HEALTH EQUITY AND GOOD INTENTIONS IN LATIN AMERICA

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POLICY IMPLICATIONS OF A HEALTH EQUITY FOCUS FOR LATIN AMERICA

In recent decades, international assistance to Latin America in the health sector has been largely oriented toward improving the health conditions of the poor. Within this broad objective, however, a range of different policies have been promoted and tried. In the 1980s, efforts were focused on increasing access, largely through the expansion of primary health clinics to previously unserved areas. In the 1990s, the World Bank's 1993 *World Development Report* outlined a complementary, but not identical, approach to increase the efficiency of public health spending by directing it toward cost-effective activities. Also, in the 1990s, programs to "modernize the state" began to influence policy in the health sector, with significant changes occurring in countries as diverse as Argentina, Venezuela, Jamaica, and Mexico with regard to forms of insurance, financing, coverage, and payments in the health sector. Such programs hold the promise of addressing the health conditions of the poor by changing the structure of incentives in a way that would lead resources to be allocated more effectively to policies and programs that address the health problems of the poor.

A large part of the political debate regarding the health sector since the 1980s has been focused on the problem of equity. A great deal of this attention has been generated by dissatisfaction with how state reforms have affected the health sector – whether the structural reforms of the 1980s in Latin America, or in the case of Britain, the Thatcher reforms of the same decade. Studies of the equity of health in Europe have advanced quite steadily over the last few decades, with a substantial literature on the wide variation in health status across socioeconomic classes.[2] Van Doorslaer, Wagstaff and Rutten (1993) took this literature and applied modern techniques of distributional analysis to household

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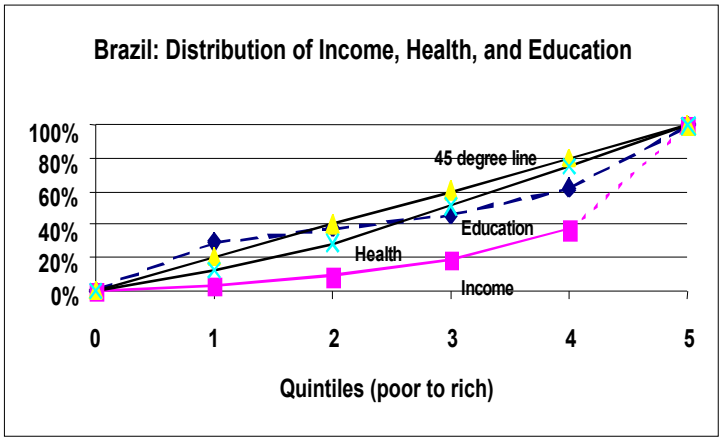
surveys in Europe, finding inequities in different countries in the OECD that could be related to the structures of their health systems.[3] More recently, this approach has been applied with World Bank and PAHO funding to Latin American countries under the EquiLAC project.[4] PAHO's involvement in the project is understandable from the prominent attention that has been given to equity in most of PAHO's deliberative bodies since at least the mid-1980s.

A key difficulty in most studies of equity, whether of health status or anything else, hinges on choosing the appropriate definition of equity. This choice is not merely an issue of choosing the right technical instruments for measurement. Rather, it has a critical impact on the interpretation of results and implications for policy. This paper will question the particular definitions of "health equity" that are commonly used in political debates in Latin America by demonstrating that they can lead to policies that result in less equitable rather than more equitable health systems. This paradox occurs because the most common definitions focus attention on measures of inequality that overlook behavioral responses to policies in terms of (1) individual choices regarding utilization of public or private care, (2) performance of public providers, and (3) the effectiveness of tax enforcement. As a result of these behavioral responses, appropriate public policies – those aimed at improving the conditions of the poor – will have to accept, and sometimes even encourage, apparent "inequities" in the health system as a whole. Addressing health inequities through the policies that Latin America tried in the past, namely seeking to deliver the same care to everyone free of charge, have been ineffective and counterproductive. Countries must adopt policies that aim at making their health systems efficient so that they can become effective instruments for raising the health conditions of the poorest.

