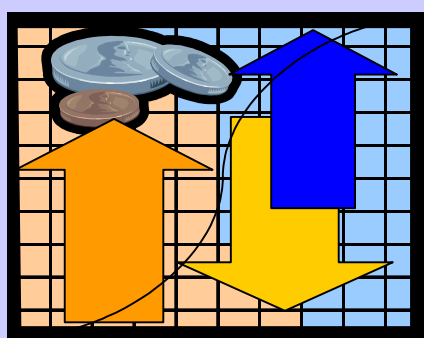




World Health Organization
Geneva

EIP/FER/DP.03.2



How Much Should Countries Spend on Health?

DISCUSSION PAPER
NUMBER 2 - 2003

Department "Health System Financing, Expenditure and Resource Allocation" (FER)
Cluster "Evidence and Information for Policy" (EIP)

World Health Organization 2003

This document is not a formal publication of the World Health Organization (WHO), and all rights are reserved by the Organization. The document may, however, be freely reviewed, abstracted, reproduced or translated, in part or in whole, but not for sale or for use in conjunction with commercial purposes.

The views expressed in documents by named authors are solely the responsibility of those authors. Incorporated comments and suggestions from G. Carrin, P. Davies, P. Hanvoravongchai, C. James, K. Kawabata, A. Mechbal, C. Murray, P. Musgrove, N. Sekhri, A. Singh, M. Takeuchi, and E. Villar are gratefully acknowledged.

*How Much Should Countries Spend
on Health?*

by

William Savedoff

*WORLD HEALTH ORGANIZATION
GENEVA
2003*

Introduction

The range in per capita health spending across countries is larger than 100 to 1, and this translates into spending of anywhere between 1 percent to well over 10 percent of national income. Yet health outcomes across countries are not strongly related with the level of spending on health services once other factors and other kinds of expenditure are accounted for. It may not be surprising, then, to find many people asking "what is the right amount for a country to spend on health?"

The attractiveness of such a question is clear from the numerous times that references are made to it in national health policy debates. It is also apparent from frequent references to an alleged WHO "recommendation" that countries should spend 5 percent of GDP on health, a recommendation which was never formally approved and which has little basis in fact [see Appendix A]. Addressing such a question with solid evidence is in great demand. However, the question itself is quite deceptive because it appears to be complete, when in fact it is not.

What is the question?

In the first place, it is hard to say what a country should spend on maintaining and improving its 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 very different from one with limited infectious disease and a high incidence of neoplasms and chronic conditions. So to be more complete, the question would have to be amended as:

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 it is only today, 50 years since the invention of the Salk vaccine, that all countries have 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:

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 take into consideration 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, affect how much the spending on such inputs will actually translate into improved health. In addition, there are numerous ways to organise the application of these inputs which will affect how much money is needed to

administer, maintain, and support 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?*

The effectiveness of inputs is a critical factor, but so too are the prices of those inputs. Countries with large markets and economies of scale may face lower prices for mass-produced medications or equipment. Labour market conditions and the schooling system will affect the wages of skilled medical staff and support staff. Hence, the amount of required spending will also be altered by relative prices, leading to a further clarification of our question:

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 use 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?*

It should be clear, at this point, that answering the deceptively simple question "How much should my country spend on health?" actually requires specification of a number of factors that will yield differing estimates. 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 the right amount of spending on health.

How have people tried to answer it?

The question can be asked with many different aspects of health spending in mind. The question may be asked in absolute terms or relative to income -- "how much money per person?" or "what share of GDP?" The question may also be asked in terms of total

spending on health or public spending on health. When the focus is on public spending, then the question is clearly part of a more general debate over public budgets. When the focus is on total spending on health, then the question goes beyond the public budget and requires considering policies that can influence how much individuals and households spend on health services, and what kinds of services they buy.

The focus on public spending as a share of national income or central government spending shows up most commonly in policy debates. In part, this is due to the fact that public health spending is more directly under the influence of policymakers. In addition public spending represents such a large share of total spending on health in *most* OECD countries, that the difference between total and public spending is marginal. However, private spending is generally a very large share of total health spending in most countries and in these cases, it is necessary to consider the amounts and determinants of both public and private spending, as well as the public policy instruments available to influence private spending.

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 a rough comparisons with other countries to a full budgeting framework.

