Poverty and Access to Health Care in Developing Countries

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People in poor countries tend to have less access to health services than those in better-off countries, and within countries, the poor have less access to health services. This article documents disparities in access to health services in low- and middle-income countries (LMICs), using a framework incorporating quality, geographic accessibility, availability, financial accessibility, and acceptability of services. Whereas the poor in LMICs are consistently at a disadvantage in each of the dimensions of access and their determinants, this need not be the case. Many different approaches are shown to improve access to the poor, using targeted or universal approaches, engaging government, nongovernmental, or commercial organizations, and pursuing a wide variety of strategies to finance and organize services. Key ingredients of success include concerted efforts to reach the poor, engaging communities and disadvantaged people, encouraging local adaptation, and careful monitoring of effects on the poor. Yet governments in LMICs rarely focus on the poor in their policies or the implementation or monitoring of health service strategies. There are also new innovations in financing, delivery, and regulation of health services that hold promise for improving access to the poor, such as the use of health equity funds, conditional cash transfers, and coproduction and regulation of health services. The challenge remains to find ways to ensure that vulnerable populations have a say in how strategies are developed, implemented, and accounted for in ways that demonstrate improvements in access by the poor.

Key words: **access; poverty; developing countries; health services; equity**

Introduction

People in poor countries tend to have less access to health services than those in better-off countries, and within countries, the poor have less access to health services. Although a lack of financial resources or information can create barriers to accessing services, the causal relationship between access to health services and poverty also runs in the other direction. When health care is needed but is delayed or not obtained, people's health worsens, which in turn leads to lost income and higher health care costs, both of which contribute to poverty.[1,2] Deprivations that lead to ill health are common in developing countries, and the poor in developing countries are particularly at risk.[3] The relationship between poverty and access to health care can be seen as part of a larger cycle, where poverty leads to ill health and ill health maintains poverty.[4] Here we review factors that affect access to health services in developing countries, focusing on the role of poverty. We then explore some ways that innovations in the delivery and financing of health care in developing countries could improve access to the poor.

The relationship between poverty and health care is a common subject of research and policy, often using different definitions of poverty and health care access. Although a detailed discussion of the meaning of poverty is beyond the scope of this article, poverty is recognized as extending beyond the concept of deprivation of income or material assets. It also can be understood as the lack of freedom to lead the life people have reason to value,[5] with people and communities empowered to lead healthy lives seen as both a means to overcoming poverty and an end in itself.[6] In this context, public health and clinical health services, along with food, water, sanitation and other human assets, such as knowledge and education, can be considered necessary material conditions for good health.[7] Empowerment at the individual level affects individual choices over healthy lifestyles and choice of health

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Ann. N.Y. Acad. Sci. 1136: 161–171 (2008). © 2008 New York Academy of Sciences.
doi: 10.1196/annals.1425.011

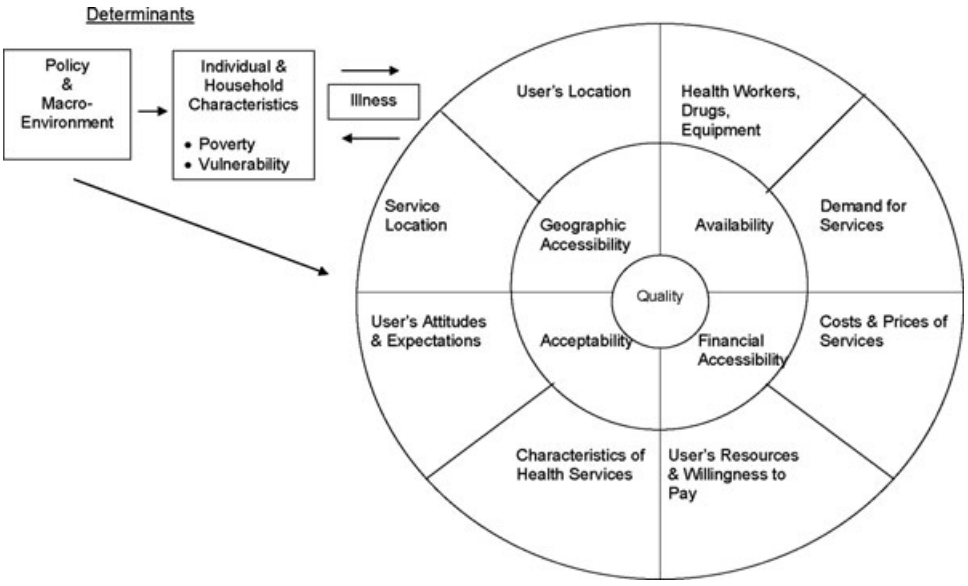

FIGURE 1. Conceptual framework for assessing access to health services.

