

# Chapter 18

## Health, Nutrition, and Population

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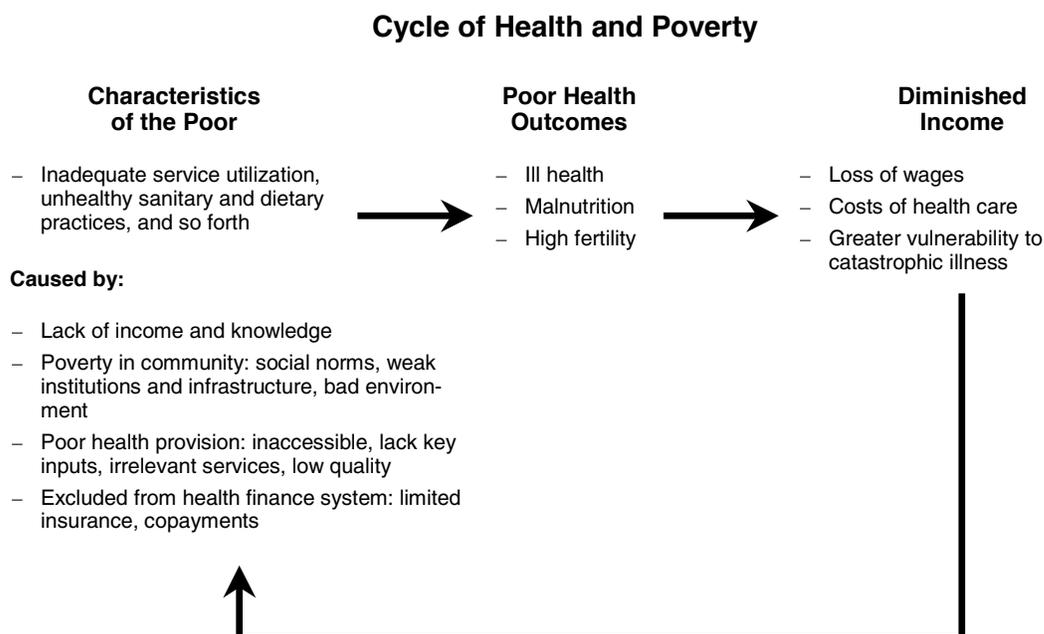
## 18.1 Introduction

**Poverty is both a consequence and a cause of ill health.** Ill health, malnutrition, and high fertility are often reasons why households end up in poverty, or sink further into it if they are already poor. The illness of a household breadwinner and the consequent loss of income can undermine a poor household's ability to cope financially. Out-of-pocket payments for health services—especially hospital care—can make the difference between a household being poor or not. High fertility additionally places an extra financial burden on households, by diluting the resources available to other household members and by constraining earning opportunities, especially for women.

**Poverty is also a cause of ill health.** Poor countries and poor people suffer from a multiplicity of deprivations which translate into levels of ill health that far exceed the population average (see box 18.1). Most obviously, they lack the financial resources to pay for health services, food, clean water, good sanitation, and the other key inputs to producing good health. It is not just lack of income that causes the high levels of ill health among poor people, however: the health facilities serving them are often dilapidated, inaccessible, inadequately stocked with basic medicines, and run by poorly trained staff. Furthermore, the poor are also disadvantaged by a lack of knowledge about prevention and when to seek health care. They also tend to live in communities that have weak institutions and have social norms that are not conducive to good health. In short, poor people are caught in a vicious cycle: their poverty breeds ill health; and this in turn conspires to keep them poor (see figure 18.1).

**Governments can improve the health of poor people.** Health, along with education, is seen as one of the key ultimate goals of development, and increasingly is seen as a dimension of poverty in its own right. This is reflected in the fact that no fewer than four of the seven international development goals (IDGs) relate to health, broadly defined (see box 18.2). Governments can do much to improve the health of their populations, and especially of the poor. They can mitigate the effects of low income on health outcomes by reducing the price poor people pay for health and other key goods and services, through, for example, health insurance, fee-waivers, and targeted food subsidies. Governments can also reduce the non-income disadvantages faced by poor people: they can (1) improve poor people's access to and knowledge of health services; (2) improve the quality of services that poor people use, both in technical terms and by making them more user-friendly; and (3) get services more focused on the interventions that are relevant to the health profile of poor people. Improving the health of poor people means contemplating action on several fronts. The main objective of this chapter is to provide guidance on accomplishing this. One

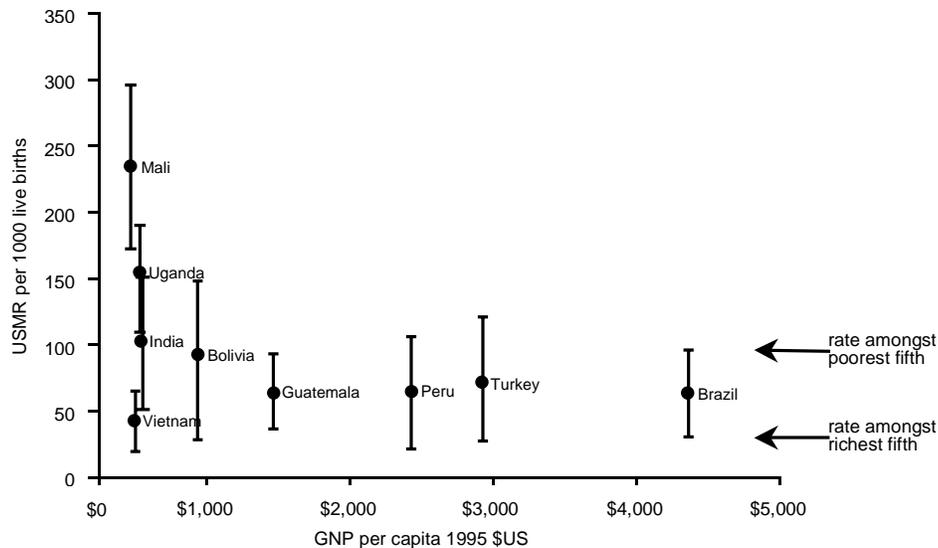
**Figure 18.1. Health and Poverty Linkages**



### Box 18.1. Poor Children Die Early

It is well known that poor countries tend to have worse health outcomes than richer countries. For example, in several sub-Saharan African countries as many as 200 out of every 1,000 children born will die before their fifth birthday; in Sweden, by contrast, the under-five mortality rate is only 5 per 1,000 live births. This tendency is shown in figure 18.2, where the population under-five mortality rate (indicated by the marker) is usually higher in poorer countries. What is less well known, but should come as no surprise, is that within countries poor people have worse health than better-off people. The vertical bars in figure 18.2 show that poorer children—however affluent or poor their country—tend to have a smaller chance of reaching their fifth birthday than better-off children. The chart also shows another important point: the gaps in survival prospects between poor and better-off children vary from one country to the next. Vietnam, for example, despite its low per capita income has not only a low national average child mortality rate but also a small gap between poor children and better-off children.

Figure 18.2. Under-Five Mortality: Gaps between and within Countries



Source: Data from Gwatkin and others (2000), and World Development Indicators (2000).

point needs emphasizing at the outset: funds linked to poverty reduction strategy papers (PRSPs), including debt relief or IDA credits, will have a far greater impact on poor countries' health levels if they are accompanied by a thorough review of existing policies and by a willingness to link new spending with reforms that make health systems work better, especially for the people they tend to serve least well—the poor.

**Governments can reduce the impoverishing effects of ill health.** By improving the health of their populations, governments can reduce income poverty. They can also reduce income poverty indirectly, by reducing the impact of ill health on household living standards; for example, by modifying health-financing arrangements to ensure that people do not face large out-of-pocket payments when they fall ill. This is sometimes called the financial protection goal of health systems; it is clearly a secondary goal to that of improving health, but is nonetheless an important one. Other parts of government also have a role to play here; for example, by introducing schemes to provide income support to households where the breadwinner is ill and unable to work. The second objective of this chapter is to provide guidance on what health ministries can do to reduce the impoverishing effects of ill health. (See chapter 17, "Social Protection," for discussion of what other parts of government can do on this issue.)

**The role of government.** In countries as poor as those preparing PRSPs, funds are extremely limited and it is vital that they be used wisely to ensure they have the greatest impact. Governments cannot do everything, and in the health sphere they never will. Good health in any case is not just about what goes on inside health clinics and hospitals—good health can be produced in many ways, and central to this process are people, as members of households and as members of communities. This is not to belittle the role of governments. Governments have a key role to play, and fulfilling that role is not just a question of pumping money into health services. Services need to be relevant, accessible, and affordable to poor people. There has to be coordination between government and the other actors in the health system,

### Box 18.2. Health and the International Development Goals

The international development goals (IDGs) have been embraced by much of the international development community as a way of ensuring that progress in poverty reduction can be measured and monitored. Health features prominently in four of the seven goals:

- **Reducing extreme poverty.** The proportion of people living in extreme poverty in developing countries should be reduced by at least one-half between 1990 and 2015. Progress is to be measured via income poverty statistics but also via the proportion of children under age five who are underweight. Large health expenditures by households and ill health are widely recognized to be contributory factors to income poverty.
- **Reducing infant and child mortality.** The death rates for infants and children under the age of five years should be reduced in each developing country by two-thirds between 1990 and 2015.
- **Reducing maternal mortality.** The rate of maternal mortality should be reduced by three-quarters between 1990 and 2015.
- **Reproductive health.** Access should be available through the primary healthcare system to reproductive health services for all individuals of appropriate ages, no later than 2015.

Source: <http://www.paris21.org/betterworld/home.htm>.

such as donors, NGOs, and community organizations. Actors in the system have to be kept well informed about the costs and benefits of different health interventions, about best practices in their delivery, about the health risks associated with certain activities and products, about the opportunities for obtaining care from different providers, and so on. Good government also entails reaching out across ministries. In short, a good government is as much a steward of the health sector as it is a financier and provider of health services.

**The different levels of government action.** Putting together policies aimed at improving the health of poor people and reducing the impoverishing effects of ill health requires thinking broadly, but it also means thinking across all the relevant levels of policymaking. The first of these is the macroeconomic level—the level of the government’s national budget. Here the major concern is the amount of resources allocated to health, but an important secondary concern is the possible reallocations of budgets to reach poor people better. The second level is the health system, where the concern is to put together reforms and improve incentives to get the system to function better for poor people. The third level is the microeconomic or service delivery level, where the focus should be on how to implement specific activities to reach poor people. Work at these three levels is interdependent: those working at the project or service delivery level cannot succeed without the cooperation and assistance of those at the systems and spending levels. The PRSP represents an opportunity for all people working at all three levels to work together.

## 18.2 The Key Stages in Policy Design

**Diagnostics.** What are the health outcomes of the country in question and how do these vary between poor people and those that are better off? How far are households put at risk of poverty because of payments for health care?

**Analysis.** What explains the bad health outcomes of poor people and the impoverishment associated with ill health, and how far do existing policies help improve matters? This chapter proposes a framework for organizing an analysis of these questions, taking as its precept the understanding that health outcomes and impoverishment are the result of the interaction between households, communities, health services, other sectors, and government.

- **Households.** In effect, it is households that “produce” health, through their consumption of food, their sanitary and sexual practices, their consumption of health-damaging commodities such as cigarettes, and their use of preventive and curative health services. None of these variables is fixed. Some households seek and manage to obtain health care when ill; others do not. Some manage to consume the recommended daily amount of different nutrients while others do not, and so on. Invariably, because of their poverty, poor households fall behind better-off households—often dramatically so. Key questions to ask at the household level include: What household actions, broadly interpreted, make for good health outcomes? How does the population, and different sections of it, fare with respect to key household actions and risk factors? What household-level factors prevent poor households from achieving good health outcomes? (Examples include insuf-

ficient income; lack of knowledge—for example, about appropriate preventive services; and gender inequality within the household.)

