

# What Should A Country Spend On Health Care?

Of four approaches to answering this question, the budget approach appears to be the most feasible and quantifiable.

by **William D. Savedoff**

**ABSTRACT:** Per capita health spending across countries ranges by more than 100 to 1, leading many people to ask, “What should a country spend on health care?” This paper discusses four approaches to this question and demonstrates how each approach, in effect, answers a slightly different question, all of which are important to public policy decisions regarding health care spending. The paper also addresses a commonly cited World Health Organization statement that countries should spend 5 percent of national income on health care services. [*Health Affairs* 26, no. 4 (2007): 962–970; 10.1377/hlthaff.26.4.962]

**P**ER CAPITA HEALTH SPENDING ACROSS COUNTRIES ranges by more than 100 to 1, representing anywhere between 1 percent to well over 10 percent of national income. Yet health outcomes across countries are not strongly related to the level of spending on health services once other factors and other kinds of spending are considered. It might not be surprising, then, to find many people asking, “What should a country spend on health care?”

People persistently raise this question in many national health policy debates and frequently refer to an alleged World Health Organization (WHO) recommendation that countries should spend 5 percent of gross domestic product (GDP) on health. A recent example of this can be found in an article in the *South African Medical Journal*, which states, “South Africa spends 8.5 percent of its gross domestic product (GDP) on health care—a figure that is proportionately higher than *the 5 percent recommended by the WHO*” (emphasis added).<sup>1</sup> Other examples include the popular press, United Nations (UN) documents, and technical guidelines for nongovernmental organizations (NGOs).<sup>2</sup>

The WHO has produced substantial material on health care financing issues, going back to at least 1963.<sup>3</sup> However, it never formally adopted or published a recommendation that countries should spend 5 percent of national income on health care.<sup>4</sup> The 5 percent figure first appeared in WHO documents in 1981 as an indicator that should be monitored, not as a recommended level of health spending. It

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appears that researchers, journalists, and policymakers later transformed the figure into a recommendation.

The WHO documents provide no explanation for why 5 percent of GDP was chosen for the indicator, although this amount was close to the upper bound of health spending estimates in the early 1980s. Setting a 5 percent goal sounds less ambitious today than it would have been considered at the time—both because researchers had underestimated health spending (particularly by ignoring private health spending) and because health spending was much lower.

The transformation of this WHO indicator into a recommendation is one manifestation of the strong demand to answer this question with solid analysis. This paper argues that finding such an answer is difficult because the question itself is deceptive: It appears to be complete, when in fact it is not. Here I present a more precise formulation of the question and four approaches for answering it.

### **What Is The Question?**

It is difficult to say what a country should spend on maintaining and improving its population's health without knowing the challenges it faces. The appropriate amount of spending in a country with a malnourished population facing endemic malaria and an epidemic of HIV/AIDS is likely to be different from one with limited infectious disease and a high incidence of cancer and chronic conditions. So, to be more complete, the question would have to be amended as follows:

How much should my country spend on health, given our current epidemiological profile?

And yet, just knowing the current epidemiological profile does not determine which health conditions the country can or will address. Eradicating polio has been medically possible for some time, but only now, fifty years since the invention of the Salk vaccine, have all countries made the political decision to do it. The amount a country should spend, then, depends also on what it aspires to. So the question could be reworded as follows:

How much should my country spend on health, given our current epidemiological profile relative to our desired level of health status?

Unfortunately, this still leaves the question incomplete because it does not consider the effectiveness of different inputs toward improving health. The existing capacity of medical personnel or public health officials, along with existing technology and the quality of drugs and equipment, affects how much the spending on such inputs will actually improve health. In addition, different ways of applying these inputs will affect how much money is needed to administer, maintain, and deliver them. So, completing the question requires a further specification:

How much should my country spend on health, given our current epidemiological profile relative to our desired level of health status, considering the effectiveness of health inputs that would be purchased at existing prices?

The question would be complete but for one further consideration. In this form, the question takes no account of other social demands on resources—whether for housing, education, public infrastructure, policing, or the arts. So, no matter how important health is, society needs to at least consider the best alternative uses of its limited resources. In many cases, such a comparison will support allocation toward health services or public health initiatives. But there is some point—and this is critical to the question of “how much?”—at which applying additional funds to health will not be as useful to society as spending on other things. Hence, our question becomes:

How much should my country spend on health, given our current epidemiological profile relative to our desired level of health status, considering the effectiveness of health inputs that would be purchased at existing prices, and taking account of the relative value and cost of other demands on social resources?