The Peer Pressure Approach

One approach is to ask whether a country is spending more or less than countries with similar characteristics, such as income level, culture, or epidemiological profile. 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 implicit approach when British politicians claim that their country is spending too little on health by comparing with their peers in the European Union. 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.¹ Among developing countries, for example, such cross-country comparisons show, in general, that Asian countries tend to spend less than expected (given their income levels) while Latin American countries tend to spend more.

The main problem with this approach is that it tends to focus almost exclusively on the inputs, that is, on the amount of spending relative to income, and fails to consider the main goal of spending which is, presumably, better health. To address this concern, a

¹ World Development Report 1993 and the Social and Economic Progress Report 1996 both provided graphical demonstrations of the spending relative to income relationship to argue for increased efficiency in health system spending. Poullier, et al, 2002 demonstrated similar findings with more recent estimates of national health spending.

benchmarking exercise might focus on similar countries who have achieved among the best health outcomes. Unfortunately, efforts to do this will generate widely varying estimates depending on which countries are chosen. In most cases, among countries with good health outcomes, the range of health spending is extremely wide and rarely gives a clear answer regarding an optimal amount.

The Political Economy Approach

A second approach alters the question slightly. Instead of asking "how much should a country spend on health?", it asks "why is my country spending more (or less) on health than it should?" In other words, the implicit assumption by those advocating a change in health spending is that they believe the current allocation of national income or public budgets to health is not optimal for society. Presumably, health spending diverges from this optimum because of the interplay of political and economic forces that determine budget priorities. In a country where health spending is artificially high or low because of the actions of particular lobby groups (e.g. military contractors, teachers unions, medical associations, pharmaceutical companies), this approach would try to determine the magnitude of the distortion.

This is probably the best approach from a social science perspective because it addresses the actual political mechanisms that determine health spending and the behaviour of the social actors who influence public spending decisions. However, it is difficult to quantitatively estimate the impact of political factors in budget decisions. 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.

The Production Function Approach

A third way to address the question is to explicitly estimate a health production function through cross-country or panel data analyses. This approach makes use of aggregate data on health spending, socioeconomic characteristics, demographics, and other factors that affect a population's health conditions. The resulting equation can be used to calculate how more (or less) spending on health services would affect health conditions after controlling for these other factors. With the resulting equation, it is possible to incorporate three of the issues raised earlier, namely, the current epidemiological profile, prices of inputs, and the effectiveness with which inputs can be transformed into improved health status.

One limitation of this method, then, is that in this form it can only generate a single target amount of spending once a particular health condition level or desired change in health conditions is specified. However, if an explicit method is introduced to address tradeoffs between spending on health services and other things, it can generate such a unique target.

The production function approach is more grounded than the peer pressure approach because it emphasises the relationship between spending and the desired goal, i.e. better health. It is more feasible than the political-economy approach. And it is less demanding than the budgeting approach (discussed below) 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.

However, the production function approach has several drawbacks as well. It is conceptually difficult to explain this approach to people who have not studied statistics or methods of inference in the social sciences. This might not be a fundamental drawback if it were not for the fact that it is extremely difficult to estimate such a function from existing data.² Extrapolation from such equations also risks assuming that large changes in spending on health services will have a constant impact on health status equivalent to the estimated marginal effect at the current level of spending. This can lead to estimates that appear implausibly large or small.

The Budget Approach

The most complete approach to incorporating the five issues identified above is to identify the desired health status changes and determine what needs to be purchased -- whether in terms of health services or health service inputs -- in order to achieve those goals. Next, these items need to be priced and added up, 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 carried out on a regular basis by most governments during their budget process. The World Bank's *World Development Report 1993* and more recently the *Commission on Macroeconomics and Health* both selected packages of services and then estimated how much it would cost to make that package available to a given population.

This approach is conceptually accessible to most people. However, this approach is less than satisfying for public budget debates because the final estimate depends so obviously upon how many services or inputs are to be bought and upon 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 is no fundamental or obvious answer to the appropriate level for any of these quantities (whether services, inputs, or prices) without an understanding of how health services improve health on a very pragmatic level. So this approach answers the global spending question by generating new questions about the right amount of services and their values.

One of the biggest strengths of this approach is that, when combined with a full public budget review, it forces attention to all 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.

² See, for example, Anand and Ravallion, 1993; Carrin and Politi, 1995; Pritchett and Summers, 1996; Cremieux et al, 1999; and Or, 2000.

So What is a Technical Advisor to Do?

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.

Secondly, it is important to recognize that each of the approaches above asks a slightly different question.

