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## CHAPTER 11

# Pharmaceutical financing strategies

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## SUMMARY

Medicines save lives and improve health, but they are costly. Nevertheless, they are necessary to make effective use of staff and other health resources. Financial sustainability requires establishing a balance among the demand for medicines, the cost of meeting this demand, and the available resources. Otherwise, shortages result and quality of care declines.

A pharmaceutical financing strategy should begin with efforts to make better use of available funds. If improved efficiency in selection, procurement, distribution, and use of medicines does not create the necessary balance, options for increasing funding include making the case for greater government funding of medicines, introducing or strengthening health insurance coverage for medicines, or obtaining donor assistance.

In recent years, the increase in the international community's commitment to global health and access to pharmaceuticals has resulted in global health initiatives, private foundations, and public-private partnerships playing much larger roles in financing the health sector in developing countries. However, many countries have a hard time absorbing additional resources because of a lack of human and infrastructure capacity, and donor funding presents problems because of its unpredictability, making planning difficult for countries.

Globally, 57 percent of health care is publicly financed, with the share increasing with national income. For health care, and especially for medicines, private spending usually represents a higher share of health financing in lower-income countries. Expanding private and nongovernmental organization (NGO) health services, including providing essential medicines, can shift demand away from overstretched public resources. But quality of care and equity must be ensured.

Public financing through national and local government budgets is a major but sometimes inadequate source of financing for essential pharmaceuticals. The case for public financing of pharmaceuticals can be strengthened through better quantification of medicine needs, per capita pharmaceutical budgets, demonstration of medicines' effect on health, recognition of political benefits, improved management, expenditure trend

analysis, and comparative expenditure analysis. Efforts should be made to ensure that available public resources are targeted to those most in need.

User charges may exist in the form of government revolving drug funds (RDFs), community medicine schemes, and retail purchase of medicines. Experience indicates that user charges pose many difficulties, but countries need to have an alternative funding strategy in place to make up the difference before discontinuing user-fee programs.

Health insurance covers a small but growing portion of the population in most developing countries. Important elements of insurance include risk sharing and prepayment. Plans vary in the extent of and mechanisms for insurance coverage for medicines. National social insurance schemes, private voluntary insurance, and community prepayment schemes can increase access to essential medicines. Insurance programs can be designed to encourage cost control and rational medicine use.

Voluntary and other local financing can contribute to improving the overall health care and pharmaceutical financing situation. Donor financing and development loans can help a country develop more efficient pharmaceutical supply systems and alternative financing approaches. For the poorest countries, some external financing for medicines may be needed to ensure universal access to essential medicines. And countries that are scaling up access to antiretroviral therapy for HIV/AIDS or changing first-line malaria treatment to artemisinin-based combinations must rely on external funders, such as the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) and the U.S. President's Emergency Plan for AIDS Relief.

Financing mechanisms can be compared in terms of access to medicines, rational medicine use, efficiency, equity, sustainability, and administrative requirements. Financial sustainability may require a pluralistic approach in which needs are met through a combination of financing mechanisms, and no one strategy will be applicable to all countries.

## 11.1 Why pharmaceutical financing is important

In 2000, at the United Nations Millennium Summit, world leaders agreed to a set of measurable targets for combating poverty, hunger, disease, illiteracy, environmental degradation, and discrimination against women. Known as the Millennium Development Goals (MDGs), they provide a framework for the United Nations system and other global and national stakeholders and donors to work collaboratively (UN Millennium Project 2005). Because three of the eight goals concern health, the MDGs have put financing for health systems and pharmaceuticals in a brighter spotlight. In addition, large global health initiatives and increased spending by private sources, such as the Bill & Melinda Gates Foundation, are making unprecedented funds available for health systems in general and pharmaceuticals in particular.

Besides the major role medicines play in the MDGs and other large global health initiatives, financing of pharmaceuticals is a critical issue for several reasons. First, because medicines save lives and improve health, pharmaceutical financing must ensure access to essential medicines for all segments of the population. Second, medicines are costly. For most ministries of health, medicines represent the largest expenditure after staff salaries. Most low-income households spend over half of their health expenditures on medicines, and in some countries, over 80 percent of a household's health-related spending is on medicines (Hammond et al. 2007). In contrast, medicines commonly represent about 20 percent of total public and private health expenditures in developing countries (WHO 2004c). Third, inadequate funding for medicines means that expenditures for staff salaries and other health care costs may be used inefficiently or simply wasted.

This chapter considers the factors that determine financial sustainability, sources of health care financing, and strategies to achieve financial sustainability of pharmaceutical supplies.

## 11.2 Balancing the financial sustainability equation

Financial sustainability, as illustrated in Figure 11-1, is achieved only when resources are in balance with costs and are sufficient to support a basic quality of care for a given level of health care demand. If demand for medicines exceeds available resources, the health system is left with only four options—

1. Improve efficiency.
2. Reduce demand.

3. Increase financial resources.
4. Accept a decline in quality of care.

In most settings, promising high-quality services and constant availability of essential medicines without also ensuring a high level of efficiency, achieving adequate financing, and controlling demand for medicines defies economic reality.

The same financial sustainability equation applies to NGOs. When demand surpasses available resources, they face the same choices: improve efficiency, control demand, increase financial resources, or accept a decline in quality of care.

For all sectors—public, for-profit private, and not-for-profit private—pharmaceutical financing should not be approached simply as a question of where do we get the money? It must be approached in terms of methods to improve efficiency and to ensure that demand is appropriate.

