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# *Designing* Health & Population Programs *to Reach the Poor*



*by Lori S. Ashford, Davidson R. Gwatkin, and Abdo S. Yazbeck*

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# PREFACE

This report draws from recent literature on promoting greater equity in the health sector, including the findings and lessons from the World Bank's Reaching the Poor Program. The program, completed in 2005, sought to find and encourage the adoption of strategies to ensure that disadvantaged groups benefit more fully from health, nutrition, and population services.

Staff of the Population Reference Bureau and the World Bank collaborated to produce this report, which is aimed at those who fund, design, manage, and evaluate health and population programs in developing countries. The U.S. Agency for International Development provided funding for this report and the Demographic and Health Surveys, upon which much of the report relies.

The report gives special attention to reproductive health in the data and examples provided, but the information presented also offers broader lessons for the health sector and for anyone designing programs intended for the poor.

# EXECUTIVE SUMMARY

Nearly everywhere in the developing world, health services benefit the well-off more than the poor. Even in programs designed and funded expressly to address the health needs of the poor—such as family planning, maternity care, and child nutrition—better-off groups usually capture more of the benefits by using the services more than disadvantaged groups. The poor receive less care for a variety of reasons, including lack of knowledge, lack of power, inaccessibility of facilities that provide decent care, unresponsive health providers, and the cost of some services.

Successful programs in a variety of settings in developing countries have worked to overcome these barriers to give the neediest a greater share of program benefits. Some national health programs provide universal health coverage to ensure the poor are included; others focus directly on poor communities and families, while others pursue a combination of both. Some programs are reorganized in ways that bring health providers closer to communities, or give community members a greater say in program design and implementation.

However, any approach can have unintended results, and no single approach is likely to work for all health services in all settings. Whatever strategy is pursued, careful attention to program design, monitoring, and evaluation is needed to ensure that health benefits are reaching the poor. Policymakers and program managers will want to study the approaches tried in other settings, adapt them to local circumstances, measure their impact, and refine those that work while abandoning those that do not.

The tools to determine whether a program reaches the poorest groups are readily available. While using them may take more effort than program managers normally devote to evaluation, the tools are not especially difficult to apply. Part 4 and the Appendix describe some of these tools and show where program planners and evaluators can obtain more information about them. Applying these tools is an important first step to tackling the failure of many health programs to serve the poor effectively.

# PART 1 | THE RICH-POOR GAP IN HEALTH

## The Poor Are Less Healthy Than the Rich

Throughout the world, inequalities in health status between the rich and poor are pervasive. The disparities are particularly noticeable in many of the poorest countries, where millions of people suffer from preventable illnesses, such as infectious diseases, malnutrition, and complications of childbirth, simply because they are poor. These wide differences in health status are considered unfair, or *inequitable*, because they correspond to different constraints and opportunities rather than individual choices.<sup>1</sup>

Numerous studies from developing countries show that the poor are more likely to suffer health problems and less likely to use health services than the better-off. (“Better-off,” “wealthy,” “rich,” or “least poor” refer here to the highest economic groups in a country, even if the country is poor by world standards.)

One of the most extensive of these studies, commissioned by the World Bank, uses data from Demographic and Health Surveys (DHS) in 56 countries in Africa, Asia, and Latin America.<sup>2</sup> DHS surveys interview women of reproductive age on issues related to fertility and maternal and child health. The surveys measure socioeconomic status by asking respondents about household characteristics. These include assets owned, such as a refrigerator, television, or motor vehicle, and the household dwelling’s construction, plumbing, and electricity. Using these data, the researchers have constructed a household asset (or wealth) index and divided the population in each country into five groups of equal size, or quintiles, based on individuals’ relative standing on the household wealth index in the country.

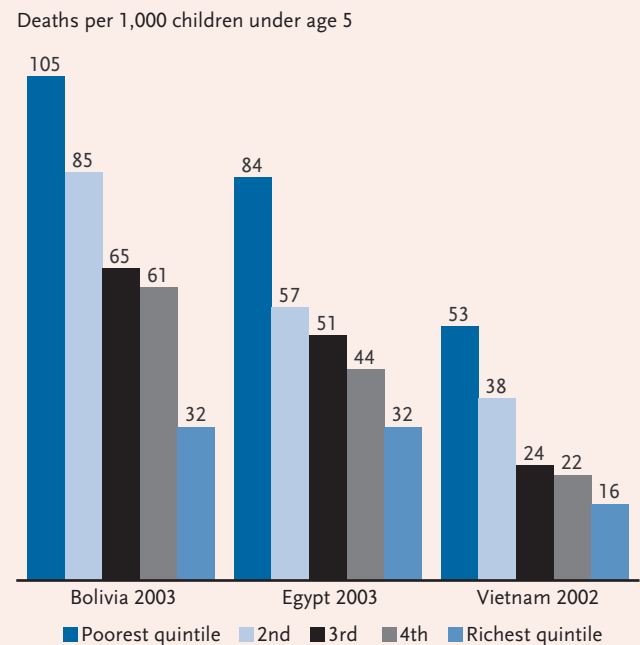
The results show that the poorest quintiles fare worse than the wealthiest quintiles on a range of health outcomes, including childhood mortality and nutritional status. Figure 1 shows childhood mortality levels by wealth quintile in Bolivia, Egypt, and Vietnam, which reflect this relationship. Among all of the countries included in the analysis, a child from the poorest wealth quintile is twice as likely on average as a child in the richest quintile to die before age 5. The disparity is similar in maternal nutrition, with women in the poorest quintile about twice as likely as those in the wealthiest to be malnourished.<sup>3</sup>



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Around the world, poorer people receive less health care than wealthier people, in spite of governments’ best intentions.

**Figure 1**  
Under-5 Mortality Rates by Economic Status



Source: ORC Macro, *Demographic and Health Surveys*.

Similar patterns exist across more than 100 indicators of health status and health care drawn from the DHS, though the magnitude of the disparity differs among indicators and across regions and countries. The rich are consistently healthier and better cared for than the poor, even where the explicitly stated intent of programs and public health goals is to improve the health of the poor.<sup>4</sup>

Inequalities in health exist not only by wealth but also by other socioeconomic measures, such as sex, race, ethnic group, language, educational level, occupation, and residence. For example, in parts of India and China, infant girls are more likely to die than infant boys, because cultural preferences for sons put daughters at a disadvantage for nutrition and health care early in life. Many initiatives to improve equity in health try to address these and other social disadvantages.

The analysis and case studies in this report focus on program efforts to reduce inequalities among economic groups in the use of health services. Until recently, researchers have encountered problems measuring the economic status of health services users. But these problems have been greatly reduced with an asset approach to measurement used in the case studies in Part 3 and described further in Part 4. Readers should be aware that

economic poverty is not the only type of poverty that matters, and that it is often intertwined with social, geographic, and other disadvantages. Individuals at the bottom of the economic scale often suffer from multiple disadvantages.

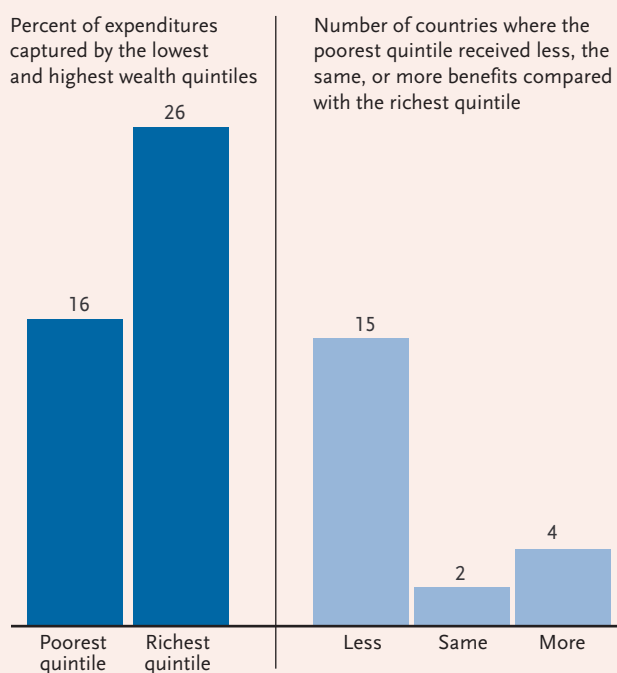
## Public Health Spending Favors the Better-off

Government expenditures on health are often designed to give everyone equal access to health care. Yet, in practice, equal access is usually elusive. Most research conducted in developing countries in the last 20 years has confirmed that publicly financed health care benefits the well-off more than the poor. The World Bank's *World Development Report 2004* summarized the available evidence on the extent to which publicly financed health and educational services reach different economic groups. In 21 country studies, on average, the wealthiest 20 percent of the population received about 25 percent of government health spending, while the poorest 20 percent received only around 15 percent.<sup>5</sup> In 15 of the 21 cases, spending patterns favored the highest income groups, and in only four (Argentina, Colombia, Costa Rica, and Honduras) did a greater share of spending benefit the poor (see Figure 2). Even the health programs that address illnesses afflicting the poor, such as infectious diseases, childhood diarrhea, and complications of childbirth, and that explicitly give high priority to serving the poor, tend to benefit the rich more than the poor. Evidence from the DHS analysis in 56 countries found that gaps in the use of services are closely related to economic status. The lower a group's economic status, the less it uses health services, including basic services such as immunization, maternity care, and family planning. On average, across countries, children in the wealthiest quintile are more than twice as likely as those in the poorest quintile to have received all of the basic childhood vaccinations (see Figure 3).<sup>6</sup>

The use of modern contraceptives and professional health care during delivery also varies considerably according to wealth. On average, married women in the wealthiest quintile are more than four times more likely than those in the poorest quintile to use contraception.<sup>7</sup> Births to women in the richest quintile are nearly five times more likely, on average, to be attended by a trained professional such as a doctor, nurse, or midwife (see Figure 3). These data confirm the “inverse care law,” a term coined more than 30 years ago, which states that the availability of good medical care is inversely related to the need for it in the population served.<sup>8</sup>

Figure 2

### Share of Government Health Spending on the Rich and Poor, 21 Developing Countries, 2003



Source: D. Filmer, *The Incidence of Public Expenditures on Health and Education, Background Note for the World Development Report 2004* (2003).

## Why Do the Poor Receive Less Health Care?

As noted in the World Bank’s *World Development Report 2006: Equity and Development*, the distribution of wealth in a country is closely related to social distinctions that stratify people and communities into groups with relative amounts of power.<sup>9</sup> Inequities occur when certain groups of people have less say and fewer opportunities to shape the world around them. Social, cultural, and political differences between people create biases and rules in institutions that favor more powerful and privileged groups. The persistent differences in power and status between groups can become internalized into behaviors, aspirations, and preferences that also perpetuate inequalities.

