

OVERCOMING THE INVERSE CARE LAW

Designing Health Programs to Serve Disadvantaged Population Groups in Developing Countries

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The inverse care law is alive and well in the developing world. It must be challenged if disadvantaged groups are to be served effectively.

The purpose of the current note is to set the stage for movement in this direction by:

- Calling attention to the law's influence over even those health program in developing countries commonly thought to be particularly "pro-poor;" and
- Introducing some of the issues that will have to be addressed if the law is to be overcome.

Influence of the Inverse Care Law

The inverse care law, formulated by Julian Tudor Hart in 1971, maintains that "the availability of good medical care tends to vary inversely with the need to it in the population served."¹ Although put forward to describe the situation of Great Britain, the law is widely recognized as applying to other parts of the world, as well.

What appears not to be so widely recognized is just how powerfully this law affect the impact of even those initiatives designed to serve disadvantaged population groups in developing countries. Because of it, even initiatives like these tend to reach the better-off more often than they do the impoverished people they were designed to serve.

This can be seen by looking briefly at the record of some of the equity-oriented initiatives undertaken during the 1970s and early 1980s, when a concern for disadvantaged groups was at the top of the international health agenda as it is today. Among other things, this period gave rise to such activities as determined efforts by WHO to extend the use of primary health care; and by UNICEF to promote growth monitoring, oral rehydration, breast-feeding, and immunization – a package of procedures that became known under the acronym "gobi."

How well did these vigorously-promoted initiatives succeed in reaching the poor? It is not possible arrive at any fully satisfying conclusion. However, recent research on

poor-rich disparities in health service use provides strong hints about the situation that currently prevails with respect to three of the five measures just mentioned: primary health care, oral rehydration, and immunizations.

The information about primary care comes from a recent series of studies in the “benefit-incidence” tradition, which assesses the distribution across social class of the financial benefits from different types of government expenditures. Approximately two dozen known benefit-incidence studies of government health spending have been carried out, the majority under the auspices of the World Bank, where the tradition originated. The most informative is a set of studies covering seven African countries.² Table one presents summary figures.

In those countries on the table for which recent data are available, income or consumption in the top 20% of the population is from five to twenty times as high as in the poorest 20%.³ Yet notwithstanding the frequent invocation of equity as a justification for government involvement in health service delivery, the government health service expenditures covered in the table generally reinforce rather than counterbalance those income/consumption inequalities.

That is, the government expenditures tend to benefit Africa’s richest people more than its poorest more than its richest in absolute terms. On average, the highest 20% of the population receives well over twice as much financial benefit as the lowest 20% from overall government health service spending (30% vs. 12% of total benefit). For primary care, the poor-rich benefit ratio is notably lower (23% vs. 15%), suggesting that, from an equity perspective, the move toward primary care represents a clear step in the right direction. But since the highest group receives half again as large a financial benefit as the lowest even from primary care, it would be difficult to judge the size of the step as more than modest. Elsewhere in the developing world, the situation is not quite so stark; but in no known country study produced to date does the poorest 20% of the population receive as much as 25% of the financial benefit from government expenditures.

There are, to be sure, numerous methodological limitations to be considered before arriving at any definitive assessment of such benefit-incidence figures.⁴ Yet, even after these have been taken fully into account, it is difficult to reconcile a finding that primary care confers greater benefit on the richest 20% than on the 20% of many countries’ populations with the vision that motivated the authors of the Alma Ata Declaration.

Similar data about oral rehydration and immunization have recently become available through a series of studies based on comparable household data from forty-four countries of Africa, Asia, and Latin America.⁵ These studies, commissioned by the World Bank, provide the values of approximately thirty health, nutrition, and population indicators for each socio-economic quintile of the population. The oral rehydration and immunization findings are summarized in figures one and two.

Of the two, the record of oral rehydration therapy is the more impressive from a poverty perspective. In all major parts of the world, around one-half all cases of diarrhea among children in the poorest 20% of families had been treated with some kind of oral liquid regime. Given the difficulty of reaching such poor families, this is a noteworthy achievement for a technology that had existed for only around 20 years at the time the data were collected. Yet even in this case of a technology developed with the needs of the poor particularly in mind, the uptake has been greater among the upper classes, with rates of use typically running 10-20 percentage points higher in the highest quintile than in the lowest. And while half of the poor have been served, half have not; and there is no clear indication that they will be in the foreseeable future.

