

Challenges and Solutions in Health in Latin America

An Alternative View for the *Consulta de San José*,

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Health Challenges, Latin America: An Alternative View

This note presents an “Alternative View” to “Challenges and Solutions in Health in Latin America,” prepared by Philip Musgrove for the *Consulta de San José 2007* (referred to hereafter as The Consultation). In it, I essentially reaffirm Musgrove’s proposal for four priority interventions: improving health care access, health care quality, health care efficiency and health care-seeking behaviors. However, I both depart from and complement Musgrove 2007 in four ways.

- First, shifting the solution from the disease-specific focus of the 2004 Copenhagen Consensus to the system focus of this consultation is justified by the specific epidemiology and resources of the region.
- Second, increasing health insurance coverage is probably the most promising approach to expanding access to healthcare in the region (demand side); but it is important to note that in particular cases where governments are able to successfully expand publicly-provided services – usually with innovative payment mechanisms – a supply-side approach may be feasible and less costly.
- Third, while Musgrove correctly rejects calculating a specific Benefit-Cost ratio on firm technical and ethical grounds, there are competing ethical concerns *for this specific exercise* that call for such calculations, despite the shaky empirical foundations.
- Finally, additional solutions that require actions *outside* the health care sector should not be forgotten, such as addressing alcohol abuse and tobacco addiction.

Why a System Approach?

In the Copenhagen Consultation (2004), the “health challenge” was taken to mean improving population health status and attention was focused on public health and medical interventions for high-priority diseases. For the purposes of this Consultation, a background paper (Jamison 2007) followed a similar approach, proposing a modified list of priority interventions and recognizing the need for some kind of “health system capacity” to implement them.¹

Musgrove 2007 similarly focuses on improving population health status, but expands attention to include two other aspects of the health system that are valued by society – increased productivity and financial protection. His major departure from the previously cited works is to argue that the priority “solution” for improving health in Latin America and the Caribbean is to improve access to medical care. In order of importance, he adds improving the quality of healthcare, the efficiency of healthcare, and, finally, educating people to better recognize their own healthcare needs.

¹ “Health System” has been defined as all the activities that have as their primary purpose the improvement of health (WHO 2000). With this definition, improving air quality and research for new drugs would be included, but other things such as schooling and safe transport since they are not primarily undertaken to improve health. This note will follow this definition, though it should be noted that the large cost of medical care relative to many important public health interventions will tend to occupy greater attention.

Musgrove's arguments in favor of this "system approach" (in contrast to "disease-specific approaches") is made on both technical and socio-political grounds. He notes that several panelists in 2004 rejected the main approaches to measuring health benefits (putting a dollar value on life and measuring health benefits by increased productivity) that were used to calculate benefit-cost ratios. He then notes that politicians (UN Ambassadors and senior diplomats) considered access to health services to be of higher priority than the technical experts, postulating that the technical experts give greater weight to rigor of evidence. Furthermore, Latin American respondents to the IDB survey demonstrated strong interest in addressing disparities in access to quality healthcare – drawing attention not only to improving physical and financial access to health care, but also valuing improved equity and quality.

Musgrove's decision to focus on systemic issues rather than disease-specific interventions for this consultation is correct for yet another reason which he mentions briefly. The health paper in the 2004 consultation was strongly influenced by concern over the dire health conditions of Sub-Saharan Africa – a region which is experiencing *declining* life expectancy and has a large disease burden from infectious and parasitic diseases for which low cost, cost-effective solutions are available (DPT vaccines, treatment for respiratory infections, ORT, etc.). Latin America and the Caribbean as a whole present a very different picture. First, average life expectancy in the region is over 71 years at birth, a full ten years higher than it was in the early 1970s (Dorling et al 2006). Second, all infectious and parasitic diseases account for about 15 percent of all deaths in the region compared to 63% in Sub-Saharan Africa. Furthermore, countries in Latin America and the Caribbean have much greater resources available to address their health problems. Average income in the region is US\$4,767 per capita, 5.5 times higher than Sub-Saharan Africa. With higher income, the region is able to spend an average of US\$334 per person on health care services compared to less than an average of US\$60 per person in the countries of Sub-Saharan Africa (if Botswana, South Africa and Seychelles are excluded, the average falls to US\$37 per person).