### Improving efficiency

Two broad categories of efficiency were defined in Chapter 10: allocative and technical efficiency. *Allocative efficiency* applies to the distribution of services within the population. Spending the majority of a country's pharmaceutical budget on essential medicines for primary health care, rather than on specialized medicines for national referral hospitals, is likely to save more lives and thereby results in allocative efficiency.

*Technical efficiency* is achieved if resources are used to produce a given output at the lowest possible cost or to produce greater outputs for the same cost. Pharmaceutical financing decisions are concerned mostly with technical efficiency, which has two components: therapeutic efficiency (improved selection and use) and operational efficiency (improved management of procurement and distribution).

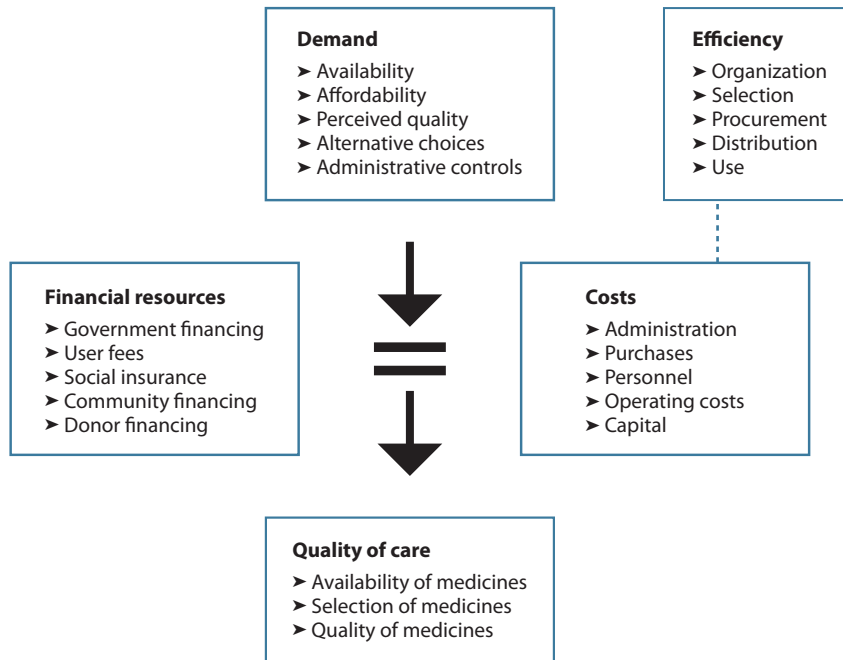
Efforts to balance the financial sustainability equation should always emphasize finding ways to improve efficiency.

### Controlling demand

Because the demand for health care services may be virtually unlimited, something always controls demand. In practice, health systems control demand—by intent or by neglect—through combinations of six possible measures—

1. Increase cost to the patient.
2. Impose rationing or other administrative controls.
3. Provide attractive alternatives.
4. Increase waiting time.
5. Decrease quality of services.
6. Provide targeted education.

Figure 11-1 Financial sustainability equation



Some health services unintentionally control demand through a combination of long waiting times and poor quality (medicine shortages, for example). In the worst examples of user-fee programs, fees are introduced without quality improvements. Not surprisingly, increased cost—added to long waiting times and low quality—further reduces use. User fees can both increase financial resources and reduce demand, but measures needed to ensure access for the poor are difficult to implement successfully.

### Increasing financial resources

The components of financial sustainability can be brought into better balance by increasing financial resources. The remainder of this chapter considers ways to maintain or increase financial resources through public financing, user charges, health insurance, community and other voluntary financing, donor financing, and development loans.

## 11.3 Health and pharmaceutical financing

Pharmaceutical financing must be viewed in the overall context of health financing. Funding for recurrent operating costs and long-term development costs of health services comes from public sources (national and local government budgets and national social health insurance); private sources (direct payment by patients, private health insurance, employers, and NGOs); and external development aid.

### Health expenditures among countries

The relative importance of each funding source varies dramatically among regions and among countries within a region and evolves over time. Health expenditure data categorized by region and income level are shown in Table 11-1. Data in this section are quoted from the World Health Organization (WHO 2009b), unless otherwise noted. Several observations can be made about levels and sources of financing for health.

**Health expenditures vary widely among regions and countries.** Total per capita health expenditures vary ten-fold among regions. Among developing countries, annual health expenditures vary from less than 10 U.S. dollars (USD) per capita in Madagascar, Myanmar, Niger, and several other countries to more than USD 100 per capita in several countries in Latin America, the Caribbean, and southern Africa.

**Total health spending depends on economic output, but some countries spend more than others.** Health expenditures are directly related to national economic output as measured by gross domestic product (GDP). Developing-country health spending is lower than that of developed countries (with a global average of 8.7 percent of GDP), but some developing countries spend relatively less on health (for example, 2.1 percent of GDP for Congo and 2.5 percent for Indonesia), and others spend more (for example, 7.0 percent for Uganda and 6.4 percent for Bolivia).