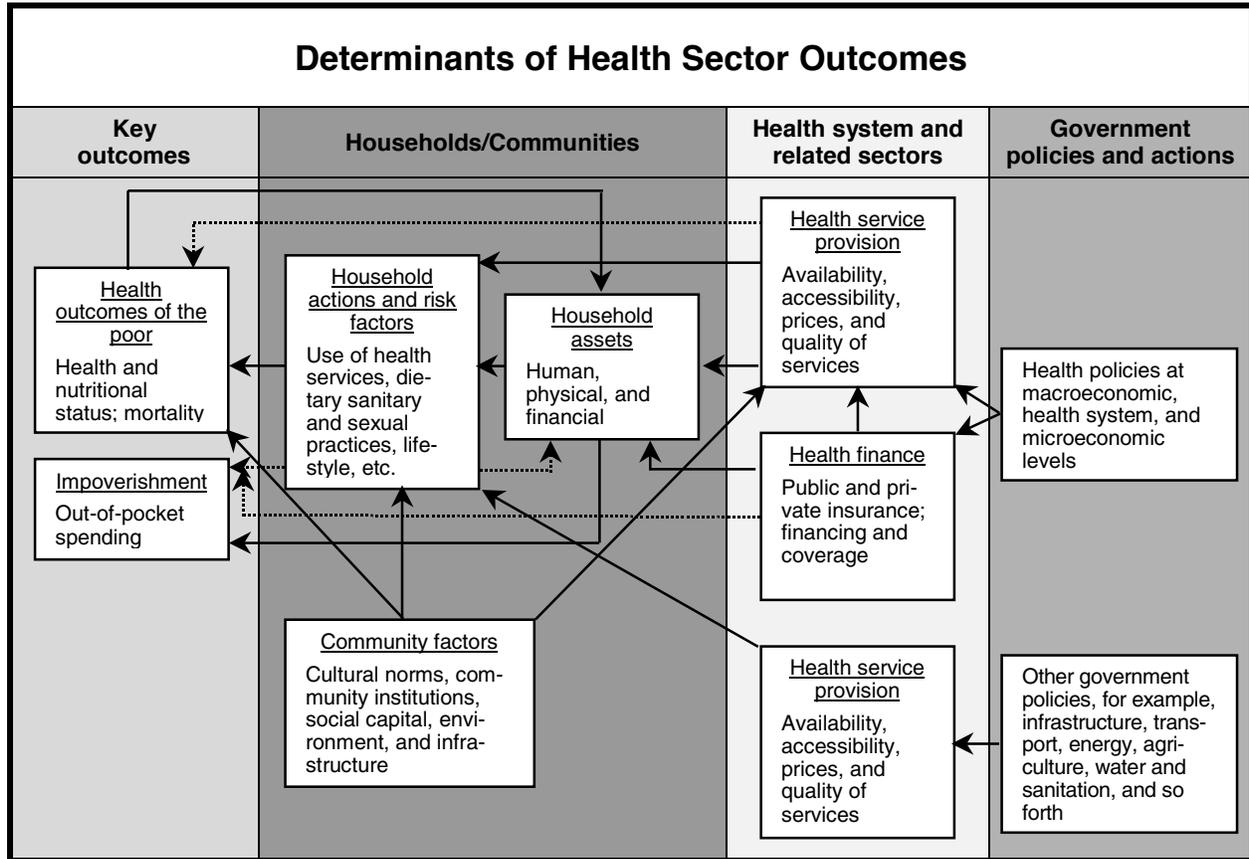
- **Communities.** The values and social norms a community shares can make a big difference to health outcomes; for example, through the use of antenatal and other reproductive health services by women. Communities can also exert a major influence over the way local health services are run. Involving communities in the running of health services can improve social accountability and empower the poor, which may be seen as a goal in itself. Other community-level influences on health outcomes—the environment (broadly defined) and infrastructure—are also important, but are covered elsewhere in this volume.
- **Health services.** A number of aspects of health service provision should be considered. Most obviously, there is the question of accessibility: whether or not services are sufficiently close to the population they serve and whether or not the infrastructure is sufficiently good to enable access. There is also the issue of whether or not the facilities have a sufficient supply of key inputs—drugs, vaccines, and so on. Other important dimensions include organizational quality, technical quality, and efficiency. Throughout, a key question is how the poor are served. Also important is the financing of health care. How much do different groups have to pay out of pocket? Who is covered by some form of insurance scheme—whether public or private—and for what risks? How far do people with insurance share risks with the insurer through copayments? How is health insurance financed?
- **Other sectors.** Obvious examples of other sectors to examine are the market for food, the education sector, the transport and infrastructure sectors, energy, and water and sanitation. Other examples include pollution, workplace health hazards, and so on. The issue of how to assess the role of these sectors in improving health outcomes is addressed elsewhere in this volume (see, for example, part 4, “Rural and Urban Poverty;” part 6, “Private Sector and Infrastructure;” and chapter 11, “Environment”).
- **Government.** Governments have at their disposal a number of instruments to influence the provision of health services, in the public sector and also in the private and charitable sectors. They also have ways of influencing the way that health services are financed, and can exert a considerable influence over sectors beyond the health sector. They can also influence households (for example, by improving the education of women) and communities (for example, by giving communities a degree of control over the planning and management of the health facilities in their area).

**Prioritization.** After analysis comes prioritization. Although putting together policies aimed at improving the health of poor people and reducing the impoverishing effects of ill health means contemplating actions in a variety of areas, this does not mean that countries should try to do everything. Resources—financial and human—are limited, and it is essential to draw up priorities based on assessment of the likely payoffs associated with various policies, their impact on poor people, and the resources required to implement them. This stage is likely to involve learning from the experiences of other countries and a dialogue within the country between the various stakeholders.

**Setting targets, and monitoring and evaluation.** Targets have to be set realistically, and progress toward them needs to be monitored. The success of policies in terms of moving the country toward those targets also needs to be evaluated.

**A conceptual framework.** Figure 18.3 provides a conceptual framework linking the areas discussed thus far. Working from left to right moves from diagnostics, analysis, and prioritization to policies and actions; working from right to left signifies the monitoring and evaluation of the effects of these actions. The chart thus makes clear the steps between policy action and improved outcomes, and can help structure the process of producing a PRSP for health, nutrition, and population and can aid as a means of identifying desired outcomes, actions to achieve those outcomes, and inputs required to produce the actions. The process itself may be as important as the actual PRSP in gaining consensus on the key problems and how to address them, on the risks that will have to be managed to succeed, and on what should be measured to monitor and evaluate performance.

**Figure 18.3. A Conceptual Framework for Linking Government Policies to Health Sector Outcomes**

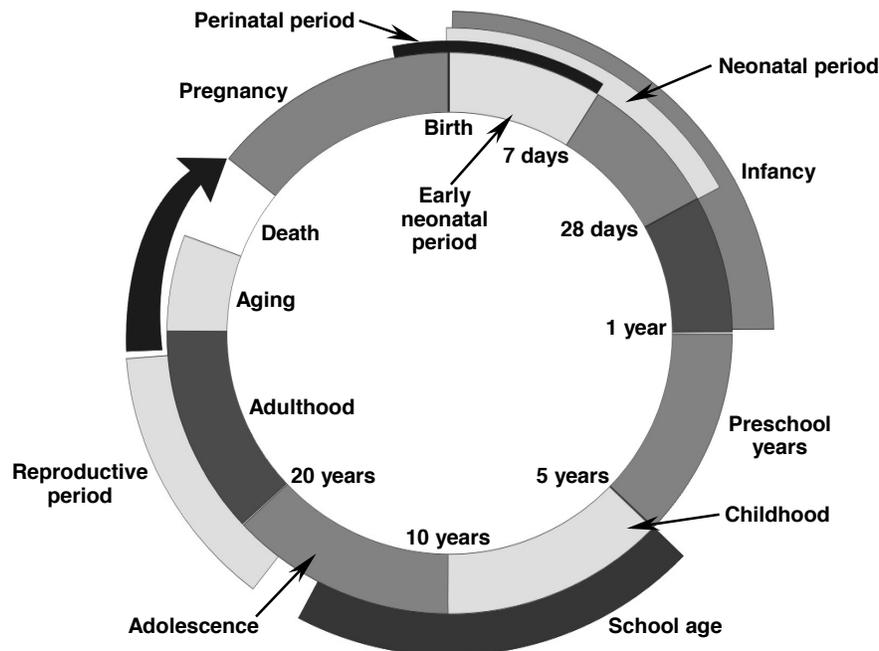


### 18.3 Health Sector Outcomes: Diagnosis

Diagnostics is the first step. This section shows how the two key outcomes—health and impoverishment—can be measured, and where PRSP teams can look for evidence on them.

#### 18.3.1 Health outcomes

*Lifecycle.* The concept of health is a broad one, embracing health status, nutritional status, morbidity, fertility management, disability, and mortality. It embraces not just the health of young children but also the health of older children and adults. It also embraces reproductive health—the health of women during and after pregnancy, and unwanted pregnancies. A useful way of organizing a health assessment is to focus on the lifecycle (see figure 18.4), which starts in pregnancy and moves through birth, infancy, childhood, the school years, adolescence, adulthood, and aging to death. In the reproductive period, the lifecycle comes full circle, with pregnancy and the birth of a new generation. This framework highlights four principles. First, health interventions have a cumulative impact: the benefit, nature, and cost of interventions at a later age is partially dependent on earlier interventions. Second, prioritizing interventions at several points across the lifecycle is needed to sustain improvements in health outcomes. Third, interventions in one generation bring benefits to successive generations. The most obvious of these are good prenatal care and programs that help teenage girls delay pregnancy, both of which give babies a healthier start in life. Finally, the approach also facilitates identification of the key risks for families and associated gaps in the health system; hence, where interventions can break the cycle of poverty and ill health.

**Figure 18.4. The Main Stages of the Lifecycle**

*Risks and outcomes vary over the lifecycle.* At each stage of the lifecycle there are risks to health, and associated with each is a corresponding outcome indicator. For example, during the first year of life (infancy) there are risks of illness, poor nutrition, slow growth and development, permanent impairment, and even death. The corresponding indicators include the incidence of specific illnesses (such as diarrhea, pneumonia, or disabling diseases such as polio and diphtheria), low weight for age (underweight), low height for age (stunting), and death (infant mortality). Technical note O.1 contains lifecycle risk and indicator sheets for all the various stages of the lifecycle, including adulthood. The note outlines the major risks at each stage of the lifecycle, the corresponding outcome indicators, and their definition and measurement. Some of these are included among the international development goals (see box 18.2).

*Assembling diagnostics on health outcomes by poverty grouping.* It is not necessary—and in many countries is simply not feasible—to assess all of the various health outcomes for all stages of the lifecycle. What can be done is to select, for as many stages of the lifecycle as possible, key health outcome indicators for which data are available. It is vital for the PRSP that data should be assembled not just for the population as a whole, but also separately for different poverty groups (see box 18.3). PRSP targets need to be set not just for national averages, as has been the case in the four PRSPs to date, but also for the poor. (See section 6 for further discussion of target-setting.) Data such as those represented by figure 18.5 have been produced (for one year only, so far) for 48 countries, including many HIPC (heavily indebted poor countries) and IDA (International Development Association)-member countries. The data cover maternal and child health (MCH) outcomes, and derive from the Demographic and Health Survey (DHS) data (see technical note O.1 [Section O.1.2]). The references in the technical note discuss how countries can generate similar data from other surveys. Also useful are disaggregations by geographic area, especially if these can be linked to poverty maps.

