Health (Part 2)

EE 474 Health Economics
Semester 1/2012

Topics

- Fuchs' (1974): *Who Shall Live?*
- Other inputs in the health production
  - Lifestyle behaviors
  - Environment
  - Family characteristics
  - Income
  - Social capital
  - Education

Fuchs' (1974): Who Shall Live?

- One of the early studies on what inputs produce health—the health production function
- Fuchs' observations:
  - Not until the 20th century that health care had a substantial contribution on health.
  - Most of the gains in health in the 1800s and early 1900s were due to increased income, and improvements in public health (e.g. chlorination of water and pasteurization of milk) and better hygiene.
  - The development of pharmaceutical products (e.g. antibiotic and vaccine) increased health and also increased the productivity of physicians.

Fuchs' (1974): Who Shall Live?

- Fuchs' observations (continued):
  - *Now (at the time of his writing)*, health gains are not associated with income or public health programs
  - Many of the diseases that people are dying of (e.g. heart disease and cancer) *cannot be cured* by medical care.
  - Instead, they can be prevented by consumers following healthy lifestyles.
- Fuchs argued that these diseases were related more to lifestyle than lack of health care. Thus, *changes in lifestyle are the most productive inputs in the health production function.*

A Tale of Two States

- Studied the population health outcomes during 1960s in two adjacent states:
  - Utah – low rate of alcohol and tobacco use
  - Nevada – known for high alcohol and tobacco consumption
- Showed the "excess" death rates in Nevada compared to those in Utah:
  - Age-specific death rates, by gender and age
  - Cause-specific death rates for liver cirrhosis (associate with heavy drinking) and lung cancer (associate with tobacco smoking)

Excess of Death Rates in Nevada compared with Utah, Average for 1959-61 and 1966-68

Age Group	Males (%)	Females (%)
< 1	42	35
1 -19	16	26
20 – 39	44	42
40 – 49	54	69
50 – 59	38	28
60 – 69	26	17
70 – 79	20	6

Source: Reproduced from Fuchs (1974), Who Shall Live? Health Economics, and Social Choice: Chapter. 2

Excess of Death Rates in Nevada compared with Utah for Cirrhosis of the Liver and Malignant Neoplasm of the Respiratory System for 1966-68

Age Group	Males (%)	Females (%)
20 – 39	590	443
40 – 49	111	296
50 – 59	206	205
60 – 69	117	227

Source: Reproduced from Fuchs (1974), Who Shall Live? Health Economics, and Social Choice: Chapter. 2

Lessons from Fuchs' Study

- The comparison of death rates in the two states show a big difference favoring *Utah.*
  - Lifestyles matter!
- Fuchs' study was the first to put health care spending in the health production function, and to recognize that there might be other and better options for obtaining health than buying additional health care.
  - We could apply allocative efficiency rule.
- This study was path breaking because it contributed to the recognition that we consumers have a great deal of influence on our own health.

Other Inputs in the Health Production

- From Fuchs' study, we saw that lifestyle behavior and environmental pollution affect health.
- Other determinants of health are:
  - Family characteristics:
    - Maternal lifestyle, knowledge, etc., affect children's health.
  - Income:
    - Should have positive effects, but the relation between income and health is complex.
  - Social capital:
    - Increase healthful behavior and reduce risky health behavior
  - Education:
    - Education has a strong association with health status.

Education and Health

- 2 Theories about the role of schooling:
  - *Michael Grossman's* (1972a, 1972b) theory of demand: Better-educated persons tend to be economically more efficient producers of health status.
  - *Victor Fuchs* (1982): People who seek out additional education tend to be those with lower discount rates, and at the same time people with lower discount rates will be more likely to invest in education and in health as well.
- Empirical studies support the argument that education makes persons more efficient producers of health (Lleras-Muney, 2002).