The literature demonstrates that both system approaches and disease-specific approaches can contribute to improved health status (see, for example, Soares 2007); however, disease-specific interventions that can be implemented without strong system capacity, such as vaccination campaigns, are much less important in countries that have largely addressed and controlled those same diseases. By contrast, diseases that are of greatest concern to the people of Latin America and the Caribbean – increasingly non-communicable in nature – are ones for which even disease-specific interventions require a broader range of health care services – screening, counseling, diagnostic testing, surgery, public education campaigns, etc.

In effect, the countries of Latin America and the Caribbean as a whole are in a fairly advanced stage of what has been called the "health transition"² – prevention and

² Note, the "health transition" (Frenk 1991) is a model that overlaps with but differs in important ways from the "epidemiological transition" (Omran 1971). The "health transition" posits that the shifting profile of illnesses in countries reflects the extent to which different health technologies have been adopted. These health technologies can be grouped into basic treatments and prevention of infectious diseases, treatments

treatment for most infectious diseases are fairly widespread, and interventions for non-communicable disease is becoming generalized. Having reached this point, the region's countries have mostly demonstrated that they *can* provide essential health services – even for non-communicable diseases – to significant shares of their population. Assuring that these essential health services are available to *everyone* is not only possible, but is probably cost-effective and certainly addresses the publicly-voiced concerns over equity and financial protection.

One important caveat is necessary. The region has large geographic disparities and some places are still greatly in need of the disease-specific interventions highlighted in Jamison 2007, whether addressed through campaigns or system approaches. In Haiti and among marginalized rural populations throughout the region, disease-specific campaigns might still be the most effective approach.³ However, most national governments have demonstrated the capacity to address the prevalent diseases among the poor by expanding access to the health system rather than through isolated and parallel campaigns. This reinforces the argument in favor of systemic approaches.

An additional argument for addressing health through a system approach is the revealed preferences of the population. As incomes have risen in the region, people are spending more and more money on health care – through out-of-pocket payments or private health insurance premiums. The large share of private spending, more than half of all health expenditure in the region, partially explains the demand for financial protection. It also demonstrates the extent to which people feel that public programs are inaccessible or of poor quality. Considering that most Latin American and Caribbean countries ascribe to concepts of “solidarity,” “universality,” and “equity,” along Western European models and seek to emulate those health systems, progress requires assuring that sufficient public funding is effectively used to provide universal access to quality services.⁴ To the extent that countries approach this ideal, the private share of health spending, and the share of out-of-pocket spending in particular, is almost certain to decline.

Solution: Increase Access to Health Care Services

There are many different ways to improve access to health care services, and this choice of strategy is itself a subject of vociferous debates in the region. Many countries in the Caribbean that inherited publicly-provided health care systems from their colonial periods are currently seeking to introduce national health insurance systems based on payroll taxes at the same time that many Latin American countries are seeking to replace their social insurance schemes with systems funded out of general tax revenues.⁵ Other

and prevention for cardiovascular illnesses, and treatments for ageing. While the United States and other wealthy countries adopted these technologies in a sequence that paralleled shifts in their disease burden, developing countries are experiencing the simultaneous adoption of all three kinds of technologies, unevenly through their population.

³ Even in Haiti, NGOs have demonstrated that establishing health care networks can be an effective strategy for addressing infectious disease.

⁴ A review at the Inter-American Development Bank in 1996 found that 17 out of 26 member countries in Latin America and the Caribbean had provisions in their constitutions making access to health care a right of citizenship.

strategies that have been promoted include changing the “medical model of attention,” decentralizing responsibility to municipalities, contracting from private providers, and introducing competitive mandatory health insurance, to name just a few.

Musgrove 2007 cuts through this range of strategies to propose simply that countries increase access to healthcare services by agreeing to pay providers for those services. In its support, every major rapid expansion of access to healthcare in the region in the last two decades occurred under some form of this strategy – Guatemala extended basic health care to an additional 3.4 million by contracting non-governmental organizations; Colombia implemented a subsidized scheme that increased coverage to an additional 13 million people from 1993 to 2004 (raising insurance coverage from 6 percent to 43 percent in the poorest quintile over the same period); and Mexico has recently added 22 million people to the rolls of its *Seguro Popular*. By contrast, efforts that have relied exclusively on extending coverage through publicly-provided and owned health care facilities have been rare. The most successful examples – Costa Rica and Chile – built their effective networks of public health care provision prior to 1980, in periods with lower incomes and lower expectations because medical technology was much less advanced.