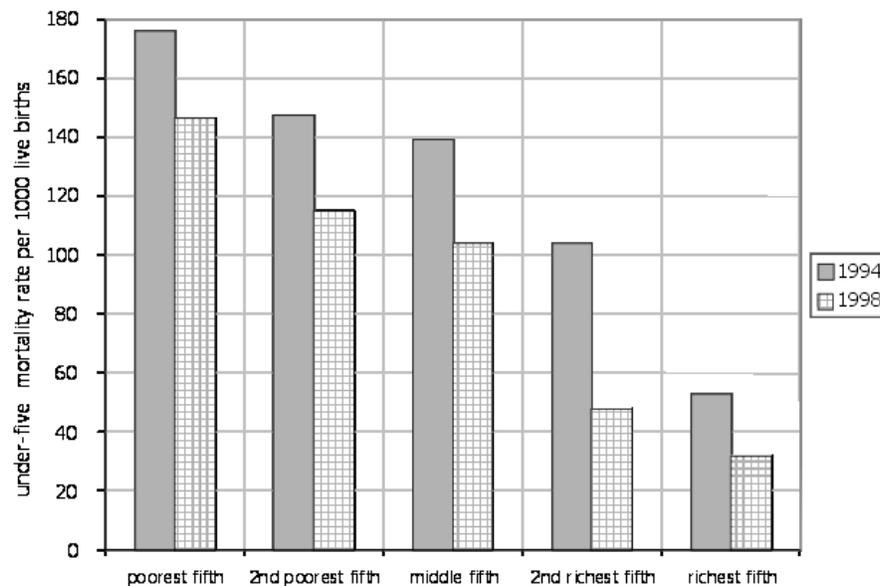
### 18.3.2 Financial protection outcomes

*The impact of health spending on household living standards.* Data from household expenditure or multipurpose surveys on health spending by quintiles of living standards can provide a useful indication of the extent to which health spending compromises the ability of households to finance other consumption. Expressing the data as a proportion of household income allows one to assess progressivity. However, spending could be progressive (poorer households spend less on health as a proportion of their income than richer households) and yet households in poverty or close to the poverty line might

**Box 18.3. Improvements in Population Averages May Mask Widening Inequalities**

Box 18.1 showed how poor children have worse survival prospects than better-off children. Examination of the data for each fifth (or quintile) of the population reveals that survival prospects worsen progressively as one moves across the income groups from richest to poorest (see figure 18.5). It is also evident that there is no guarantee that the poor will, over time, see the same proportional (or even absolute) improvements in their health as the better-off. Figure 18.5 shows that in Bolivia over the period 1994–98 the largest proportional reductions in under-five mortality were in the second-richest and the richest quintiles, and that the largest absolute declines were in the second-richest and middle quintiles.

**Figure 18.5. Changes in Under-Five Mortality by Poverty Grouping, Bolivia**



Source: Data from Gwatkin and others (2000).

nonetheless find it hard to cope financially with unforeseen health payments. An alternative approach would be to examine households' actual living standards relative to the poverty line, and then compare this with where they would have been in the absence of the health "shock" that necessitated the payments. From such calculations, it is possible to compare the change in poverty—as measured by the headcount or the poverty gap—attributable to health payments. Calculations along these lines suggest that out-of-pocket spending on hospital care might have raised the headcount in India by two percentage points, and that out-of-pocket payments for all health services might have raised the headcount in Vietnam by as much as four percentage points. While somewhat crude, these calculations provide some indication of the degree of impoverishment attributable to the burden of health care payments.

## 18.4 Households and Communities

This section begins with a summary of the evidence on the household actions and risk factors that make for good health. It then shows how countries can assemble evidence on the extent to which the health of its population and subsections of its population are compromised by households getting locked into actions that are not conducive to good health. It then shows how countries can assemble evidence on how far this is due to factors at the household and community levels. Section 18.5 looks at the role of the health system.

### 18.4.1 Key Health-related household actions and risk factors

Extensive scientific evidence is now available on the factors that contribute to good health outcomes in childhood, the reproductive period, and adulthood. For example, much is known about preventive and

curative health services that promote good health among small children; sound dietary and sanitary practices; and the importance of stimulation for young children. Corresponding to these various health service interventions is good information about the training and resources required to deliver the services. Much is known, too, about how to alter household choices and actions through behavior change and communication (BCC) programs. Specialized agencies such as UNDP, UNICEF, the United Nations Program on HIV/AIDS (UNAIDS), the United Nations Population Fund (UNFPA), and the World Health Organization (WHO) have extensive resources on these issues. The lifecycle sheets in technical note O.1 provide summaries of what is known about the interventions, household actions, risk factors, service delivery issues, and policy issues that are relevant at each stage of the lifecycle, including the intersectoral issues that are so important for diseases such as AIDS.

*Assembling evidence on household actions and risk factors by poverty grouping.* The key household actions and risk factors vary widely across countries. For example, in Chad, only 10 percent of children are immunized, while in the Kyrgyz Republic the figure is nearly 70 percent. In Uganda, 70 percent of infants are exclusively breastfed; in Senegal, only 9 percent are. The factors directly influencing health outcomes also vary widely within countries, especially between poor and nonpoor households. The preparatory work for the Burkina Faso PRSP, for example, noted that poor children in that country are less than one-third as likely as rich children to be delivered by a medically trained person. When they have diarrhea, children in Burkina Faso are only half as likely to be treated with oral rehydration therapy, and they are less than one-third as likely to receive a full course of childhood immunizations. The pro-rich bias in public health services in developing countries is not confined to MCH services. In India, for example, as in many other developing countries, the better-off make greater use not only of private hospital services but also of public hospital services. Technical note O.1 discusses how survey data and other methods can be used to assemble evidence on the key household actions and choices, including health service utilization, and risk factors. For many of those actions relevant to MCH outcomes, disaggregated data by poverty group are available for 48 countries.

#### **18.4.2 Household influences on health actions**

The ability of households, especially poor ones, to obtain appropriate health services, adopt healthy dietary and sanitary practices, and so on and so forth depends on a variety of factors, including several at the household level.

*The role of household finances.* Poor households have limited resources at their disposal—not just money and in-kind income, but financial assets and physical assets, such as land and animals. Low levels of wealth, and especially of wealth that can easily be converted into cash, is a major constraint for poor households in times of illness and crisis. Also important is the variability over time, or the riskiness, of an income stream, whether in cash or in kind. As the World Bank's *World Development Report 2000/2001: Attacking Poverty* emphasized, insecurity—of income, of food, of access to health services—is one of the many deprivations suffered by the poor.

*Using household surveys to see how household finances matter.* Household surveys provide one of the best ways of getting evidence on these issues. Many allow estimates of household consumption to be derived (household consumption is usually considered to be the best measure of a household's living standards, since it takes into account the household's production of food and smoothes out short-term fluctuations), but some surveys contain income data but not data on consumption, and some do not contain even these. In such cases, measures of household resources can be constructed using data on housing characteristics and ownership of assets such as consumer durables or cars (see technical note O.1 [Section O.1.2]). One way of determining the impact of income or consumption on health-related actions is to link measures of health-related household actions and choices (for example, service utilization) to data on income, consumption, or other influences, using a multiple regression framework: a large estimated effect of income for specific groups or a large effect (by international standards) for the country as a whole would suggest that low income is a serious barrier to beneficial health actions, such as utilization of health services. An alternative is to use direct questions on the impact of income on service utilization. Many Living Standard Measurement Surveys (LSMSs), for example, ask respondents who were ill but did not seek care if this was because the care was likely to be expensive. Responses to this

question were used in the preparation of the PRSPs in Burkina Faso and Mozambique, where 24 percent and 35 percent respectively of respondents reporting sickness but not seeking health care said their decision to not seek care was based on financial considerations (see section 6 for further discussion of the issue of household finances).

**The role of knowledge.** The human assets in the household—knowledge, literacy, and education—are also important. Knowledge about health issues is especially important: lack of such knowledge, which is especially common in poor households, often leaves members of the household unaware of available healthcare opportunities. Household surveys typically inquire about the educational attainment and literacy of household members. Of special importance here are levels of general education and the health-specific knowledge of women and girls, and some surveys specifically address this question. For example, the preparatory work for the Tanzania PRSP noted that poor women were less likely to know the sexual transmission routes of HIV/AIDS than better-off women. Regression analysis may help to shed light on the question of whether lack of knowledge, especially among specific groups, acts as a barrier to beneficial health actions, but, as with income, some surveys seek to elicit this information directly from the respondent. The immunization example from India in technical note O.2 provides an example of how such a question can be used effectively: the survey data made it clear that lack of knowledge about the benefits of childhood vaccination was one of the main reasons for poor households not vaccinating their children. In a similar vein, the work underpinning the Mozambique PRSP cited evidence showing that it is not lack of food that is the main cause of malnutrition in that country, but rather lack of knowledge on the part of the caregiver and a consequent lack of diversification of diet. The use of focus groups and other qualitative data are also important here, enabling countries to dig deeper into the “why” questions than is usually possible with quantitative data.

**The balance of power within households.** It is not just the overall level of household resources that matters. In many societies, the balance of power within households is unequal between men and women. Women may have little control over household finances and may play a minor role in decisions about the use of contraceptives to prevent unwanted pregnancy or of condoms to prevent sexually transmitted infections. Mothers may also be constrained in the household when seeking health care for themselves or their children. This unequal power, which may be more pronounced in poorer, less educated households, is a major risk factor for poor reproductive health outcomes and the poor diet of many women. Some demographic and health surveys (DHSs) ask about women’s control over their earnings and about their involvement in family planning decisions; answers to these questions can be used to gauge the extent of intrahousehold inequality.

### 18.4.3 Community influences on health actions

**Cultural norms.** Poor communities are often traditional communities, so values, norms, and cultural gaps are key factors affecting their health. Traditional social norms often impede women’s access to resources such as land, extension services, credit, and education, and in turn these impediments limit their capacity to engage in productive work, to seek health care, and to devote time and energy to childcare. Better reproductive health, along with the empowerment of women and their partners to manage fertility, are interventions that work best when they fit into cultural and social norms, but they also can help women break through some of the cultural barriers they face. Different ethnic groups have different values, norms, and beliefs, and these often have both poverty and gender dimensions. Female genital cutting, for example, is determined largely by the existence of a cultural norm. Health programs, however, do not always respond appropriately to differences in norms and values. Cultural constraints such as social taboos surrounding the issue of disability may constrain individuals from taking advantage of the available health and rehabilitation resources. Measuring shared attitudes, norms, and values is complicated, but focus groups, consultation, and other qualitative exercises have been used with great effect to generate insights, from detailing the intricacy with which networks are constructed and reproduced to identifying the various means by which marginalized groups are excluded from equal participation in formal institutions such as banks, courts, and health insurance.

**Community institutions.** Community institutions, such as community health services, and civic associations, such as youth clubs and women’s groups, matter for health actions. Their impact on health

outcomes is felt not only through their influence on actions but also through their impact on health service provision. Community groups often manage to mobilize community action and resources for better health and nutrition outcomes; they can also play an important role in the oversight of health services, improving social accountability and enabling decisions to be better linked to community needs and preferences. This has been the case, for example, in Burkina Faso, where the work underpinning that country's PRSP was argued to have resulted in improvements in the quality, affordability, and stability of local health services. The activities of community groups can include (1) informing the poor where they can obtain essential services and drugs and at what cost, and how to prevent communicable diseases at household level; (2) organizing the poor to participate in the planning and targeting of specific health services and monitoring the availability and prices of these services and the extent to which they reach the poor; (3) providing a supporting environment for household health practices; and (4) providing institutional support to community comanagement, cofinancing and coplanning services and building the capacity of local organizations (such as local health boards with the participation of the poor) so that they can become real forces to counterbalance and to support the power of public private providers or contractors.