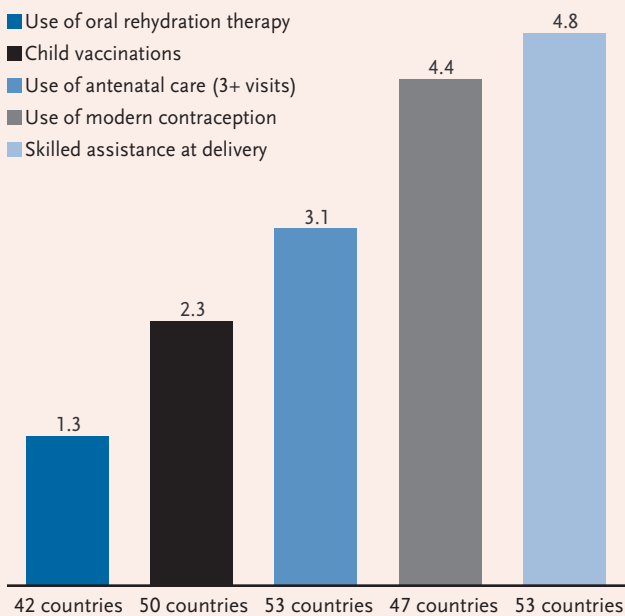
In the case of health, an individual’s lack of power and status often translates into a lower likelihood of taking preventive health measures and seeking and using health care. The striking differences in health status among different economic groups reflect inequalities in access to information, to facilities that provide decent standards of care, and to the means to pay for good care.

Specific barriers to quality health care can be categorized as follows:<sup>10</sup>

- ▶ **Lack of information and knowledge.** Nearly everywhere, the poor are less educated than the rich and lack knowledge about hygiene, nutrition, good health practices, and where to go for specific services. Lack of knowledge can keep people from seeking care even when they need it and the free care is available.
- ▶ **Lack of “voice” or empowerment.** Poorer members of a community often have less voice, or say, in whether to seek care, than wealthier members, and this can affect the level of resources used in their interest. Similarly, within a family, women and children may have less voice than men and older family members. For example, a woman’s lack of power relative to her husband can delay a decision to seek emergency care to address a serious complication during pregnancy or delivery.
- ▶ **Inaccessible and poor quality services.** City dwellers usually live closer to health services, while rural residents face greater costs in terms of transportation and travel time to reach services. Aside from distance, health facilities can vary tremendously in quality: Some facilities are badly run down, lack essential drugs and supplies, and are run by poorly trained or unmotivated staff. The people who are most economically disadvantaged are precisely those most likely to struggle with dysfunctional health services.
- ▶ **Unresponsive service providers.** Health systems are challenged to entice urban-educated doctors to work in poor areas. Poor areas are more likely to have lower paid health providers who may miss work often or have little motivation or incentive to provide good care. In addition, some health providers openly discriminate against individuals from certain economic classes or ethnic groups. The “social distance” between service providers and their clients can be large, leaving clients feeling looked down upon or neglected.<sup>11</sup>
- ▶ **Prohibitive cost of some services.** In developing countries, primary health care is often available for free through the public health sector, but treatments for major illnesses and injuries can be prohibitively expensive for poor families. In principle, services may often be free of charge, but that doesn’t mean they are cost-free to the user. The actual cost of treatment may become too expensive when informal payments are needed to ensure receipt of certain drugs and services or when transportation costs or time away from work are unaffordable.

**Figure 3**  
**Inequalities in the Use of Health Services, Latest Surveys, 1992–2002**

Average rich/poor ratio



Note: Represents the average of the ratios of the richest quintile to poorest quintile, not weighted for population size and excluding countries where use is less than 1 percent. Children in the richest quintile are 2.3 times as likely as those in the poorest quintile to have received all their basic childhood vaccinations.

Source: L. Ashford and H. Kashiwase, *The Wealth Gap in Health: Data on Women and Children in 53 Developing Countries* (2004).

## PART 2 | APPROACHES TO BENEFIT THE POOR

The barriers facing the poor are not insurmountable. Programs can address them in many ways: through better education and health promotion, better targeting of services to specific groups, improvements in quality of care, incentives for health providers, and financing mechanisms to make care affordable to those most in need.<sup>12</sup> A range of interventions, if carefully designed, can work toward reducing inequalities in health and health care. Researchers also agree that effective responses to health disparities can be found in more than just the health sector. They can also be in the education, finance, environment, agriculture, and labor sectors. The following are descriptions of types of interventions and approaches to benefit the poor.

### Directing Program Benefits Toward the Poor

Public health programs often use strategies referred to as “targeting” to direct more benefits toward the poorest groups. These strategies may identify who is poor and therefore eligible for certain benefits, or they may direct programs toward certain areas where poorer people live, or address specific health problems that disproportionately affect the poor. Programs using multiple approaches have the potential to be most effective.<sup>13</sup> In places where governments charge user fees for public health services, the ability to administer waivers or sliding-scale fees can be critical to the success of directing benefits toward the poor. In Cambodia, Indonesia, and Vietnam, for example, a combination of user-fee exemption mechanisms and free health cards has been established for poor and vulnerable populations.<sup>14</sup>

Mexico’s PROGRESA program, which provides education and health benefits to poor families, uses a targeting strategy that first identifies eligible communities on the basis of community scores, drawn from selected census data. It then selects eligible families based on household-level data collected through a special community census.<sup>15</sup> Other countries have used poverty mapping—a technique that displays census, survey, and other data visually in maps—as a way to identify the areas that should receive priority in public investments and services (see Box 1).



*Some programs direct more benefits to the poor by bringing services closer to communities where they are needed.*

A worldwide review of targeting experiences found that most of the time, targeting results in greater resources reaching the poor than a random allocation of funds would. But in about one-fourth of cases reviewed, targeting was so regressive, or skewed toward the rich, that a random allocation would have provided greater benefits to the poor.<sup>16</sup> Some of the regressive cases include programs where beneficiaries “self-select” by consuming subsidized products. The review did not find one targeting strategy that worked better than all others; rather, it found that the quality of implementation matters most. The capacity of governments to administer programs and be held accountable for results can make a substantial difference in the effectiveness of targeting strategies.

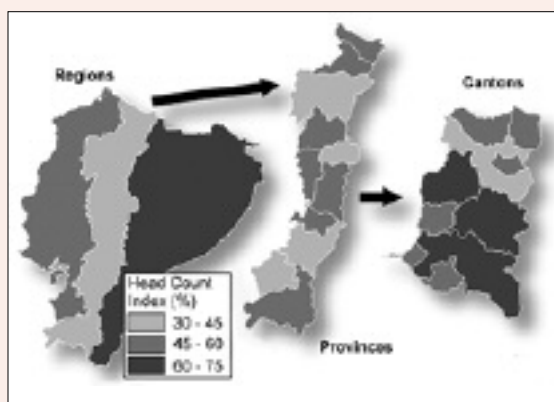
### Promoting Universal Coverage of Basic Health Care

In contrast with strategies that focus on the poor, universal health care provides primary health care services to everyone. A common aim is to make basic health services affordable and widely available, especially to poor and rural people. It is generally considered a good strategy for promoting greater equity in health care—provided that universal coverage can be achieved. But health programs aiming for universal coverage have been criticized over

**Box 1****Poverty Mapping: Identifying Where the Poor Live**

An important aspect of reaching the poor with services is finding out where they live. The poor are often clustered in specific places, but national-level poverty data mask this regional and local variation. Poverty mapping allows for the spatial representation and analysis of people's well-being and poverty. Decisionmakers can use poverty maps to help identify where development lags and where investment in infrastructure, personnel, or services could have the greatest impact. Once largely the domain of economists and social scientists, poverty maps are now used by policymakers, NGOs, academic institutions, and private businesses.<sup>1</sup>

There are many types of poverty maps and different ways to create them. Various measures of poverty can be plotted, such as income or consumption, or an aggregate of indicators of well-being such as the UN's Human Development Index. Maps are most useful to planners when they are able to display poverty data for small areas, such as by district or community. The figure below contains a set of poverty maps at different levels of resolution, showing the percentage of individuals classified as poor (referred to as the head-count index) at each level.

**Poverty at the Regional, Provincial, and Municipal Levels in Ecuador**

This map illustrates the head-count poverty index in Ecuador, aggregated by region, province, and municipality. The higher-resolution maps reveal that the low-poverty region of the country (in the middle of the map on the left), contains several moderate-poverty provinces, which contain several districts with extremely high poverty.

Source: Jesko Hentschel et al., "Combining Census and Survey Data to Study Spatial Dimensions of Poverty," *Policy Research Working Paper 1928* (Washington, DC: World Bank, 1998).

The higher-resolution maps, with greater detail at the provincial and municipal level, can help uncover poor areas that might otherwise go undetected.<sup>2</sup>

**How Poverty Maps Are Made**

Information sources for poverty maps include censuses, surveys, administrative data, and other sources. Increasingly, poverty mapping relies on data from many sources. Software programs called Geographic Information Systems (GIS) are used to place the information into maps on the basis of geographic coordinates.

The key to using maps is to present information that is disaggregated into small enough geographic areas to reflect economic diversity. "Small area estimation" is a statistical technique that allows estimation for very small areas by combining population information from censuses and consumption data from household surveys.<sup>3</sup>

**How the Maps Are Used**

In countries where poverty maps have been used, they have guided the allocation of public funds for social investments and poverty reduction initiatives. For example, in Guatemala, poverty mapping has helped to restructure the National Public Investment System and improve targeting of hundreds of millions of dollars of annual spending. In Vietnam, maps have been used to geographically target funds for poverty reduction initiatives, under which poor households receive free or subsidized schooling, health care, and tax exemptions.

A poverty map can be used to display two or more indicators simultaneously, for example, by presenting poverty headcounts and location of schools or medical centers. Maps encourage visual comparison and make it easy to look for patterns, such as clusters of disadvantaged populations or gaps in services. In South Africa, a map displaying levels of household poverty was overlaid with information concerning an outbreak of cholera in the KwaZulu Natal province in 2001. Mapping showed that cholera was moving through and toward the poor areas. The map served as the basis for a disease control strategy and helped target health education messages in affected and high-risk communities. The map helped health workers contain the outbreak in three months, with one of the lowest fatality rates ever observed.<sup>4</sup>

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- 1 Norbert Henninger and Mathilde Snel, *Where Are the Poor? Experiences with the Development and Use of Poverty Maps* (Washington, DC: World Resources Institute and Arendal, Norway: United Nations Environment Program, 2002): 1–2.
- 2 Uwe Deichmann, *Geographic Aspects of Inequality and Poverty* (Washington, DC: World Bank, 1999), accessed at <http://povlibrary.worldbank.org> on May 30, 2006.
- 3 For more information on how to use these techniques to construct poverty maps, go to [www.worldbank.org/poverty](http://www.worldbank.org/poverty) and click on Poverty Mapping.
- 4 Henninger and Snel, *Where Are the Poor?:* 15–22.

the years for failing to achieve their objective and leaving the poor uncovered in the process. Programs may also suffer from flaws, such as poor quality care, unresponsiveness to users, inadequate funding, and insufficient training and equipment.