This paper cannot attempt a complete review of the literature or discussion of health equity, which is extensive. Rather, it will begin by reviewing some evidence that, in some cases, health conditions and utilization of services are distributed much more equitably than other social measures. It will then evaluate the implications of some of the most common definitions of equity, followed by a discussion of some misconceptions about equity in health financing. Finally, it concludes with a discussion of the policy implications for the health systems of Latin America.

The Distribution of Health in Perspective

How much inequity is a lot? Is a Gini index of 0.06 for child mortality or self-assessed health status a lot of inequity or a little? Rather than establish an arbitrary level, Van Doorslaar, Wagstaff and Rutten wisely sought to address this question by comparing countries. Finding out that a country is as equitable as Sweden or as inequitable as the United States has more meaning than a single index number. Although this is a significant advance, the index numbers also need to be put in perspective relative to other distributional outcomes in society – certainly income, if not also other indicators of social status or wellbeing. In this regard, given the high income-elasticity of health expenditures, and the association of higher income with higher education (with all its attendant benefits for an individual's health through behavior modifications), one would expect health outcomes to be more inequitably distributed than income.[5] From another perspective, income has no relevant upper limit, while health status is capped, relatively speaking, by "good health". Therefore, health status would be expected to be better distributed than income. In fact, by almost any measure, the latter is a more accurate characterization. Health outcomes appear to be distributed more equitably than income. This fact is not presented by way of apology, but rather to indicate that the standard against which public policy affects the distribution of health conditions matters for the conclusions that we draw.



Note: Education is the average educational attainment for heads of household between 25 and 65 years of age (PNAD, 1995); income is per capita household income (IDB, 1998); and health services are the "need predicted chronic visits" as reported in Campino *et al* (1999).

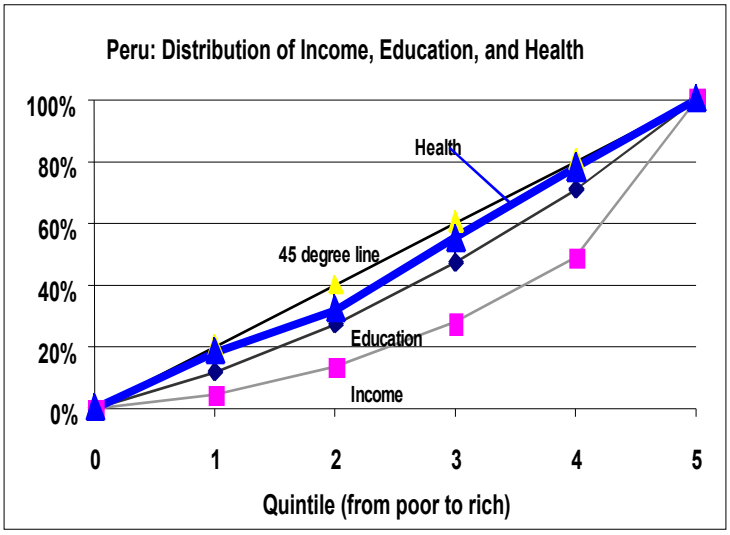
An example can be used to illustrate this point. Brazil is among the most inequitable countries in the world, as measured by the distribution of income. The Gini index for income is approximately 0.59 with the bottom quintile receiving about 2.5% of national income and the top quintile receiving 63% (See Figure).[6] The distribution of education is also one of the most inequitable in the world. It is highly skewed: for heads of household between the ages of 25 and 65 in 1995, the bottom quintile had an average educational attainment of about 2.4 years compared to the top quintile of this age group with an average of 8.5 years. As can be seen in the figure above, this represents a skewed distribution, but one which is somewhat more equitably distributed than income, particularly for the lowest income groups.[7]