**Social capital.** The term “social capital” is used to describe the norms and networks that facilitate collective action, such as the setting up of a community nutrition program. There is some statistical evidence, mostly from industrialized countries, that high levels of social capital are associated with better health outcomes, but the evidence noted above relating to Burkina Faso is also consistent with this. There are three key layers of social capital: ties within the community, or “bonding”; relations between members of different communities, or “bridging”; and connections between communities and formal institutions, or “linking.” The poor—as both a cause and consequence of their condition—typically have a lot of the first, a moderate amount of the second, and very little of the third. A challenge for governments is to build on the bonding social capital of poor communities to support and to forge more extensive bridging and linking ties. Schemes like the Burkina Faso one and others like it in the Bamako initiative require social capital to work. Several household surveys inquire about trust and other attitudes, or about the nature and extent of people's participation in the civic life of their community. Answers to these questions, along with other exercises such as focus groups, may shed light on the extent of social capital and help understand its role in shaping health-related outcomes.

**Environment and infrastructure.** Environmental factors, broadly defined, are known to have an important impact on health, directly and via their impact on actions. Examples include indoor and outdoor pollution, poisoning, water-borne disease, illness associated with poor sanitation, overcrowding in urban slums, and work-related health risks, including those faced by young child laborers. Infrastructure also matters—especially roads and transport, since this directly influences the time costs that households incur when using health services (see section 18.5.1)—and so do electricity and telecommunications. (These issues are covered in depth in part 4, “Rural and Urban Poverty”; part 6, “Private Sector and Infrastructure”; and chapter 11, “Environment.”) It is important when assessing the factors that hold back poor households from achieving good health outcomes that these be taken into account. For example, regression studies often find that water and sanitation at the community level influence individual child health outcomes, and that the passability of roads influences household use of health services. Failure to model such effects could lead to biased estimates of the effects of, say, household income on health outcomes and service utilization. Household surveys, coupled with good community questionnaires, can often shed light on the levels of and gaps in environmental and infrastructure factors, and may help to establish their effects.

## 18.5 The Health System

**Health systems vary.** The basic function of a health system is to ensure that providers deliver health services to patients. This is accomplished through a structure of payments and regulations, and this structure varies from one system and subsystem to the next. Patients sometimes pay providers the full cost directly out of pocket, for example; in other cases they may pay only partially directly out of pocket, with a third-party payer—the government or a private insurer—paying the balance to the service provider. For example, in a typical Ministry of Health (MoH) scheme, households pay taxes or compul-

sory contributions to the government, which owns and provides budgets to health facilities, the staff of whom are government employees and are probably paid by salary. Patients either receive services free at the point of delivery, or pay a subsidized fee for them, possibly with the fee varying by income. Another example would be a community health insurance scheme in which enrollees pay a premium and in exchange have the right to use facilities operated by the scheme for a nominal fee. In both of these examples the provider is paid by the third-party payer through a budget or salary, and the provider is part of the insurance or financing organization. Such organizations are known as integrated organizations. In an alternative model, the provider is not part of the organization but instead provides services to enrollees of the insurer on a contractual basis: the MoH might, for example, contract with an NGO to provide certain services instead of delivering them itself through MoH clinics. This is an example of a contract model.

*But health systems are judged by the same criteria.* Whatever its organization, a health care system will be judged largely according to two criteria: How well does it get high quality and appropriate services to those who need them most, especially the poor?, and do payments for services leave some groups—especially the poor—unable to afford other essential commodities such as housing and food? This section identifies several key dimensions of performance in service provision that influence the quantity, quality, and appropriateness of health service utilization, especially among the poor. It also identifies several key dimensions of a country’s financing system. In sum, what cover do people have against different types of health expenses, and how do they pay for them?

### 18.5.1 Health care provision

*The key steps to quality health services for the poor.* This section outlines the tools that are available to countries to capture the key features of health service provision and to assess the performance of health services in terms of their impact on health-related behavior and ultimately health outcomes. The tools presented in this chapter have been used in several interim PRSPs and in some full PRSPs. To a high degree, the provision of quality health services is sequential if services are inaccessible, the issue of whether or not they are staffed properly is irrelevant; if they are accessible but not properly staffed, the issue of whether or not they are properly stocked is irrelevant, and so on. There is little point making progress on one step of the ladder if the system fails badly on the previous step.

*Are services physically accessible?* Health facilities should be sufficiently accessible to the poor to enable them to make use of them. Distance is clearly one issue in this regard, but so too is travel time, which will depend on the availability of roads and public transportation. In Africa and many other places, it may be important also to consider the seasonal variation of physical accessibility. The physical infrastructure of facilities also matters—stairs, for example, may impede accessibility to persons with disabilities and other physically impaired people. Surveys can be useful here. The work leading up to the PRSP in Burkina Faso, for example, cited survey evidence that 40 percent of health center users had to walk more than one hour to reach the center; and the work underpinning the Mozambique PRSP cited survey evidence that 38 percent of people who had been sick but had not sought care had not done so because their local facility was too far away.

*Are human and material resources available?* Services may be geographically accessible, but essential inputs such as drugs, vaccines, contraceptives, micronutrients, or trained staff may be unavailable or in short supply part of the time. Are essential resources available for the poor? Again, surveys can be useful. Household surveys supporting the Mozambique PRSP, for example, showed that although a relatively small proportion of sick people not seeking care cited a lack of drugs as the reason for their not seeking care, almost all of those who did cite this reason were rural residents. Surveys and inspections of health facilities are also useful. The work underlying the Burkina Faso PRSP, for example, reported that, when inspected, nearly 20 percent of facilities had run out of essential vaccines, and in 24 percent of centers the refrigerators for storing the vaccines did not function. The Mauritania PRSP reports drug shortages as the most important reason explaining the low level of use of services. The problem of staff shortages in rural areas also is fairly widespread in the developing world. The authors of the *Voices of the Poor* report for Somaliland (World Bank 1999), for example, noted that “rural people said they rarely see health workers

in their localities. If some people have been trained for the villages and other main grazing areas by international agencies, they are not now functional.”

***Is organizational quality good?*** The way health services are organized may deter patients from using services, with hours of operation, waiting time, perceived low quality, gender of providers, lack of courtesy, and required under-the-table payments all potential problem areas. In *Voices of the Poor*, public health facilities were frequently criticized for their long waiting times and rude staff. Household surveys and qualitative consultation exercises are a useful means of shedding light on this issue.

***Are services produced relevant?*** Of concern is the provision of services relevant to the diseases faced by the poor. Although a core package of interventions may be defined, these interventions may not be the ones that are provided in practice. It is therefore critical to examine the case mix of services units and to assess whether or not priority is really given to the most relevant interventions. The performance of health sectors in raising utilization or maintaining high utilization of essential interventions can be measured by assessing the quantity of services produced in a specific area and relating it to the income level of the population of that area. Such a mapping of equity of output production is conducted routinely in Mozambique, where an index is constructed using basic information on children immunized, the proportion of women using antenatal services, and the number of inpatient and outpatient visits.

***Are services delivered in a timely way? Is there continuity?*** Certain key health services, such as emergency obstetric care and epidemic control measures, must be delivered in a timely manner. For other services, such as the completion of tuberculosis treatment or immunizations, continuity is the essential determinant of efficacy and outcome improvement. One indicator of continuity is the proportion of children who are fully immunized. This was used in a study of continuity of care in Benin, where it was found that this measure increased from just over 30 percent in 1988 to around 80 percent in 1996, thanks largely to the introduction of financial incentives to health staff provided on the basis of the rate of children fully immunized against diphtheria.

***Is there provision of services of high technical quality?*** The term “technical quality” is meant to capture the variations across providers or patients in the impact of a particular service on health status. Health facilities in developing countries, especially those serving the rural poor, are often plagued by low levels of training and competence. Health facility surveys undertaken by WHO in the 1990s found that in Burundi only 2 percent of children with diarrhea were correctly diagnosed, compared to 78 percent in Vietnam. Among those correctly diagnosed, there were large variations across countries in the proportion correctly rehydrated, ranging from 0 percent in six (out of 34) countries to around 70 percent in Rwanda and Vietnam. It seems likely that differences in the quality of care are likely to exist within countries too, with lower levels of quality likely in facilities serving poor people.

***Is there social accountability in service delivery?*** Consultation exercises are an especially useful tool for getting evidence on the extent to which health systems and service providers are accountable to their clients and communities, and in particular to their poor clients. Surveys can also be conducted to measure the extent to which joint management contributes to local decisionmaking. A survey conducted in Benin in the early 1990s showed, for example, that about one-third of the health management committees were truly triggering genuine accountability to users, while one-third were considered somewhat functional and the last third were only a matter of token presence. Revision of the election modes and provision of incentives for women to participate in these committees contributes to improving the situation and health committees have grown into powerful forces in the Benin health system today.

***A framework for diagnosis and action.*** The health sector’s performance can be assessed by looking at measurable factors that affect how the sector interacts with clients (see table 18.1, first column). Examination of these factors can help identify the key obstacles to better performance in providing essential services to the poor, and thus enable countries to focus on the determinants that are most problematic. This instrument can also provide a checklist for monitoring improvements in system performance. What should emerge from this analysis is a prioritized set of feasible, time-bound actions with known costs for which there are adequate financial resources (see box 18.4).

**Table 18.1. Relationship between Performance and Structural Dimensions of the Health Sector**

<b>1. Key determinants of the sector's performance</b>	<b>2. Examples of the nature of the problem identified</b>	<b>3. Instruments available to change each characteristic (see section 6 for an explanation)</b>
1. Physical accessibility	Low access to clinic services and to community-based activities	<ul style="list-style-type: none"> <li>• Public, private, nongovernmental mix</li> <li>• Core health packages</li> <li>• Human resources</li> </ul>
2. Availability of human and material resources	Shortages of drugs, vaccines, and trained staff	<ul style="list-style-type: none"> <li>• Pharmaceuticals</li> <li>• Human resources</li> <li>• Stewardship</li> </ul>
3. Organizational quality	Inconvenient opening hours and lack of privacy	<ul style="list-style-type: none"> <li>• Human resources</li> <li>• Community/civil society participation</li> </ul>
4. Relevance of services	Mix of services does not correspond with basic package	<ul style="list-style-type: none"> <li>• Public, private, nongovernmental mix</li> <li>• Core packages</li> <li>• Pharmaceuticals</li> <li>• Contracting and purchasing</li> <li>• Stewardship</li> </ul>
5. Timing and continuity	Weak linkages with community structures; poor supervision	<ul style="list-style-type: none"> <li>• Community and civil society participation</li> <li>• Contracting and purchasing</li> </ul>
6. Technical quality	Inefficacious services because of failure to respect treatment standards	<ul style="list-style-type: none"> <li>• Contracting and purchasing</li> <li>• Pharmaceuticals</li> <li>• Human resources</li> <li>• Stewardship</li> </ul>
7. Social accountability	No voice of the poor in delivery of services	<ul style="list-style-type: none"> <li>• Community and civil society participation</li> </ul>