**As a share of the total, public-sector spending increases as national incomes rise.** Globally, health expenditures are

Table 11-1 Composition of health expenditures by country income level and region, 2006

Country income level and region	Per capita health expenditures (USD)	Total health expenditures (% of GDP)	Government health expenditures (% of total health expenditures)	Social security expenditures (% of total government expenditures)	Private expenditures (% of total health expenditures)	Out-of-pocket expenditures (% of private health expenditures)	External expenditures (% of total health expenditures)
<b>Country income level</b>							
Low	22	4.3	36.2	7.0	63.8	85.4	16.9
Lower middle	74	4.5	43.2	40.3	56.8	85.7	0.8
Upper middle	412	6.3	55.1	40.4	44.8	70.0	0.2
High	4,012	11.2	60.7	41.6	39.3	36.2	0.0
<b>Region</b>							
Africa	58	5.5	47.1	7.6	52.9	49.8	10.7
Americas	2,636	12.8	47.7	27.7	52.3	30.6	0.1
Southeast Asia	31	3.4	33.6	8.5	66.4	88.3	1.9
Europe	1,756	8.4	75.6	49.2	24.4	70.8	0.1
Eastern Mediterranean	116	4.5	50.9	19.7	49.1	87.0	2.0
Western Pacific	361	6.1	61.0	63.1	39.0	80.7	0.2
Global	716	8.7	57.6	41.1	42.4	49.3	0.4

Source: Data adapted from WHO 2009b.

about 57 percent public and 42 percent private in origin. Excluding the United States (where private spending is 54 percent of the total spent on health), about 70 percent of health costs are publicly supported in established market economies. But in developing countries, private spending (generally out of pocket) is a higher proportion, rising to about 80 percent in the Lao People's Democratic Republic and about 86 percent in Guinea. In addition, low-income countries have more difficulty collecting revenue; for example, in the early 2000s, high-income countries collected about 32 percent of their GDP in revenue (for example, taxes), compared with an average of 18 percent for low-income countries (Schieber et al. 2006).

**Developing countries devote a lower share of public spending to health.** Total government spending as a share of GDP is higher among high-income countries. Lower public health spending in developing countries reflects the lower share of health expenditures in the national budget: about 15 percent of government spending in Europe is on health, whereas in Africa, the share is close to 9 percent and less than 5 percent in Southeast Asia. However, governments in low-income countries recognize the need to devote more resources to public health. African leaders vowed to increase spending to 15 percent of their overall budgets in the 2001 Abuja Declaration on HIV/AIDS, Tuberculosis, and Other Related Infectious Diseases (Schieber et al. 2006); however, as mentioned, collecting the needed revenue is challenging.

The combined result of lower proportional allocations to health and lower overall income is that government spending on health in low-income countries is roughly USD 8 per capita, compared with USD 225 in the upper-middle-income countries and almost USD 2,500 in high-income countries.

**Developing countries have a high disease burden but low health expenditures.** Developing countries have over 80 percent of the world's population and carry 90 percent of the global disease burden, but they spend only about 12 percent of the global total on health (Lopez et al. 2006). In contrast, the thirty member countries of the Organisation for Economic Co-operation and Development make up less than 20 percent of the world's population but spend 90 percent of the world's resources on health.

**Insurance coverage increases with income.** People in most high-income countries are covered by some form of public or private health insurance; however, the median coverage is only 35 percent in Latin America, 10 percent in Asia, and 8 percent in Africa (WHO 2004c). This differential coverage creates significant variation in out-of-pocket health spending, which is 90 percent of total private health spending in low-income countries, compared with 15 percent in high-income countries (Schieber et al. 2007.)

**Foreign aid is a major contributor in certain regions.** Foreign sources account for more than 20 percent of health expenditures in almost half of the countries in the WHO's African region (Kirigia and Diarra-Nama 2008). Moreover,

Table 11-2 Pharmaceutical expenditures by country income, 2000

Country income level	Per capita pharmaceutical expenditures (USD)			Share of world total (%)	Share of expenditure on health (%)
	Minimum	Maximum	Average		
WHO member states	0.60	549.00	74.00	100.0	15.2
High income	84.00	549.00	396.00	78.7	11.8
Middle income	4.00	198.00	31.00	18.8	24.8
Low income	0.60	26.00	4.40	2.4	19.2

Source: Adapted from WHO 2004a.

although many countries have recently seen large increases from disease-focused funding and global health initiatives, the United Nations Millennium Project estimates that an additional USD 74 billion will be needed by 2015 to meet the MDGs (Schieber et al. 2006).

Private health expenditures in Table 11-1 include those derived from voluntary, religious, and other NGOs as well as spending by individuals and private companies. NGOs play an important role in financing and providing health services in many countries.

Thus, the relative contributions of public and private spending, external aid, and health insurance differ considerably among regions and countries. Level of economic development has a significant influence. But national policy, commitment to health, political and historical factors, and other influences result in substantial differences among countries within the same region and countries at similar levels of development.

### Pharmaceutical expenditures among countries

Data on pharmaceutical expenditures are much less complete than data on overall health expenditures. Regional pharmaceutical expenditures as of 2000 based on WHO (2004c) figures are shown in Table 11-2, from which the following observations can be made—

*Per capita medicine consumption varies widely among regions and countries.* Pharmaceutical expenditures vary greatly among regions. Like total per capita health expenditures, pharmaceutical expenditures vary up to tenfold among countries within a region.

*Spending on pharmaceuticals depends on country income level.* Spending on pharmaceuticals is related to the country's income level. In 2000, high-income countries accounted for almost 80 percent of the global expenditures on pharmaceuticals, whereas low-income countries accounted for only about 2 percent. The share of high-income countries decreased from 1990, because middle-income countries increased their share from 17.1 to 18.8 percent.

*Private spending represents a greater share of total spending on pharmaceuticals in developing countries.* Among established market economies, private spending on medicines averages over 40 percent of total pharmaceutical spending; the remaining pharmaceutical costs are paid through public budgets and social insurance. In contrast, less than one-third of pharmaceutical expenditures is publicly funded in developing countries for which estimates are available. In many countries of Latin America and Asia, a large proportion of pharmaceutical expenditures are privately financed. Exceptions include countries such as Papua New Guinea and island nations in the South Pacific, where private-sector coverage is low and public supply predominates.