services, whereas at the community level, empowerment involves the securing of resources for health and health services. Absolute levels of income and material deprivation influence people's risk of disease and ability to purchase health services, though relative socioeconomic position also matters. Sen argues that relative income is important because it translates into capabilities, or what you are able to do with what you have, which is an important factor in accessing health services.[8] By either approach to defining poverty inequalities, there is a general consensus that they are associated with unjust differences in both constraints and opportunities to make choices over health care.[9–12] Lost income and health care payments further result in shocks that adversely affect income and asset inequalities, as well as other dimensions of poverty.[13–16] We will consider both absolute and relative assessments of poverty, noting that the ethical perspective or specific question being asked will inform which way of examining poverty is more appropriate.

There are also many definitions of access to health services, with most researchers recognizing that access is related to the timely use of services according to need.[17] Although some researchers distinguish between the supply and opportunity for use of services and the actual using of health services,[18] most view access to health services as including realized need.[19] Here we use a conceptual framework that builds on longstanding descriptions of access to health services that includes actual use (FIG. 1).[20–23] In this framework, four main dimensions of access are described, each having a supply-and-demand element, and include the following:

1. Geographic accessibility—the physical distance or travel time from service delivery point to the user
2. Availability—having the right type of care available to those who need it, such as hours of operation and waiting times that meet demands of those who would use care, as well as having the appropriate type of service providers and materials
3. Financial accessibility—the relationship between the price of services (in part affected by their costs) and the willingness and ability of users to pay for those services, as well as be protected from the economic consequences of health costs
4. Acceptability—the match between how responsive health service providers are to the social and cultural expectations of individual users and communities

In FIGURE 1, quality of care is at the center of the circle of all four dimensions of access to health services, because it is an important component of each dimension and is ultimately related to the technical ability of health services to affect people's health. To the left of the circle are sets of more distal determinants of health service access, shown at the policy or macroenvironmental level, as well as the individual and household levels. Poverty can be examined as a determinant of illness or health needs, as well as by looking at

TABLE 1. Availability of health services around the world

Country grouping	Hospital beds per 10,000 population	Doctors per 1000 population	Nurses per 1000 population
Economic group			
Low-income countries	9	0.49	0.83
Lower middle-income countries	21	0.97	1.45
Upper middle-income countries	41	2.10	3.81
High-income countries	57	2.67	8.16
WHO region			
Africa	<1	0.21	0.93
Americas	25	1.94	4.88
Eastern Mediterranean	13	0.74	1.11
Europe	64	3.2	7.43
Southeast Asia	9	0.52	0.81
Western Pacific	31	1.1	1.7
World	26	1.23	2.56

Note: Population-weighted averages.
Source: Author's calculations and World Health Organization, 2007.[105]

disparities within the different dimensions of health care access. In the next section, we review the evidence on disparities in determinants and dimensions of access to health services in low- and middle-income countries (LMICs), first looking across countries and then within them.

At the national level, poorer countries tend to have less access to health services than wealthier ones. LMICs account for 90% of the global burden of disease but for only 12% of global spending on health.[24] High-income countries spend about 100 times more on health per capita than low-income countries (US$3039 versus US$30).[24] It is thus not surprising that the density of health workers and hospital beds per population are much lower in LMICs than in high-income countries, decreasing the availability of services to many of the world's poor (TABLE 1). Furthermore, the poorer the country, the larger the amount of total health spending that is out of pocket. On average, more than 60% of the meager spending in low-income countries is from out-of-pocket payments, compared with about 20% in high-income countries.[24] As discussed below, out-of-pocket payments for health care are usually the most inequitable type of financing because they tend to hit the poor the hardest by being a barrier to health care or by denying individuals financial protection from catastrophic illness.