The deceptively simple question, “What should a country spend on health care?” requires substantial modification to be answered with any rigor. Existing epidemiological conditions, social aspirations, the technical and allocative efficacy of health inputs, existing prices, and alternative social uses of funds all play a role in determining what a country should spend on health care.

### **What Counts As Health Spending?**

■ **Absolute versus relative terms.** The question is also imprecise because there are many different kinds of health spending. The question may be asked in absolute terms (for example, amount of money per person) or relative to income (for example, share of GDP). Efforts to answer the question in absolute terms are usually concerned with how much it costs to provide a particular set of services, whereas efforts to answer it in relative terms are more concerned with how much a country can afford. Focusing the question on absolute amounts is grounded in decisions about the kinds and amount of health care services. By contrast, the share of income bears little relation to the kinds of services needed or desired.

■ **Total versus public-sector health spending.** The question may also be asked in terms of total spending on health or public spending on health. When the focus is public-sector health spending, then the question is part of a more general debate over public budgets. When the focus is on total health spending, the question goes beyond the public budget to include policies that influence how much individuals and households spend on health services and what kinds of services they buy.

Policy debates frequently focus on public spending. In part, this is because public-sector health spending is more directly under policymakers’ influence than are other types of spending. Also, public spending represents such a large share of total spending on health in most Organization for Economic Cooperation and Development (OECD) countries that the difference between total and public spending is relatively small. However, in most low- and middle-income countries, private spending is a large share of total health spending. In these countries, public policymakers have to find ways to influence both public and private spending.

## How Have People Tried To Answer The Question?

At least four different approaches can be identified for answering the question of how much a country should spend on health. These approaches range from rough comparisons with other countries to a full budgeting framework.

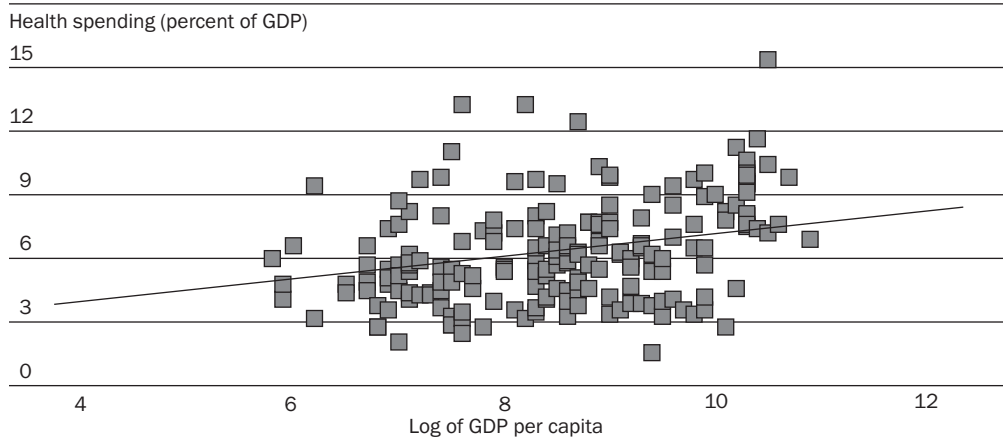
■ **Peer approach.** One approach is to ask whether a country is spending more or less than countries with similar characteristics, such as income levels, cultures, or epidemiological profiles. This approach accepts that the underlying relationship between health spending and health outcomes is difficult to specify and aims instead at observing and learning from comparable experiences. It is conceptually most similar to the process of “benchmarking,” in which firms or administrative units set targets relative to what other similar entities are achieving.

This approach can be quite satisfying for policy debate purposes because it easily generates a single target amount. This is the approach implied when British politicians claim that their country is spending too little on health (6.9 percent of GDP) by comparison with their peers in the European Union (for example, public health spending in France is 7.7 percent of GDP; in Sweden it is 8.0 percent).<sup>5</sup> It has also been made explicit in studies that compare health spending to national income and then show which countries or regions spend less or more than expected (Exhibit 1).<sup>6</sup> Among developing countries, for example, such cross-national comparisons show that Asian countries tend to spend less than expected (given their income levels), while Latin American countries tend to spend more.<sup>7</sup>

The main problem with this approach is that it tends to focus almost exclusively on inputs and expenditures and fails to consider the main goal, which is, presumably, better health. To address this concern, a benchmarking exercise

### EXHIBIT 1

#### Total Health Spending And National Income In 190 Countries, 2003



**SOURCE:** Author's calculations based on data from World Health Organization, *World Health Report 2006* (Geneva: WHO, 2006).

**NOTES:** Data on 190 WHO-member countries for which data were available. Because of scale, not all countries appear distinctly in the exhibit. GDP is gross domestic product.