Comparing the distribution of health service utilization, we find that it is much more equitably distributed than education. Campino, *et al* (1999), calculate the number of visits for supervision of a chronic problem by income quintile. These range from about 10% of individuals in the lowest quintile seeking care to about 14% in the highest quintile.[8] It is obvious that the utilization by income class is substantially more equitably distributed than income; and perhaps even better distributed than education. The findings for preventive and curative care are similar, with concentration indices on the order of 0.1 to 0.2. When adjustments are made for age, sex, and self-assessed health status, the distributions are much better, with concentration indices below 0.10.[9] Even when attention is shifted toward the distribution of need for chronic and curative care, the concentration indices hover close to 0 (0.04 and −0.04, respectively).

Peru offers another instructive example (MINSA, 1998). Here also the distribution of income is highly unequal, with a Gini index of 0.46. Again, the utilization of services is much more equitably distributed, with a concentration index of 0.17. However, when services are differentiated between the Ministry of Health, Social Security Institute (IPSS) and the Private Sector, the distributions are quite different. Private sector consultations are distributed quite close to the inequitable distribution of income. Consultations with IPSS (which largely serves formal sector workers) by income quintile are

more equitably distributed. And the Ministry of Health services (shown in the diagram) are distributed quite equitably. It is also apparent that public health care utilization is more equitably distributed than education.

As the Ministry of Health study points out, the main issue of "equity" in its broader sense for Peru is that particular diseases and causes of mortality, that are relatively easy to prevent, are highly concentrated among the poor. Infant and maternal mortality rates are indicators of this. The study estimates that the concentration index for the infant mortality rate in Peru is about –0.05. That is, infant mortality is over represented among the poor. As for the allocation of public resources, it appears that the Ministry of Health actually does reach the poor more than one would predict based on income alone, but the poor continue to experience certain illnesses that are relatively simple to prevent or cure.



Note: Education is the average educational attainment for heads of household between 25 and 65 years of age (PNAD, 1995); income is per capita household income (IDB, 1998); and health services are estimated from utilization curves in Fig. 12 of MINSA (1998).

So, if health service utilization and outcomes are compared to income distribution or other social services, they do not look quite as bad as one would expect. This is not to belittle or minimize the impact of the remaining inequities on the people whose lives are affected, but it does provide a standard against which to evaluate how "unfair" the utilization rates are in Latin America, and provides some perspective for policy. This is only a first step. We know that poorer individuals tend to receive poorer quality medical attention and that they have more illness. We also know that all illnesses are not alike – some are life threatening while some are temporary or mild. A proper evaluation of the distribution of health status would require that these factors be taken into account. The presentation of the distribution of infant mortality in Peru is one step in this direction and may be representative to the degree that infant mortality is a proxy for the distribution of other health status indicators. Nevertheless, the relatively equitable distribution of utilization shown here does contradict common beliefs about the equity of Latin American health systems and demonstrates the need for good data to properly evaluate the political debate.

Health Equity

What is an appropriate definition for equity? Various definitions can be found in the literature and appear intuitive. An explicit statement of a very strong definition of equity is a situation where *a person's health status is independent of his or her income*. This would clearly involve a maximal level of policy interventions to equalize not only the utilization of services and knowledge, but also behaviors. A somewhat more modest definition might be a system in which *those with equal need receive equal treatment*. This would set a standard for public policy to assure everyone gets the services they need, and is implicit in the policy of offering health care services free of charge either universally or for those with insufficient means. A third definition, almost identical to the second, would be a health system in which a *person's utilization of health services is independent of his or her income*. This is a slightly weaker standard than the previous because it only sets a standard of assuring that everyone *who seeks* care receives it; the equity standard is based on the demand for services rather than some objective measure of "need".

The primary difficulty encountered by all of these, and similar, definitions is that they are all unattainable unless you are willing to give everyone the same level of insurance as

Donald Trump and Bill Gates. This is fundamentally true because richer people are prepared to pay more for, and thereby receive more, health services than the poor or middle class. The only way to keep the upper income classes from obtaining more or better quality health services is to make private health services illegal – and even then the rich will opt out by flying to Miami, the Hague, or Toronto.