*Spending on pharmaceuticals accounts for a greater share of total health expenditures in lower-income countries.*

In high-income countries, pharmaceuticals account for an average of 9.8 percent of total health expenditures. In low-income countries, however, the proportion of government spending dedicated to pharmaceuticals has significantly decreased: in 1990, the average was 21.5 percent, whereas in 2000, the figure was down to 16 percent. Countries most affected included those that carried a high debt burden, major disease burdens, such as HIV/AIDS epidemics, or both.

Therefore, overall spending on pharmaceuticals is related to economic development. In lower-income countries, pharmaceuticals consume a higher share of total health expenditures, although large global initiatives, such as the Global Fund, are accounting for larger shares of pharmaceutical spending in select countries. Private expenditures play a major role in overall pharmaceutical financing.

### Financing options for essential medicines

Funding options for pharmaceuticals are essentially the same as those for health care in general: government revenues (national and local); direct payment by patients (fee for service); health insurance (national social insurance or voluntary insurance); community, employer, and other vol-

### Box 11-1 Funding mechanisms for essential medicines

#### Public financing (government budgets)

- National government
- Local government

#### User fees

- Public-sector RDFs
- Community pharmaceutical schemes
- Direct private medicine purchases (out-of-pocket purchases)

#### Health insurance (prepaid health schemes)

- Social insurance (compulsory health insurance or social security)
- Private insurance (indemnity insurance that is voluntary or through an employer)
- Community health insurance
- Health savings accounts

#### Voluntary and other local financing

- Private voluntary (NGOs)
- Voluntary community mechanisms
- Cooperatives
- Employer-provided health care

#### Donor financing

- Bilateral grants
- Multilateral grants
- Private foundations
- Global health initiatives

#### Development loans

- World Bank
- Regional development banks

untary local financing; donor financing; and development loans (see Box 11-1).

Financing arrangements affect the relationships among patients, providers, and the payers or financiers of health services (Figure 11-2). With direct purchase of medicines by consumers, for example, the relationship is primarily between the patient, who is paying for the medicines, and the pharmacy, which is providing the medicines. The government's role is to regulate pharmaceutical quality and sales outlets.

With managed care, the provider and payer (insurer) are closely linked, if not a single organization. Although this arrangement may help control health care costs, it creates a potential conflict of interest between cost control and quality of care. Public supervision and competition are important to promote quality of care.

With each financing arrangement, the role of the government is different. Governments must adapt policies as the mix of financing arrangements in the country changes.

## 11.4 Private-sector financing: medicine sales and user fees

The most common form of pharmaceutical sale is the direct purchase of medicines by consumers from commercial pharmacies, licensed and unlicensed drug sellers, and other retail medicine outlets. Excluding high- and middle-income countries with large social or private health insurance coverage, retail purchase is the most common source of medicines.

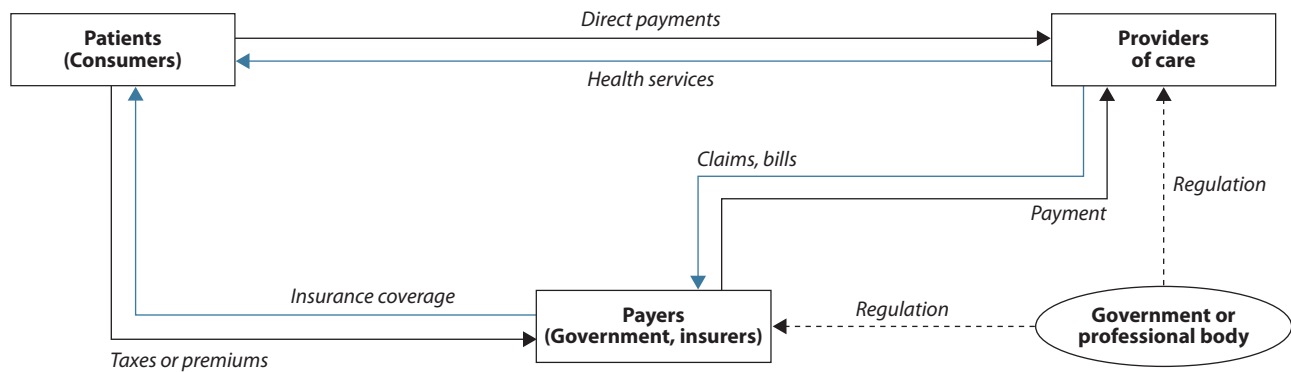
For government, NGO, or community health care programs, user fees for medicines are often part of an RDF or community pharmaceutical scheme. In an RDF, revenues from medicine fees are used to replenish pharmaceutical supplies. Many different forms of RDFs exist, but the common element is a direct link between fees charged and medicines dispensed. Often, an RDF is simply one component of a comprehensive system of fees for publicly provided health services, which may include fees for outpatient consultation, laboratory investigations, and inpatient care. Over the past decade, the debate over user fees has intensified within the context of a global call for increased access to medicines: many in the international health community are calling for all user fees to be abolished; however, eliminating existing user fees in resource-limited countries does not necessarily improve access to medicines and services unless sufficient resources are available to take up the slack and ensure equitable access.

Although many countries offer free medicines for targeted populations (most commonly for tuberculosis or indigent patients), few countries offer all medicines at no cost through their public health facilities (see Table 11-3).