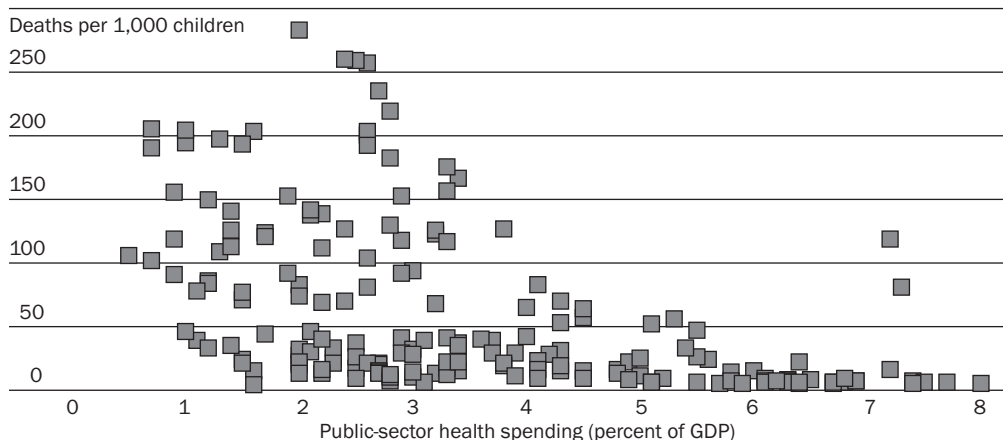
might focus on similar countries that have achieved among the best health outcomes. Unfortunately, this will generate widely varying estimates depending on which countries are chosen. For example, a country with per capita income of US\$5,000–US\$6,000 could choose to compare itself to countries with similar income levels, such as Peru or the Philippines. The two countries have similar child mortality rates (29 per 1,000 for Peru and 34 per 1,000 for the Philippines). Yet public-sector health spending is 2.1 percent of GDP in Peru and only 1.3 percent in the Philippines. In countries with good health outcomes, the range of health spending is extremely wide and rarely gives a clear answer regarding an optimal amount. For example, countries with child mortality rates below 30 per 1,000 have public-sector health spending ranging from 1.4 percent to 8.7 percent of GDP and from US\$7 per capita to US\$4,200 per capita (Exhibit 2).

■ **Political economy approach.** A second approach alters the question slightly. Instead of asking, “What should a country spend on health care?” it asks, “Why is my country spending more (or less) on health than it should?” The implicit assumption by those advocating a change in health spending is that they believe that the current allocation of national income or public budgets to health is too low, presumably as a result of a variety of political and economic forces that set budgets and public policy. In a country where health spending is artificially high or low because of the actions of particular lobby groups (such as military contractors, teachers’ unions, medical associations, and pharmaceutical companies), this approach would try to determine the magnitude of the alleged distortion.

Such an approach can be quantified with a model of health spending that explicitly incorporates the preferences and resources of competing social actors. Im-

## EXHIBIT 2

### Child Mortality And Public-Sector Spending On Health In 181 Countries, 2003



**SOURCE:** Author's calculations based on data from World Health Organization, *World Health Report 2006* (Geneva: WHO, 2006).

**NOTES:** Data on 181 WHO-member countries for which data were available and whose public-sector health spending was 8 percent of gross domestic product (GDP) or below. Because of scale, not all countries appear distinctly in the exhibit. Children are those under age five.

plementing such an approach for public budget decisions is likely to be more tractable than for analyzing total health spending, both public and private. But even with public spending, it would require defining an implicit social welfare function to identify the “correct” level of health spending that would occur in the absence of political “distortions.”

One study that analyzed U.K. public budget allocations modeled budget decisions as the result of competition among actors with different constraints and ideological tendencies; it found that unexpected changes in defense spending did not greatly affect public-sector health spending.<sup>8</sup> A political economy model for Brazil—which assumed that public-sector health spending benefits poor voters more than rich voters (who have access to private health insurance)—demonstrated that health spending was higher in municipalities where the poor had greater political influence.<sup>9</sup>

The political economy approach is probably the best from a social science perspective because it addresses the actual political mechanisms that determine health spending and the behavior of the social actors who influence public spending decisions. However, obtaining reliable quantitative estimates is extremely difficult because of the large number of factors involved and the complexity of modeling such political processes. Furthermore, the approach also implies identifying the “good guys” and “bad guys” (depending on your perspective) in the budget debates, which is not always the best way to win friends or persuade enemies.