A look at the immunization data is less encouraging. Although the available data are far from ideal, they leave little basis for doubt that immunizeable diseases are clustered primarily among the poor. Yet immunization programs are not reaching the poor nearly so well as they are the better-off. On average, immunization coverage in a developing country's poorest 20% is around 35-40%, only a bit more than half of what it is among the average country's richest 20%, meaning that the poor benefit far less even when externalities are taken into account.

Whether the glass portrayed in the preceding paragraphs is half full or half empty unavoidably depends on one's perspective. From the perspective of this observer, it seems undeniable that the poor have benefited significantly from the innovations described and the many others like them that were also introduced during the late 1970s and early 1980s. Yet it would be equally difficult to deny that the benefit has been modest relative to the total burden of ill health among the neediest; and, as suggested by the data presented, also smaller than the benefit that the innovations have brought to the not-so-needy.

This is not to say that the innovations were misguided. While they may have not reached the poor nearly so well as their proponents appear to have anticipated, they also seem to have proven notably more "pro-poor" than the earlier types of health services from which they parted company. If so, the innovations can be defended as representing a start in the right direction. But with the benefit of hindsight, it is clear that they were no more than a start. In themselves, they have not been nearly enough to overcome the challenges posed by the inverse care law.

Overcoming the Inverse Care Law

To say that the inverse care law is powerful is not to claim that it is omnipotent. The claim, rather, is simply that a much more determined effort than currently realized will be required to overcome it.

Unfortunately, it is not possible given the present state of knowledge to be very specific about the nature of the efforts required. But a start in the direction of identifying

such efforts can be made by pointing to several issues that will have to be addressed in designing them:

Issue One. *Reaching Poor and Disadvantaged People, Not Just Poor Countries.*

It is tempting to believe that a focus on poor countries is sufficient to assure that the majority of a program's benefits will reach the people who need them most. Unfortunately, such is not the case.

It is certainly true that some areas and countries are much poorer on average than others. But even in the poorest areas, there exist large groups of people who, while perhaps rarely wealthy by Northern standards, are far better off than others in the same area. The power of the inverse care law demonstrated in the preceding section makes it highly likely that, in the absence of special efforts on behalf of the disadvantaged, the majority of benefits of health initiatives undertaken in these areas will flow to these better off.

To illustrate the point, take the case of Sub-Saharan Africa, the world's poorest region. There, according to the most recent World Bank estimates, around 45% or nearly half the population lives in absolute poverty – defined as a daily per capita income less than one dollar.⁶ But these same World Bank data show that there are very large disparities within the countries of this region: the top 20% of the population within the typical sub-Saharan African country earns or spends some 13-14 times as much as someone in the poorest 20% of the population.⁷

As shown in table 1, it is these people who are the primary beneficiaries not only of government health expenditures in general, but also of government expenditures on primary care programs undertaken in order to benefit the disadvantaged. In light of information like this, it would clearly be unwarranted to believe that one can benefit the truly needy people simply by ensuring that health resources reach needy countries.

Issue Two. *Reaching the Poor and Disadvantaged Victims of the Diseases of Poverty.*

A second temptation is to anticipate that a focus on interventions against health problems that are concentrated among the poor and disadvantaged means that the disadvantaged will be the principal beneficiaries of those interventions. But there is no automatic relationship between the people who suffer from a particular health problem, and the people who benefit from interventions against the problem. The distributional impact of an intervention is determined by who benefits from it rather than by who suffers from the diseases against which it is directed; and, in the absence of a special effort to reach the disadvantaged, the inverse care law suggests that the majority of beneficiaries are likely to be better off.

Two illustrations of this point have already been provided: the cases of oral rehydration therapy and immunizations, discussed in the preceding section and covered in

figures one and two. The available data for the diarrheal diseases against which oral rehydration therapy is directed make it clear that the incidence of such diseases is considerably higher among disadvantaged than among better-off groups almost everywhere.⁸ While firm data on immunizeable data are not readily available, there is little basis for challenging the widespread assumption that they, too, are concentrated primarily among the disadvantaged. Yet, as seen in figures one and two, the interventions against these diseases reach the best-off notably more often than they do the neediest. Comparable data for other interventions against diseases of the poor suggest that beneficiaries from those interventions are even more heavily concentrated among the best-off who need them least.⁹

Issue Three. *Benefiting as well as Reaching the Poor and Disadvantaged.*

Reaching the disadvantaged with an intervention is usually a necessary condition for benefiting them significantly; but rarely if ever is it a sufficient condition for doing so. There are at least two reasons why reaching the disadvantaged might not be sufficient for them to benefit from it, in the sense of improving their health status and/or receiving more effective protection against the impoverishing impact of illness.