Although the record is mixed, governments around the world continue to pursue universal primary care, because low-cost health and nutrition services can make a substantial difference to the health of large populations. The primary health care approach is undergoing constant refinement. Newer programs emphasize “essential services,” usually defined according to cost-effectiveness criteria, which often include key maternal and child health interventions, such as family planning, antenatal care, and child immunizations. Though financed by the government, private-sector health providers may deliver the services.<sup>17</sup>

## Increasing the Availability and Quality of Health Services

Barriers related to lack of knowledge, distance to services, or poor perceptions of services have been overcome in some countries by bringing services directly to people’s doorsteps. In Bangladesh, local family welfare assistants have provided family planning information and supplies to poor, rural women in their homes for nearly three decades, and have been credited with increasing modern contraceptive use between 1975 and 2000 from 5 percent to 43 percent.<sup>18</sup> The increase was fairly consistent regardless of place of residence or education level.

In India’s impoverished Gadchiroli district in the state of Maharashtra, the Society for Education, Action, and Research in Community Health (SEARCH) developed a home-based newborn health care program that reduced deaths markedly among infants in their first month of life. Because there was no hospital care in the project areas, SEARCH trained village health workers and birth attendants to perform “clean” or infection-free deliveries, monitor and resuscitate infants, recognize signs of infections, and give antibiotics. In the project areas receiving home-based care, the neonatal mortality rate dropped from 62 per 1,000 births to 25 per 1,000 from 1995 to 2003.<sup>19</sup>

Quality of care improvements, such as improved staff attitudes, decreased waiting times, and increased confidentiality, may also increase the uptake of services and improve health systems’ responsiveness to poor clients.<sup>20</sup> In Indonesia, a “Smart Patient” intervention provided coaching to female family planning clients on their right to seek information, ask questions, express concerns, and request clarification. The coaching increased women’s

assertiveness in discussing family planning with clinicians and improved client-provider interactions.<sup>21</sup>

Quality improvements may not benefit all service clients equally, however. An evaluation of the “Smart Patient” intervention in Indonesia found that while the program improved client-provider interactions overall, the impact was greater among better-educated and economically better-off clients, perhaps because they found it easier to read, absorb, and apply the “Smart Patient” materials.<sup>22</sup>

Similarly, an intervention in the poor state of Uttar Pradesh, India, to improve the quality of the state’s health services increased service utilization at all levels of the system and among patients from all economic groups, but the gains were greater among the better-off groups. The improvements included management training, new staffing patterns to respond to demand, a fee exemption policy, provision of essential drugs, and rehabilitation of equipment and facilities. The evaluation found that for the wealthiest 40 percent of patients, the project improved satisfaction overall, particularly at community and primary health care centers. But for the poorest 40 percent of patients, satisfaction levels increased little or dropped, supporting the hypothesis that wealthier groups are the first to benefit when general improvements are made.<sup>23</sup>

## Developing Public-Private Partnerships

Since many nongovernmental organizations (NGOs) already work closely with the poor, governments may opt to support them to deliver health services to poor and vulnerable segments of society. For example, in many poor countries, the “mission” sector, made up of faith-based groups, already provides health care to the poor, and many governments rely on these groups to fill important service gaps. Other partnerships are more elaborate.

In Bolivia, PROSALUD was created through a public-private partnership to provide high-quality health care services to low-income groups. PROSALUD takes special measures to maintain access to poor clients, by waiving user fees for the poor, charging for curative services to subsidize free preventive services, and by using revenues from clinics in better-off areas to support those in poorer areas.<sup>24</sup> PROSALUD charges fees that are higher than those charged by the government but lower than those found in the private, commercial sector.

In Kenya, the Kisumu Medical and Educational Trust increased the availability of reproductive health services in poor communities through training and creating a network of existing private medical providers. Providers who met certain facility standards were given free train-

ing, regular supplies of reproductive health commodities, and low-interest loans.<sup>25</sup> (See also the Cambodia case study on page 12.)

## Creating Incentives for Health Providers and Clients

Governments may use performance-based incentives for health providers (either public or private) to improve the efficiency and quality of health services they deliver to poor clients. It is also possible to give incentives directly to clients to increase their choice of health providers. China and Indonesia, for example, introduced pilot projects that provide poor women with vouchers that they can use in place of cash to obtain delivery and maternal and child health services. The providers then submit the vouchers to the government for reimbursement.

The Indonesia Safe Motherhood project in Central Java included performance-based contracts between the government and private nurse-midwives to increase access and use of maternal health services at the village level. From 1998 to 2003, all poor pregnant women in villages with midwives contracted under the project were to receive booklets of prepaid vouchers for maternal health services such as delivery, motivating women to seek care. The project midwives were paid only upon receipt of the vouchers, giving them an incentive to seek out poor clients. Overall, the project increased poor women's access to and use of higher quality maternal care by more than doubling the number of midwives working in the district. Training to improve the quality of midwives' care also helped reduce maternal deaths markedly in the project district.<sup>26</sup>

## Increasing Community Participation

Community-based programs, particularly those using participatory approaches, can improve the health of the poor by involving beneficiaries in program design, implementation, and evaluation. Participatory programs can help empower communities, create a sense of ownership, and foster accountability to poor clients. Community outreach and community-based services are also useful strategies for reaching isolated groups or those who would not otherwise seek health care.<sup>27</sup>

A project in Navrongo, Ghana, an impoverished and isolated part of northern Ghana, dramatically increased the use of family planning and child immunization by relocating health nurses from health centers to rural villages, and engaging traditional leaders and communities in planning and delivering health services. The nurses

were renamed community health officers, given means of transport and supplies, and trained in outreach, while the community leaders were trained to mobilize social support for health care and family planning.<sup>28</sup>

Researchers have found that community participation can lead to increased equity and sustainability if the process empowers diverse members of communities, especially the most disadvantaged, to mobilize and gain access to resources and to advocate for changes to improve their positions.<sup>29</sup> (See the Nepal case study on page 15.) Empowering diverse community members may be key to avoiding pitfalls. For example, local health committees or boards that are designed to increase local ownership and accountability of services can be vulnerable to control by local elites, unless mechanisms are in place to ensure representation of the most disadvantaged clients.<sup>30</sup>

## Health Financing Approaches

Health systems too often put poor and vulnerable people at a disadvantage by relying heavily on out-of-pocket payments for financing. Payments by individuals comprise up to 80 percent of total health care spending in some countries.<sup>31</sup> A financing system favoring the poor would emphasize prepayment for health care through taxes or insurance, with contributions tied to a person's ability to pay rather than to use of services. Health care financing systems—which are critically important but not reviewed in-depth in this report—can affect whether the poor have access to health care or whether people fall deeper into poverty as a result of health care costs.<sup>32</sup>

Community health care plans, where participants pool their resources to cover themselves when they are ill, may be an option for poor, rural people. These plans appear to have worked well among rural residents in countries such as China, India, Indonesia, and Rwanda.<sup>33</sup> In Rwanda, a community-based health insurance scheme is based on a partnership between the community and health care providers, where local governing bodies oversee the contractual relations between the members and the service organization. Member families pay one low premium each year, and the scheme includes a risk-pooling mechanism at the district level to cover curative health care. By lowering the financial barriers to care, members are four times more likely than non-members of the insurance scheme to seek modern health care when they are sick.<sup>34</sup> Providing a subsidy to cover the insurance payments for the most impoverished families could improve equity even further.

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## Any Approach Can Have Flaws

Any of the generally accepted strategies for reaching the poor with health services can fail because of “leakage” of benefits toward better-off groups. National health services may be universally available but not universally used. (See the Brazil case study on page 9.) Even in programs that operate in rural areas or poor communities, the better-off in those communities may take advantage of certain services or service improvements more than the most disadvantaged individuals.

Directing any program benefits or improvements to particular groups in the population is an inherently political exercise. An exclusive focus on the poor may not be feasible because middle-class taxpayers who help fund

public services can reasonably expect to receive some benefits as well. If no one other than the poorest received benefits, policymakers might see diminished popular and political support for the programs, particularly if voters have influence over budgets.<sup>35</sup>

Even with the clearest intentions of ensuring equity in health, programs may fail to reach their intended beneficiaries. A problem facing most programs is that they are unable to document whether or not they are equitable because they fail to investigate which specific groups are using services. Whether or not a program benefits the poorest groups as much as the richest can be verified only by measuring the socioeconomic status of the program’s beneficiaries.

# PART 3 | CASE STUDIES AND LESSONS

## Programs That Measured Distribution of Benefits

In 2003–2004, the World Bank’s Reaching the Poor Program commissioned 18 case studies in Asia, Africa, and Latin America that assessed how benefits from health, population, and nutrition programs were distributed across different economic groups. The studies aimed to increase understanding of when and why services reach poor people, and to demonstrate the feasibility of evaluating services from a poverty perspective. To do this, they drew on a technique called benefit-incidence analysis to examine the distribution of health services benefits.

The program assessed many different program types in diverse settings to illustrate the versatility of the research method and to provide guidance to broad audiences. The programs studied ranged in size from pilot community projects to national health programs and addressed a range of health, nutrition, and population issues including infant and child health, reproductive health, HIV/AIDS, malaria, and tuberculosis. Some programs were run by government agencies, some by NGOs, and some by a combination of both.

All of the studies evaluated the program’s *focus*, or the proportion of a program’s benefits that reached various economic groups, particularly the poor. The studies did this by assessing the economic status of program beneficiaries compared with the general population in the area where the program operated. (Part 4 describes the steps involved in such an assessment.) The higher the proportion of benefits going to the poorest economic groups, the more the program was considered *pro-poor*.

Many of the studies also evaluated program *coverage*—the percentage of poor people within the country or area who were reached by the program. Coverage measures are used to assess poverty impact—how much benefit a program brings to the poor, regardless of whether the benefits are larger or smaller than those provided to better-off groups.

The case studies below profile several programs that were assessed using this approach. They include national health programs in two countries (Brazil and Cambodia), a social marketing program (Tanzania), mobile health services (India), and a participatory community program (Nepal). Box 2 (page 10) highlights findings from clinics in South Africa providing HIV counseling and testing services. More information on these and other studies



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*Health programs that pay attention to equity issues in design and evaluation can achieve better coverage of the poor.*

can be found in the *Reaching the Poor* volume (see references in the Appendix).

## Three National Health Services in Brazil

In 1998, Brazil moved toward universal health coverage under its Unified Health System, which provides free and comprehensive health care to anyone, regardless of contribution or affiliation. In a country with huge social and economic disparities, the unified system has been an important mechanism for equalizing access to services.