Although it is generally accepted that national policies and conditions influence economic growth, poverty, and other determinants of health status, there is relatively little systematic evidence about how national policies and conditions affect the divergent patterns of health services. An important exception is the studies of "good health at low cost" cited for China, Cost Rica, Cuba, Kerala, and Sri Lanka.[25] These studies demonstrated that long-term political commitment to equitable coverage both of education and health services and of high levels of social participation led to high rates of health service use and better health status, even though these countries had different political and economic policies. Evans *et al.* argue that increased health spending produces more efficient levels of health attainment, particularly in LMICs with up to about $80 per capita annually on health, and that these countries do much better if they did not suffer from civil conflict or have a high prevalence of human immunodeficiency virus infection.[9]

Despite the importance attributed to pro-poor health policies, in practice, it has not yet been a clear priority for many national governments. Benefit–incidence studies in LMICs have shown that for nearly all countries, public spending on health disproportionately benefits wealthier citizens.[26–28] A recent review of 23 poverty reduction strategies of highly indebted low-income countries showed that few had explicit analysis of the poverty dimensions of their health policies, and even fewer had proposed strategies to improve health services or financing to the poor.[29]

Within LMICs, there are also large differences between the poor and better off that vary widely between the type of service and the region. Gwatkin demonstrated that tertiary and secondary hospital services were more likely to favor the better off than primary care and preventive services.[30] An analysis of data from Demographic and Health Surveys in 56 LMICs reinforces this viewpoint (FIG. 2).[31] Medically attended deliveries show the greatest disparity between those from the poorest and wealthiest quintile within countries,

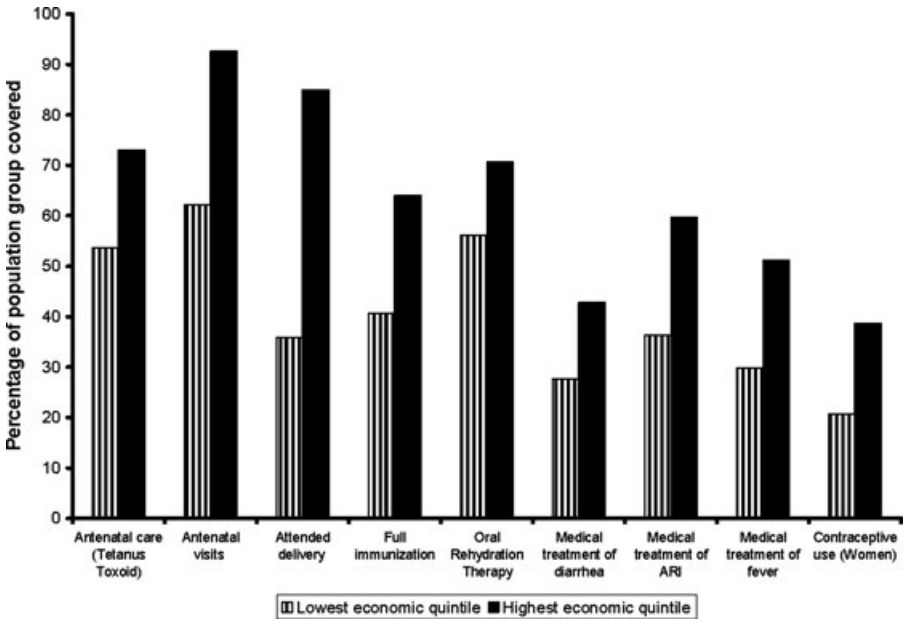

FIGURE 2. Use of health services by lowest and highest economic quintiles in LMICs. ARI = acute respiratory infection.

whereas oral rehydration therapy use and antenatal care show the smallest disparities of the services examined.

Just as shortfalls in coverage vary across countries, they vary within countries too, with the poor and other deprived groups usually lagging behind. Victora *et al.* examined cocoverage of maternal and child health interventions across several countries and found large differences between those who received all the services and those who did not.[32] For example, the percentage of children in Cambodia who did not receive bacillus Calmette-Guérin, diphtheria–pertussis–tetanus, or measles vaccines; vitamin A supplementation; or safe water was 0.3%, but only 0.8% of children received all the interventions. In the poorest wealth quintile, 31% of Cambodian children received no interventions and 17%, only one intervention.