One is what's often called the "counterfactual" issue. That is, an intervention's impact needs to be assessed not only in the abstract, but also relative to what would have taken place had the intervention not existed. And when this is done, an intervention's apparent benefit can be reduced significantly. (An example: Suppose a new NGO antenatal project is introduced in an area previously served by effective government programs, and attracts a large number of poor women away from the government program. The benefit to the women concerned would not be the benefit they receive from the NGO project alone, but rather the benefit from the NGO project minus the benefit previously provided by the government programs.)

The second concerns therapeutic efficacy. An intervention obviously has to be therapeutically valuable to be of help: there's not much value in immunizing poor children with vaccines that have lost their potency, for example.

Issue Four. *Factoring in Indirect as well as Direct Benefits to the Disadvantaged.*

While reaching the poor and disadvantaged with an intervention may usually be necessary to benefit them significantly, this is not inevitably the case. For there can also be potential indirect benefits from interventions reaching other groups that need to be factored in; and under some circumstances these can be important.

The clearest illustration of this point is the case of reduced exposure to communicable diseases among the disadvantaged that can come from lowering transmissibility through attaining a high overall coverage rate with an effective intervention. In such cases, the disadvantaged will benefit to at least some degree from the high overall coverage, even if the intervention in questions reaches primarily the better-off.

In fact, there exist, at least in principle, situations where the poor might benefit most from interventions that do not reach them directly. An example would be a setting where: a) complete protection of the community – i.e. full herd immunity – against a particular communicable disease is achieved at a relatively low overall coverage level; and b) it is far more difficult/expensive to reach the poor than the better off. (An extreme illustration: if one can achieve full herd immunity and thus eliminate transmission at an overall population coverage rate of 50%, and it would cost one hundredth as much to prevent the disease among the upper half of the population as among the lower 50%, then the poor would almost certainly benefit most from a strategy that aims at achieving full coverage among the population's upper half.)

Another, more complicated case of indirect benefits for the disadvantaged comes from the gains that they can receive from the increased economic growth – or, in the cases of diseases like HIV/AIDS, a slowed rate of economic decline – brought about by reduction of the disease burden among the better-off, often more economically productive members of society. At least some of the extra gain or reduced loss would seem likely to trickle down to the disadvantaged; although it is difficult to imagine circumstances under which this benefit would be nearly so large as that accruing directly to those individuals whose health is directly improved.

Issue Five. Protecting Those Who Are Most Vulnerable Financially from the Impoverishing Impact of Poor Health.

Protection against the impoverishing impact of disease has come increasingly to be accepted as an accepted objective of health interventions, alongside the traditional goal of health status improvement. Providing such protection constitutes a major challenge, since all diseases have at least some negative financial impact upon all people, whether well-off or disadvantaged, in the societies where the diseases occur – whether directly through the income lost and health care expenses incurred by the ill, or indirectly through increased the higher cost of consumer goods, taxes, and/or health insurance premia that affect those who are not ill as well as those who are.

Yet some people are much more likely to be impoverished if they fall ill from disease than are others. Vulnerability to such disease-induced impoverishment will depend upon such factors as a person's or household's:¹⁰

- Financial or physical assets, which can be converted into the cash needed to cover expenses.
- Human capital, such as education that can allow one to obtain employment in occupations requiring limited physical mobility, and knowledge about how to access credit.
- Sources of income, especially the role to which income is derived from occupations requiring physical and/or mental activity that can be affected by illness.

- Links to networks, such as extended families or other associations that can provide financial support to members in need.
- Availability of health or unemployment insurance, of other social assistance programs and/or of subsidized health care that can help replace lost income and cover health care costs.
- Access to credit markets through which loans can be obtained to cover income losses and medical expenses.

It seems clear from the foregoing list that the economically poor and socially excluded will in general tend to be the financially vulnerable as well. For this reason, the application of a financial protection perspective does not appear likely to alter significantly the high priority accorded to socio-economically disadvantaged groups in formulating equity-oriented health strategies designed to improve health status.

Issue Six. *Handling the Ethical Challenges.*

At first glance, it might seem hard to imagine challenging a health initiative oriented toward the disadvantaged on ethical grounds. But it is possible, for reasons that vary widely in their plausibility.