### 18.5.2 Health financing

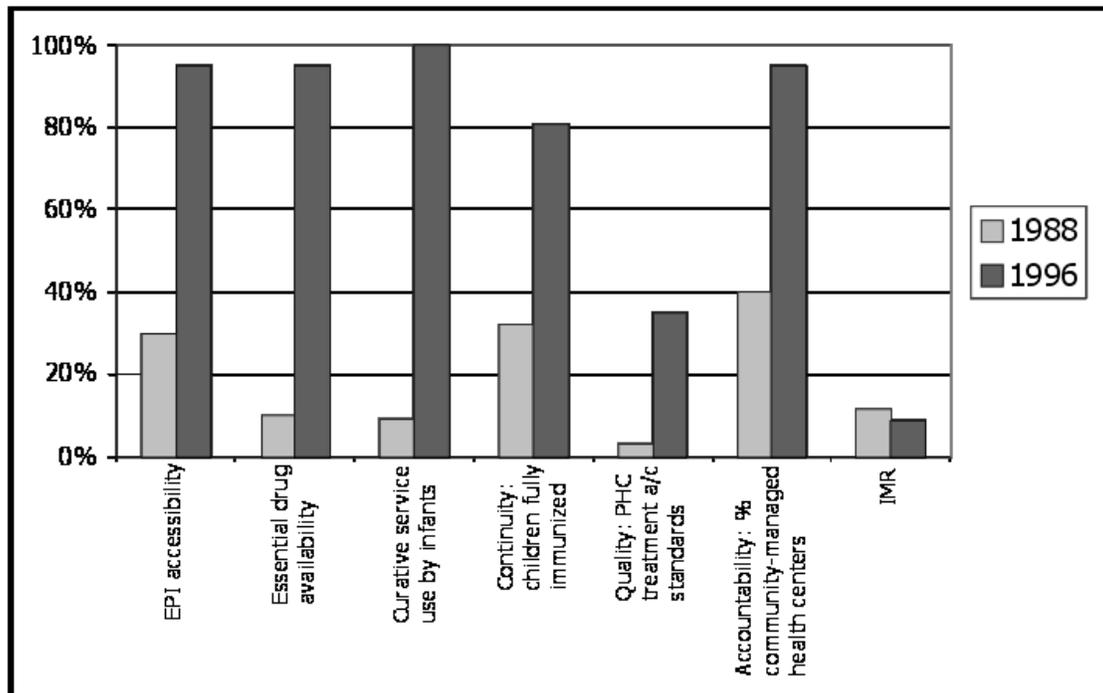
*Reducing the role of user fees and out-of-pocket payments.* There are numerous ways governments, employers, private companies, and communities can reduce the amount households pay out of pocket when they use health services. Governments can have low user fees or do away with them altogether, and finance the use of health services through taxation. If they do levy fees, they might try to exempt certain groups, such as the poor, through fee-waiver schemes. These schemes have to be financed, of course, and this can be done through, for example, tax revenues. The government also might employ a social insurance scheme for formal sector workers, as either an alternative or a supplementary scheme. Employers might have their own health insurance schemes, arranged in-house or through a private insurer, with workers paying through wage deductions. Private insurers may offer coverage with insureds paying premiums to the insurer, and communities may offer a community-financing scheme whereby those enrolled pay a membership fee or premium to the scheme and in return have lower user charges when they use the services covered by the scheme. What all of these schemes have in common is that people enrolled in or covered by the scheme do not pay the full cost to service providers at the point of use, and the shortfall is financed, in the first instance, by the third-party payer, but ultimately by households through, for example, premiums, contributions, or taxes. All of these schemes are in effect insurance schemes of one type or another, even though they may not usually be thought of as such.

*Who is covered by insurance?* Health insurance thus provides a way of both increasing the utilization of health services, by reducing the cost at the point of use, and of reducing the impact on household incomes of service utilization. The question of who is covered is important since insurance coverage or the lack of it affects the amount of money people pay out of pocket for health care, which affects their usage of health services and the amount they have left for other consumption after they have used them.

**Box 18.4. The “Steps” Framework in Action in Benin**

Some countries have attempted to orient the reform of the health sector toward better serving the poor, using a matrix of health sector performance as a starting point to define priority actions (see table 18.1). In Benin, for example, 1989 health system reforms provided the basis for improvements in most health indicators. Infant mortality, for example, dropped from 114 per 1,000 in 1987 to 88 per 1,000 in 1996, exceeding the drop in neighboring countries that were at comparable levels of household consumption. Regular reviews of the sector’s performance in improving key determinants of health outcomes are seen as an essential element of “a virtuous cycle of implementation” in Benin (see figure 18.6). Similar applications of this framework have been undertaken in Guinea and Mali, among other places.

**Figure 18.6. Benin: A Virtuous Cycle of Implementation**



Sources: Tanahashi 1978, Knippenberg 1986, Miller 1989, Soucat 1997, Knippenberg and others 1997.

The first questions to answer here are: (1) what schemes operate? (2) who is covered by each? and (3) how does the coverage vary across poverty groups?

*What is covered by insurance?* In both the public and private sectors, there will be some element of “risk pooling” (except in cases in the private sector where there is no insurance of any kind). For example, premiums collected by an insurer from all enrollees will be pooled and used to finance claims from those enrollees who fall ill and seek treatment. The size of the pool and its diversity will influence the benefits offered and the level of premiums and copayments. For example, a small-scale community-financing scheme in a poor rural area will not be able to offer generous benefits per dollar of premium without large copayments, since the probability of illness will be fairly high across the pool. By contrast, a government-run compulsory tax-financed scheme will be able to offer more generous benefits per dollar of tax revenue since the risk pool will be larger and more heterogeneous, and its average risk will be lower. Against this has to be set the greater complexity associated with a large pool and the lower degree of control exerted by the poor. The next questions to answer are therefore: (1) what do the different schemes cover, and what do they leave uncovered? and (2) are the poor covered against the potentially impoverishing costs of catastrophic illnesses? Of course, in the case of public insurance, what is and is not covered may not be written down. For example, the health background document for the Tanzania PRSP noted that as public funding for public clinics has declined, the range and quality of services offered by rural clinics has also declined, thereby reducing effective insurance coverage and forcing people to seek treatment with NGOs or private providers.

*How much risk-sharing is there?* In many schemes, coverage will be incomplete and the enrollee will be liable for a copayment in the form of a user fee. The size of such fees and whether or not they are affordable for the poor can be assessed by calculating the average user fee per unit of utilization (for example, inpatient day or outpatient visit) and expressing it as a proportion of household income. This can be done for different incomes—say, for the average income of the poorest 20 percent, the next poorest 20 percent, and so on. For example, in Vietnam in 1998 the average user charge per spell of inpatient care in a public hospital was equivalent to 45 percent of the poorest quintile’s average annual nonfood expenditure. The comparable figure for the richest quintile was just 4 percent. Even a visit to a polyclinic absorbed 9 percent of the poorest quintile’s average annual nonfood expenditure. Of course, fees may not be the same for everyone in a particular scheme. Are there any fee-waiver schemes in operation? What proportion of the poor and other groups benefit from them? Are there differences between those who are beneficiaries in principle and those who are beneficiaries in practice? In some cases, there may be a gap between notional insurance coverage and effective coverage because of informal and/or under-the-table payments, which can be significant. The preparatory work for Mozambique’s PRSP, for example, suggested that informal payments “play probably the most important role in hampering access of the population to curative services.” It also acknowledged, however, that “no valid systematic research has been carried out on the topic.”

*How much do people pay for health insurance?* Health insurance, whether public or private, has to be financed somehow. An MoH scheme might be financed principally through taxes. A social insurance scheme might be financed through payroll taxes, though it is not uncommon for general tax revenues to be used to subsidize the scheme. A private insurance scheme will typically be financed through insurance premiums, though here too there may be a tax subsidy. Community-financing schemes are financed through contributions from members, sometimes with cofinancing from a donor or government. It is important to know (1) how much different poverty groups pay into these different schemes, and to what extent taxes, social insurance contributions, and private insurance premiums are a burden to poor households, and (2) how far the costs of enrollment in voluntary schemes act as a deterrent to poor people joining them.

*What is the cost of services not covered by insurance?* The amount that households—especially poor ones—pay for services for which they are not covered, whether or not lack of coverage for these services deters the poor from using the services, and whether or not the services are affordable for the poor again can be established by calculating the average out-of-pocket payment per unit of utilization and expressing it as a proportion of household income, for different incomes.

## 18.6 Government policies and actions

*The three levels of government action and how they interlink.* Section 18.1 identified the three key levels of government action: the macroeconomic level, the health system, and the microeconomic level. Government decisions and actions at each level influence the amount that households pay for their health care and the quantity, quality, and type of services that they receive. It is important when preparing a PRSP to cover all three levels. Improvements at the macroeconomic level—by, for example, prioritizing spending decisions—will not by themselves make the health system work better, but they can provide an environment in which the system could work better. Developing a sector reform program that addresses key system, organizational, institutional, and incentive problems is an important complement to the macroeconomic level program because it can improve efficiency, efficacy, and impact. Improvements at the macroeconomic and system levels, however, even when accomplished together, do not accomplish the equally important third activity: the identification and testing of interventions at the microeconomic level to address specific health problems, and targeting the poor with needed inputs. These interventions need to be designed, financed, implemented, and evaluated, and absorbed as normal business when they are shown to work and replaced as they succeed and are no longer needed.

*How the three levels of government action link with the conceptual framework.* Table 18.2 shows the key decisions at each of the three levels, and lines them up with the two key components of the health sector in the conceptual framework—the provision of services, and their financing. The cells in the table

**Table 18.2. Levels of Government Policies and Action**

	<b>Health service provision</b> <i>(Who provides what to whom, and how are they paid?)</i>	<b>Health financing</b> <i>(How is the burden spread across households?)</i>
<b>Macroeconomic level</b>	<p><b>Government spending: Macroeconomic.</b> How much should government spend overall? What should government spending be focused on and what should it leave to the private sector? How can it make its own spending more equitable (for example, by altering geographic allocations)? How can it prioritize its own spending across programs and activities, with a view to having the greatest impact on the poor? How can government ensure spending is properly balanced—for example, between labor v. equipment and consumables, and capital v. recurrent and maintenance?</p> <p><b>Government’s role in input markets.</b> For pharmaceuticals, key issues include selection, procurement, distribution, pricing, and quality. For human resources, key issues include training and skills, geographic distribution, retention and continuity, and governance and civil service issues (see chapter 8, “Governance”).</p>	<p><b>Government financing: Macroeconomic.</b> How are revenues to finance government spending to be raised? How much revenue should be raised through user fees? Should the poor be exempt from fees? How much should be raised through earmarked taxes or payroll taxes? Are revenues sustainable? How much public insurance cover should be provided, to whom, how, and at what cost?</p>
<b>Health system level</b>	<p><b>Improving delivery at system level.</b> Who should provide publicly financed services: government facilities or others working on a contractual basis? How should these providers be paid to achieve best balance between efficiency and equity?</p> <p><b>Stewardship.</b> Roles include coordination within the public sector and between the public and other sectors; quality assurance; regulation of private providers; dissemination of information to providers and users; and monitoring and evaluation.</p>	<p><b>Government financing: Health system.</b> How should government charge for different services? How can government reduce or eliminate fees for the poor? What services and interventions should governments cover in their public insurance scheme? How far should revenue-raising be decentralized? How can cross-subsidization be introduced between areas where revenue-raising is substantially decentralized?</p> <p><b>Stewardship.</b> Government can influence and oversee private insurance market and formal and informal payments levied by private and public providers; regulation can be used to effect change; monitoring and evaluation should be continuous.</p>
<b>Microeconomic level</b>	<p><b>Improving delivery at facility level.</b> How can management quality and accountability be improved? Should local communities be involved in management and/or monitoring?</p> <p><b>Deciding what should be delivered and how.</b> What services and interventions should government be focusing on? Should there be a core package? What types of facilities should be delivering the services, and what delivery methods should they be using? What types of community-based preventive services should be used? How will referrals be handled?</p>	<p><b>Government financing: Microeconomic.</b> What is the best way for governments to collect revenues and make fee-waiver schemes work?</p>

present in summary form some of the key issues facing all countries. The rest of this section focuses on how these issues arise in the countries writing PRSPs.

