This is a sample of the instructor resources for *Health Policy Issues: An Economic Perspective, Fourth Edition* by Paul Feldstein. This sample contains the instructor notes and PowerPoint slides for chapter 3.

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Chapter 3

Do More Medical Expenditures Produce Better Health?

Chapter Overview

Although the United States spends more per capita on medical services and devotes a larger percentage of its Gross National Product to medical care than other countries, our health levels are not proportionately higher. Is our medical system less efficient at producing health than other countries, or are medical expenditures less important than other factors that affect health levels? This chapter explores these questions and points out that further expenditures on medical services are not the most cost-effective way to increase health levels. Researchers have concluded that changing lifestyle behavior offers the greatest promise for lowering mortality rates, at a much lower cost per life saved.

Main Topics Covered

Medical Services Versus Health
A Health Production Function
Increasing Health Levels Cost Effectively
   Neonatal Infant Mortality Rate
Heart Disease Mortality Rate
   Causes of Death by Age Group
The Relationship of Medical Care to Health Over Time

Textbook Discussion Questions

1. How can a health production function allocate funds to improve health levels?

   Economists have used the concept of a health production function to determine the relative importance of medical expenditures in decreasing mortality rates. Health status can be improved in various ways, such as through increased medical expenditures, changes in lifestyle, patient education, and environmental improvements. Using this concept allows expenditures to be directed toward those programs that are most cost effective; that is, it results in the lowest cost per life saved. Allocating funds in this manner will achieve a greater reduction in mortality rates for a given total expenditure than any other allocation method. The health production function concept is increasingly being used by employers and managed care organizations that face financial pressure to reduce their medical costs.

2. Why does this country spend an increasing portion of its resources on medical services although it is less cost effective than other methods for improving health levels?
First, health insurance coverage, which is subsidized through the tax system, has been so comprehensive, with low deductibles and small copayments, that individuals face a very low out-of-pocket price when they go to the hospital or to a specialist. Thus patients use more medical services than they would if they had to pay a greater portion of the cost. It is not surprising, given these low copayments and the incentives inherent in fee-for-service payments to providers, that the medical community lobbies for increased expenditures.

Second, the primary objective of government medical expenditures has not been to improve health and decrease mortality rates. Medicare benefits the elderly, and approximately one-half of Medicaid expenditures are for care of the elderly in nursing homes. The purpose of these government expenditures is to help finance the medical needs of the aged, which is the most politically powerful group in society. Enormous resources are spent on those in the last year of life. The result has been rapidly rising medical expenditures and limited reductions in mortality rates. Had the government’s objective been to increase the nation’s health, the types of services financed would have been very different, as would be the age groups that would most benefit from those expenditures. More resources would be spent on promoting lifestyle changes or providing services such as prenatal care. However, proponents of these programs are not as politically powerful as the aged.

3. How can employers use the concept of a health production function for decreasing their employees’ medical expenditures?

Employers can decrease medical expenditures by recognizing that their employees’ health can be improved more cost effectively through changes in lifestyle behavior. Employers can use health risk appraisal questionnaires to determine the types of diseases their employees have and the factors that put them at risk for each disease. Then they can give employees incentives to make lifestyle changes—for example, to stop smoking, reduce their weight, and exercise. This approach enables employers to retain a skilled workforce longer as well as to reduce medical expenditures.

4. Describe a production function for decreasing deaths from coronary heart disease.

Decreasing deaths from coronary heart disease can be achieved by increasing medical inputs, such as coronary artery bypass operations and coronary intensive care units within a hospital, which increase the survival rate for those with heart disease, prescribing drugs to patients, such as statins, to reduce the risk factors associated with heart disease, as well as emphasizing lifestyle changes, such as diet and exercise, to those at greater risk for heart disease.

The next step in developing a production function for decreasing coronary heart disease is to determine the relative effectiveness (marginal contribution) of each factor. A number of studies have concluded that lifestyle changes are more
effective (have a higher relative marginal contribution) than medical interventions in reducing mortality from heart disease and are also much less expensive. These changes include reduction in smoking, increased exercise, and changes in diet, which lowered cholesterol levels. These lifestyle changes are more likely to be undertaken by those with more education.

5. Describe a production function for decreasing deaths of young adults.

The approach for developing a production function for decreasing young adult deaths would be similar to the above question. The factors affecting young adult deaths would be specified and, second, the relative marginal contribution of each would be determined. Together with information on the relative cost of changing each factor together with their relative marginal contribution, a decision can be made as to which input would be most cost effective for reducing young adult deaths.

The main causes of death for young adults are accidents (particularly auto), homicides, and suicides. Developing programs to encourage young adults to alter their behavior—to drive more safely, for example—would be the inputs needed to determine, together with their relative costs, which programs are the most cost-effective way to reduce mortality rates in this age group.

Additional Questions

1. Are medical services synonymous with health?

When policymakers talk of “health reform,” they often make the mistake of assuming that medical services are synonymous with health when they are really referring to reform of the financing and delivery of medical services. Medical services consist of diagnosis and treatment of illness, which can lead to an increase in health. However, medical services also consist of amelioration of pain and discomfort, reassurance to the worried well, and heroic treatments to those who are terminally ill. In the United States, 27 percent of all medical expenditures, $329 billion (in 1999), are spent on just 1 percent of the population. Increased medical expenditures, therefore, may have relatively little effect on our health levels. To increase health levels would require program expenditures on programs not considered to be medical services, such as smoking cessation and drug use among children.

2. Although the marginal contribution of medical care to improved health has been shown to be relatively small, over time major technological advances have greatly reduced mortality rates and increased life expectancy. How can these seemingly contradictory findings be reconciled?

Cutler and Richardson separate medical care’s effect at a point in time versus its technological contribution over time. The authors illustrate the relationship
between the total contribution of medical care to health and greater quantities of medical care using Figure 3.3. Comprehensive health insurance combined with fee for service physician payment reduces both the patient’s and physician’s incentive to be concerned with the cost of care, resulting in the medical care system moving to point A in Figure 3.3, where the marginal contribution of medical care to health is very small. Additional medical care expenditures increase health, but at a decreasing rate.

Over time, however, medical advances shift the production function for health upward. The level of health has increased, as have the number of patients treated, but the marginal contribution of medical care is still low, point B. Too many patients whose need for treatment is doubtful are treated with the new technology and/or excess capacity occurs as too much of the new technology is made available.

Thus, although the public believes the medical care they receive today is much more valuable than treatments received 30 years ago, the medical care system remains inefficient; the marginal benefit of additional medical care expenditures is low.
Figure 3.1: Effect of Increased Medical Expenditures on Health
Figure 3.2: Neonatal Mortality Rates, by Race, 1950–2004

Figure 3.3: Relationship Between Medical Care and Health