Further analysis of the Demographic and Health Surveys data shows that there are wide variations in equity of health services use across the different regions of the world (FIG. 3). A medically supervised delivery is the most inequitable of health services among LMICs in all regions of the world except in Europe–Central Asia. On the other hand, use of oral rehydration therapy to treat diarrhea, which can be provided in the home, is among the most equitable services in all parts of the world. Medical treatment of diarrhea (outside the home) is less equitable in all regions of the world. South Asian countries tend to have the most unequal use of health services across the different types of services, whereas Europe–Central Asian countries tend to be more equal. There is less difference in the equity ratios across the different health services in Latin America and Europe–Central Asia than in other parts of the developing world, where there are particularly large differences across the types of services.

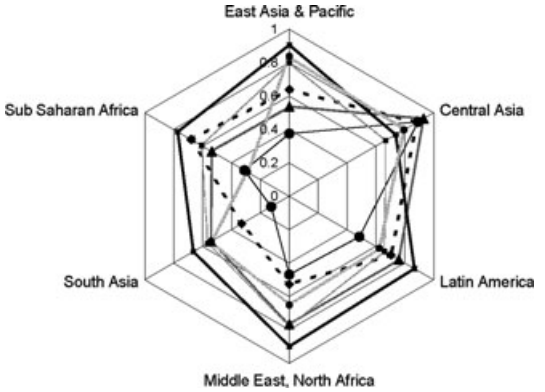

FIGURE 3. Ratio of the use of six primary-care services for low and high economic quintiles of the population among LMICs in six regions of the world.

To better explain the reasons behind the differences in equity of access to health services, one can usefully look at the various dimensions of access within countries, which we now examine according to the four dimensions of access to health services. As expected, a common thread is that the poor are at a disadvantage in nearly all dimensions of accessing health care.

Geographic Accessibility

Geographic access is an important part of accessing health care in LMICs. An inverse relationship between distance or travel time to health facilities and use of health services has been demonstrated as an important barrier to access.[33,34] Good roads, often a rarity in the poor areas of developing countries, are required not only for people to go to health facilities but also for the easy distribution of drugs and other supplies to health facilities, for timely referrals in emergencies, and for better supervision of health workers. Lack of adequate communication services also limits access to health care. This obstacle becomes more pertinent in remote areas where communication gets cut off during adverse weather conditions. Remote health centers mean that more time and money is spent on travel-related expenditures, all of which act as obstacles to obtaining care, especially for the poor.

A common strategy of governments seeking to improve access to health services is to build more public clinics and hospitals. Although such strategies can be undermined by problems with staffing, equipping, and supplying facilities with drugs and medical supplies, they can be frustrated by a private market that may be even closer, as well as have the advantages of having more convenient opening hours and being more culturally acceptable or responsive to their demands. In Bangladesh, a recent study showed that increasing service accessibility can reduce the socioeconomic differences in delivery care,[35] even though another study demonstrated that when facility obstetric care was introduced in 1996, the gap in use between rich and poor widened.[36]

Availability

Availability can be measured in terms of the opportunity to access the health care as and when needed. Although the common problems of limited hours, long waiting times, absentee health workers, and lack of drug stocks at public clinics are well documented in many parts of the developing world,[37–39] their different effect on the poor has not been well studied. These are some of the reasons why poor people in particular so readily use informally trained health providers and shopkeepers or bypass nearby clinics in favor of farther clinics in Sri Lanka.[40] Another important reason for high use of shopkeepers is that they are more likely to sell an incomplete dose of drugs, which may be appreciated when cash is not available to buy a full treatment course.[41] Wealthier families will be able to use resources to travel to higher-quality clinics and private providers to overcome obstacles of availability.