The least plausible is the one that is probably heard more frequently: the concern that a focus on interventions oriented toward the disadvantaged implies valuing the health or life of a disadvantaged person more highly than the health or life of somebody who is better off. This raises ethical concerns among those who believe that the lives of all people should be considered equally.

To be sure, the attachment of a higher valuation to the health of the poor is one possible justification for focusing an intervention on that population group; but it is not the only justification. And it is not the one advanced by the vast majority of people concerned with reaching the disadvantaged with effective health interventions.

Rather, almost all health professionals concerned with the disadvantaged strongly agree with the view that the health of all people, rich or poor, should be considered equally important. In their eyes, the justification for special public concern about the health of the disadvantaged is the lower capacity of the disadvantaged to look after their health conditions on their own because of conditions beyond their control like limited financial resources, lesser degree of knowledge/education on health matters, greater exclusion from health services and from other social/economic activities important for health improvements. Thus the reason for special attention to the disadvantaged is to “level the playing field” and to provide for the disadvantaged access to services that the better-off already enjoy.

However, there is a considerably more plausible variation on this theme that deserves greater attention. It would come into play in a setting where the most disadvantaged are far more difficult and expensive to reach than those who are almost but not quite so disadvantaged. In this case, an intervention directed toward the poorest of the poor would produce very few health gains among them or anybody else, whereas the same amount of money spent among a group not quite so poor could result in important benefits to a population group that is also very disadvantaged.

In other words, it is possible to go overboard in an effort to focus on the most disadvantaged. Situations may well exist where reaching some particularly disadvantaged population groups costs so much and produces so few results that one would be better advised to give higher attention to other disadvantaged segments for ethical as well as effectiveness reasons.

Issue Seven. Choosing between a Focus on Achieving Universal Coverage, or Coverage of the Disadvantaged.

Lurking just over the horizon is an incipient debate between two schools of thought concerning what is arguably the most important issue of all concerning the design of intervention strategies for the disadvantaged. One school would advocate strategies directed toward the rapid attainment of universal coverage among all population groups, without a concern of which groups are reached first or what inequalities might be produced during the period before universal coverage is achieved. The other school would focus immediately on poor groups, trying to increase coverage among them as rapidly as possible in order to lessen inequalities. Members of each school can marshal valid arguments in support of their position.

If one can quickly achieve universal coverage with a particular intervention, the objective of covering the poor will have been attained with a time lag that is not great enough to constitute a major practical concern. Achieving full coverage of the poor through such a strategy would (or at least could) have the advantage of providing the same quality of service to all groups, thereby avoiding the often-cited problem that “health services for the poor are poor health services.” In addition, it would avoid the several important limitations of the targeting techniques available to focus interventions on the poor.

But it must be recognized that, because of the inverse care law, adoption of a universal coverage approach would almost certainly involve at least a brief period of greater coverage improvements among the better-off than among the poor,¹¹ and thus a rise in poor-rich inequalities. Were the political momentum behind the intervention to slacken before the achievement of the ultimate goal of universal coverage, the result would be an equilibrium at this unappealing midpoint. This could be avoided by a focused strategy, which would produce (or at least seek to produce) lessened coverage inequalities at every stage.

So in the end, the determining factor in whether to work for universal coverage, or to focus on increasing coverage among the disadvantaged concerns the strength and staying power of the political momentum behind the extension of effective health services to the disadvantaged. If one believes the momentum can be sustained until the job is fully done, then a universal coverage approach would seem preferable. Otherwise, the disadvantaged would probably be better served by a strategy focused on them.

To the extent that recent history is any guide, it is difficult to be optimistic about the staying power of poverty-oriented health movements. For as has been seen at the outset, the momentum behind the movements of the 1980s that led to such pro-poor interventions as primary care, oral rehydration, and immunizations all faded well before universal coverage had been reached. And while these movements no doubt left the disadvantaged better off than before, they appear to have served the better-off much more effectively, and to have increased intra-societal disparities considerably. It should be possible to do better.

¹ Julian Tudor Hart, "The Inverse Care Law," The Lancet, 27 February 1971, pp. 405-12.

² F. Castro-Leal, J. Dayton, L. Demery, and K. Mehra, "Public Spending on Health Care in Africa: Do the Poor Benefit?," Bulletin of the World Health Organization, vol 78, no.1 (January 2000), pp. 66-74

³ World Bank, World Development Report 2000/2001: Attacking Poverty (Washington: The World Bank, 2000), pp. 282-83.