The advantages of working through the “demand side” are many. The allocation of resources across regions, gender, ethnicity, and income becomes much more transparent and usually more equitable when funds are allocated to the person rather than the provider. By financing through the demand side, countries (and individuals) can potentially extend access more rapidly by taking advantage of the existing capacity of private providers. Depending on the exact form of reimbursement and supervision of contracts, countries can use the “power of the payer” to promote better quality and efficiency.

Nevertheless, there may be cases when a “supply side” approach can be implemented and – when it is successful (a very important caveat) – be less costly and more effective than demand-side insurance. One possible example may be Brazil’s *Programa da Saude da Familia* which contracts public sector workers to conform health care teams that are responsible for serving a defined community. There is some evidence that the program has a positive impact on health status (Macinko et al 2006) and that its costs are modest (WB 2006). But this success has to be contextualized. The program builds on decades of earlier experience with community health initiatives, dating back to the early 1970s; it is being implemented in a country which has demonstrated considerable capacity to implement public programs; and it relies on financial incentives to motivate municipalities to adopt the program and health care workers to sign up.

⁵ For example, Brazil eliminated its social security system in 1986 and replaced it with the *Sistema Unica da Saude*. In Mexico, the *Instituto Mexicana de Seguro Social (IMSS)* originally was financed largely through payroll taxes, but in recent years has come to rely on substantial subsidies out of general revenues. By contrast, Belize and Jamaica had national health services modeled on the British system but created national health insurance funds in 2001.

In sum, Musgrove's proposal to increase access to health care services, and simultaneously reduce financial risk, through extending health insurance coverage to the entire population is a proposal that is well-grounded in the region's reform experiences. This alternative view only qualifies this solution by noting that the region's diversity may include a few situations where either a supply-side approach or disease-specific approach might be preferred. For the region as a whole, however, the proposal is sound.

Is it cost-effective? Do benefits exceed costs?

Musgrove chooses not to provide a benefit-cost ratio for the proposed solution for sound reasons. There is substantial debate about how to measure the benefits of "access to health care." Are these benefits primarily the impact on health status? If so, are the health benefits to be valued intrinsically through some hedonic or contingent valuation method or by calculating the implicit value of a statistical life from compensating differentials across occupational risks? Or should it be valued extrinsically by calculating increased productivity and incomes? Each one of these approaches has ethical, epistemological and practical drawbacks.

This note, however, does provide benefit and cost estimates for both practical and ethical reasons. First, as Musgrove states, "policy-makers pay more attention to the problems and are satisfied with less thorough evidence" than technical experts (p. 5). Since policy-makers, and not technical experts, are ultimately the ones who will implement these solutions, it is appropriate to apply the standards of evidence that they would accept. This does *not* mean that any evidence can be slapped together to make an argument. The technical analysis still has to be conducted with integrity and represent the analyst's best effort to marshal the available evidence impartially. Furthermore, the effort has to be transparent so that other technical analysts can pick it apart and policy-makers can judge the plausibility of assumptions.

Second, *in the context of this consultation*, refusing to provide a best-guess of the benefit-cost ratios would probably lead to a lower ranking for this solution than might be merited because other solutions would, by contrast, appear more assured and certain. For these two reasons, and at the risk of the author's reputation,⁶ this note presents rough calculations of the benefit-cost ratio of increasing access to health care in Latin America and the Caribbean. Two different approaches will be taken. The first approach derives the benefit-cost ratio from information in the Disease Control Priorities Project. The second approach derives the benefit-cost ratio by extrapolating from the Colombian experience with extending subsidized health insurance.

Musgrove notes that there are at least two other benefits from introducing universal health insurance coverage: the value people ascribe to financial protection and higher productivity. The calculations below are focused exclusively on the intrinsic benefits of improving health status. To the extent that financial protection and productivity also improve, the benefit-cost ratios calculated below should be considered conservative estimates.