■ **Production function approach.** A third way to address the question is to explicitly estimate a health production function through cross-national or panel data analyses. This approach uses aggregate data to estimate the impact of health spending, socioeconomic characteristics, demographics, and other factors on a population's health conditions. The resulting equation can incorporate three of the issues raised earlier: the current epidemiological profile, prices of inputs, and the effectiveness with which inputs can be transformed into improved health status.<sup>10</sup> Once a particular level or change in health status is specified, the equation can be used to predict the change in health spending that would be necessary to reach that goal.

The production function approach is more grounded than the peer approach because it emphasizes the relationship between spending and the desired goal—that is, better health. It is more feasible than the political economy approach in terms of data requirements and less demanding than the budgeting approach since it focuses on a relatively small set of aggregate variables rather than requiring a full specification of all the inputs or activities of the health sector (these two approaches are discussed below).

However, the production function approach has several drawbacks as well. For one thing, it is extremely difficult to attribute changes in health status to health care spending, independent of other factors, although researchers have made noteworthy efforts.<sup>11</sup> Based on estimates in many of these studies, countries would have to increase health care spending by factors of ten or more to raise life expectancy

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by a few years.<sup>12</sup> In other cases, estimates suggest that reasonable changes in health spending, on the order of 5–10 percent—particularly on primary health care—could have substantial effects on reducing child and infant mortality rates.<sup>13</sup>

Even if it were possible to have confidence in the precision and reliability of these estimates, the production function approach still fails to address trade-offs between spending on health services and on other things. A further drawback is the difficulty of convincing people to accept the findings when the underlying statistical analyses are complex and not readily accessible to the general public.

■ **Budget approach.** The most complete approach to incorporating the five issues presented above is to identify the desired health status changes and determine what needs to be purchased—whether health services or health service inputs—to achieve those goals. Next, these items need to be priced and summed, generating an estimate of the funds necessary to buy that level of service. This approach is common at the level of specific programs and is regularly carried out by most governments during their budget processes. The World Bank and the Commission on Macroeconomics and Health both published studies in which they designed packages of health care services and then estimated how much it would cost to make that package available to a given population.<sup>14</sup> A similar exercise, undertaken with much greater precision in Ethiopia, estimated that addressing bottlenecks in the delivery of a package of cost-effective health interventions would cost an additional US\$1 per capita, representing a little less than 1 percent of GDP, and would reduce child mortality rates and the lifetime risk of mothers’ dying by 30 percent.<sup>15</sup>

This approach is conceptually accessible to most people. However, it is less than satisfying for public budget debates because the final estimate depends so obviously on how many services or inputs are to be bought and on their prices. Also, the approach is frequently conducted without explicit attention to measures of the effectiveness with which service inputs actually influence health outcomes. In fact, there are no fundamental or obvious criteria for selecting these quantities (whether services or inputs) without an empirical understanding of how health services improve health. So this approach answers the global spending question only by generating new questions about the amounts and kinds of services that should be used.

One of the biggest strengths of this approach is that when combined with a full public budget review, it forces attention to all of the various elements in the complete version of the question identified above. Presumably, a full budget review needs to set goals within the epidemiological context, estimate input requirements, survey prices and wages, and make arguments for health spending relative to other demands on the public purse.

## So What Is To Be Done?

The first thing to consider when approaching the question of how much to spend on health is to distinguish those cases where the concern is over the public budget (generally the case in OECD questions) or total health spending (which includes out-of-pocket spending and may be less amenable to policy influence). This focuses attention on the right set of policy instruments, whether public budget decisions or regulatory and oversight mechanisms.

Second, it is important to recognize that each of the approaches above asks a slightly different question. The peer approach asks how a country fares relative to similar countries; it is the easiest to quantify but probably the least informative. The political economy approach focuses attention on the process of political decision making but is least likely to produce a quantitative estimate of requirements. The production function approach asks how much a country should spend to attain a particular level of health, but it will probably be years before a satisfactory and robust health production function can be estimated with the precision required for policy analysis. Only the budget approach appears to be both feasible and readily quantifiable, although it requires directly confronting the issues of current and desired health status, prices, effectiveness, and trade-offs. But choosing the amount a country will spend on health really is a consequence of all of these factors. Fundamentally, there is no shortcut.

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*Research for this paper was conducted while the author was employed by the World Health Organization (WHO), and its support is gratefully acknowledged. All statements and interpretations are the author's sole responsibility and do not represent any position on the part of the WHO. The author acknowledges Chris Murray, who provided the impetus for this paper and would not accept facile answers, and Guy Carrin, Neelam Sekhri, Jean-Pierre Poulhier, Phil Musgrove, and Chris James for their insightful comments and suggestions.*

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