The Reaching the Poor study looked at three health programs undertaken within the unified system that differed in focus and implementation.<sup>36</sup> The study found that they also differed in the extent to which they reached the neediest groups in the population. The three programs were the government’s national immunization program and national antenatal care program, both intended for the whole population, and its Family Health Program, which was designed to be implemented first in the poorest areas and then to expand gradually.<sup>37</sup> The key features of the programs were:

- ▶ Brazil’s national immunization program has been in existence more than 30 years, offering the required measles, DPT, and tuberculosis vaccines for children ages 12 months to 23 months, as well as a number of other important childhood vaccines. The vaccines are freely available in public health centers for routine vaccination, and national immunization campaigns

## Box 2

### Some Programs Favor the Poor Because the Rich Go Elsewhere

A study in South Africa examined the socioeconomic characteristics of individuals using a service that is central to efforts to control HIV/AIDS: voluntary counseling and testing (VCT). The service is an entry point for a range of support and treatment services for people living with the AIDS virus. It is also key for motivating people to practice safer sexual behavior—a critical component of any national strategy to limit HIV transmission.

Researchers looked at three government clinics operating in the Greater Cape Town area, all free of charge to users and following a similar model for counseling and testing. Users of public-sector services in general were concentrated in the poorer quintiles of the population, but public-sector users of VCT were even more concentrated in the poor quintiles than users of other health services.

While encouraging on the surface, this finding raised the question of why better-off people were not using the service. It seemed unlikely that wealthier groups were using no VCT services at all, since research from other

countries has shown that VCT use is generally higher among groups with higher socioeconomic status and education. Rather, it appeared more likely that the wealthier groups were seeking services elsewhere.

Interviews with clinic users and clinic staff revealed a probable explanation: the importance of privacy and confidentiality in VCT services, which the public services seemed to lack. One user explained: “We are a small community. If you are seen [in the waiting area for VCT], there is some question mark above you. So people don’t want to be seen there. They don’t want to go local. HIV is often portrayed as misbehavior.” Interviews with users also revealed that many mistrusted the staff working in the clinics.

Thus, although the findings of this study suggest a desirable distribution of benefits that favors the poor, the probable reason was undesirable—the low quality of services and lack of privacy resulted in their use only by those who had no other option.

**Reference:** Michael Thiede, Natasha Palmer, and Sandi Mbatsha, “South Africa: Who Goes to the Public Sector for Voluntary HIV/AIDS Counseling and Testing?” in *Reaching the Poor with Health, Nutrition and Population Services*, ed. Davidson R. Gwatkin, Adam Wagstaff, and Abdo S. Yazbeck (Washington DC: World Bank, 2005): 97–113.

occur regularly with vaccination stations in convenient locations such as community centers and shopping malls.

- ▶ The antenatal care program serves more than 90 percent of pregnant women (who had at least one check-up), and averages six consultations per user. Since 1984 it has provided a standard set of services for pregnancy care in primary health care facilities throughout the country.
- ▶ The Family Health Program was created in 1994 to reorient primary health care away from static health centers toward teams of practitioners, including community health workers, who are responsible for outreach in addition to clinic services. Both preventive and curative services are offered at health facilities or, whenever necessary, through home visits. Although the Family Health Program is available to everyone, the implementation plan calls for starting the program in the poorest areas and those areas lacking a primary health care unit.

Using data from DHS and other local surveys, the study assessed the performance of the three health programs with respect to their focus on and coverage of the richest and poorest segments (wealth quintiles) of the population.

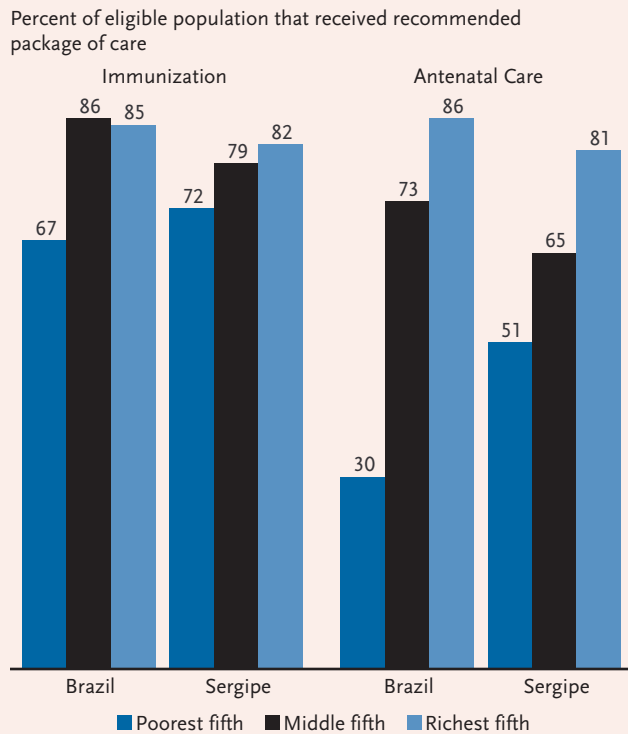
Findings showed that in the national immunization program, about 80 percent of children on average

received all doses of the basic immunization package. But the complete immunization rate for the poorest quintile fell short of the richest quintile’s—67 percent compared with 85 percent (see Figure 4). Given that the immunization program is universal, a high focus, or concentration of benefits, on poorer groups was not expected. Despite the goal of program universality and the program’s global reputation for success, coverage was clearly lower among the poorest.

Similarly, in the antenatal care program, the proportion of mothers nationwide who made the recommended number of antenatal care visits was 62 percent on average, but 30 percent among the poorest and 86 percent among the richest. In the state of Sergipe (see Figure 5), the disparities in service use among economic groups were similar but narrower, because income levels in this poor, northeastern state varied less than in the country as a whole, which is extremely diverse economically.

The Family Health Program, which pursued a targeted and gradual implementation strategy, was found to be more pro-poor than the other two programs. In the new program in Porto Alegre, coverage of the city’s population was estimated at only 11 percent, but it was higher among the poorest one-fifth of residents than among the richest one-fifth (19 percent versus 3 percent, respectively, as shown in Figure 5). In Sergipe, program coverage was higher: More than 55 percent of the poorest one-fifth of residents lived in areas where the program was active. The

**Figure 4**  
**Inequality of Immunization and Antenatal Care in Brazil (1996) and Sergipe State (2000)**



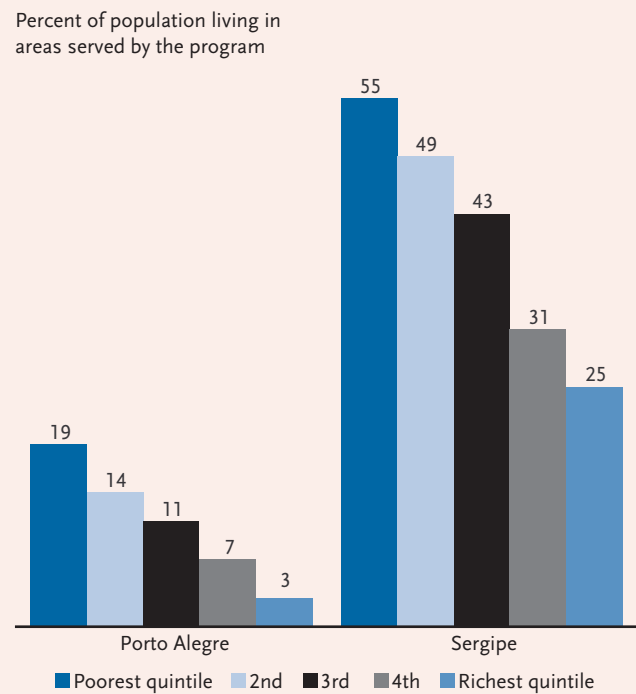
Source: Adapted from A.J.D. Barros et al., "Brazil: Are Health and Nutrition Programs Reaching the Poorest?" in *Reaching the Poor with Health, Nutrition and Population Services*, ed. D. Gwatkin, A. Wagstaff, and A.S. Yazbeck (2005).

researchers attributed the differences in focus and coverage between Porto Alegre and Sergipe to the stages of program implementation. Early on, focus among the poor was high but overall coverage was low; as coverage expanded, focus on the poor declined somewhat but the absolute numbers of people covered were higher.

The study authors reviewed other research findings related to quality and user satisfaction to explain the apparent disparities in service use among the three national services. With regard to the immunization and antenatal care programs, they found that poorer people may be less aware of the benefits of the programs because they are less likely to be reached by educational messages than the better-off. Given the challenge of living under harsh conditions, the poor may give less priority to preventive care. Or, they may fail to seek care because they lack transportation or have a negative perception of services. For example, expectations of long waiting times, inconvenient hours of operation, and limited access to specialized services such as lab tests may deter a poor person from seeking care.

The Family Health Program achieved higher coverage of the poor than the wealthy because of its targeted

**Figure 5**  
**Family Health Program Coverage, Porto Alegre and Sergipe, Brazil**



Source: A.J.D. Barros et al., "Brazil: Are Health and Nutrition Programs Reaching the Poorest?" in *Reaching the Poor with Health, Nutrition and Population Services*, ed. D. Gwatkin, A. Wagstaff, and A.S. Yazbeck (2005).

implementation. But the higher coverage was also attributable to "self-exclusion" by the better-off: Wealthier individuals and those with private health insurance were substantially less likely to use the service. These findings were consistent with an earlier study showing people's distaste for the program's health units, although user-satisfaction surveys typically revealed few problems.

The authors concluded that action on several fronts would be needed to improve public health services for the poor:

- ▶ Empower users, particularly the poorest, by informing them about the importance of the program, what to expect from services, and how to complain about them;
- ▶ Improve service accessibility by reducing waiting times, the need to line up very early in the morning, and other inconveniences;
- ▶ Improve access to referral services such as laboratory exams and specialists;
- ▶ Continue to monitor and evaluate programs with an equity lens; and
- ▶ Communicate results of equity studies to decision-makers and the public.

## Contracting Health Care Services for the Rural Poor in Cambodia

Contracting with NGOs to manage the primary health care system was found to be an effective approach for increasing service coverage and directing more services to the poor in rural areas of Cambodia.<sup>38</sup> The experiment that produced this finding was undertaken as a response to the country's desperate situation in the mid-1990s. War and political upheaval had left the country with limited health care infrastructure, poorly trained health personnel, and low standards. The primary health care system was unable to deliver even basic services like immunization, and child mortality rates were very high.

To address these issues, the Cambodian Ministry of Health (MOH) proposed contracting with NGOs to manage district-level health services using a results-based contract. The ministry's "coverage plan" defined a minimum package of preventive and curative care, including immunization, family planning, antenatal care, and provision of micronutrients. The contract required the NGOs to provide management and technical support to help the public health system deliver these services, and to deliver them equitably to rural populations. As an incentive, full payment to the contracting NGOs was contingent on achieving specific coverage levels in the poorest 50 percent of the population.

With funding from the Asian Development Bank, the MOH conducted a large-scale, five-year experiment (1999–2003) in 12 rural health districts, with a total population of around 1.5 million people. The experiment consisted of randomly assigning districts to one of three health care delivery models:

- ▶ **Contract-out.** Contractors had complete management responsibility for services, including hiring and firing of personnel and setting wages, procuring drugs and supplies, and organizing the facilities.
- ▶ **Contract-in.** Contractors worked within the MOH system to strengthen the existing administrative structure and health care personnel.
- ▶ **Government.** All aspects of service management remained with the government's district health teams.