In the context of community health initiatives (see Chapter 31), community medicine-sales schemes often have broader objectives. These may include furthering health education; providing preventive services such as immunization; and raising sufficient revenue from medicine fees to help finance salaries, medical supplies, or other costs.

Public-sector RDFs and community medicine-sales schemes are distinguished from private medicine outlets by

Figure 11-2 Relationships in health care financing



Source: Adapted from WHO 1993.

an emphasis on providing essential medicines, a concern with affordability, and a direct connection between diagnosis by a health worker and appropriate medicine treatment. Proponents of user charges for health care believe the following—

- Revenue can be raised by user fees.
- Medicine availability and the quality of care are improved.
- Equity is promoted because limited public resources can then be targeted to those most in need.
- Decentralization is reinforced through local control of resources.
- Efficiency is fostered by fees, which reinforce the use of local rather than referral services.

In contrast, opponents of user fees believe as follows—

- Net revenue collection is often very low, considering the additional administrative costs of collecting fees.
- Medicine availability and quality of care often show no improvement.
- User charges replace, rather than supplement, government funding.
- People are dissuaded from seeking essential health care, especially the very poor.
- Incentives are created for overprescribing.

Considerable experience with RDFs and broader user-fee programs provides examples that support both proponents and opponents of user charges. Programs that have implemented high fees with no preparation of the public and little improvement in quality have seen significant decreases in use; programs designed with little attention to management and accounting systems have seen substantial abuse and little revenue compared with the cost of fee collection; RDFs established without a reliable source of low-

cost medicines have quickly ceased to revolve; and some schemes with medicine charges have had problems with overprescribing.

Chapter 13 provides additional information on RDFs. In summary, RDFs and community pharmaceutical schemes are not easy to implement. Many factors can undermine their intended benefits, and large-scale successes in government health services are limited.

## 11.5 Public financing through government budgets

Health officials and managers of essential medicines programs argue for increasing expenditures for pharmaceuticals, sometimes without appreciating the dynamics of public expenditure. Public financing of pharmaceuticals can occur through national and local government budgets or through compulsory programs such as social security and national social insurance schemes. This discussion focuses on central government funding of pharmaceuticals; public funding through insurance is covered in Chapter 12.

### Determinants of public pharmaceutical expenditures

Actual public expenditures for pharmaceuticals are determined by a combination of economic factors, national budget decisions, and internal decisions by health ministries. Major factors include—

- National economic output (GDP)
- The share of GDP collected in taxes as revenue for government expenditures (average of about 15 percent in low- and lower-middle-income countries)
- The share of government spending devoted to health (5 to 10 percent in most developing countries)
- The relative share of government health spending



Table 11-3 Medicines provided at no cost in public health facilities, 2003

Types of medicines	Country income level					
	Low		Middle		High	
	Number of countries	Percentage of countries	Number of countries	Percentage of countries	Number of countries	Percentage of countries
All medicines	12	21.8	40	67.8	2	15.4
Malaria medicines	19	37.3	36	81.8	1	9.1
Tuberculosis medicines <sup>a</sup>	50	96.2	45	93.8	9	75.0
Medicines for sexually transmitted diseases	17	34.0	38	79.2	2	18.2
HIV/AIDS-related medicines	16	35.6	37	78.7	7	58.3
All medicines for those who cannot afford them	30	58.8	31	72.1	5	41.7
Medicines for children under five years of age	19	38.0	34	77.3	3	23.1
Medicines for pregnant women	19	37.3	34	79.1	1	8.3
Medicines for elderly persons	12	22.2	18	35.3	4	28.6
None <sup>a</sup>	8	14.8	2	3.1	2	11.1

Source: Adapted from WHO/TCM 2006.

<sup>a</sup> Inconsistencies in reporting noted.

devoted to recurrent operating expenses compared to long-term development

- The relative share of recurrent health expenditures for salaries, medicines, utilities, supplies, and other expenses
- Variations in exchange rates, which determine the international purchasing power of local currency allocations
- Unexpected fluctuations in the national economy caused by devaluations, global changes in commodity prices, political factors, or other events
- The level of corruption in the health and pharmaceutical sector (an estimated 10 to 25 percent of public expenditure in the health sector is lost to corruption; WHO 2009a)

Government economic and development policies influence GDP growth and, to an even greater extent, the share of GDP collected as revenue for government operations. Within the government, resource allocation decisions result from a combination of historical precedent, local political forces, external pressures such as those from donors or development banks, and systematic program planning. Development banks have instituted debt-relief initiatives (Chapter 14), but those measures do not necessarily result in more resources or make reallocation of existing country resources to health easier (Gottret and Schieber 2006).

### Arguments for expenditures on essential medicines

The case for increasing expenditures on essential medicines can be made in the ministry of health or the ministry of

finance. Obtaining a higher share of the budget for pharmaceuticals requires changing the balance between staff and nonstaff expenditures or between curative health services that depend on essential medicines and preventive services such as immunization and health education. Managers must be prepared to respond to the argument that, with limited resources, expenditures on preventive services are more cost-effective than pharmaceutical treatment, even at the primary level.

In addition to demands from the health sector, public treasuries are faced with demands from education, other social services, industry, agriculture, national development, and defense. Because pharmaceuticals often constitute such a large and visible share of health expenses, the case for increased expenditure on pharmaceuticals can sometimes be taken directly to the ministry of finance.