Financial Accessibility

Questions concerning the mechanisms of financing health services and their affordability for the poor have been one of the most controversial topics concerning access to health services in developing countries. User fees, in particular, have been a contentious source of financing public services in low-income country settings.[42] Usually they have occurred as a result of the scarcity of public financing, the prominence of the public system in the supply of essential health care, the government's inability to allocate adequate financing to its health system, the low salaries of health workers, the limited public control over pricing practices by public providers, and the lack of key medical supplies such as drugs. Several international nongovernmental organizations (NGOs) and Western governments are calling for the abolition of user fees for health care,[42–44] whereas other organizations, such as the World Bank, have recently avoided taking a "blanket policy" against them in the absence of compelling arguments for a given country, particularly because governments in many developing countries continue to use them.[45,46] Early user fee studies found that income, price, and quality were not significant determinants of demand for health services and that individuals had a high willingness and ability to pay for health services,[47,48] though later it became clearer that utilization often does vary by price and cost.[49]

There are now many studies in a wide variety of developing countries that have shown that the introduction of user fees or increases in prices can lead to decreased utilization[50–53] and that this effect can be larger for the poor.[54–56] Sometimes the reduction in service use has been associated with serious conditions.[54,57] On the other hand, the abolition of user fees has been shown to increase use of curative, preventive, and promotive health services in Uganda that benefited the poor disproportionately,[58,59] with similar effects on curative care in South Africa.[60]

There are also situations where user fees have been associated with improvements in quality of care, and utilization of services has actually increased.[61–67] In several African studies where user fees were associated with improved quality of services, utilization still did not improve.[68–70] The degree to which the improvements in quality and utilization can be attributed to user fees or to other initiatives to improve quality is not clear. In settings where utilization increased

with user fees, the initial levels of quality were poor, and the improvements, such as improving drug availability, were readily observable. Conversely, user fees have also been associated with improved accountability and involvement of communities, as was intended with the Bamako Initiative. In Cambodia, where informal payments to public providers were common, formalizing user fees increased utilization because the uncertainty associated with informal payments was reduced.[71]

Financial access, or affordability, is now considered one of the most important determinants of access and is most directly associated with dimensions of poverty. Besides the direct cost of treatment and informal payments, there are also indirect costs that deter the poor from seeking treatment. These indirect costs include the opportunity cost of time of both the patient and those accompanying him or her, transportation costs, and expenses on food and lodging. There is increasing focus not only on these financial barriers to accessing care but also on the economic consequences of paying for health services. These consequences include spending high proportions of household finances (catastrophic spending) or involve borrowing money or selling assets (distress financing), both of which can push people into deeper poverty and longer-term debt.[13,15,72,73] Although there is a growing consensus that major illness is a major contributing factor to household impoverishment, there is much less agreement on the best use of public funds for supporting household coping strategies. The available interventions include subsidies for routine outpatient care, specific disease programs, hospital insurance, and services targeted at the chronically poor and socially excluded. This is an area of active debate and experimentation.

Acceptability

Although the Declaration of Alma Ata proposed that primary health care needed to be in line with prevailing cultural norms,[21] there has been relatively little research on the concept of acceptability in health services in LMICs or on how acceptability of health services are related to the poor or vulnerable groups. Studies in Bangladesh, Burkina Faso, and India have been used to demonstrate that patients' perceptions of quality can be more important determinants of utilization than prices or other dimensions of access.[74–76]

In most pluralistic medical systems, it is expected that patients will consult different types of providers, some of whom are formally trained in Western medicine, others who practice traditional medicine; and others who are shopkeepers or informally trained providers. Patients are found to have different expectations from the different providers, which in part explains whom they will consult.[77,78] Village doctors in particular have been found to have convenient hours and locations and available drug stocks, but they also have fewer social barriers with their fellow villagers and have helpful attitudes and longstanding relationships with them.[79,80] Gender inequities in health services are also common, particularly for poor women, and manifest as health services that are not available or acceptable to women.[81–83]

The concept of satisfaction with health services has also been examined more explicitly with respect to equity. A quasi-experimental study in India to improve the quality of health services demonstrated that gains in utilization and satisfaction with health services was greater for wealthier patients than poor patients.[84] In Afghanistan, the Ministry of Public Health recently incorporated monitoring of whether disadvantaged groups (women and the poor) use basic health care as much as men, as well as whether the poor are as satisfied with health services as the wealthy, with initial results being favorable to women and the poor.[85] Even though there are relatively few studies from developing countries, the results indicate that measurement of acceptability of health services may be variable and dependent on local contexts. The World Health Surveys were conducted in more than 70 countries and included measurements of ideas related to the responsiveness of health services, concepts closely related to the notions of availability and acceptability. Initial results have recently been released, and further analysis may provide more insights on how these measures are associated with poverty, actual use of health services, and health outcomes.[86]