Rather than getting angry and frustrated by the wide open options of the rich, we can move toward another definition of equity that sets a better standard for public policy, and not by lowering our sights. If instead of defining health equity against an independent standard, we judge public policies by whether or not they are "equity-increasing", then we can state that *any health policy that improves the health conditions of the least well off is equitable*.

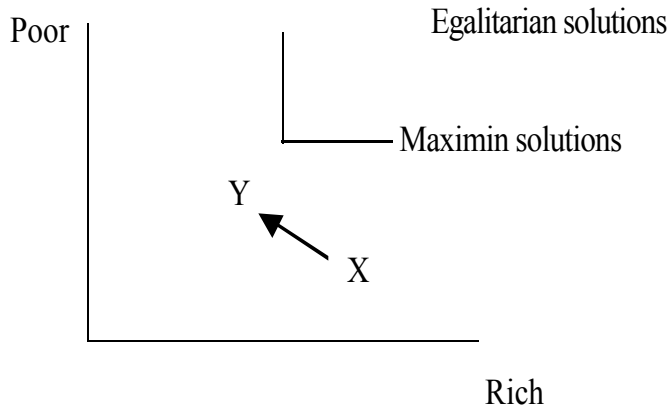


Figure 1

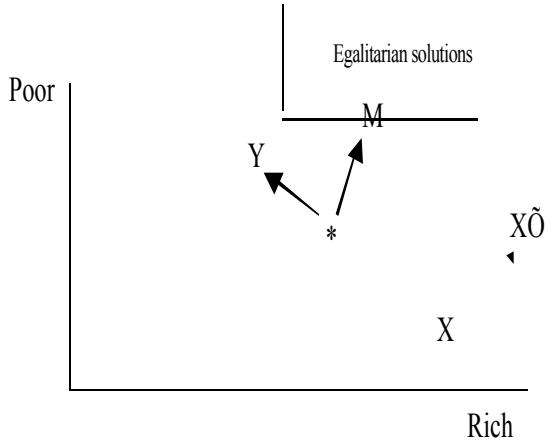


Figure 2

Source: These figures are adapted from Olsen (1997).

This definition is attractive because it is feasible in the context of feedback responses that limit the production frontier and provides a more useful guide to designing policies that really improve the health conditions of lower socioeconomic classes.

The problem with the earlier three definitions is that they measure equity in ways that provide positive value to a decline in the service utilization or health status of the rich, even if there is no associated gain for the poor. These are all equity measures that can be considered "egalitarian" in the sense that they value the equality between individuals independent of the consequences for the distance from society's total "production" of services or health status. Utilitarian measures of equity are only slightly better. Although a reduction in service utilization or health status of the rich would have to be offset by a gain for the poor, the utilitarian standard could also lead to solutions in which more services are provided to the rich when their potential health gain is greater than for the poor. The "equity-increasing" definition provided above is closer to the "Maximin" solution advocated by John Rawls in his *Theory of Justice*. The maximin solution seeks to improve the condition of the least well off. This standard can accept

some degree of inequality whenever it is justified by net gains to society. The health sector represents a case where this could not be more critical.

To understand this point, it is useful to consider the standard "equity versus efficiency" argument. Figure 1 shows a standard production possibility frontier which can be interpreted as either the production of services or health status, distributed between rich and poor. Point X represents a situation that is producing "efficiently" but not equitably; i.e. the rich get more services, or enjoy better health, than the poor. The situation is inequitable whether measured by an egalitarian standard (represented by the line) or a "maximin" standard (represented by the L-shape).[10] The usual argument is that society would be better off by redistributing from the rich toward the poor, even if this meant "producing" services or health status inefficiently (indicated by the Point Y being inside the production possibility frontier). Being unable to reach the egalitarian point *on* the production frontier can be due to a variety of reasons that are complex (e.g. incentive effects) or simple (e.g. administrative costs).