⁴ Ibid.

⁵ Davidson R. Gwatkin, Shea Rutstein, Kiersten Johnson, Rohini Pande, and Adam Wagstaff, "Socio-Economic Differences in Health, Nutrition, and Population," (Washington: Health, Nutrition, and Population Department of the World Bank, 2000) (also available at: www.worldbank.org/poverty/health/data/index.htm.)

⁶ World Bank, World Development Report 2000/2001, p. 23.

⁷ Calculated from data for 22 Sub-Saharan African countries presented in World Bank, World Development Report 2000/2001, pp. 282-28.

⁸ Gwatkin et al., "Socio-Economic Differences in Health, Nutrition, and Population."

⁹ Data for medical treatment of diarrhea and of acute respiratory infection presented in Gwatkin et al., "Socio-Economic Differences in Health, Nutrition, and Population."

¹⁰ The list that follows is adapted from one appearing in World Bank, World Development Report 2000/01, p. 20.

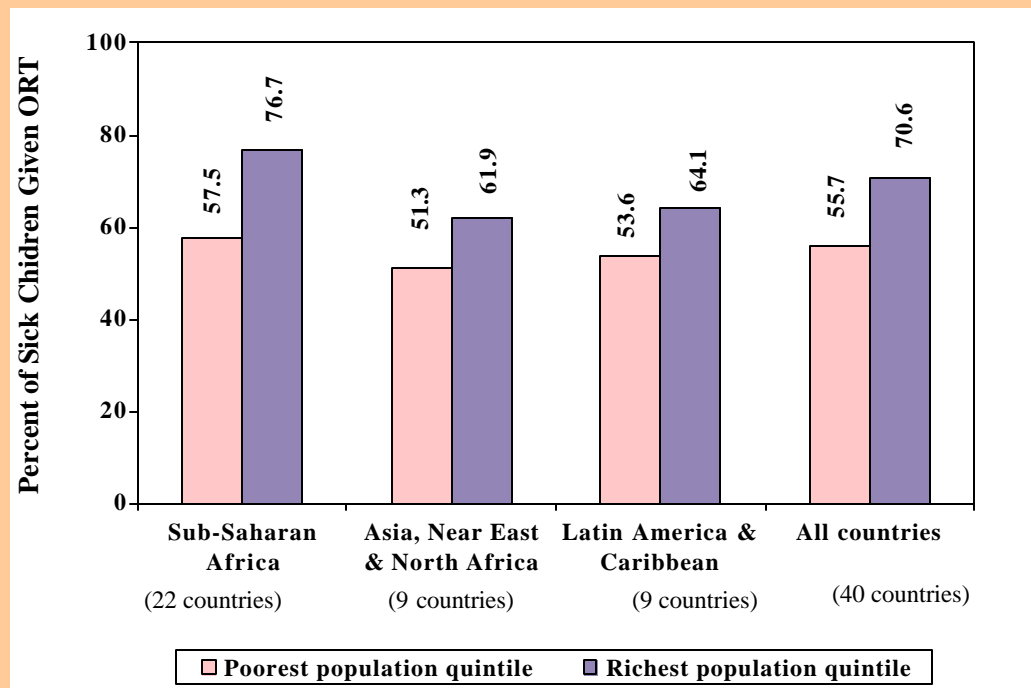
¹¹ An exception would be in the case where universal coverage of a particular health service has already been achieved among the better-off, so that rise in overall coverage can be achieved only through increasing coverage among the disadvantaged. However, such cases appear relatively rare, and the demand for ever more effective and expensive care by the better-off appears nearly insatiable. This makes it difficult to imagine many situations where the majority of benefits would flow to the disadvantaged during the initial stages of movement toward universal coverage.