Arguments and approaches that can be used to support central government spending on essential medicines include—

**Health impact:** As noted in Chapter 1, pharmaceuticals are a highly cost-effective component of health care. This point is sometimes lost when policy makers focus on symptomatic pharmaceutical treatments. The case for pharmaceutical allocations is strengthened by emphasizing the vital role of medicines in reducing morbidity and mortality from acute respiratory infection, diarrhea, HIV/AIDS, malaria, tuberculosis, and other common killers. For example, appropriate treatment of sexually transmitted infection greatly reduces transmission of HIV/AIDS, and simple prenatal iron-folate preparations reduce maternal and neonatal morbidity.

*Quantification of medicine needs:* Systematic documentation of specific medicine needs has convinced ministries in some countries to increase allocations for essential medicines (see Chapter 20).

*Expenditure trend analysis:* Budget allocations are typically based on a percentage increase in the budget from the previous year. This method may be reasonable for salaries and local currency expenses, but because of the high foreign exchange component for pharmaceuticals, the last-year-plus approach may lead to a steady decline in purchasing power over time. Appropriate adjustments for both inflation and exchange rates (see Chapter 41) are needed simply to purchase the same quantities of pharmaceuticals.

*Budget gap analysis:* Combining quantification of pharmaceutical needs and expenditure trends reveals any gap between need and historical budgets and expenditures.

*Per capita pharmaceutical budgets:* Population size and patient utilization rates for public facilities are major determinants of pharmaceutical requirements. Per capita pharmaceutical budgets establish a fixed amount per person per year—for example, USD 0.50 per capita. Each year, the per capita amount is adjusted for purchasing power (inflation and exchange rate fluctuations), and the total pharmaceutical budget is calculated by multiplying the adjusted per capita figure by the current population estimate.

*Effect on use:* When medicines are out of stock, patient attendance rates drop, reducing the use and effect of all health services.

*Political visibility:* The public often equates pharmaceutical availability at government health facilities with quality of services. Pharmaceutical shortages make for bad press; an adequate supply of medicines makes for good press.

*Transparency assessment:* Countries can assess the level of transparency and potential vulnerability to corruption of some key components in medicine procurement. WHO suggests that the national assessment be carried out by independent national investigators using the standardized WHO assessment instrument (WHO/EMP/MAR 2009). Results can provide a basis for developing and institutionalizing a national infrastructure of transparent procedures and ethical practices that by addressing corruption can decrease the loss of health resources available for pharmaceuticals and boost public trust in the health system.

*Improved management:* Central pharmaceutical supply units sometimes have a history of inefficiency and susceptibility to influence. Restructuring central pharmaceutical supply services, improving management, and strengthening accounting control can help convince officials to increase government pharmaceutical allocations.

*Comparative expenditure analysis:* Measured in absolute or percentage terms, some governments spend much less on

essential medicines than others. Relevant regional comparisons by ministry officials and essential medicines program managers may help strengthen the case in countries that are underspending on pharmaceuticals relative to other countries.

Program managers should carefully consider which of the preceding approaches, adapted to the local situation, will be most convincing in their own circumstances.

### Management of public pharmaceutical expenditures

Securing an adequate budget for essential medicines is important, but proper financial management is also necessary. Common problems include difficulty gaining access to budgeted amounts, often due to shortfalls in government revenues; inability to spend budgeted amounts as a result of delays in the procurement process; increasing the transparency of the pharmaceutical and distribution process; and difficulty obtaining adequate foreign exchange, even if sufficient local funds are available. Although developing countries are generally moving toward decentralizing their health systems, this process has been slow to include pharmaceutical financing (Enemark et al. 2005).

Financial planning and management are discussed in Chapter 41. Problems of disbursement of government funds and foreign exchange may be reduced with autonomous central supply agencies (see Chapter 8).

## 11.6 Health insurance

Decisions that affect the availability of health insurance in a country are important to all aspects of health service delivery but are largely outside the control of national medicine policies and essential medicines programs.

WHO recommends that countries include a prepayment mechanism as part of a health care financing strategy with a goal of achieving universal health care coverage (WHO 2005c). Therefore, as insurance assumes a greater role in health care in many countries, understanding health financing, and specifically insurance concepts, becomes increasingly important.

### Insurance concepts

The basic purpose of insurance is risk sharing. If an individual suffers serious illness, the cost of treatment can pose a large financial hardship. So individuals find sharing the risk through regular payment of insurance premiums worthwhile to protect themselves from ever having to pay the full cost of a catastrophic illness. Insurance spreads the burden of payment for illness among all the members of the scheme whether they are ill or healthy, poor or not.

In principle, risk sharing through insurance is most worthwhile when the event insured against is largely unpredictable, infrequent, costly as well as unwanted, unplanned, and uncontrollable by the insured. These principles apply most clearly to life, fire, and car insurance. However, applying this traditional view of insurance to medical care presents some difficulties: people can control some aspects of use; some services are low cost; some conditions are frequently or continuously experienced (for example, chronic illness); illness is difficult in some cases to define; people sometimes want to incur the hazard (for example, pregnancy); and the availability of insurance increases the use of services. Despite these difficulties, the concept of risk sharing through insurance has become highly developed in the health sector. Four categories of health insurance can be described—