Nevertheless, Figure 1 shows gross simplification behavioral responses alter the likely shape of the production frontier. Figure 2 shows a situation in which production is on the frontier (Point X), but the production frontier is upward sloping over various ranges. For example, the rich might be better off by privately purchasing services that maximize their health status (moving from X to X'), but these services could have externalities that incidentally improve the health of the poor (e.g. installing sanitation and drainage). In this case, there is no efficiency/equity tradeoff. An alternative example might be redirecting funds spent on curing the rich of contagious diseases that might have been avoided if cost-effective basic services (vaccinations, screening) had been provided to the poor.[11]

This kind of argument is not consistent with the presumption that society is probably far from the efficiency indicated by the production frontier. In fact, an internal point (such as that marked by the asterisk) is more likely to reflect the actual situation. In such a case, how do we move toward a more equitable situation? You will note that due to the slope of the production frontier, the egalitarian and maximin solutions diverge. Moving toward an egalitarian solution (Point Y) represents accepting lower utilization or health status for *both* rich and poor. Moving from Point Y to Point M can represent net benefits for all for a variety of reasons. Externalities

of increased health services for the rich can improve the health services of the poor, as in the case of sanitation or economies of scale in production of new medications. More relevant to the Latin American case, when rich people opt out of public systems, it can leave (*the potential)* for applying more resources to the health needs of the poor. Competition from private providers can induce more efficient and better production of health services in the public sector for the poor; or public systems that are more effective at reaching the poor may enjoy greater public support. All of these reasons, which begin to consider the relationship between consumer and producer behavior, force a change in the shape of production possibilities that cause the egalitarian solution to diverge from the maximin solution. It is important to recognize the implications of this: an "equity increasing" policy (moving from * to M) doesn't necessarily reduce the gap between rich and poor, but it does reduce the gap between the current and potential health status of the poor.[12]

Health Equity and Health Service Provision

The complexity of the notion of "equity" leads to numerous difficulties in the Latin American debates over improving health in the region. One of the key problems in the debate regarding health equity is that perfectly reasonable goals, coupled with some knowledge, can be a dangerous thing. Most countries have adopted laudable goals: universal coverage and equitable access. Most people are aware that publicly funded systems (e.g. Sweden) tend to be more equitable than those that rely largely on private spending (e.g. the U.S.).[13] The political process in most Latin American countries puts a high premium on equity (in rhetoric if not in practice) and leaps from these positions to aim for public provision of free health services. This has even been enshrined in several constitutions.

Difficulties arise when we recognize that people in society respond to public policy in ways that undermine the original goals. In particular, two such processes are common in Latin America. First, unless public services are of high quality, the upper income classes opt for private services that compete for medical personnel and drive up public sector costs.[14] They also seek to evade taxes earmarked for services that they do not utilize. Along with this, it is not uncommon for governments to finance (or provide) high quality care for particularly costly interventions. Upper income groups then have the

opportunity to reduce their insurance premiums by agreeing to exclude such coverage and resort to the public sector for these costly events.

The second process derives from an agency problem when the public sector finances or provides medical services. Accountability within public agencies that purchase or provide medical services is very difficult, and is frequently constrained by civil service provisions and political interference. This is compounded by the political-economic difficulties of establishing sustained collective action around public health programs that are either under funded or ineffectively promoted.

For both these reasons, the advantage of public financing (or provision of services) in terms of increased equity as demonstrated by European countries can be radically offset by reasonable responses of wealthier individuals and public sector personnel. In many Latin American countries, these disadvantages have in fact been large enough to undermine the goals of universal equitable coverage. Only policies that fully recognize these behavioral responses can be expected to redress inequities.

Attempting to equalize utilization or health expenditure at this time runs against these two processes. Pursuing equity under these conditions when it is defined as "equal care for equal need", "equal utilization independent of income" or "equal health status independent of income" is simply unattainable due to the opportunities of private spending and provision. They can only be reached by some kind of leveling. By contrast, "improving the health conditions of the least well off" is equitable in the sense of being "fair" or desirable even when it may, strictly speaking, increase the gap in health status, utilization, or care between rich and poor.