- The peer pressure approach asks "how much should we spend *if we want to be more like our peers?*".
- The political economy approach asks "how much *would we be spending on health if the budget process were not unduly influenced by particular social actors?*"
- The production function approach asks "how much should we *spend in order to attain a specified change in health outcomes?*".
- The budgeting approach asks "how much should we spend *once we've identified what we need to buy?*".

In general, the peer pressure approach 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. 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 quantifiable, although it requires directly confronting the issues of current and desired health status, prices, effectiveness, and tradeoffs.

Fundamentally there is no shortcut. This seemingly straightforward question cannot be adequately answered without doing the hard work of addressing these five basic questions together.

- What health problems do we face?
- What health status do we aspire to?
- How effective are our health services, activities and policies?
- What are the prices of inputs?
- Are there better uses of funds for other ends?

Bibliography

Anand, S. and M Ravallion, 1993, Human Development in Poor Countries: on the XX Private Incomes and Public Services, *Journal of Economic Perspectives*, (7)1, 133-1XX.

Carrin, G. and C. Politi, 1995, "Exploring the Health Impact of Economic Growth, Poverty Reduction and Public Health Expenditure", *Tidjschrift voor Ecoomie en Management*, (40)3-4, pp. 227-246.

Commission on Macroeconomics and Health, 2001, *Macroeconomics and Health: Investing in Health for Economic Development*, WHO: Geneva.

Cremieux, Pierre-Yves; Ouellette, Pierre; Pilon, Caroline. 1999. "Health Care Spending as Determinants of Health Outcomes" *Health Economics*. Vol. 8 (7). p 627-39. November.

Dunne, J.P., P. Pashardes, and R.P. Smith, "Needs, Costs and Bureaucracy: The Allocation of Public Consumption in the UK", *The Economic Journal*, (94)373, March. pp. 1-15.

Inter-American Development Bank, 1996, *Economic and Social Progress Report: Making Social Services Work*, IDB: Washington, DC.

Or, Zeynep. "Determinants of Health Outcomes in Industrialised Countries: A Pooled, Cross-Country, Time-Series Analysis", *OECD Economic Studies*. Vol. 0 (30). p 53-77. 2000.

Poullier, J.P., P. Hernandez, K. Kawabata, and W. Savedoff, "Patterns of Global Health Expenditures: Results for 191 Countries", EIP Discussion Paper No. 51, WHO, Geneva, November, 2002.

Pritchett, Lant; Summers, Lawrence H. 1996. "Wealthier is Healthier" *Journal of Human Resources*. Vol. 31 (4). p 841-68. Fall.

Tandon A, Murray CJL, Lauer JA, Evans DB. "Measuring overall health system performance for 191 countries". Global Programme on Evidence for Health Policy Discussion Paper Series: No. 30. World Health Organization.

World Bank, 1993, *Investing in Health*, World Development Report, The World Bank: Washington, DC.

Appendix A

A Brief History of the 5% Target

It is commonplace to find references to a WHO recommendation that countries should spend 5% of GDP (or GNP) 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% of its gross domestic product (GDP) on health care -- a figure that is proportionately higher than *the 5% recommended by the WHO*."³(emphasis added).

A review of WHO documents reveals that WHO has never formally adopted this figure of 5% of national income as a recommended level of health spending. Instead, WHO committed itself to monitoring the number of countries that achieve a list of 12 indicators that include, among others: socio-economic conditions (e.g. per capita GDP greater than \$500, literacy for men and women higher than 70%), health outcomes (e.g. infant mortality below 50 per 1000), and inputs (e.g. share of population with potable water), as well as "At least 5% of GNP is spent on health".⁴

There is no indication in the documents of the method that was applied to reach the 5% figure. The source of the target is identified as Number 4 in the same series, which provides a discussion of indicators, their purposes, values for policymaking, problems of definition, and selection. It also presents what evidence was available on the resources being applied to the health system. But the 5% of GNP target appears with no justification other than reference to "approval" as indicated in World Health Assembly 1981. A34/5, Section VII, para. 6.⁵

Furthermore, the World Health Assembly did not approve these targets. The closest thing to a formal adoption of the indicators can be found in a WHA Committee discussion where it was agreed that the indicators would be presented to the WHA as part of the technical document. However, the WHA adopted a more general resolution that urges all members "to allocate adequate resources for health and, in particular, for primary health care and the supporting levels of the health system".⁶

The earliest mention, then, of the 5% target in official WHO documents appears to be in the Executive Board meeting that prepared for the 1981 WHA. In EB67/PC/WP/4, p. 27, the list of indicators is presented in the annex to a revised "Global Strategy for Health for All" that was under consideration by the Executive Board. Although the selection of indicators is discussed at some length, no explanation is provided for the particular target levels that were identified.