⁶ If necessary, the author accepts the risk of losing his membership in the American Economic Association.

Approach 1: Extension of basic services identified in the Disease Control Priorities Project

Following a common line of analysis in the international health field, the Disease Control Priorities Project identified a package of cost-effective interventions that includes expanded immunization programs, AIDS prevention, vector control, TB treatment, integrated management of childhood illnesses, family planning, prenatal care, assisted delivery, and limited treatment for trauma (Tollman et al 2006). For a middle income country, the authors estimate that providing these services to a community would avoid one lost DALY for every US\$168.

Calculating a Benefit-Cost Ratio from this information requires assigning a monetary benefit to each DALY. Despite the ethical and conceptual problems with assigning a monetary value to reducing a DALY, researchers have estimated such a value for a variety of reasons and purposes. Some examples include Viscusi 1993; Mrozek and Taylor 2002; Liu, Hammitt & Liu 1997; Evans 2004; and Mills & Shillcut 2004. In no case are DALYs valued below US\$1,000 – fully five times larger than the cost estimate for this service package. The table below illustrates the range of benefit-cost ratios that would result from assuming that each DALY is worth US\$1,000 for a lower bound and three times the region’s average Gross National Income (GNI) for an upper bound. The resulting benefit-cost ratios would be extremely favorable, ranging from 6.0 to 85.1.

Calculating the total cost of this solution requires information about how many DALYs would be avoided by the program. WHO estimates that people in the region lose approximately 26.5 million DALYs each year to communicable, maternal, perinatal and nutritional deficiency conditions – the categories that are most directly addressed by this basic package of services and which represent about 14 percent of all DALYs lost to disease and injuries each year. Under numerous assumptions (e.g. marginal costs are equal to average costs), cutting the loss of DALYs from these diseases and conditions by half (i.e. 13.25 million DALYs or 7 percent of the total DALYs) would cost about US\$2.3 billion each year.

Calculations for “basic package approach”

Total DALY's lost to communicable, maternal, perinatal & nutritional deficiencies		26,500,000
Regional GNI per capita (US\$)		4,767
Cost per DALY (US\$)		168

Value of each DALY (US\$)	1,000	14,301
Benefit-Cost Ratio	6.0	85.1

Infectious disease & maternal & neonatal conditions reduced by (%)	50	25
Total Disease Burden reduced by (%):	7	3.5
Total Disease Burden reduced by (DALYs):	13,250,000	6,625,000

Total Cost (US\$)	2,226,000,000	1,113,000,000
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Source: Author's calculations using data from WHO, World Bank and Jamison et al 2006.

Approach 2: Extrapolation from Colombia's subsidized insurance

The first approach approximates the idea of extending basic health care services to all, but provides a much more limited set of health care services than are envisioned by the proposed solution. A more appropriate approach might rely on empirical evidence from a program that has demonstrable achievements. The Colombian Reform of 1993 provides such an opportunity because health insurance coverage expanded so dramatically and *some* data is available to analyze costs and benefits.

Musgrove 2007 reports the annual cost of the Colombian subsidized health insurance package at about US\$164 per person. If we take three times gross national income as the value of avoiding a single lost DALY (approx. \$14,300) and assume that health insurance is extended to an additional one-third of the regional population (284 million people), the only missing information is how many DALYs can actually be reduced. Though several studies have used the available data to assess the impact of subsidized insurance on health care utilization and financial protection, no surveys have collected adequate information on health status with which such a calculation could be made.⁷

One way of obtaining an idea of the health benefits of a universal insurance system like Colombia's would be to compare it with other countries. A full statistical analysis is beyond the scope of this note, but in order to get an idea of the potential order of magnitude, it is useful to compare Colombia with Peru – a neighboring country that shares many common characteristics but which does not have a universal health insurance system. The Age-Standardized DALYs lost per person are almost identical – about 0.19; however, Colombia loses twice as many DALYs to injuries – a direct consequence of the high levels of violence. Focusing just on communicable and non-

⁷ See, for example, Castano et al 2002; Giedion et al forthcoming; Gaviria et al 2006.

communicable conditions by excluding injuries, Peru has a 23 percent higher disease burden per person. For this exercise, then, the Benefit-Cost ratio is calculated by assuming that the extension of health insurance coverage could account for about half of this difference, between 5 and 10 percent. The resulting Benefit-Cost ratios, then, range from 2.2 to 4.5.