In essence, public policy should aim to establish a minimum service guarantee (e.g. something like a basic heath service package oriented toward diseases concentrated among the poor), coupled with efforts to improve the quality of care financed by the public sector. An example of the first part of this prescription can be seen in the MINSA study analysis of the provision of rural health posts. Expanding access to rural areas may thin out public resources in the urban areas, encouraging more households to opt out of the public system and evade tax or social security payments. This may further exacerbate poor public service quality because it is difficult to attract qualified personnel to those areas. Nevertheless, the net impact on health status may be more equitable, even if those health posts are of worse quality than

urban ones and even if health service consumption in the private sector increased more than proportionally. An example of improving the quality of provision can be seen in Costa Rica, where despite its difficulties the public sector is sufficiently good to reduce demand for private sector services.[15]

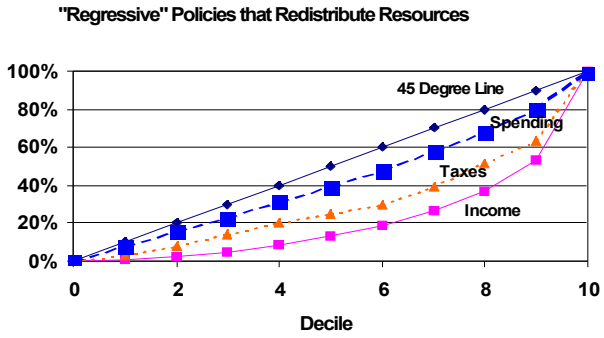
Finance and Health Equity

Up to this point, the source of funding for health services or health-promoting actions has not been addressed. This is not an accident. Another part of the general debate argues that not only should health services be equitably distributed, but also they should be paid for according to ability to pay. Just as in the case of the distribution of services or health status, most of the discussion of financing health services fails to recognize that the form of raising funds affects the total volume of resources available. This section will argue that in some cases health status of the poor can be best served by raising taxes proportionally, and in some cases even regressively.

We can begin by asking what is an appropriate definition of equitable financing for health services? The answer to this question has been made difficult by the use of two different standards against which the progressivity of taxation and expenditures are measured. In common parlance, a tax is considered progressive relative to the income distribution curve. It is considered progressive if the rich pay a larger share of their *income* than the poor, and regressive in the opposite instance. By contrast, expenditures are judged against *per capita spending* and not income. Consequently, expenditures are considered progressive if a larger amount per person goes to the poor than the rich and regressive if the poor receive less per person.

As a result of these definitions, it is entirely possible to have a regressive tax policy and a regressive expenditure policy that, nevertheless, redistribute resources from the rich to the poor.[16] Consider the Figure 3. The tax curve lies above the income curve representing a regressive tax policy: in the example, the bottom quintile receives 3% of the nation's income but pays 8% of the taxes. The expenditure curve lies below the 45-degree line indicating a regressive expenditure policy: in the example, the bottom quintile represents 20% of the population but receives only 16% of the spending. There is, nevertheless, a net redistribution from the rich to the poor represented by subtracting the area between the tax and

income curve from the area between the expenditure and income curve. A numeric example is also shown below.



Example to demonstrate the impact of hypothetical "regressive" policies

	Initial Income	Minus Taxes	Plus Subsidies	Total
Poor	20	15%=3	5	22
Rich	80	10%=8	6	78
Total	100	11	11	100

This is not an idle curiosity. In Latin America, much of health spending is closer to the 45 degree line than to the income curve and the countries that have the most progressive impact are those that spend more. Therefore, the key problem in Latin American countries is to have tax policies that are effective in raising revenue, more than being progressive. Essentially, a country that raises a lot of revenues through a Value Added Tax and spends them roughly in proportion to the population in each quintile (e.g. Argentina) can have a much more redistributive impact than a country that raises very little revenue through a highly progressive income tax and spends very little (e.g. Guatemala).