1. *Social health insurance*: The most typical understanding of social health insurance is that membership is compulsory for a designated population; financial contributions into the system, which are often deducted directly from wages, link to the receipt of benefits; cross-subsidization occurs between high- and low-risk groups and high- and low-income groups; and management usually has some degree of independence from the government.
2. *Private health insurance*: Voluntary private indemnity insurance is provided through employers, mutual societies or cooperatives, or directly by companies. Hospital and physician services are usually covered, but limited or no benefits may be available for preventive services, primary care, or outpatient medicines. Voluntary health insurance contributes to less than 5 percent of the health expenditures in developing countries and usually supplements care for middle- and high-income sectors (Gottret and Schieber 2006).
3. *Community prepaid schemes*: In many countries in Asia, Africa, and Latin America, prepayment plans based on the concept of pooling risk and resources have been developed for rural populations, groups in informal employment, or others without access to other health insurance. Such schemes are based on community affiliation, and the community is highly involved in managing the system. However, evidence suggests that most community-based systems cover a small percentage of people and do not reach the poorest members of the community (Schieber et al. 2006).
4. *Health or medical savings accounts*: Not strictly a form of insurance, medical savings accounts encourage individuals, often by providing tax advantages or subsidies, to save for the expected costs of medical care, enlist health care consumers in controlling costs, and mobilize additional funds for health systems. Only a few countries, including China, Singapore, and the United States, use the concept of health savings accounts.

Insurance systems face several problems that can undermine the potential benefits of prepayment and risk sharing—

*Moral hazard*: When members of a health insurance scheme use services or consume medicines more frequently than if they were not insured, the phenomenon is called “moral hazard.” Deductibles and co-payments are commonly used to avert this problem.

*Adverse selection*: This term describes the tendency for people at greatest health risk and people with chronic illnesses to join voluntary insurance programs, whereas the healthiest people, whose premiums should be used to pay the bills of the sicker members, avoid joining.

*Skimming*: This problem occurs when insurers use various screening measures to avoid insuring people at greatest health risk (and therefore greatest expense to them). Skimming reduces the equity benefits of insurance by excluding those who are most in need.

*Cost escalation*: Rising costs can result from improvements in or greater use of technology, increased use (greater demand caused by insurance coverage), and increases of both the population in general and older populations.

In addition to these problems, insurers, particularly in developing countries, frequently have to deal with the public’s and health providers’ lack of understanding of the insurance concept. Members may think that premiums are like deposits in a savings account, which leads to unrealistic demands that everyone receive at least as much as he or she has paid in. Insurance is not sustainable in this environment, because no risk sharing occurs. Other members may avoid using their insurance because they believe that they can claim only as much as they have contributed in premiums. Considerable effort may be needed to educate members, the general public, and health providers.

Many countries see the initiation or promotion of one or more insurance schemes as a way to address health financing issues. Yet the complexity of the issues involved is often poorly understood. Ideally, insurance schemes should be designed in the context of an overall health policy and health financing strategy. Issues to address when designing a health insurance scheme include policy objectives, population coverage, benefits to be included (outpatient, inpatient, medicines, and so forth), organization of health services, premium calculation and payment mechanisms, utilization and cost-control measures, and administrative arrangements.

### Provision of pharmaceutical benefits

Should social health insurance, private health insurance, or community prepaid health care schemes include pharmaceuticals in their list of benefits? At least three strong arguments favor including medicines in insurance schemes.

First, pharmaceuticals are an essential component of modern health care. Second, early treatment of acute illnesses such as malaria and treatment of chronic illnesses such as diabetes can reduce costly care for complications and hospitalizations. Third, because medicines make up such a large share of household health costs in many countries, their inclusion in an insurance program will make the program more acceptable and desirable.

Chapter 12 discusses health financing through insurance in detail.

### 11.7 Voluntary and other local financing

The cost of providing health care, including essential medicines, may be supported by a variety of community, employer, or other local financing sources.

NGOs play a significant role in the health services of some countries. NGOs often attract foreign and local donations of pharmaceuticals, medical supplies, equipment, and cash. Direct user charges often provide the major share of financing for these services, and markups on pharmaceuticals often subsidize salaries, immunizations, or other NGO costs.

NGOs that are able to provide significant amounts of health care and remain financially viable help balance the overall national sustainability equation (see Figure 11-1). Thus, as described in Chapter 8, facilitating NGOs' efforts to provide essential medicines as part of their overall package of services is in the interest of governments.

Aside from community pharmaceutical schemes and other Bamako Initiative-type programs, a host of voluntary community mechanisms exists in different countries to help support local health services (see Chapter 31). In some countries, villages maintain sick funds to pay the health costs, including medicines, of the poorest members of the village. Monies come from periodic assessments or special fund-raising events. Aside from structured insurance-like schemes, however, informal community fund-raising has not been able to sustain the supply of medicines for entire communities.

In many countries, some private companies and cooperative societies (coffee growers or mining companies, for example) provide health care for employees or members by maintaining a company health service, by reimbursing local private health providers ("self-insurance"), or by contributing to private insurance for employees. Companies may also work with local government health facilities, supplementing government funding with company funding for medicines, medical supplies, or other expenses.

Such arrangements also help balance the financial sustainability equation. They should be supported with information about the essential medicines concept, with copies of the national essential medicines list and standard treatment

guidelines, and perhaps, on a selective basis, with access to public supply services.

### 11.8 Donor financing and development loans

As mentioned previously, the landscape of donor development assistance has been changing dramatically. Traditionally, donor assistance has come from multilateral institutions such as WHO, the United Nations Children's Fund, and development banks; from bilateral arrangements with donor governments; or from charitable organizations, other NGOs, and foundations. In recent years, the international community's commitment to global health and access to pharmaceuticals has increased—almost fourfold from 1990 to 2007 (Ravishankar et al. 2009). As a result, in addition to traditional sources of funding from bilateral and multilateral institutions, global health initiatives, private foundations, and public-private partnerships are playing much larger roles as resources to improve health in developing countries; for example, global health initiative resources have contributed to an aggregate increase in overall health financing (WHO Maximizing Positive Synergies Collaborative Group et al. 2009). Because funding for health comes from out-of-pocket sources in many developing countries, donors are being called on to finance health system scale-up to reach the MDGs.