### 18.6.1 Government policies and health service provision

#### **Government spending: Macroeconomic**

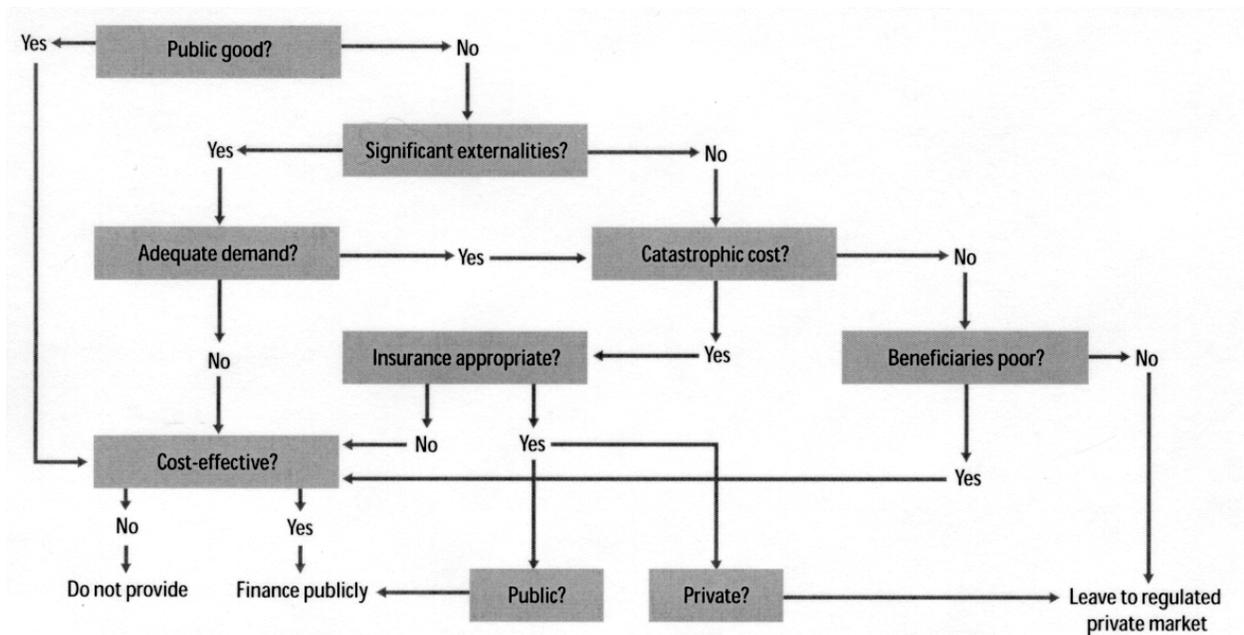
**How much?** In the poorest countries, total government resources spent on health are usually no more than US\$3 to US\$5 per capita, and private spending adds roughly the same amount, for a total of US\$6 to US\$10 per capita. For the HIPCs, debt relief can open some space to add possibly another 20 percent to public health spending. In considering whether government health spending should be increased further still, it may be useful to compare the country’s level of public spending with the spending levels of

countries with a similar GDP per capita, especially neighbors, and to bring into the picture the size of the private sector and the health status of the population.

**What should government be doing?** It is vital to get the most out of the limited resources available and to improve equity by finding mechanisms to target spending on those least able to protect themselves. The PRSP team could usefully begin by reviewing spending on health, nutrition, and population. This should include all spending, whether direct or in the form of tax subsidies (for example, to insurance schemes), and should be geared toward the goals of the health system. Technical note O.3 provides a schematic for a health spending review, and technical note O.3 (Section O.3.4) a set of spreadsheets designed to convert an administrative budget into a program budget, along with an example of a public spending report from Tanzania. Within the goal of improving health outcomes, the review should be linked to the burden of disease in the country. Technical note O.3 (Section O.3.5) provides a spreadsheet-driven framework for burden of disease and cost-effectiveness analysis tied to public spending. Next, the team should consider which activities the government would do best to focus on, and which to leave alone (some of the latter activities may be addressed by the private sector). Figure 18.7 is a decision tree designed to help this thought process. It starts with the overarching issue of allocative efficiency by asking if the proposed spending is for public goods—generally population-based public health activities that protect many people simultaneously. If the answer is yes, the next step is to rank such spending for cost effectiveness—or even better, benefit-cost analysis—to decide which will be funded. If the proposed spending does not meet the criteria for public good, the decision tree moves through other relevant considerations: whether or not there are significant “externalities” (for example, smoking and risky sexual behavior, where the actions of one person affect the health and well-being of others); if a risk of catastrophic costs is involved; and if the proposed beneficiaries are poor. This is one example of how allocative efficiency, risk, equity, and cost effectiveness should interact to determine public financing decisions in health.

**Making government spending more equitable.** At the macroeconomic level, two key issues are how funds are disbursed geographically from the center and how locally raised revenues are shared across localities. Often, central funds are allocated in a highly inequitable way. The preparatory work underlying the Mozambique PRSP, for example, noted that Zambezia received less than one-seventh of the government spending on health per capita than Maputo City. One way to approach this issue is to use geographic resource-allocation formulae, the simplest of which allocates public funds geographically on a per-person basis. More sophisticated formulae would take into account the differing health needs of

**Figure 18.7. Questions to Ask in Deciding What to Finance through the Public Budget**



Source: Adapted from Musgrove P. Public spending on health care: how are different criteria related? *Health policy*, 1999, 47(3): 207–223.

different areas: for example, some may have a lot of young children and elderly people, some may have a lot of poor people, and some may have a lot of sick people. In some cases, additional funds might be allocated to take into account the differences in the quality and age of facilities or the different costs of maintaining them; for example, higher allocations may be appropriate to disease-ridden areas, or to rural areas to reflect the greater distances for outreach work and obtaining supplies and the greater difficulty of retaining staff there.

**Balancing spending.** Quality of services is partially determined by the overall level of spending, but also by the mix of spending. The quality of labor, capital, equipment, and consumables depend on balanced allocations on: (1) labor versus equipment and consumables, (2) capital versus recurrent spending, and (3) maintenance. Spending on labor, for example, of 45–60 percent of recurrent spending would provide a rough indication that the full complement of inputs would be available at the point of service if the system functions relatively well. Many developing countries have budgets that are overcommitted to labor costs. In the preparatory work underlying the Tanzania PRSP, for example, it was noted that 70 percent of the budget is spent on personnel.

### ***Government's role in input markets***

Governments have a major role to play in the two key markets that support and feed into the health system: the pharmaceutical and labor markets. The availability of drugs affects the clinical quality of health services, costs, and the perceptions of clients. Purchasing pharmaceuticals in the private market is also one of the main out-of-pocket expenditure items for the poor. Key aspects to be assessed include selection, procurement, distribution, pricing, and quality. Instruments for improving pharmaceuticals transactions market-wide include communications campaigns to improve the understanding of drugs among clients and sellers; social marketing to improve the quality and availability of drugs and family planning supplies; and impartial enforcement of regulations to protect consumers. By maintaining and disseminating essential drugs lists and pursuing policies to encourage use of low-cost, high-quality generic drugs, governments can improve the functioning of the pharmaceutical system. Procurement in the public sector can be improved through using essential lists of drugs, supplies, and equipment; use of competitive bidding; and encouragement of competition in logistics and distribution systems. The labor market, too, is a key issue. The quality, distribution, and responsiveness of health personnel influence the availability and quality of and the access to interventions by the poor. Issues to examine include the number and distribution of various types of providers, by geographical location and level of care; the retention capacity of the system for trained staff; the quality of education and skills (technical skills as well as responsiveness to the client); and the underlying incentives for provider performance, particularly in relation to poor clients. If civil service regulations prove to be an important constraint on the availability and quality of health personnel, this finding should inform the PRSP governance objectives.

### ***Improving delivery at system level***

In many countries, publicly financed services are (or could be) provided by private and nongovernmental providers. One issue the PRSP authors may want to explore is the extent to which different types of contracting are being used in the health sector, and whether or not these contracts include explicit provisions for serving the poor or incentives for improving pro-poor services. Could existing contracting mechanisms be modified or expanded to better serve the poor? Other service providers could be brought into the PRSP process to explore options for more effective use of contracts, secondments of staff, shared logistical systems, and government subsidies (especially generous contractual terms) to improve service delivery for the poor.

### ***Stewardship issues in health provision***

A core responsibility of government in a mixed system is to exercise effective oversight, or stewardship. Stewardship becomes more important as governments shift from direct service provision to a role dominated by policy—on population-based health interventions, financing, regulation of providers and

insurers; and on guiding the system and behavior through research, provision of information, quality enhancement activities, and careful use of financial subsidies. There are four key areas:

- **Regulation.** This area encompasses establishing and enforcing appropriate laws for governing the public and private sectors. This could include generic drug laws, and the use of minimum service standards as an eligibility criterion for providers that wish to benefit from public financing.
- **Coordination.** It is essential that Ministries of Health coordinate the charitable activities of external donors, coordinate within government across sectors, and provide a policy framework and institutions for coordination domestically across different players in the health sector. Coordination requires clear policies, leadership, and institutional methods. The preparation of the PRSP provides an opportunity to engage donors, program managers, other government ministries, and private/charitable providers in the process of assessment and taking action to improve results.
- **Monitoring and evaluation.** Any result-oriented activity, such as the PRSP, must be concerned with measuring impact. Crucial to this monitoring and evaluation (M&E) exercise is a focus on the poor, but also a focus on other disadvantaged groups. A gender-sensitive M&E strategy that evaluates how well women fare in the system would be especially valuable for women but would also be valuable for the poor.
- **Information.** The poor may use private, traditional, or charitable services as much as or more than public services. Public information campaigns about effective types of spending can be a useful way of improving the efficacy of out-of-pocket spending by the poor. Information that can improve the ability of consumers to choose providers and consume appropriate services should thus be given high priority, given the importance of household actions in determining outcomes. Also important is the dissemination of information that can protect consumers, such as product labeling, especially for pharmaceuticals and dangerous substances. In countries where labels would be less effective than other methods of dissemination, measures to improve awareness of hazardous products and actions could be made part of community health education programs. Finally, dissemination of best practice and new findings is also important. Often providers will change behavior simply when they discover a better way of doing their work, so knowledge can have a strong independent impact on quality.

### ***Improving delivery at facility level***

A key question is whether performance in the delivery of health services can be improved for the poor by increasing their voice in decisionmaking. There are several ways of realizing the involvement of the poor. One is to move to direct management of local clinical services, through community health centers or revolving drug funds, as in the Bamako Initiative. A second is to mobilize communities for health-promotion activities, from malaria prevention to improved water supply. A third is to involve the poor in monitoring the performance of facilities and providers. Assessing these different methods is a key task for the PRSP team. Another issue is how to improve accessibility. Physical proximity of health services to poor clients can be improved through investment decisions, but the fact should also be taken into account that better infrastructure may support quality and productivity improvements through enabling the consolidation of some services. Accessibility can be improved at lower cost not by duplicating available services in the private and charitable sectors, but rather by allowing clients more choice of service delivery outlets through contracts with NGOs and private providers, and by improving technical efficiency and incentives among public service providers. Moreover, NGOs may have greater experience in dealing with certain at-risk groups, such as people with disabilities or youth at risk of sexually transmitted diseases, than the government. Health care facilities that have shown to be costly or inefficient in treating their intended beneficiaries, such as residential institutions for the mentally ill or physically disabled, should be reconsidered in favor of lower-cost, higher-impact services, such as daycare facilities.

