

COSTS OF HEALTH CARE THROUGHOUT THE WORLD

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Summary

Few topics receive as much attention in the popular press as health care costs, which typically represent about 9% of the gross domestic product of various industrialized countries around the world. Supply and demand factors, in conjunction with public policies, determine how much of a nation's income is devoted to health care expenditures. Among the more important factors on the demand-side of health care markets are out-of-pocket price, income, time costs, and need. Prices of inputs, technology, organizational form, and health care provider behavior are key supply-side determinants influencing health care costs. Public policy attempts at cost containment in various countries include fixed reimbursement schemes, supply-side controls, and the sponsorship/encouragement of managed care organizations. High and rising health care costs will most likely persist around the world as long as new technologies continue to raise the probability that lives can be saved.

1. Introduction

Spending on health care has generated a lot of attention, not only in scholarly journals but also in the popular press. Typically, when spending on a good or service rises,

people point to the success achieved in that industry. For example, employees, stockholders, consumers, government officials, and just about anyone else in a society, greet news of rising sales in the automobile and computer industries with awe, admiration, and approval.

When it comes to rising sales in the health care sector, however, people point to failure rather than success. The reasoning behind the different treatment of sales in the health economy, as compared to the rest of the economy, most likely has its roots in the underlying determinants of expenditures in the two sectors of the economy. In particular, various structural characteristics may make the health economy different from the rest of the economy and may reflect basic flaws that result in a market economy not providing an efficient and equitable amount of medical care. These underlying structural characteristics also help to generate high health care costs and include features such as poor consumer information regarding the appropriateness of medical care, the intermediary function of third-party payers, the special nature of medical care, the predominance of not-for-profit medical organizations, and the substantial role for government in affairs relating to health care.

This article focuses on the determinants of health care costs throughout the world. The many reasons for high and rising health care costs are discussed. For the sake of organization, the explanations are couched in terms of the supply of and demand for health care. As noted, some of the supply and demand factors are strongly affected by the abovementioned structural characteristics normally associated with a health economy. Public policies that influence the operation and performance of health care markets are also discussed. Demand-side determinants of health care spending include out-of-pocket price, income, time costs, and need. Prices of inputs, technology, organizational form, and health care provider behavior are key supply-side determinants influencing health care costs. Public policy attempts at cost containment in various countries include fixed reimbursement schemes, supply-side controls, and the sponsorship/encouragement of managed care organizations. Each of these determinants of health care costs is examined after discussing how health care costs are typically defined and measured.

2. Costs of Health Care

As with all other goods and services, the production of medical services involves resources, or inputs, which economists classify into four general categories: land, labor, capital, and entrepreneurial ability. Physicians, public health officers, laboratory assistants, hospital facilities, diagnostic and therapeutic equipment, and pharmaceutical goods are some of the many important medical inputs that help to produce the final output of medical services. If resources were limitless, there would be no cost of producing medical services, or any good or service for that matter. But unfortunately, scarcity means that resources must be diverted from the production of nonmedical goods and services and converted into medical inputs when additional units of medical services are produced. It is the value of the forgone nonmedical goods that represents the cost, or more specifically the opportunity cost, of producing more health care.

Table 1 provides some insight into the opportunity cost of producing medical goods and

services in countries. Throughout the world, countries spend about 5.4% of gross domestic product (GDP) on health care, or about US\$532 per capita per year. The aggregate data imply that, because of health care, people around the world give up 5% more spending on all other goods and services. Five percent represents an impressive figure when one considers that the value added of all agricultural production, a good just as important to health as medical care, constitutes only 4% of the world economy's GDP.

Income group or region	Health care expenditure per capita (PPP \$)	Health care expenditure as a percent of GDP (%)
World	532	5.4
Low income	78	3.1
Middle income	264	5.1
High income	2,267	9.6
Low and middle income	139	4.5
East Asia and Pacific	106	3.6
Europe and Central Asia	315	5.4
Latin America and Caribbean	425	6.7
Middle East and North America	211	4.5
South Asia	64	5.0
Sub-Saharan Africa	87	2.9

Source: E. Bos et al., *Health, Nutrition, and Population Indicators, A Statistical Handbook* (Washington, D.C.: The World Bank, 1999).