The MOH used a competitive bidding process to select NGOs, and tracked precisely defined service indicators for all 12 districts, including indicators that tracked coverage among poor population groups. Results were measured through surveys taken before and after the intervention.

## Overall Results

Study results showed large increases in the overall coverage rates of health services in all 12 districts, both contracted and government managed; however, the districts that used contracted services achieved much larger increases than the districts that relied on government-managed services only (see Figure 6). For example, between 1997 and 2003, immunization coverage increased from 25 percent to 82 percent in districts that used contractors.

In contrast, government districts increased coverage for all health services, but at a lower rate than districts that contracted out, and they failed to reach the coverage targets for many of the services. Independent assessments of the quality of care also indicated that the contractors improved the quality of services provided at health facilities more than the government over the same period.

## Benefits to the Poor

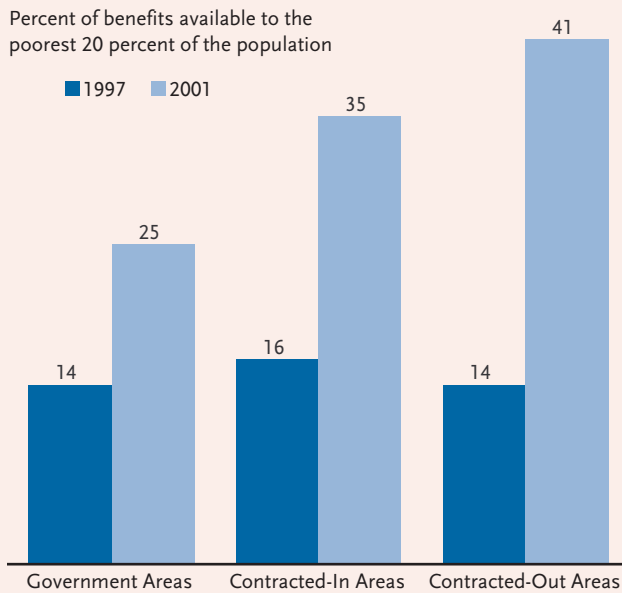
Districts with contracted-out services also generally outperformed the government districts with respect to delivery to the poor. Before the experiment, the better-off were more likely to use public health care than the poor in all 12 districts. Analysis showed that, by the end of the five-year experiment, the provision of health care became more equitable or "pro-poor" in the contracted-out districts compared to the government districts.

Equity improved because coverage increased faster among the poor in the contracted-out districts. Before the experiment, the coverage rate for the basic care package in the poorest quintile was roughly the same (about 15 percent) in all districts. Afterward, the average coverage rate in the poorest quintile had risen to over 40 percent in the contracted-out districts, compared with only about 25 percent in the government ones (see Figure 6).

Public expenditures per capita on contracted-out services were considerably higher than the public expenditures for government services (US \$4.83 per capita versus \$1.74 per capita, respectively), largely because of technical assistance provided by NGOs and higher salaries paid to health workers. But private, out-of-pocket spending in the contracted-out districts was significantly lower than in the government districts (\$14 versus \$20 per capita), resulting in a lower total expenditure. This substitution of public for private spending benefited those with less ability to pay for health care.

The Ministry of Health found the experiment's results encouraging and doubled the number of NGO-contracted districts to 10, for an additional five years, with donor assistance from the British government. Based on the lessons learned, a hybrid model that combined the best features of contract-out and contract-in approaches was developed for the second phase of the project.<sup>39</sup>

**Figure 6**  
**Cambodia: Increases in Primary Health Care Coverage Among the Poor, 1997 and 2001**



Note: Unweighted average of coverage/prevalence rates for eight services: full child immunization, provision of vitamin A, antenatal care, delivery by a trained professional, delivery in a health care facility, knowledge of modern birth spacing methods, use of modern birth spacing, and use of a public health care facility.

Source: J. Brad Schwartz and I. Bhushan, "Reducing Inequity in the Provision of Primary Health Care Services: Contracting in Cambodia."

## Using Social Marketing to Increase Equity in Access in Tanzania

In Tanzania, a social marketing program was launched to increase the use of bed nets among the poor.<sup>40</sup> Its purpose was to control malaria, which places a huge burden on households and on the health system in Tanzania. The program featured distribution of insecticide-treated nets (also called mosquito bed nets), which are known to be effective and available commercially but not widely used by vulnerable families.

Delivering the nets to poor communities in an effective and sustainable way has long been a challenge. One method that has been successful is distribution of free nets during mass immunization campaigns.<sup>41</sup> Social marketing programs offer another way, by promoting and supplying products at subsidized prices, using commercial marketing techniques, and working through existing distribution networks.

To test this approach, Ifakara Health Research and Development Centre (IHRDC) implemented a social marketing program known as KINET, to deliver bed nets

in two rural districts of Tanzania, Kilombero and Ulanaga.<sup>42</sup> The program aimed to increase coverage particularly among pregnant women and young children. By the end of the third year of the program, about 500,000 people in 112 villages had been covered.

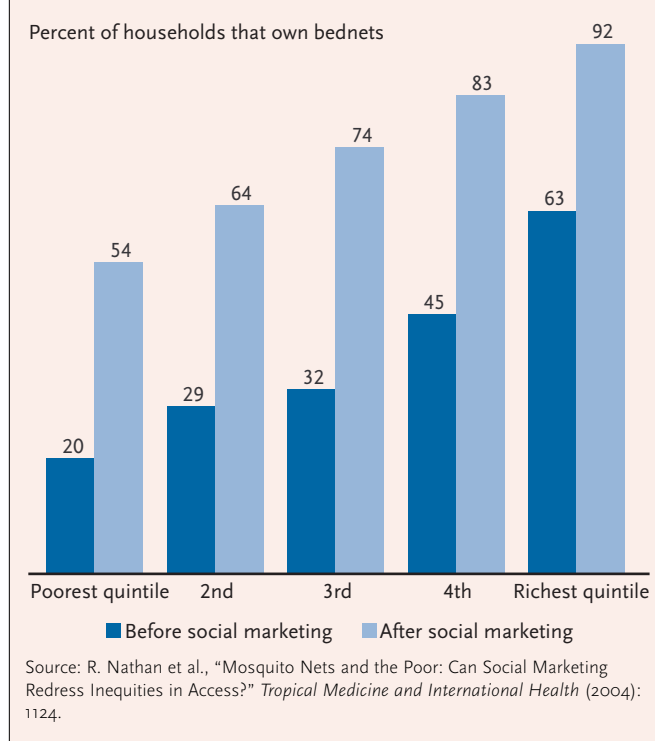
The program team made community participation a central feature from the start: In partnership with district health managers, the team held sensitization meetings with village leaders to discuss malaria prevention, costs, and sustainability. The researchers also conducted studies of consumer perceptions and preferences to identify the size, quality, and color choices for the bed nets; to create a brand name for the treated nets and insecticide; and to develop promotional materials such as billboards, posters, T-shirts, and other items. Educational seminars were held for the sales agents and others in the community, including village leaders, village health workers, primary school teachers, and maternal and child health aides.

The distribution network for the nets included retail agents such as shopkeepers, community leaders, health workers, and priests in each village. A reward system encouraged retailers to reach certain sales targets. In the initial distribution area, insecticide retailers were given bicycles so that they could offer door-to-door insecticide treatment for the nets. As the area expanded, retailers sold the insecticide as a dip-it-yourself kit with gloves and instructions, available in the same shops that sold the nets. The program relied on a wide range of partners, including the local district health team, local businessmen, and NGOs.

The prices for the nets were set at a level community members indicated they were willing to pay, while also allowing the program to recover costs: US\$5 per net and 42 cents for a sachet of insecticide. Because the program targeted pregnant women and young children, a discount system was established whereby maternal and child health clinics issued paper vouchers worth 50 cents to pregnant women and mothers of children under age 5. This approach favored the poor, who tend to give birth to more children than the better-off.

The program assessed how well it reached the poorest groups through annual household surveys. Each household was asked whether it owned a net and a similar question about other specified assets. Program coverage in the population overall, measured by the percent of households with at least one net, increased from 37 percent in 1997 to 73 percent at the end of 2000. In Kilombero, coverage among the households categorized as the poorest increased from 16 percent to 55 percent, while among the better-off households it increased from 69 percent to 92 percent (see Figure 7). Thus, social

**Figure 7**  
**Increases in Household Ownership of Bed Nets in Two Rural Districts in Tanzania, 1997 and 2000**



marketing was associated with rapid increases in bed net coverage among all groups, and the program reduced inequality because the increases were greater among the poorest than among the richest.

The study authors noted that not all social marketing programs would necessarily have the same results, because offering services at a price can lead to a decrease in equity compared with offering the services or products free of charge. In this case, the researchers attributed success to two factors: the existing high demand for mosquito nets due to perceived mosquito nuisance, and the existing active private market for the nets.

The study showed that where the private-sector market is established and demand for a product exists, it is possible for social marketing—in combination with discount vouchers and other outreach strategies, in this case—to lower financial barriers for the poorest groups. The findings of this study persuaded policymakers to pursue a nationwide strategy in which social marketing would be used to work toward long-term and sustainable distribution of the bed nets through commercial networks.

## Delivery of Reproductive Health Services by a Women's Association in Gujarat, India

Delivering services through a development-oriented women's union was found to promote equitable delivery of health care services in the urban parts of Gujarat state, India.<sup>43</sup> But achieving this result in rural areas proved more challenging.

The Self-Employed Women Association (SEWA), a 30-year-old trade union of women working on their own or in small businesses in Ahmedabad City, promotes economic security and self-reliance among its members, and also has a long history of involvement in public health. Its health-related activities include primary health care, health education and training, capacity building among traditional midwives (to become "barefoot doctors"), and provision of low-cost drugs and traditional medicines. It provides these services to its nearly 500,000 members and to nonmembers alike.

In response to demand from people in remote and underserved areas, in 1999 SEWA Health began organizing mobile units, called camps, to provide women with reproductive health care. Reproductive health mobile camps are carried out mainly in slum areas of Ahmedabad City and several rural villages. They are funded largely by the United Nations Population Fund and the government of India. More than 35 camps are carried out each month with an average attendance of 30 women per camp, for an annual attendance of more than 12,500 women.

Practicing physicians and 50 "barefoot doctors" and managers provide health care at the camps. Their services include health education and training, cervical exams and Pap smears, treatment, referral, and followup care. Camps are held for three or four hours in the afternoon, and users are asked to pay a 5-rupee (11 cents) contribution and one-third of the cost of medicines provided. Even these low fees may be waived for very poor users.