Theodore *et al* (1998) demonstrates this clearly for Jamaica. The authors find a very equitable public health system, with resources coming from general revenues and going to the population in roughly equal shares — except for the upper class which is underrepresented. Effectively, the rich opt out of the public system, but their taxes (through general revenues) continue to support it. Ironically, a country

like Costa Rica, whose public sector health services are utilized by a broader share of the population may have an apparently regressive spending structure simply because the middle and upper middle classes actually make use of the services that their taxes are supporting! Yet, the Costa Rican health system is still, at least anecdotally, preferable to that existing currently in Jamaica.

The Chilean health system, which is regularly criticized as being inequitable, may be the most progressive health system in the world in terms of the distribution of public spending by income quintile. Milanovic (1995) shows that the concentration curve for public health spending in Chile is significantly *above* the 45 degree line, indicating highly progressive spending. By contrast, British health spending is close to but above the 45 degree line and Hungarian spending lies below. A more recent study by Bitrán (1998) also shows that the top income classes (those who are enrolled in private insurance companies called ISAPRES) receive only 2.5% of public health subsidies while the rest of the income classes redistribute resources toward the least well off. The reputation Chile has for being inequitable may be the result of the rapid expansion of higher quality private care available to middle and upper income groups since the health reform of the early 1980s. Yet, it may be precisely because richer families can opt out of the system that the remaining public spending is so progressive. In other words, large inequities can exist in health systems that are strongly redistributive.

The key issues for the equity of health finance then, are not whether taxation and expenditures are progressive. Instead, there are three primary implications for policy. First, *what is the best way to assure funding for health services*? This is a difficult question because of the political-economic context that makes every solution an imperfect solution. Earmarked taxes have been tried in many countries (including a tax on financial transactions that is funding a large part of Brazilian health services today). This solution is imperfect, however, whenever the middle and upper classes find ways to evade the tax (since they don't feel they receive any benefits from it). Financing health services out of general revenues may be more equitable, but it is not always assured since it must compete with other important public demands. Lasprilla *et al* (1998) show that the Social Security program in Ecuador for a particular group of peasants is quite progressive. It is tempting to look at such a program as a model for other countries. However, it is questionable whether such a scheme

Source: Author's simulation

could be replicated in a different context, where the peasants are less well organized and the central authorities are under pressure to use their limited resources elsewhere. It is also attractive to think of redirecting private spending on health through the public health system channels, but this is an illusory source of funding. Private spending is high precisely because those who do it receive direct and immediate benefits from it; whereas a tax or public insurance premium is not clearly directed toward individual benefit.

The second issue in financing health services is *the effectiveness of the tax system*. This is much more important than the progressivity of taxes, as discussed above, because without tax revenues, there can be no redistribution. The third issue is *to make public spending on health services gradually more progressive*. This cannot be done by offering services free of charge to everyone. The Brazilian experience with the 1988 Constitution, that guarantees free health care to everyone, effectively allowed the wealthier classes to begin raiding federal revenues to pay for health services that they previously paid for themselves. As a consequence, public spending on health has become more inequitable in the last ten years, while out-of-pocket expenditures have become more regressive.[17] Instead, health spending can be made more progressive by first assuring basic minimum services that address the health problems most concentrated among the poor. Second, by improving the quality of health services provided under public funding the "floor" of health service quality in the country is gradually but steadily raised.

Summary

In sum, attention to equity in health care is important but full of pitfalls. The benchmark against which equity is measured, and the choice of definition, can confuse the policy debates by holding up the health system to an unattainable standard. The studies done as part of the EquiLAC project demonstrate that health conditions are generally worse among the poor, and that utilization of services are also distributed unevenly across income classes. Nevertheless, the inequalities detected in the distribution of public health services and public health spending are generally small relative to the inequitable distribution of income that prevails in most of these countries.