Table 1. Health care expenditures by income group and region

Data in the table also demonstrate that the slice of GDP devoted to health care varies substantially across countries with differing levels of income. In the poorest countries, total health care expenditures amount to 4.2% of GDP, with Sudan, the lowest spender, allocating only 0.3% of its income to health care. The percentage of income devoted to health care gets progressively higher in wealthier countries. Middle-income countries spend approximately 5.1% of GDP on health care whereas high-income countries spend nearly 10%. In the extreme case, the United States devotes almost 14% of its GDP to health care.

Per capita figures further demonstrate that high-income countries spend almost 10 times as much per person on health care than do middle-income countries, and roughly 30% more per person than low-income countries. Among the low- and middle-income countries, substantial variation in health care spending also exists across regions of the world. In terms of the percent of GDP allocated to health care, Sub-Saharan Africa spends only 2.9% on health care while Latin American and Caribbean countries spend 6.7%. On a per capita basis, South Asian countries, representing the low spenders,

expend about \$64 per capita on health care. The Latin American and Caribbean region, in stark contrast, spends nearly seven times as much, or \$425 per person, on health care.

Even within regions, there are substantial variations in health care spending. For example, in Africa, health care costs as a percentage of GDP range from 1.2% in Comoros to 7.9% in South Africa. In Southeast Asia, health care spending varies from 1.8% of GDP in Indonesia to 5.6% in India. Even in Europe, where income per capita appears relatively equal across countries, the percentage of GDP devoted to income ranges from 4.1% in Israel to 10.5% in Germany.

It should also be noted that the share of spending on health care has not remained constant over time. For example, among member countries of the Organization for Economic Cooperation and Development (OECD) for which data are available, health expenditures as a percentage of GDP rose dramatically from 3.8% in 1960 to 7.5% in 1997, or by 3.7 percentage points on average. The United States witnessed the largest percentage point increase of 8.3 in the share of GDP devoted to health care. Meanwhile, the United Kingdom experienced the smallest increase of 2.8 percentage points from 3.9% to 6.7% over the 37-year period.

As the data on health care spending indicate, the delivery and consumption of health care involves a considerable amount of resources in countries around the globe. Moreover, the data suggest that vast international differences exist in the amount of spending on health care across income levels and regional locations. The amount of health care spending throughout the world, the growth of health care spending, and particularly the observed differences in health care spending across countries, can most likely be explained by varying market forces, as captured by demand and supply factors and variations in public health policies across countries. The reasons for these observed differences in health care spending are discussed below.

3. Demand Factors Influencing Health Care Costs

Health care can be defined as those activities that restore, preserve, or enhance the physical and mental well-being of people. As such, the demand for health care represents a derived demand because it depends on the satisfaction derived from being in a state of good health. Improved health not only makes individuals feel better today—consumption benefit—but also frees up time away from sickness to pursue productive and leisure activities, which represents an investment benefit. It follows that people who place a high value on the consumption and investment aspects of health also have a large demand for health care, all other determinants of health care remaining the same.

Not all other factors influencing the demand for health care remain the same, however. Among the more important factors influencing an individual's demand for health care, other than the value placed on good health, are out-of-pocket price, income, time costs, and the particular person's underlying stock of health, or need for health care, as captured by indicators such as age, lifestyle, environment, and socioeconomic status.

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Biographical Sketch

Rexford E. Santerre is a Professor of Finance in the Center for Health Care and Insurance Studies at the University of Connecticut. He previously served as Professor of Economics at Bentley College. He received his Ph.D. in economics from the University of Connecticut in 1983 and specializes in health economics, industrial organization, and public sector economics. Santerre has published numerous articles in journals such as *The Review of Economics and Statistics*, *Economic Inquiry*, *Southern Economics Journal*, *Medical Care Research and Review*, *American Journal of Public Health* and *Healthcare Management Review*. He is also co-author of *Health Economics: Theories, Insights, and Industry Studies*, 2000, Dryden Press.