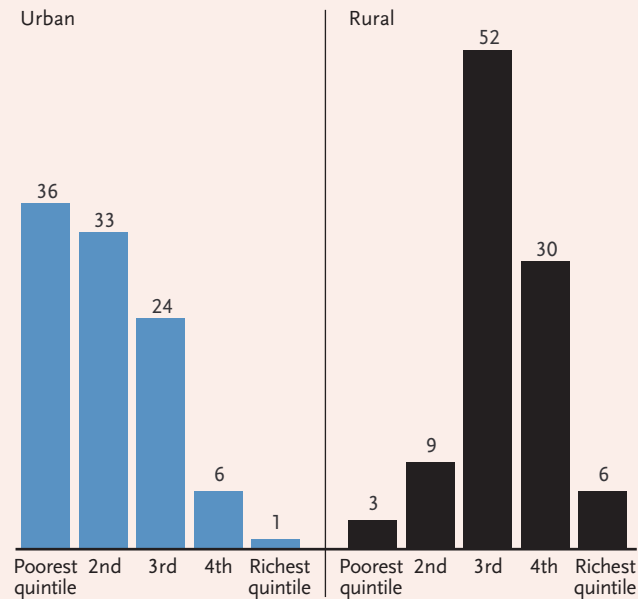
An assessment of the economic status of the women using the urban camps found that camp users were more likely to be from the poorer segments of the population of Ahmedabad City. Figure 8 shows the distribution of urban users by wealth quintiles, from poorest to richest, revealing a skew toward the left: About 69 percent of urban users were from the bottom 40 percent of the wealth scale.

In rural areas, the camps were less effective in reaching poor women (see Figure 8), as the economic profile of rural camp users was oriented more toward the richer

Figure 8

### Economic Status of Users of SEWA Mobile Reproductive Health Services

Percent distribution of rural and urban users by wealth quintile



Source: M. Kent Ranson et al., "India: Assessing the Reach of Three SEWA Health Services Among the Poor," in *Reaching the Poor*, ed. D. Gwatkin, A. Wagstaff, and A.S. Yazbeck (2005).

quintiles of the rural population. Only 12 percent of camp users were in the bottom 40 percent—suggesting that the camps were less effective at targeting the poorest in these areas. The study authors note, however, that rural services have not altogether failed to reach the poor, because the higher quintiles in rural areas are less wealthy than their urban counterparts.

The researchers attributed the success in reaching the poor in urban areas to the following attributes:

- ▶ The mobile camp services and education sessions are offered right at people's doorsteps.
- ▶ The services are delivered (at least in part) by the poor themselves—and usually by poor women.
- ▶ The services are generally combined with efforts to mobilize the community—SEWA workers go door-to-door educating people about the services.
- ▶ Costs are low relative to private, for-profit services.
- ▶ SEWA is an entity that people know and trust.
- ▶ Users report that SEWA health workers treat people with respect and "warmth."

In rural areas, several weaknesses may have accounted for lower use among the poorest groups. The 5-rupee registration fee prevents some women from attending, and the camps often coincide with hours of work.

Studies of SEWA services in other areas also suggest other weaknesses: In rural areas, problems of geographic access are greater, contact between SEWA members is less frequent and intensive, and rural SEWA workers are less skilled. In response to the study findings, SEWA Health has taken steps to improve the accessibility of rural camps by waiving the registration fees and medicine fees for those who are particularly poor.

### Participatory Approaches to Improve Adolescent Reproductive Health in Nepal

The Nepal Adolescent Project, carried out from 1998 to 2003, found participatory approaches to be more effective than nonparticipatory ones for improving reproductive health among disadvantaged youth.<sup>44</sup> This emerged from work undertaken by a project partnership that included two Nepali NGOs, New ERA Ltd. and BP Memorial Health Foundation; and two U.S.-based organizations, EngenderHealth and the International Center for Research on Women. Adolescent programs were implemented in urban and rural study sites and control sites, with four sites in total. The target beneficiaries were young people ages 14 to 21, both male and female, married and unmarried.

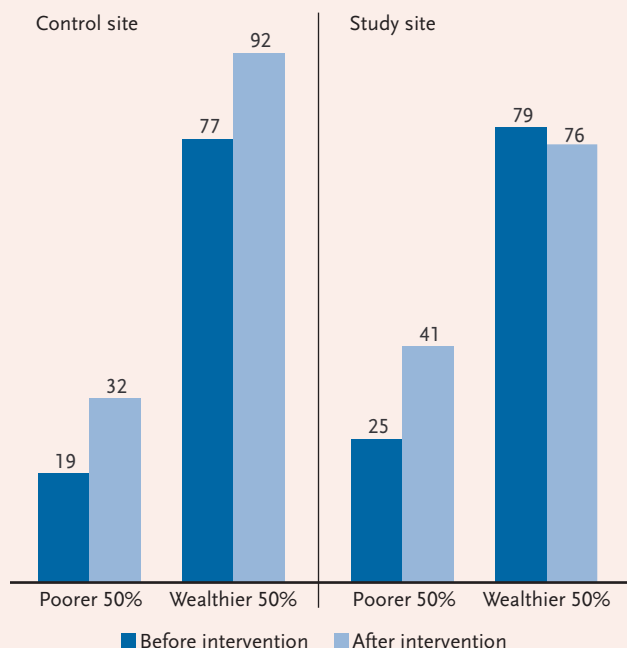
In the study sites, the project involved the community and actively engaged disadvantaged groups, such as the poor, young women, and ethnic minorities, at every stage of the program. Young people, their parents, and other community members were involved in implementing program activities in the study sites through a variety of community-based groups.

Activities were designed to take into account broad development priorities voiced by diverse members of the community. Thus, interventions aimed at improving reproductive health services, peer education, and counseling were linked with interventions aimed at improving the socioeconomic environment and opportunities for youth. Specific activities included adult education programs, activities to address social norms, and access to income-earning opportunities. In contrast, in the control sites, project staff designed and implemented standard reproductive health interventions that addressed only the most immediate health risks such as sexually transmitted infections or unwanted pregnancies.

The interventions in the study sites focused on a wide range of socioeconomic disadvantages—not just wealth, but also gender, residence, ethnicity, schooling status, and marital status. The project measured economic disadvantage by collecting information on household asset

**Figure 9**  
**Delivery in a Health Facility, First Pregnancy, Nepal Adolescent Project, 1999 and 2003**

Percent of young women who delivered their first babies in a health facility



Source: A. Malhotra et al., "Participatory Approaches to Reproductive Health," in *Reaching the Poor*, ed. D. Gwatkin, A. Wagstaff, and A.S. Yazbeck (2005).

ownership and on other types of disadvantage, namely gender, urban-rural residence, and education.

Researchers used three indicators—use of prenatal care, delivery at a health facility, and knowledge of HIV transmission—to examine the impact of project activities on the reproductive health of the poor. To measure progress, interviews were conducted in a sample of households in the study and control areas at the beginning and end of the project.

### Project Results

The study results show that generally, the participatory approach was more successful in reducing the gap in reproductive health between disadvantaged youth and more-advantaged youth. For different health outcomes, different aspects of disadvantage were important. For example, being from a rural area or poor household were key constraints for getting prenatal care, while gender and education were more closely linked to having accurate knowledge about HIV transmission. In most cases, the participatory approach was better at overcoming these constraints than the more-traditional approach.

At the beginning of the project, both the study and control sites showed substantial differences between rich and poor young women's access to a health facility for delivery. By the end of the project, the gap in access to services between poorer and better-off women was narrower in the study sites, because improvements in access were almost entirely among the poorer 50 percent of the women (see Figure 9). In the control site, both the rich and poor gained in terms of access to a facility-based delivery. The poor realized similar gains in knowledge about HIV, and somewhat smaller gains in antenatal care.

### Why Did the Participatory Approach Work?

The project evaluation suggests that the participatory approach succeeded because its defining characteristics lent themselves well to the problems of adolescent health.

- ▶ The participatory design made young people active players in their own health, primarily by tapping into existing social networks for information exchange and counseling (for example, young people could obtain information from informed peers rather than having to rely on professionals).
- ▶ Young people and adult community members learned to negotiate with the village development committee and to enforce higher expectations set by providers.
- ▶ The study sites focused on changing not just reproductive health outcomes, but also the community norms and social environment related to marriage, childbirth, and health-related behaviors.

### Lessons and Recommendations

As the case studies presented here illustrate, many promising approaches have been tried worldwide to reach the poor with health services, and some programs using these approaches have been able to quantify the benefits received by the poorest groups. The initiatives assessed by the Reaching the Poor Program had a better record than most other health services such as those described in Part 1. While a typical health service may deliver 10 percent to 20 percent of its benefits to the poorest 20 percent of the population it serves, the programs assessed by the Reaching the Poor Program provided 30 percent to 40 percent (and in some cases, much more) of their benefits to the poorest 20 percent. The programs also covered about 50 percent of the poor population, on average, indicating that most were fairly large in scope, beyond the pilot community phase where it is arguably easier to focus on the poor.

To be sure, none of the Reaching the Poor studies was perfect. None of the programs studied came close to a theoretical ideal of reaching 100 percent of the poor while excluding all nonpoor from the services. But such an ideal is probably not feasible and it may not be realistic, because programs depend on many constituencies for continued funding. Moreover, some of the programs favored the poor by delivering services that the wealthy considered inferior, as shown in Brazil (pages 9–11) and South Africa (Box 2, page 10).

The studies also showed only whether the poor received services, not whether their health improved. Further, the studies provided little information on the cost of increasing coverage among the poor—an area where additional investigation is warranted.

Despite these limitations, the case studies clearly demonstrate that better performance in reaching the poor is possible. But the evidence gathered so far does not show that any one program type or model is more effective than others in reaching the poor. There is also no guarantee that an approach that works in one setting will work elsewhere. Thus, a process of experimentation and adaptation is called for, which includes the following steps:

- ▶ **Study** the approaches described in this report and in the references provided that appear to have reached poor groups. Investigate the reasons the poor do not use available services. Understanding the constraints faced by or imposed on the poor by existing strategies can be a first step in finding solutions.
  - ▶ **Adapt** the successful approaches tried elsewhere to local conditions, applying the knowledge gained from field experience and the constraints identified in the study phase. Adaptation may involve combining strategies.
  - ▶ **Experiment** with the adapted approaches by implementing them in a few places to see how well they work. The population served must be large enough to ensure that implementation takes place under typical rather than optimal administrative conditions.
  - ▶ **Monitor** the experience, using one of the techniques available (see Part 4 and the Appendix), to verify how well the approach performs. It is essential to measure the socioeconomic status of program users and compare them to the local population, because informal impressions almost always overestimate the effectiveness of activities in reaching disadvantaged groups.
  - ▶ **Adjust** the approach according to the findings. One or more rounds of adjustments may be needed, or if prospects for success appear slim, another approach should be tried.
- Policymakers, donors, and program leaders first need to recognize that current approaches often fail to reach the intended beneficiaries, and that better approaches to service delivery are available to help them reach the poor effectively. Monitoring and evaluation are central to learning what needs improvement and to experimenting with newer, promising approaches. Part 4 describes some of the tools that are available to measure how well programs reach the poor.