³Olive Shisana, "Social Health Insurance and Tax-Based Funding of Health" *South African Medical Journal*, 91:12, December 2001.

⁴"Global Strategy for Health for All in the Year 2000" in the Health for All Series, no. 3, p. 75.

⁵The actual citation given by that text was "34th World Health Assembly, 1981, (1, Section VII, para. 6); however, that citation is incorrect and difficult to track down. The correct citation is provided above.

⁶WHA34.37, "Resources for Strategies for Health for All by the Year 2000", accompanied by a technical document, WHA A34/Tech.Disc./1 (30 March 1981)

Although WHO has not formally adopted a standard for health spending, it does have a long history of addressing health financing issues. Some of the key documents and conferences that WHO has published and promoted include:

- In 1963, WHO convened the first conference to address the question of measuring financial flows in the health system and proposed the collection of data in the form of National Health Accounts. That same year, WHO published: Abel-Smith, Brian (1963). "Paying for health services a study of the costs and sources of finance in six countries". Public Health Papers, No. 17. Geneva: World Health Organisation.
- Abel-Smith, Brian (1967) "An international study of health expenditure and its relevance for health planning". Public Health Papers, No. 32. Geneva: World Health Organisation.
- In 1978, WHO convened a Study Group that produced "Financing of Health Services: Report of a Study Group", Technical Report Series 625, WHO, 1978. This report provides a framework for analysing health systems and their financing. It presents case studies of financing in specific countries, namely Bangladesh, Botswana, the Republic of Korea, and Senegal, along with a more general study for Latin America.
- In 1988, WHO published "Economic Support for National Health for All Strategies", a document that begins by reprinting a World Health Assembly Resolution entitled "Economic support for national health-for-all strategies" (WHA40.30 adopted in May 1987). The resolution makes no mention of a 5% target. However, it does urge countries "to evaluate the adequacy of existing revenue-raising measures and to explore new financing options consistent with the overall goals of equity and effectiveness." Interestingly, this recommendation was only the 11th of a series. Some of the recommendations that preceded it were to reallocate existing resources more effectively, "reduce waste and increase efficient use of resources", etc.

However, reading the rest of the 1988 document, one does find the target mentioned - in Annex 2. There, accompanied by a table reporting the number of countries that spend more or less than 5% of Gross National Product (GNP), is a sentence that states "The number of countries that appear to have achieved *the 5% target* is certainly an overestimate". (emphasis added). No reference to the source or purpose of the target is provided.

The 1988 document provides an excellent overview of health system analysis for policy. Its criteria for evaluating health policy and the framework itself prefigure in many ways the WHR2000. Instead of "Financing", "Resource Generation", "Provision", and "Stewardship", the 1988 document presents "Planning and managing the finances", "Mobilizing the resources", "Making better use of resources", and "Responsibilities and institutional relationships". But the underlying elements are much the same. It also discusses the same range of financing options that are treated in most texts today (i.e. general revenues, social insurance, community financing, consumer charges, and external donor assistance).

The 1988 document was itself the product of several years of deliberation and discussion of technical documents that grew out of the 1985 discussion on "Planning Health for All" -- part of an effort to generate more concrete support for implementing and pursuing the "Health for All" agenda. As part of the 1985 discussions, an information document was reviewed by the Executive Board which also makes mention of the 5% target. In this case, the statement serves to qualify rather than emphasize the target, stating: "...the choice of 5% of Gross National Product to be spent on health as an indicator was never intended to imply that health for all cannot be achieved without it" (EB77/Inf.Doc./1, Nov. 1985, para. 17).

- In 1993, WHO published "Evaluation of Recent Changes in the Financing of Health Services: A Report of a WHO Study Group". WHO Technical Report Series (No. 829). This document also provides a framework for analysing health systems, with extensive attention to financing health systems, but without mention of a target share of national income to be spent on health.
- In 2000, WHO published the World Health Report 2000, *Health Services: Improving Performance*, which deals extensively with questions of health system performance and the distribution of the burden of financing health services. Chapter 5, "Who Pays for Health Systems", deals specifically with financing health systems.