Future Directions

Notwithstanding Hart's "inverse care law" that health care resources are distributed inversely to their need,[87] it is clear from the available evidence that there is no natural law governing the determinants of access to health services in LMICs. The framework of quality, geographic accessibility, availability, financial accessibility, and acceptability identifies important places to look for barriers to access to health care, any of which may be the most important factor in a given time and place. Many of the factors affecting access are related to specific contexts, or the way policies are implemented locally, and are likely to change over time. Whereas the poor are consistently at a disadvantage in many

of the dimensions of access to health care and their determinants, this need not be the case.

The outcomes of health reforms depend largely on the degree to which their success is a political priority. One important illustration is China, where for many years the government prioritized economic growth over other considerations and the health system experienced several serious problems.[88,89] Several factors led to a change in priorities early this century, including a change in government development strategy in favor of poverty reduction and strengthening the social sector. The SARS (severe acute respiratory syndrome) epidemic also provided a graphic illustration to political leaders and senior bureaucrats of the consequences of a weak health system. Although many problems persist, the government is putting major emphasis on health system reform. One early success has been a major decline in maternal mortality.[90]

In *Reaching the Poor with Health, Nutrition, and Population Services*, a variety of strategies are shown to reach the poor in LMICs more effectively than many government services or those supported by international aid organizations.[28] The strategies included contracting with NGOs to provide primary care in Cambodia, delivering food through neighborhood mothers' committees in Argentina, distributing treated bed nets through immunization campaigns in Ghana and Zambia, engaging disadvantaged populations in Nepal, developing quality improvement programs in government hospitals in India, and reorganizing antenatal and child care in Brazil to first reach poor communities. In six of the 11 country studies, the strategies clearly benefited the poor, whereas in another four studies, there were mixed results, with only one country showing a clear failure to reach the poor. The strategies were different in several ways. Some included targeted programs to the poor and others tried to increase universal coverage; a variety of implementing agencies were used, including government, NGOs, the commercial private sector, or combinations; and the way to improve access involved either changes in organization of service delivery, financing mechanisms, contracting between agencies, and empowering local communities or combinations of approaches and actors. The wide variety of successful strategies did not produce a magic bullet that would simply inform policy makers on how health services can reach the poor, nor did they produce findings that can simply be replicated in another country and be expected to produce the same results. However, they did demonstrate that concerted efforts to reach the poor with health services can yield positive results and that local adaptation and experimentation is critical. Specific monitoring of how well the program was working in reaching the poor was always an integral part of the strategy.

Unfortunately, monitoring the effects on the poor often gets lost in the interest of promoting new or recycled innovations in health services. Just as user fees for public services was a popular health financing innovation in LMICs in the 1980s and early 1990s, supported by the World Bank, UNICEF, and the World Health Organization,[46] there are now many analogous innovations that are being promoted to improve health services in LMICs. For example, an examination of health service innovations in 12 low-income countries found that all countries were testing a wide range of such innovations, including contracting, delegation of authority, user fee exemptions, pay-for-performance systems, social marketing, reorganizing outreach workers, community empowerment, and other strategies.[91] The strategies involved using small pilot studies, phased expansion, national-scale programs, and targeted and universal approaches. Although no clear pattern emerged that any of the strategies were more successful than others, or that strategies with the same label were even similar across countries, what they had in common was a lack of attention to equity considerations. If experimentation, adaptation, and monitoring of results are important parts of any strategy to improve access to health services for the poor in developing countries, it is useful to examine which types of innovations are showing most promise in paying attention to improving services to the poor and vulnerable populations.

Because of the consequences of out-of-pocket payments on the poor, developing countries must improve risk pooling to improve financial protection, so that large unpredictable individual financial risks become predictable and are distributed among all members in the pool. The challenge for LMICs is to somehow direct the high levels of out-of-pocket spending into either public or private pooling arrangements, so that individuals will have real financial protection and access to needed services. However, user fees are likely to remain in place until governments are ready and more able to mobilize greater funding for health care. Until that time, the global community should focus on helping countries design policies that can foster access by the poor to health-enhancing services and protect the poor and near-poor from catastrophic health spending.