Calculations for health insurance extension approach

Cost/Person (US\$)	164
Affected Pop. (1/3)	284 million
Benefit/DALY (US\$)	14,301

Reduction in DALYs (%)	5%	10%
Reduction in DALYs	7.25 million	14.5 million
Benefit-Cost Ratio	2.2	4.5

Total Annual Cost (US\$)	46.6 billion
Cost per capita (US\$)	55
Share of GNI per capita	1.1%

Source: Author's calculations using data from WHO, World Bank, and Musgrove 2007.

The total cost of such an approach, US\$46.6 billion, is significantly higher than the other approach by a full order of magnitude but it “buys” much more. This health insurance extension encompasses many more health care services than the basic package of cost-effective measures used in the previous exercise. Furthermore, this exercise uses the “real” cost of health care services in Colombia, including whatever inefficiencies and problems arise in a real situation.

In sum, these exercises propose that the benefit-cost ratio for extending universal access to health care in Latin America and the Caribbean could be as low as 2.2 and as high as 85.1, even without considering non-health benefits. The lowest ratio corresponds to extending a full range of health care services with all the inefficiencies and problems that plague health care systems in the real world. The highest ratio corresponds to extending a focused set of cost-effective health care services in a reasonably efficient way. The corresponding range of costs ranges from US\$2.2 billion to as high as \$46.6 billion per year.

In a sense, the contrast between these two exercises hints at something that was already pointed out by Van der Gaag (2004) in the Copenhagen consultation - it is no accident that health systems are inequitable, inefficient, and limited. There are real political and economic factors that debilitate health systems and obstruct progress toward universal access. Making progress in such circumstances requires more than “political will” or technical information. It requires imagination, innovation, and effective political strategies. This is one of the reasons that countries that lack a universal health insurance mechanism would be well-advised to consider such a strategy.

Not that health insurance is without its problems. Experience shows that systems with a third-party payer(s) and that reimburse providers in relation to the volume of services

tend to produce more services at increasing cost. In countries with underprovision, these features are exactly why health insurance is attractive. In the long-run, these tendencies will have to be contained, as shown by the experiences of countries in Western Europe today.

The harder road is to make a supply-side initiative expand rapidly and efficiently. Very few countries have successfully established universal access to quality health care with such an approach.⁸ To be successful, however, even this more traditional approach has to incorporate innovations as demonstrated by the financial incentives embedded in Brazil's PSF.

An Additional Solution – Taxes and Restrictions on Alcohol and Tobacco

In Latin America and the Caribbean, a large and growing share of the disease burden is due to non-communicable causes, 67 percent of all deaths and 61 percent of all DALYs. Many interventions for preventing these diseases require actions that have little to do with health care services. For most of the region's countries,⁹ the three highest risk factors, measured by their contribution to lost DALYs are alcohol (6.2 percent), high blood pressure (5.0 percent) and tobacco use (4.0 percent) (WHO 2002). Recent studies have shown several interventions, outside the health care sector, that are highly cost-effective in addressing the risks of alcohol and tobacco abuse, namely raising taxes, banning advertising, and restricting access.

Alcohol abuse in Latin America contributes to an estimated 3 percent of all DALYs lost through intentional and unintentional injuries; another 3 percent from neuropsychiatric disorders; and an additional 2 percent from cardiovascular and other noncommunicable diseases. As much as one-half of the 89,000 annual road traffic fatalities may be attributable to alcohol abuse alone. Among the most cost-effective interventions are raising excise taxes by 50 percent (US\$184/DALY); reducing hours of sale at retail establishments (US\$340/DALY); and comprehensive bans on advertising (US\$380/DALY). The associated Benefit-Cost Ratios, assuming conservatively that each DALY is valued at US\$1000, are 5.4, 2.9 and 2.6, respectively. If DALYs are valued at 3 times GNI, then the Benefit-Cost Ratios are 77.7, 42.1, and 37.6, respectively. The total cost to the region of these three programs would be US\$110 million, US\$85.2 million and US\$76.7 million, respectively (Rehm et al 2006).