# PART 4 | PROGRAM MONITORING AND EVALUATION TOOLS

Program managers aiming to shift a greater proportion of program benefits to the poorest groups can begin by taking several steps. The first is to find out to what extent existing programs reach the poor. Presuming the distribution of benefits is less than ideal, the next step is to set concrete, realistic, and measurable objectives for increasing the focus on the poor. To reach these objectives, a number of innovative, service-delivery approaches—many described in this report—might be tried. Their outcomes should be monitored and evaluated to ensure that the new approaches meet the program's equity objectives. Monitoring and evaluation are particularly important because program managers cannot take for granted that programs will serve the poor as well as anticipated. A number of monitoring and evaluation tools are highlighted in this section, and more technical detail on how to use them can be found in the references in the Appendix.

## Measuring the Economic Status of Program Beneficiaries

Whether a program is equitable or pro-poor is typically determined by estimating the economic status of clients or users of specific services, and then comparing their status to the economic status of the population as a whole. For most program planners and managers, measuring the economic status of the population served is a new undertaking. Though survey data on living standards have existed for some time in developing countries, they have rarely been used to measure the economic status of individuals served by a particular health program.

A person's economic status is most easily measured according to the wealth of the household to which she or he belongs. Two other ways would be to measure income and expenditure, but these data are hard to gather in developing countries because few people earn a regular salary or report their income to authorities, and a great many transactions are made in-kind. The World Bank's Living Standards Measurement Surveys have overcome the drawbacks to measuring income by surveying and analyzing household consumption data, assigning values to all goods consumed and ranking households according to their total consumption. However, the data collection required by this approach is complex and time-consuming.



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*Measuring the economic status of program users is key to improving equity in health care.*

Recently, researchers have begun looking at household surveys with information about household characteristics and possessions that provide an adequate measure of assets or wealth. The Demographic and Health Surveys have attracted special attention for this purpose. DHS surveys have been conducted in more than 75 countries in Africa, Asia, and Latin America, and in many countries more than once. The surveys cover a range of population and health issues and also include a long list of variables related to household assets—namely attributes of the household's dwelling (type of floor and materials used for the roof and floor); water and sanitation facilities (piped water or water from a pump); and ownership of various household durables (such as a radio, television, bicycle, or car).

Using the household asset information in the DHS, researchers rank households according to the number

of assets they have. The assets are usually assigned different weights through the use of a statistical technique such as principal component analysis. Researchers then divide the individuals in the population (according to the wealth of the households they belong to) into groups of equal size—typically five groups or quintiles—based on individuals’ relative standing on the index. (For more information on how to do this, see the *DHS Comparative Report 6*, “The DHS Wealth Index,” listed in the Appendix.)

## Comparing Program Users to the Overall Population

Just how this assets approach can be applied to program assessments will vary according to the nature and size of the program to be assessed and to the amount of data already available. The options differ considerably depending on whether a program operates on a national scale in a country that has national survey data on household assets, or whether a program operates on a smaller scale without such survey data to rely on. This report does not deal in detail with every possibility, but provides some brief examples to illustrate the options available.

### Programs That Operate Nationally, in Countries With a National Survey

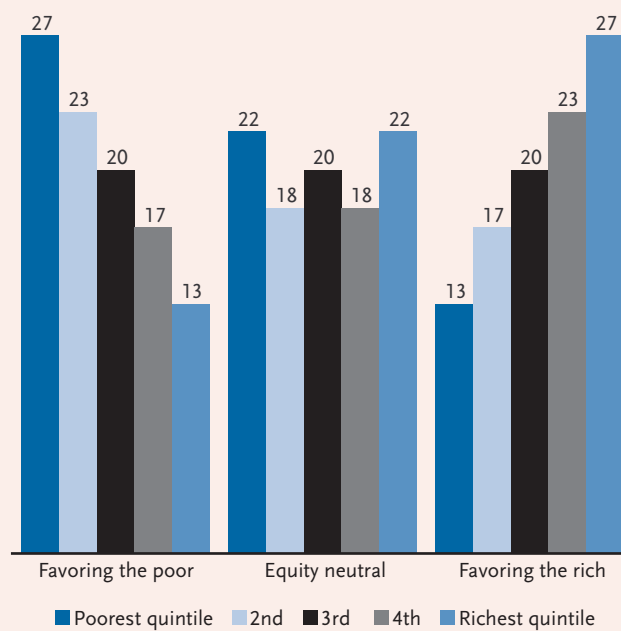
National-level programs that provide health services in a country with a DHS surveys are fortunate: The DHS data sets are usually readily available, are well organized, and contain information about the economic status of the overall population. If a country does not have a DHS survey, it may have a national study conducted by another organization (such as UNICEF or the World Health Organization) that contains similar information on household assets (see additional references in the Appendix).

In a situation like this, to compare the economic status of users and that of the overall population, program evaluators need to collect data on only the household assets of program users using the same questions in the national survey. When the program of interest provides services through clinics or health facilities, the easiest approach is usually to organize an exit survey of users of the facilities concerned using a systematic sampling technique, for example, every fifth or eighth client. The clients surveyed would be asked the same questions that appear in the national survey about their dwelling type, ownership of household durables, and water supply use (see Sample 1).

Using these data, the evaluator can construct a wealth or asset score for each user by applying to each response

**Figure 10**  
**Three Hypothetical Health Programs**

Percent of total program users



Source: Created by D. Gwatkin.

a weight previously determined through analysis of the DHS, and summing the resulting individual response scores. From the national survey, the evaluator will know the cutoff values in the wealth index that separate the poorest quintile from the second poorest, the second poorest from the middle, and so forth. Comparing the wealth index scores of service users with these cutoff points permits an estimate of the percentage of service users in each wealth quintile.<sup>45</sup>

Once the distribution of service users by wealth quintile is established, it is possible to examine whether the program of interest is equitable or inequitable. Figure 10 provides some possibilities:

- ▶ A program can be considered “pro-poor” if substantially more than 20 percent of its users are in each of the lowest two quintiles and substantially less than 20 percent of users are in each of the highest two quintiles.
- ▶ A program that is equity neutral would draw roughly the same proportion of total clients from the lower and upper quintiles.
- ▶ A program that favors the better-off would have well over 20 percent of its clients in each of the highest two quintiles and considerably less than 20 percent of its patients in each of the lower quintiles.

### Sample 1

## Household Asset Questionnaire From the DHS

The following household asset questions were included in the 2001 Demographic and Health Survey for Malawi.

### Question

1. In your household, is there:

- Electricity
- One or more radios
- One or more televisions
- One or more bicycles
- One or more motorcycles or scooters
- One or more cars or trucks

2. Does your household have a domestic worker not related to the household head?

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3. Do the members of your household work their own or family agricultural land?

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4. What is the principal source of fuel for cooking in your household?

- Electricity
- Kerosene
- Charcoal
- Wood
- Other

5. What is your household's principal source of drinking water?

- Piped drinking water in residence
- Piped water into yard/ plot
- Public faucet (piped)
- Unprotected well
- Borehole
- River, canal, or surface water
- Spring
- Rain water
- Tanker truck
- Bottled water

6. What is the principal type of toilet facility used by your household?

- Private flush toilet in residence
- Private pit latrine
- Private VIP latrine
- Share flush toilet in residence
- Shared pit latrine
- Shared VIP latrine
- Bush, field as latrine

7. What is the principal flooring material in your household?

- Dirt, sand, dung
- Wood, plank
- Broken bricks
- Tiles
- Cement
- Parquet
- Vinyl

Sources: The asset questionnaire, asset scores, and wealth quintile cutoff points for the national population are provided in Annex C of the country reports at [www.worldbank.org/hnp/povertyandhealth/countrydata](http://www.worldbank.org/hnp/povertyandhealth/countrydata). Data and methods are also described at <http://devdata.worldbank.org/hnpstats/pvd.asp>.

## Programs That Operate on a Smaller Scale or in Countries Without a National Survey

Some types of programs may not be able to benefit from existing data on the economic status of the population. If a program operates in a small geographic area of the country, then the number of households in that area covered by the DHS or other national survey would likely be too small to constitute a statistically representative sample. Other programs may operate in countries with no DHS or national household survey at all.

In these cases, the program can conduct two surveys: a survey of a representative sample of households in the program's catchment area and an exit survey of program users as described above. The household survey would use a short questionnaire focusing on household assets (using the examples in Illustration 1 or Illustration 2).

The purpose would be to collect information about the economic status of the area's population comparable to what is available in the DHS or other national survey. Once collected, the data can be analyzed to produce asset scores and quintile cutoff points for the population, using the same methods as applied in the DHS (see the *DHS Comparative Report 6*, "The DHS Wealth Index," listed in the Appendix).

The exit survey of clinic or facility users would collect the same asset information as the household survey, allowing researchers to compare the economic status of clinic users to that of the overall population, as described in the previous section. Alternatively, the program can conduct one household survey that collects information about both service use and economic status.

## Sample 2

### Sample Poverty Assessment Survey

The following survey tool was designed to identify the poor in a community, based on questionnaires developed by a number of researchers and institutions, such as UNICEF and the International Food Policy Research Institute.

Household identification number \_\_\_\_\_

How chosen: \_\_\_\_\_

(community, exit interview, village, facility, etc.)

#### Question

Name of head of household \_\_\_\_\_

Age \_\_\_\_\_

Sex \_\_\_\_\_

Years of school completed \_\_\_\_\_

Spouse of head/ woman of the household \_\_\_\_\_

Age \_\_\_\_\_

Years of school completed \_\_\_\_\_

Is the main earner an unskilled day laborer?

Yes  No

Does the household employ any paid domestic worker?

Yes  No

Does the household own any farmland?

Yes  No

Does any member of the household work on the land?

Yes  No

Please describe the family structure:

Number of members

under age 1 \_\_\_\_\_

under age 5 \_\_\_\_\_

ages 5–15 \_\_\_\_\_

ages 15+ \_\_\_\_\_

How many not attending school

(ages 5–15)? \_\_\_\_\_

How many do not have at least three sets

of clothes? \_\_\_\_\_

#### Housing variables

What is the size of dwelling house or houses?

First house in square feet \_\_\_\_\_

Second house in square feet \_\_\_\_\_

Third house in square feet \_\_\_\_\_

How many rooms do household members use for sleeping? \_\_\_\_\_

What is the construction material used for the roof of the principal dwelling?

Thatched/ straw

Cement/ concrete

Other

What is the wall material of the principal dwelling?

Mud/straw

Brick and cement

Other

Flooring material of the main dwelling:

Mud/sand

Cement/tile

Other

Water source:

Piped water inside house

Own tubewell/handpump

Other sources

Toilet facility:

Flush/ sanitary

Pit

Other/ none

Does the household have an electrical connection?

Yes  No

#### Ownership of assets

Does any member own any of the following assets?\*

Ownership of high value assets

Car  Yes  No

Refrigerator  Yes  No

Medium-value assets

Radio  Yes  No

Bed  Yes  No

Low-value assets

Chair/ table  Yes  No

Aluminum/metal utensils  Yes  No

#### Food security

How many main meals were served yesterday?

One  Two  Three

How many days in the past seven days was [preferred staple or cereal] not served for dinner? \_\_\_\_\_

During the past 30 days, how many days did the household not have enough to eat? \_\_\_\_\_

In the season when food prices are highest in the market (specify the month), do you face a food shortage in the household?