Given that families of means will always spend on what they perceive to be the highest quality of care attainable; equity measured as the distribution of services and spending

may be an unhelpful measure. Rather, equity measured by access to basic services among the poor, may be an attainable and effective policy – even if it has minimal impact on the overall distribution of spending or services.

In the case of equity in health care financing, the progressivity of taxes or even spending are not of great importance relative to three other issues. The first issue is how to assure funding for the health sector, taking into account politics, tax evasion, and flight. The second issue is how to effectively raise revenues, even if in equal proportion to income across the income scale, rather than enacting progressive taxes that generate little money for redistributive programs. Finally, spending needs to be made progressive in the sense of assuring access to basic cost-effective services while steadily improving the quality of services provided with the backing of public funds.

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Notes

[1]I would like to thank Ruben Suarez and Adam Wagstaff for their invitation to comment on the papers prepared under the EquiLAC project at the World Bank, and for various formative conversations and ideas. Philip Musgrove provided valuable comments on an earlier version of this paper and continuing inspiration. I would also like to thank Norberto Dachs for introducing me to a broad literature on this subject. The views and interpretations in this document are mine and should not be attributed to the Inter-American Development Bank. Any remaining errors are clearly my responsibility as well.

[2]See, for example, Wilkinson 1996 and Whitehead 1990 and 1992.

[3]See Van Doorslaer, et al (1993) and Wagstaff and Van Doorslaar (forthcoming).

[4]Preliminary papers in this project were presented at the World Bank in January, 1999 and this paper grew out of comments made at that seminar.

[5]Clearly this is also assumes that health expenditures have a positive impact on health, which is always true.

[6]The figures on inequality throughout this paper are taken from Inter-American Development Bank (1998).

[7]These estimates of the educational distribution curve are actually a lower bound because they are based on an average for the quintile, which should shift each of the points on the curve some amount to the right (i.e. toward greater equality). The estimates also need to be qualified as possibly underestimating the degree of inequality for two reasons: (1) the quality of each school year received by poorer students is likely to be lower than the quality for richer ones, and (2) the "value" of each school year may be different (i.e. higher returns per year at higher levels of schooling – see IDB, 1998). On the other hand, looking at an alternative measure would demonstrate much greater equality: The average 18 year old from families in the bottom quintile had a little more

than 4 years of education in 1995, compared to 8.8 years from those coming from families in the top quintile. This is much more equitably distributed than for the population heads of household, or the population as a whole, and indicates that public policy and/or social behavior has offset the country's huge income inequities to a strong (though still insufficient) extent.

[8]The unadjusted rates range from 12% to 17%.

[9]Note that self-assessed health status is not necessarily independent of income and education, although the impact appears to vary by country and study.

[10]The maximin solution is a gross simplification of a standard established by Rawls in his *Theory of Justice* in which society seeks to improve the condition of the least well off. In this simple figure, the optimal allocation under a utilitarian standard would also coincide with the egalitarian and maximin solutions. This discussion and the figures are drawn from Olsen (1997).

[11]This kind of argument can be found in Birdsall and Hecht (1995).

[12]Note that this argument glosses over the definition of "least well off". For a discussion of the potential contradiction between treating those with the most severe illnesses and treating those who can be helped most by treatment, see Musgrove (1999).

[13]For more information see Wagstaff and Van Dorslaar (forthcoming).

[14]Costs can be driven up by raising salaries, or more commonly by absenteeism in public facilities.

[15]For a discussion of the relationship between the private and public health sectors, see IDB (1996), Maceira (1996 and 1998), and Musgrove (1996). Costa Rica cannot be considered a paragon of public service provision either. Costa Rica spends a very high share of national income on its services that have been demonstrated to be very inefficient. One study estimated absenteeism in Costa Rican public facilities as high as 30%.

[16]A more complete discussion of this can be found in IDB (1998), from which it is derived.

[17]Medici (1998).