Tobacco use significantly increases the risk of death and disability from a wide range of cardiovascular diseases and cancers and is responsible for about 260,000 deaths in Latin America and the Caribbean each year. Among those who were smoking in the year 2000, tobacco will cause premature deaths for 40 million of them – reducing each lifetime by

⁸ The few exceptions might include Cuba, Malaysia, Costa Rica, and Chile.

⁹ The estimates provided by WHO group countries by income level and mortality rate and the ranking reported here applies to a category that contains all but 5 of the Inter-American Development Bank's borrowing members (Bolivia, Peru, Nicaragua, Guatemala and Ecuador). The category that contains these other countries face larger health risks from malnourishment, unsafe sex and unsafe water. The differences only demonstrate the need to look at each country's specific profile when setting priorities rather than relying on group averages.

an average of 20 to 25 years. A 30 percent increase in taxes on cigarettes would reduce this number by somewhere between 2.3 and 6.7 million at a cost of between US\$6 and US\$85 per DALY. If each DALY is estimated to be US\$1,000, then the Benefit-Cost Ratio would be between 11.8 and 167; valued at US\$14,300, the Benefit-Cost Ratio would be between 168 and 2383! The total cost of such a program in the entire region would be between US\$335 million and US\$836 million (Jha et al 2006).

Summary of Solutions

The primary focus of public policy in Latin America and the Caribbean should be on a systems approach to improving equitable access to high quality health care services. Implementing national universal health insurance schemes is the best solution for most of the region's countries and it provides benefits well in excess of the costs.

While improving the system that provides health care *services* is necessary for both preventing and treating many health conditions, the public sector should not ignore the interventions *outside the health sector* that can lead to dramatic reductions in deaths, illnesses and disabilities – such as efforts to combat alcohol abuse and tobacco addiction.

However, beware of easy answers. This note provides benefit-cost ratio estimates for use in this specific consultation because the author judges that they are needed for the debate. But providing such numbers raises the risk that decisions will be made simplistically and without regard to the full context of the argument. Some of the factors that must be kept in mind when using the estimates are:

- These are averages and by definition are not going to be correct for any particular country or area.
- The estimates assume marginal and average costs are comparable.
- The estimates are highly sensitive to the value ascribed to health status and the predicted reductions in disease, both of which are subject to substantial error.
- One of the key sources of error in predicting reductions of disease is whether funds will be applied as efficiently as in the interventions used in the analysis.
- The estimates do not provide information about the distributional consequences of the solution.

Furthermore, the benefit-cost ratios have to be considered in the context of both the total cost and the total benefits. Interventions to address alcohol abuse have reasonably reliable estimates of very high benefit-cost ratios, suggesting they should be priorities. However, when all three are combined they affect about 1 percent of the total disease burden. By contrast, extending health insurance has a lower benefit-cost ratio but is likely to address a much larger share of the disease burden, as well as provide additional benefits such as protection from financial risks and increased incomes.

In sum, the information here should be viewed as a “hard” answer, complementing the nuanced argument provided by Musgrove in his Solution Paper.

Summary

Solution	Benefit-Cost Ratio		Total Cost (US\$ million)	Reduction in Regional Disease Burden (%)
	Low	High ¹		
Health Insurance Extended Universally for a "Basic Package"	7.1	85.1	2,200	3.5 - 7
Health Insurance Extended Universally for "Complete Package" ²	2.2	4.5	46,600	5 – 10
Tobacco Excise Tax	11.8	2383	586*	4.1
Alcohol Excise Tax	5.4	77.7	110	0.6
Restrict Hours of Alcohol Sales	2.9	42.1	85.2	0.2
Ban Alcohol Advertising	2.6	37.6	76.7	0.2

Notes:

1. High estimates only include intrinsic value ascribed to improved health status, excluding the value of reduced exposure to financial risks and increased productivity.

2. Equivalent to services included in the Colombian Subsidized Regime.

*Average of high and low estimates in Jha et al 2006

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