Yes  No

\* High, medium, and low assets should be defined for the community through key informant interviews.

Source: M. Mahmud Khan and David Hotchkiss, *How Effective Are Health Systems Strengthening Programs in Reaching the Poor? A Rapid Assessments Approach* (Bethesda, MD: Abt Associates, Inc., PHRplus Project, 2006), accessed online at [www.phrplus.org](http://www.phrplus.org), on May 30, 2006.

## Programs That Do Not Operate Through Facilities

For programs that involve education, outreach, and community-based activities that are not confined to health facilities, a modified approach would be required. In some cases, researchers might be able to select a sample of beneficiaries (from, for example, a list of households contacted) from the program's records, and visit a sample of those households in order to determine the economic status of program users. Another approach, especially useful when program records cannot identify program beneficiaries, as in the case of mass media campaigns, is to undertake a single, random household sample survey of the program service area to collect information not only about the household's wealth or assets, but also about whether the households received the messages or services.

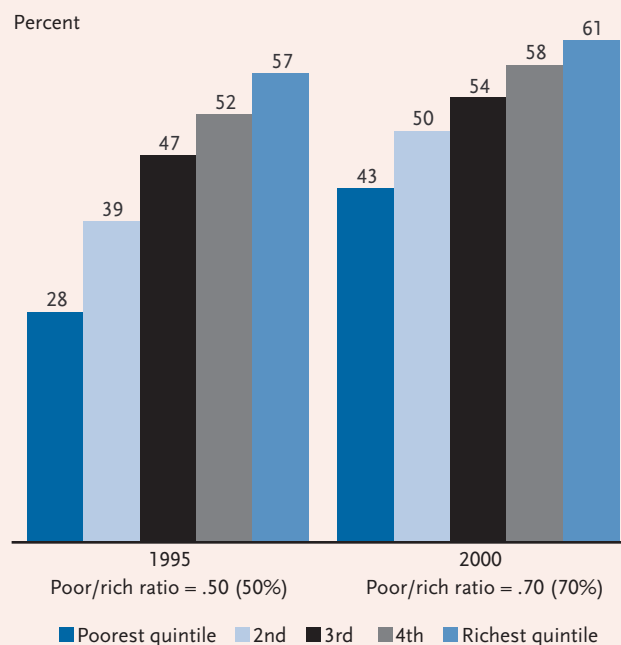
## Comparing Inequality Among Programs or Across Time Periods

The techniques described in the preceding section can give a helpful view of a single program at a single point in time. A program manager might also want to know whether his or her program is more or less equitable than another program, or whether it has become more equitable over time. This can be done by comparing the "gradient" of health service beneficiaries (how unequal are they?) across wealth groups, such as quintiles, to make an objective comparison with another time or situation. An illustration is given in Figure 11, where the distribution of women using modern contraception is shown for Egypt in 1995 and 2000.

In 1995, 28 percent of the poorest women used modern contraceptives, compared with 57 percent of the wealthiest women. By 2000, use had increased among all classes of women, with the poor still lagging the rich. But had equity improved? One might be able to tell visually from the graph, but to be sure, one could calculate a simple ratio of poor to rich and compare it for the two time periods. In 1995, use among the poorest quintile was .50, or 50 percent, of the level of use among the richest quintile. By 2000, this ratio had improved to .70 (70 percent). In other words, use increased more among the poor than it did among the better-off; thus, family planning use in the country became more equitable over the five-year time period.

Other statistical measures exist to give a more precise measure of inequality among the five economic groups.

**Figure 11**  
Egypt: Married Women Using Modern Contraception, 1995 and 2000



Note: A poor/rich ratio of .50 or 50 percent means use by the poorest quintile is half that of the richest quintile.

Source: D. Gwatkin et al., *Socioeconomic Differences in Health, Population and Nutrition, Round II Country Reports* (2004).

One measure used for this purpose is the *concentration index*, which measures the extent to which a particular health-status or health care variable is distributed unequally across all five asset quintiles—that is, the concentration of inequality. Its value can vary between -1 and +1, and the closer the index is to zero, the more equal the relationship among the economic groups. Conversely, the further away the index is from zero, the greater the inequality. In Egypt, as shown in Figure 11, the concentration index or degree of inequality in contraceptive use also improved over time, from .16 in 1995 to .07 (closer to zero, or equality) in 2000.<sup>46</sup> More information on the concentration index is available in the technical notes listed in the Appendix.

Whether by measuring changes in the concentration index or some other way, monitoring how well programs reach the poor is an essential starting point for ensuring that service strategies are working as intended. If they are not, managers may need to take more steps to determine the reasons for poor performance and change service approaches in order to do better.

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# APPENDIX | FOR MORE INFORMATION

## Suggested Resources

### Reaching the Poor Volume

Davidson R. Gwatkin, Adam Wagstaff, and Abdo S. Yazbeck. *Reaching the Poor with Health, Nutrition, and Population Services: What Works, What Doesn't, and Why*. Washington, DC: World Bank, 2005. The volume can be accessed at [www.worldbank.org/povertyandhealth](http://www.worldbank.org/povertyandhealth), or by writing to:

World Bank  
Health Advisory Service  
Health, Nutrition and Population Department  
1818 H Street, NW  
Washington, DC 20433

### Related Reports

Carr, Dara. "Improving the Health of the World's Poorest People" *PRB Health Bulletin* 1, Washington, DC: Population Reference Bureau, 2004.

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## Recommended Websites

### Demographic and Health Surveys (DHS)

[www.measuredhs.com](http://www.measuredhs.com)

The DHS program has collected data on health, population, and nutrition through more than 200 surveys in more than 75 countries. The website makes available final country reports, a range of comparative reports and analyses, and access to data through the StatCompiler.

### Equitap

[www.equitap.org](http://www.equitap.org)

Equitap, or "Equity in Asia-Pacific Health Systems," is a collaborative effort of more than 15 research teams in Asia and Europe engaged in examining equity in national health systems in the Asia-Pacific region.

### International Journal for Equity in Health

[www.equityhealthj.com](http://www.equityhealthj.com)

The *International Journal for Equity in Health* is a peer-reviewed electronic journal launched by the International Society for Equity in Health to advance scientific knowledge about equity in health.

### International Society for Equity in Health (ISEqH)

[www.iseqh.org](http://www.iseqh.org)

ISEqH promotes equity in health and health services internationally through education, research, publications, communication, and charitable support.

## Regional Network on Equity in Health in Southern Africa (EQUINET)

[www.equinet africa.org](http://www.equinet africa.org)

EQUINET supports policy-oriented research and outreach activities related to equity and health in southern Africa. The professional network includes research, civil society, and health-sector organizations, and serves as a forum for dialogue and information exchange on such topics as poverty and health, equitable health services, and equity and HIV/AIDS.

## UNICEF, Multiple Indicator Cluster Surveys (MICS)

[www.childinfo.org](http://www.childinfo.org)

UNICEF has supported countries in collecting data on the well-being of children and families through the MICS. The website provides the methodology used, sample questionnaires, and country statistics.

## World Bank PovertyNet

[www.worldbank.org/poverty net](http://www.worldbank.org/poverty net)

In addition to the Poverty and Health section, the PovertyNet website contains a large number of resources for researchers and practitioners on poverty measurement, monitoring, and analysis, and on poverty reduction strategies.

## World Health Organization, Commission on the Social Determinants of Health

[www.who.int/social\\_determinants](http://www.who.int/social_determinants)

The commission supports countries and global health organizations that seek to improve the social conditions that affect people's health.

## World Health Organization, World Health Statistics

[www.who.int/statistics/en](http://www.who.int/statistics/en)

World Health Statistics 2006 presents the most recent data on 50 health indicators for WHO's 192 member states. This edition includes an expanded set of statistics with a focus on equity between and within countries.

## Technical Resources for Health Equity Analysis

Have gaps in health outcomes between the poor and better-off grown? Are they larger in one country or region than another? Are health-sector subsidies more equally distributed in some places than others? Is the use of health care equitable in the sense that people with equal need receive similar amounts of health care, irrespective of their income?

Answering questions such as these require a set of quantitative methods for measuring outcomes including inequality and inequity, progressivity, catastrophe, and poverty impact.

The World Bank Technical Notes listed below use examples to outline issues that arise in the quantitative analysis of health equity. They are all on the World Bank's website at [www.worldbank.org/povertyandhealth](http://www.worldbank.org/povertyandhealth). Click on Quantitative Techniques for Health Equity Analysis.

- ▶ Measuring living standards: household consumption and wealth indices
- ▶ Simple charts for inequality
- ▶ Concentration curves
- ▶ The concentration index
- ▶ Multivariate analysis of health data: General issues
- ▶ Multivariate analysis of health data: Nonlinear estimators
- ▶ Who benefits from health sector subsidies?
- ▶ Benefit incidence analysis
- ▶ Measuring inequity in health service delivery
- ▶ Unraveling causes: Decomposing the concentration index
- ▶ Measuring progressivity in health care payments
- ▶ Decomposing the redistributive effect of health care payments
- ▶ Poverty impact of health care payments
- ▶ Data for health equity analysis: Requirements, sources, and issues in analysis

## Selected Publications From the Population Reference Bureau

All publications are on PRB's website, [www.prb.org](http://www.prb.org).



### 2006 World Population Data Sheet

*By Carl Haub*

PRB's 2006 World Population Data Sheet contains the latest population estimates, projections, and other key indicators for more than 200 countries, including births, deaths, infant mortality, life expectancy, HIV/AIDS prevalence, contraceptive use, population living below US\$2 per day, and population per square mile. New indicators for the 2006 Data Sheet include percent of protected surface area and population with access to improved sanitation. (August 2006)



### How HIV and AIDS Affect Populations

*By Lori S. Ashford*

This policy brief takes a look at one of the most destructive health crises of modern times, describing the effects of HIV and AIDS on population size, characteristics, and well-being. It also highlights the major efforts needed to control the epidemic. The pandemic continues to spread worldwide despite prevention efforts and successes in a few countries. (August 2006)



### Working With the Community for Improved Health

*By Kristina Gryboski, Nancy V. Yinger, Ricardo H. Dios, Heidi Worley, and Fariyal F. Fikree*

Persistent health problems remain in developing countries—particularly among poor, marginalized, and rural populations. Cost-effective interventions are available to address many pressing health problems such as neonatal mortality and preventable childhood illnesses. But sustaining healthy populations may require community participation to increase a community's capacity to achieve equitable and sustainable improvements in health. (July 2006)



### The World's Youth 2006 Data Sheet

*By Lori Ashford, Donna Clifton, and Toshiko Kaneda*

Many young people across the world still face considerable threats to their well-being. The World's Youth 2006 Data Sheet offers a comprehensive portrait of the well-being of youth (people ages 10-24) across the globe, showing that many of these young people are at great risk for health problems ranging from sexually transmitted infections to complications from smoking. (February 2006)

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