### ***Deciding what should be delivered and how***

Many developing and middle-income countries have developed core packages that define the health interventions that should be available at the village (health post), community (health center), and district

levels (district hospital). Effective packages respond in a cost-effective way to the needs of the poorest segments of the population, and represent priority activities for public financing. They should include services that respond to the burden of disease afflicting the poor and should be linked to poverty maps to facilitate geographical targeting. Figure 18.8 shows these key interventions in the context of the lifecycle of figure 18.4, covering the periods before birth, the first year of life, and into the next reproductive cycle. Virtually all of the interventions in figure 18.8 are community- and clinic-based, but they also require a supporting infrastructure of population-based services, communication and knowledge dissemination, school health, and environmental health.

## **18.6.2 Government policies and health financing**

### ***Macroeconomic issues***

*How are revenues to be raised?* It is desirable that all public health, health education, and preventive services be subsidized to the fullest extent possible, recognizing that there are government budget constraints. If these services cannot be fully subsidized, policies can be pursued to encourage charitable activities in these areas. Given the typical resource-constrained public budget, some user fees will be necessary for acute services. Fees can be designed such that they do not create barriers at the point of use for the poor, however, through the use of waivers, prepayment, credit, or other options.

*Are revenues sustainable?* The issue here is whether or not the resources available to the sector are sufficient to ensure the provision of essential services to the poor. If the resources are insufficient to sustain the chosen package of interventions, priorities should be imposed to shrink the package to fit the resource constraints. Sustainability does not necessitate unlimited access to funds, but rather requires that hard decisions be made to ensure that the system delivers the highest-priority services over time.

*What insurance should be provided and how?* Another key issue is whether or not prepayment and insurance methods, when combined with public subsidies, can successfully create pools of poor and nonpoor individuals, thereby offsetting the higher health risks of the poor with the lower risks of the better-off. Often, risk pools are intentionally segmented to prevent such cross-subsidies, but an important issue for governments seeking universal access to basic services and separation between financing and provision is how these risk-sharing methods can become more inclusive of all income groups. Typically, it takes incentives, subsidies, and compulsion to achieve this goal. The existing and potential methods for pooling revenue from the various socioeconomic groups should be determined and it should be established whether or not there is sufficient capacity for managing and regulating these insurance and prepayment schemes. It is never too soon to begin developing this capacity, but creating risk pools that include the poor tends to be part of a long-term strategy of reform that separates financing from provision and gives facilities the autonomy to manage their affairs.

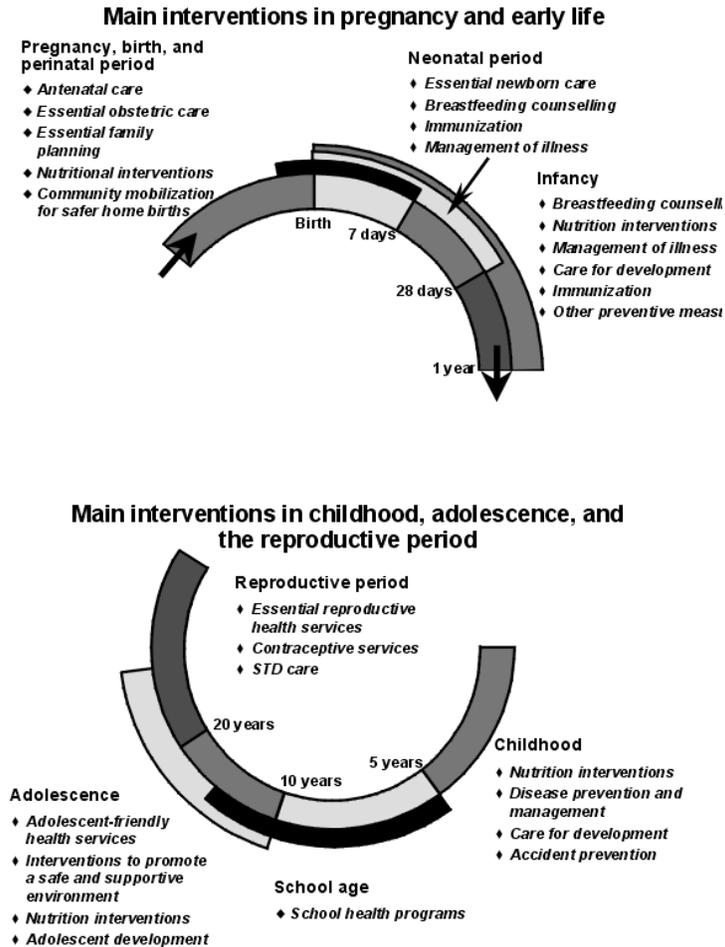
### ***Health system issues***

One issue here is the decentralization of revenue-raising—where, for example, local governments are able to raise their own revenues for health spending. Whether or not such arrangements lead to improvements in serving the poor may depend on how the decentralization process is designed and implemented. In assessing the impact of decentralization on health services for the poor, PRSP authors may wish to consider the following factors: how local authorities raise revenue; whether national resource allocation takes into account the poverty and disease burden in different geographical or political units; methods of cross-subsidization between richer and poorer areas; resource allocation; the extent to which the poor, including poor women, have a voice in local resource allocation decisions; and the skills of district health staff in planning and managing resources for public health.

### ***Stewardship issues***

One key issue here is how governments can help to coordinate, oversee, and, if necessary, regulate nongovernment risk-sharing schemes, such as private insurance, community insurance, and prepayment schemes. These can be important for the poor population, although insurance markets rarely develop

Figure 18.8. The Main Interventions from Pregnancy to Early Adulthood



well among poor populations. A number of low-income countries have started to experiment with public sponsorship of risk-sharing programs appropriate to poor populations, either for the employees of some sectors or at the community level, such as mutualities in Francophone Africa. Developing such programs usually requires public action and works best if organized through existing structures, such as rural credit systems, farmers cooperatives, irrigation associations, mothers associations, and other cooperative organizations. However, if administrative costs are not kept low and resources do not go to medical services, they are unlikely to be beneficial.

### **Microeconomic issues**

When fees are charged in the public sector, provision can be made for the comanagement of services by involving the community and users. Studies conducted in Benin, Guinea, Niger, and Cameroon have shown that introducing user contributions can increase the overall equity impact of the services if funds are reinvested in quality improvements of pro-poor activities and are community-managed.

## **18.7 Pulling it together and moving ahead**

*From here to there.* This section pulls together the material presented thus far, and puts forward a table that could be used to organize the evidence from the diagnostics and analysis procedures. It then discusses the processes of prioritization, target-setting, and monitoring and evaluation. It also discusses the PRSP process itself and offers some pointers for additional resources.

### 18.7.1 Analysis and diagnostics

To recap briefly, figures 1 and 2 together illustrate the key points relating to poverty and health. Poor countries have worse health than better-off countries, and within countries poor people have worse health than better-off people. Bad health leads to reduced living standards and often to poverty; conversely, poverty is also a cause of bad health. This is traceable directly to the utilization patterns and actions of the poor, but more fundamentally it stems from the low income and inadequate knowledge of the poor, the poverty in their communities (due, for example, to traditional norms and weak institutions and infrastructure), and to the poor being badly served by the health delivery system (services inaccessible and of poor quality) and the financing system (inadequate or nonexistent insurance coverage). Figure 18.3 shows more clearly how these different aspects interrelate and how government policies and actions can help break or at least help dampen the cycle of poverty and health. Table 18.2 summarizes how government action at three levels—macroeconomic, system, and microeconomic—influence the provision and financing components of the health system.

*Diagnosis and analysis.* The task of undertaking diagnostics and analysis may seem daunting. Table 18.3 therefore pulls together the key issues to be addressed by any diagnosis and analysis that might be used to underlay the health-related outcomes and health system components of the PRSP. The table is intended to help organize the diagnostic and analytical work: ideally, each issue mentioned in the table should be covered, and evidence assembled. Once this has been done, it might be useful to draw up a version of the table to summarize verbally the evidence assembled—a sort of table of evidence.

*Intersectoral linkages.* Central for many health outcomes, such as nutrition, will be some cross-cutting and intersectoral diagnostics and analysis. This can build on the material in this chapter but also the material in the other chapters of this volume. A table of evidence along the lines of table 18.2 could be assembled for this intersectoral work. Such an analysis should aim to show how action in sectors other than health services might help improve the health of the poor and reduce the impoverishing effects of ill health. Someone, ideally from the Ministry of Health, would need to coordinate this cross-cutting work, and it may make sense to set up specialized teams for specific topics. For example, it might be sensible to set up a task team on food security and nutrition to look specifically at activities in health, education, welfare, community development and agriculture, and trade and industry that have a bearing on the nutritional outcomes of the poor.

### 18.7.2 Prioritization and policy design

*Identifying potential areas for action.* The tables of evidence proposed in the previous section ought to give an overall picture of the problems a country faces in improving the health outcomes of the poor and in reducing the impoverishment associated with ill health. The tables ought also to give an idea about the relative importance of different problems. Most countries will find room exists for improvement in all areas identified by these tables, but some issues should stand out as being more worthy of attention than others. These areas could be highlighted as potential areas for action, and attention consequently could be focused on a limited set of potentially high-priority areas. Agreement to limit the areas of attention in this way might be reached on the grounds of resource constraints.

*Logical frameworks: Goals, objectives, outputs, and inputs.* Once a set of areas for action has been agreed, it is useful to develop a “logical framework,” or log frame. The first step is to decide on the ultimate goal for each area for action. For example, if the shortage of vaccines in clinics in poor areas is identified as an area for action, the ultimate goal for that action, in terms of the final outcome improved, might be the reduction of child mortality (see table 18.4). The second step is to decide on the objective, which in the vaccine case might be to increase the immunization rate among poor children. The third step is to agree on specific program outputs, which in the vaccine example would be defined in terms of raising the percentage of properly stocked facilities in poor areas. The final step would be to determine the program inputs required to bring this about. Key steps in the process of deciding what action is required to effect change include:

- assessing what changes at the household and community level would be necessary and sufficient to provide the needed contribution from the health sector;

Table 18.3. Overview of Diagnostics and Analysis for Health Service Component of PRSP