TABLE 1: PERCENTAGE OF TOTAL FINANCIAL BENEFITS FROM GOVERNMENT HEALTH CARE EXPENDITURES ACCRUING TO THE POOREST AND RICHEST POPULATION QUINTILES

<u>Country</u>	<u>Primary Care</u>		<u>Total Care</u>	
	Percentage of Benefit of Gained by:		Percentage of Benefit of Gained by:	
	Poorest Population Quintile	Richest Population Quintile	Poorest Population Quintile	Richest Population Quintile
Côte d'Ivoire (1995)	14	22	11	32
Ghana (1992)	10	31	12	33
Guinea (1994)	10	36	4	48
Kenya (Rural – 1992)	22	14	14	24
Madagascar (1993)	10	29	12	30
Tanzania (1992-93)	18	21	17	29
South Africa (1994)	18	10	16	17
<u>Unweighted Average</u>	<u>15</u>	<u>23</u>	<u>12</u>	<u>30</u>

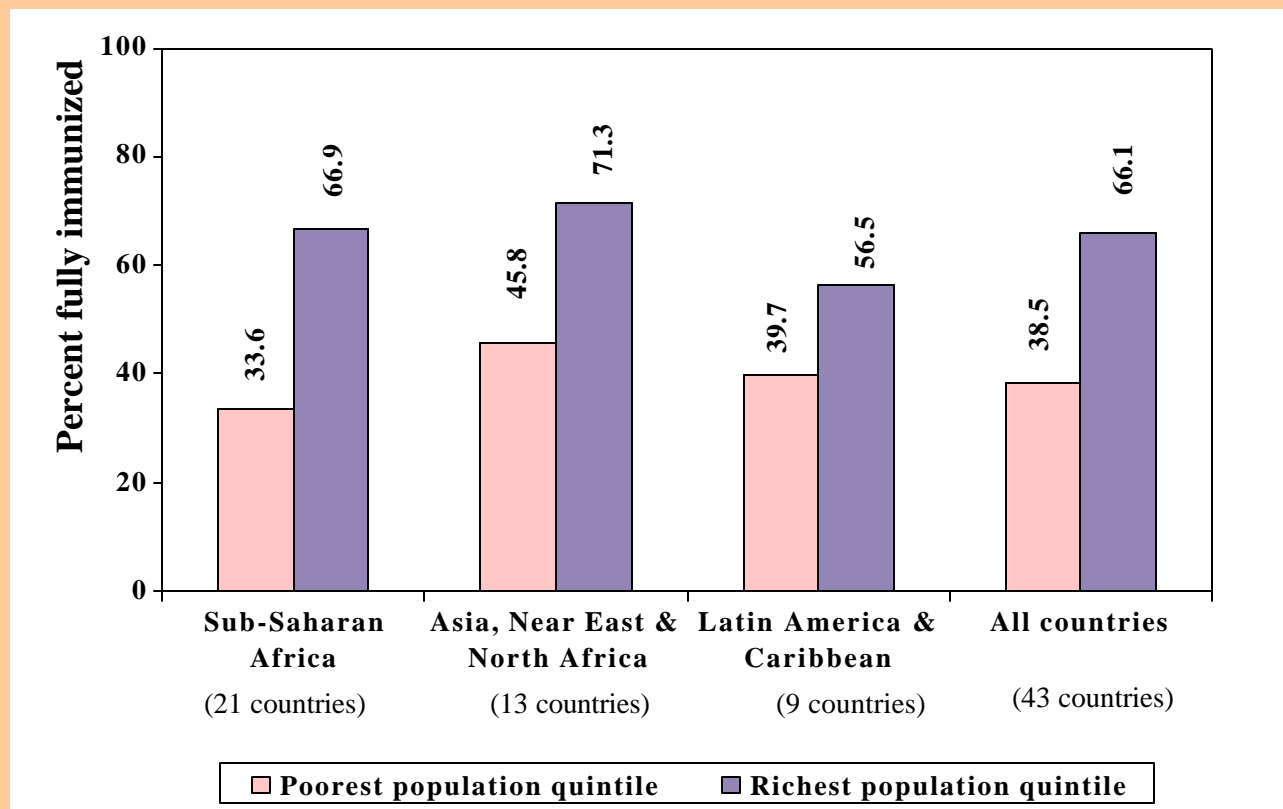
Source: F. Castro-Leal, J. Dayton, L. Demery, and K. Mehra, "Public Spending on Health Care in Africa: Do The Poor Benefit?" Bulletin of the World Health Organization, Vol. 78, No. 1 (January 2000), p.70.

Figure 1: Use of Oral Rehydration Therapy by Poor and Rich in Developing Countries



Percentage of children under three, four, or five years (depending upon the country) reported ill with diarrhea who were given oral rehydration salts, recommended fluids, or increased liquids.

Figure 2: Full Immunization Rates among Poor and Rich in Developing Countries



Full immunization refers to the percent of living children 12-23 months who had received BCG, 3 doses each of DPT & OPV and measles vaccination by the time of the survey. Source: Demographic and Health Surveys