There are forms of risk sharing that appear to benefit the poor. In Mexico, conditional cash transfers were used to encourage households to access schooling and nutritional support for their children.[92,93] Under this incentive-based welfare scheme, called Progresa, poor families received cash transfers, provided that they attended preventive health services, antenatal

clinics, and schools; they thus represent a negative user fee. Significant improvements were observed in the uptake of services as well as in the health outcomes of the poor. Studies in Honduras and Brazil had similar findings,[94,95] but possibilities of undesired effects and implications on the livelihood of the household were observed too. In Honduras, for example, although the payments to households had a large effect overall on coverage of antenatal care and well-child checkups, they may have encouraged an increase in family size too.[94,96] Also, little is known about the implications of cash transfers for a household's broader livelihood set.

Another model for providing financial protection to the poor is the use of health equity funds. The overall aim of an equity fund is to promote access to priority public health services and reduce household health expenditures by the poor. They typically replace systems of officially sanctioned, though largely ineffective, exemptions for user fees at government facilities, and aim to offer an incentive to providers to treat more patients. However, evidence from Cambodia suggests that such schemes are better at increasing coverage than ensuring quality unless there are parallel interventions on the supply side aimed at raising quality standards.[97,98] The health equity funds significantly increased utilization of facilities, targeted the poor, provided access for the poor who previously could not attend because of cost, reduced debt and interest payments for health care, reduced the effect of health costs on impoverishment, and provided a needed subsidy to facilities. For those incurring debt for health care, health equity funds provided the opportunity to reduce onerous interest rates by providing the time to shop around.[97,99]

Regulatory approaches are often neglected as ways to improve access to health services, but they may also hold potential. It is important to recognize the degree to which poor people in many countries seek health care, purchase drugs, and find health-related information in markets that are mostly unregulated.[100] Solutions that work well in a context of strong states and/or civil society regulatory arrangements have different outcomes in other situations. Pritchett and Woolcock argue that this is why many poor countries have come to rely increasingly on a variety of strategies for making programs accountable to communities that may include transfer of resources and responsibilities to small, local organizations.[101] Institutionalized coproduction has been proposed as an emergent model for delivering and regulating services, particularly in areas where governments have not succeeded in ensuring that services are delivered to large segments of society. This scenario comprises situations where governments and citizen groups share public services and their regulation and both contribute resources.[102] It has been posited that rather than the typical regulatory role played by Ministries of Health in India, facilitating the participation of civil society, the media, and the providers could be more effective in improving access to health care.[103] Associations of health workers can also play a role, even involving the informal sector. An ongoing study by Ibadan University is exploring the potential role of Nigerian associations of patent medicine vendors in monitoring the efficacy of antimalarial drugs sold and the appropriateness of prescriptions.[104] Another study led by ICDDR,B in Bangladesh is exploring a combination of methods for influencing the prescribing practices of informal drug sellers that include involvement of local political leaders and engagement with the informal arrangements these practitioners have constructed to prevent bad practices.[104]

These new types of approaches to financing, provision, and regulation of services represent new ways to focus attention on improving access to the poor in LMICs. It is not known whether they can work on a large scale or over a long time, but the demands for greater involvement of communities and the poor indicate that the design and responses of these strategies may be different from place to place and over time. As is the case for the "old" innovations, success will probably depend on whether the efforts are made to show that poor and vulnerable populations are actually benefiting.

Conclusion

Despite improvements in providing access to health care in developing countries, substantial proportions of their populations have limited access. The poor in these countries suffer from a disproportionate burden of disease yet usually have less access to health care, whether measured by geographic accessibility, availability, financial accessibility, acceptability, or quality of care. However, recent studies show that this outcome is not inevitable. Success depends in part on gaining a local understanding of the dimensions and determinants of access to health services, along with determined attempts to improve services for the poor. There are many innovations in financing, service delivery, and regulation of care that hold promise for improving access for the poor. The same can be said of older strategies. In either case, the challenge remains to find ways to ensure that vulnerable populations have a say in how strategies are developed, implemented, and accounted for and to ensure that information and incentives are aligned in ways that can demonstrate improvements in access by the poor.

Conflicts of Interest

The authors declare no conflicts of interest.

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