Households and communities	Health system		Government policies and actions	
	Health service provision	Health financing	Health service provision	Health financing
<p><b>Key outcomes.</b> Health outcomes, by poverty grouping. Impact of health spending on household living standards by poverty grouping</p>	<p><b>Physical accessibility of services.</b> Distance to facilities and whether this is a barrier to use, especially for the poor.</p>	<p><b>Who is covered by insurance?</b> What schemes? Who do they cover? Who covers the poor?</p>	<p><b>Macroeconomic.</b> Is government spending enough? Is spending unequal across areas? Does a mechanism exist to promote geographic equity? What is government spending on? Is it prioritizing well? Is spending properly balanced, or does government overspend on specific areas? Is government doing enough and doing the right things in the pharmaceutical market and in the health labor market?</p>	<p><b>Macroeconomic.</b> What mix of revenues is used? Does government rely too heavily on user fees? Are the poor exempt? Are revenues sustainable? Does government have an insurance scheme?</p>
<p><b>Health-related household actions and risk factors.</b> Health actions, including service utilization, by poverty grouping</p>	<p><b>Availability of essential inputs.</b> Key medicines and staff, especially in facilities serving the poor</p>	<p><b>What is covered by insurance?</b> What is covered and not covered? Is effective coverage by MoH clear? Is it declining? Is it worse for the poor?</p>	<p><b>Health system level.</b> Is decentralization of financing harming the poor? What role does it play in promoting private and community insurance schemes?</p>	<p><b>Health system level.</b> Is decentralization of financing harming the poor? What role does it play in promoting private and community insurance schemes?</p>
<p><b>Household influences on actions.</b> Household incomes and variability, and whether income is a factor in not seeking care. Knowledge, especially health-specific. Balance of power in household. Do these influence health choices and outcomes such as high fertility and low use of reproductive health services by women?</p>	<p><b>Organizational quality.</b> For example, opening hours, waiting time, and perceptions of quality and staff attitudes, especially among the poor</p>	<p><b>Risk sharing.</b> How large are copayments? Are they affordable for the poor? Do fee-waiver schemes work? Are informal payments a problem?</p>	<p><b>Health system level.</b> Who provides publicly financed services? Are incentives likely to promote efficiency and equity? Is government doing the right things in stewardship (regulation, coordination, information, and so forth)?</p>	<p><b>Microeconomic.</b> Are fees collected locally retained? Is there local variation in the success of fee-waiver schemes?</p>
<p><b>Community factors.</b> Cultural norms, and whether they influence health-related household actions. Strength and role of community institutions. Extent of social capital. Environment and infrastructure. How do the poor fare?</p>	<p><b>Service relevance.</b> Are the services of the basic package actually delivered? Are they delivered to the poor?</p>	<p><b>Paying for health insurance.</b> How much do different groups pay? Is health insurance affordable for the poor?</p>	<p><b>Health system level.</b> Are quality, management, and accountability problems at the facility level? What mechanisms exist to improve matters? Does government have a basic package and a sensible policy on its delivery?</p>	<p><b>Microeconomic.</b> Are quality, management, and accountability problems at the facility level? What mechanisms exist to improve matters? Does government have a basic package and a sensible policy on its delivery?</p>
<p><b>Technical quality.</b> Are staff sufficiently competent to diagnose and treat correctly? Are they worse in poor areas?</p>	<p><b>Timing and continuity.</b> Especially obstetrics and immunization. Are facilities serving the poor performing worse?</p>	<p><b>How much do people pay for services not covered?</b> Are direct payments affordable for the poor? Are they deferred from using services or buying medicines?</p>	<p><b>Microeconomic.</b> Are quality, management, and accountability problems at the facility level? What mechanisms exist to improve matters? Does government have a basic package and a sensible policy on its delivery?</p>	<p><b>Microeconomic.</b> Are quality, management, and accountability problems at the facility level? What mechanisms exist to improve matters? Does government have a basic package and a sensible policy on its delivery?</p>
<p><b>Social accountability.</b> What mechanisms used, and are they effective? Are the poor involved?</p>	<p><b>Social accountability.</b> What mechanisms used, and are they effective? Are the poor involved?</p>	<p><b>Social accountability.</b> What mechanisms used, and are they effective? Are the poor involved?</p>	<p><b>Social accountability.</b> What mechanisms used, and are they effective? Are the poor involved?</p>	<p><b>Social accountability.</b> What mechanisms used, and are they effective? Are the poor involved?</p>

**Table 18.4. Example of Log Frame**

	<i>Description</i>	<i>Indicator</i>
Area where action considered necessary	Shortage of vaccines in clinics in poor areas, considered to be causing low vaccination rates and high child mortality	
Actions required	Improve distribution system. Ensure refrigerators for storing vaccines are properly functioning and can be repaired quickly in the event of malfunction	
Program inputs	Higher stocks of vaccines at clinics in poor areas	Percentage of properly stocked facilities in poor areas <b>Intermediate indicator—system input</b>
Program output	Higher vaccination rate	Vaccination rate in poor areas. <b>Intermediate indicator—system output</b>
Program objective	Reduce child mortality	Under-five mortality rate in poor areas. <b>Final or outcome indicator</b>

- assessing what groups of actions the government can take in each of the three areas—macroeconomic, systems, interventions—that would be necessary and sufficient to achieve the desired changes at the household and community levels for the poor;
- assessing what specific inputs and costs would be associated with these actions; and
- assessing what indicators should be used to evaluate progress and how these would be collected and used to adjust the program.

This process is iterative. It is useful to develop first a “narrative summary,” working backward from goal to objective, to program outputs, and to program inputs. This summary can then be reviewed in reverse, asking the question, “Is what we are proposing necessary and sufficient to achieve what is proposed in the preceding stage?” The concept of the necessity and sufficiency of each action, working from the bottom to the top of the log frame, is the key to using this framework successfully.

**Prioritizing.** Budgets are limited, and it will be necessary to work through the various potential areas for action and decide on the basis of the log frame analysis which should be chosen as actual areas for action and how best to move forward. In Bolivia, for example, the process of preparing the PRSP has begun, using an approach similar to that proposed here. As in many other countries, problems have already been diagnosed. Many initiatives were already in place: in fact, the diagnostic phase found a total of 65 projects under implementation and \$300 million in external resources committed to the health sector. Following the diagnosis and analysis, four broad areas were agreed upon as potential areas for action: (1) implementing the *Seguro Basico*, a capitation for basic services; (2) implementing an expanded program of immunization; (3) modernizing the social security system-based insurance for health; and (4) decentralization and institutional strengthening. In each of these areas, a specific individual from the government and a counterpart at a single lead agency from the donor side are responsible for leading the log frame exercise. In March and April 2000, these teams developed strategies for breaking through bottlenecks in each of the four areas. The Pan American Health Organization coordinated a team meeting at which the four teams sat down with their proposals, consolidated them, ranked priorities, and turned them into concrete actions, with key performance indicators and a framework for monitoring and evaluation.

### 18.7.3 Targets, and monitoring and evaluation

**Setting targets.** The PRSP process includes the setting of targets for health outcomes. These targets must be realistic, and must take account of what can in practice be monitored and evaluated over time. Outcome indicators move slowly, and many are derived from surveys that are conducted only every few years. It is often useful to set short-term targets for process indicators—proximate or intermediate determinants—that can be measured routinely to assess progress toward the major targets. If possible, the

intermediate indicators should be chosen based on evidence of their importance to health outcomes for the poor. It is also important to remember what is achievable, considering the existing situation, the resources available, the general policies being pursued, and the changes to the policy framework decided through the process described above. For example, if reduction of the infant mortality rate were a target, the chosen interventions might be specific goals for prenatal care visits, identification of high-risk cases, tetanus toxoid inoculations, and improved nutrition for expectant mothers who are at risk. The infant mortality rate would be too general and slow-moving an indicator for evaluating these efforts. Short-term target setting would have to be done through changes in intermediate variables—such as prenatal visits, tetanus toxoid coverage, delivery of nutrition supplements, and identification of mothers who will have high-risk births—for the poor women being targeted.

**Monitoring and evaluation.** For the reasons discussed above, monitoring is also best focused on the interventions. Evaluation should be focused on the relative success of the interventions in achieving the goals, and why they work or do not work as expected. Chapter 3, “Monitoring and Evaluation,” contains a wealth of useful material on these issues. Specific issues relating to the health component of the PRSP include the following:

- Current M&E capacity in the health sector needs assessing, both inside and outside government. Assessment should include the availability and quality of data and, equally importantly, the extent to which information is adequately analyzed and used for decisionmaking. If data are not being used, why not? This assessment should inform the choice and number of indicators.
- An M&E strategy for the health portion of the PRSP needs developing, with particular attention to how qualitative and quantitative information will be collected and used, at the national, local, and facility levels. Experience shows that the quality and use of data are closely linked. Some monitoring functions may be best carried out by government, while others could be done by academics, NGOs, or community organizations.
- M&E needs to be given adequate resources and management attention during implementation. Too often, baseline surveys are delayed or not completed, and critical data not adequately collected and analyzed, making it difficult to assess what interventions are making a difference for the poor and why. Annual review meetings among government and partners can be a useful means to track progress and to ensure that M&E is receiving adequate attention.

#### 18.7.4 The PRSP process

**Capacity building through joint learning-by-doing.** In African countries, the PRSP process has created significant opportunities for building capacity through joint learning-by-doing. At the country level, the formation of working groups on health and education is the first step in the government’s work of elaborating the PRSP. While their composition varies, these groups typically consist of senior managers of the line ministries as well as budget and policy analysts from the ministries of planning and finance. They sometimes include observers from donor agencies, and even representatives of NGOs and other civil groups. In Cameroon, for example, NGOs were consulted in the preparation of the AIDS strategy, opening the way for future collaboration between the government and NGOs, including the involvement of NGOs in specific activities under subcontracting arrangements. The Bank supports the work of these working groups by sharing technical resources and, where this has been chosen as the mechanism to consolidate sector knowledge, by working collaboratively with group members in preparing the Country Sector Reports (CSRs).

**Closer collaboration among partners.** Opportunities also exist for closer collaboration among the development partners, including bilateral donors and international organizations such as WHO, the World Bank, UNICEF, UNAIDS, UNFPA, AfDB, and so on. Collaboration can mean increased support for the working groups, as well as dialogue on: (1) a common understanding of the underlying analytical frameworks for assessing the link between education and health and poverty reduction; (2) lessons from various efforts to improve service delivery—for example, efforts to reform and reorganize the health sector in Sub-Saharan Africa following the Bamako Initiative, and to accelerate public health programs such as Expanded Program on Immunization (EPI). Family Planning and Safe Motherhood, and polio

Table 18.5. Further Resources for the Health Component of PRSP

Households and communities	Health system		Health financing	Government policies and actions
	Health service provision	Health financing		
<p><b>Key outcomes.</b> <b>TN O.1</b> for risks and outcome indicators by stage of lifecycle. <b>TN O.1 (section O.1.2)</b> for data on key MCH outcomes by wealth quintile for 48 countries</p> <p><b>Health-related household actions and risk factors.</b> <b>TN O.1</b> for key household risk factors and behaviors by stage of lifecycle. <b>TN O.1 (section O.1.2)</b> for data on key MCH risk factors, behaviors, and utilization by wealth quintile for 48 countries. <b>TN O.3 (section O.3.6)</b> on differences across income quintiles in health service utilization and subsidies for health care</p> <p><b>Household and community influences on actions.</b> <b>TN O.1 (section O.1.2)</b> data on health-related knowledge by wealth quintile for 48 countries. <b>TN O.1 (section O.1.3)</b> on child deaths in Bolivia. <b>TN O.2</b> on impact of household and other factors on household utilization and behavior</p>	<p><b>TN O.5</b> for assessing health sector performance.</p> <p>World Bank's private sector toolkit for improving the role of private sector (available at <a href="http://www.worldbank.org">www.worldbank.org</a>)</p>	<p>World Bank's community financing work (available at <a href="http://www.worldbank.org">www.worldbank.org</a>)</p>	<p><b>Macroeconomic.</b> <b>TN O.3</b> on how to approach public expenditure analysis. <b>TN O.3 (section O.3.4)</b> on linking expenditures to program objectives. <b>TN O.4 (section O.4.3)</b> on benchmarking, and monitoring and evaluation. <b>TN O.4 (section O.4.4)</b> on lessons from the World Bank's Operations Evaluation Department. <b>TN 4.5</b> on evaluating public spending options</p> <p><b>Health system level.</b> <b>TN 4.4</b> on stakeholder analysis</p> <p><b>Microeconomic.</b> <b>TN O.4</b> on behavior change and communication programs. <b>TN O.1</b> on key interventions at different stages of lifecycle</p>	<p><b>Health financing</b></p> <p><b>Health service provision</b></p> <p><b>Health financing</b></p>

TN = technical note; see Annex O.

eradication; and (3) the design of sound pro-poor strategies in the health and education sectors that take advantage of debt relief to reinforce the donor community's efforts to ensure increased funding for the social sectors in Africa, such as through initiatives including Roll Back Malaria, Stop TB, Global Alliance for Vaccines and Immunization (GAVI), Massive Attack, and Education for All.

### 18.7.5 Further resources

The series of technical notes in Annex O and selected additional sources are set out in table 18.5, and related to the structure of this chapter.

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