Many developing countries have a hard time absorbing additional resources, however, because of a lack of human and infrastructural capacity, and donor funding presents problems because of its unpredictability, making planning difficult for countries (Hecht and Shah 2006). Funding that goes through a country's administrative structure rather than through independent initiatives can help build national financial capacity (Hecht and Shah 2006).

Development assistance has typically been targeted toward long-term health-sector development, often concentrating on specific areas such as primary health care, essential medicines, or immunization. Since the late 1990s, donor funding has been directed more toward the entire health sector as part of a sector-wide approach to aid or toward the national government budget instead of toward specific programs or interventions, which means that health program managers may have to take additional steps to get access to funding for specific health programs or pharmaceuticals. In addition, development banks now require countries to use poverty reduction strategy papers as a mechanism to coordinate funding in a way that contributes to an overall development strategy. Chapter 14 has more information.

Multilateral and bilateral organizations generally do not support recurrent costs for personnel, regular supplies of essential medicines, and other operating costs. International and local religious organizations and NGOs have supported recurrent costs, but such funding has become more difficult

to obtain. Loans may be used for the long-term development of health care systems, human resources, and physical infrastructure. They may provide working capital to establish an RDF. But loans generally should not be used to finance the current cost of personnel, medicines, medical supplies, or other routine operating expenses.

For essential medicines, donor assistance has been used effectively in many countries to provide short- and long-term staff training, to develop and implement national medicine policies, to improve storage and transport systems, to improve supply management, to promote rational medicine use, and to strengthen pharmaceutical regulatory and quality assurance capacity. In addition, large initiatives, such as the U.S. President's Emergency Plan for AIDS Relief and the Global Fund, have provided resources to introduce and scale-up antiretroviral treatment programs, including procuring antiretrovirals, and to roll out artemisinin-based combination therapies for malaria. With an increasing global emphasis on strengthening health systems, more funding is available for long-term initiatives that will use systems strengthening as a way to increase access to medicines and commodities; for example, the GAVI Alliance has an innovative grant program designed to help countries clear health system bottlenecks that decrease immunization coverage, such as work force, management, and supply chain issues (WHO 2007). The grant funding is contingent on meeting performance outcomes.

In the poorest countries—with minimal foreign exchange earnings, limited cash income among the population, and no local production capacity—combined public and private resources may be insufficient to provide all essential medicines needs, even with the best selection, procurement, distribution, and use of medicines, especially in those countries that have a high HIV/AIDS or drug-resistant malaria burden. For such countries, outside assistance may be needed to fund some basic essential medicines requirements and is certainly needed to fund expensive antiretrovirals and new, expensive antimalarials.

Nevertheless, long-term human, financial, and institutional sustainability is an essential consideration in all development projects. Intensive financial support and large teams of advisers may achieve short-term success, but to achieve sustained success, a realistic transition to local staffing and financing must be planned from the outset.

Finally, governments can coordinate assistance from donors by establishing national health and pharmaceutical policies, by inviting donors to participate in the development of a master plan as a framework for action, and by convening regular donor coordination meetings (see Chapter 14). Sector-wide approaches, medium-term expenditure frameworks, and poverty reduction strategy papers help provide countries a framework for development planning, but donors need to harmonize procedures and reporting requirements to help countries handle mul-

iple external funding streams. Also, donors are encouraged to make long-term commitments to assistance in the form of predictable on-budget financing (Hecht and Shah 2006).

## 11.9 Comparing financing mechanisms

Few health systems rely on a single funding mechanism. Political, economic, and social factors influence options for health financing. But financing mechanisms should meet certain stated policy objectives, and discussions about financing should be informed by a clear understanding of the choices.

### Criteria for evaluating financing mechanisms

Access to medicines, rational medicine use, efficiency, equity, sustainability, and feasibility are among the most common and important criteria for evaluating funding mechanisms for pharmaceuticals.

*Access to medicines:* Are the availability and affordability of medicines improved? With user charges, for example, medicines may become more available but less affordable. In the end, are more people receiving the essential medicines they need?

*Rational medicine use:* Does the financing mechanism create incentives for overuse, underuse, or misuse of medicines? Patient demand is high when medicines are free, but provider-induced demand may be high if revenue from medicine charges is used for staff salaries. An insurance plan may achieve a uniquely effective balance if it stimulates patient demand by expanding access, uses cost controls to contain demand, and promotes standard treatments by providers.

*Efficiency:* Does the financing mechanism encourage the maximum output or health benefit from available resources? As noted earlier and in Chapter 10, two broad categories of efficiency exist—allocative and technical. Pharmaceutical financing decisions often try to improve technical efficiency related to pharmaceutical management.

*Equity:* Who benefits, and who pays for services? Equity in health care means that essential care is provided according to need and financed according to ability to pay. Equity implies universal access (availability and affordability) to basic health services, including medicines, regardless of income level.

*Sustainability:* Will a reasonable level of funding be maintained over time? Both the amount of revenue generated and the reliability of funding over time are important. A major problem with relying on donor funding is its volatility.

*Administrative requirements:* What are the administrative and managerial requirements to make the funding mechanism operational? For instance, managing a viable RDF is many times more demanding than managing a system in which medicines are free. Insurance programs require a host of new administrative arrangements. In contrast, government financing systems are usually well established, and donor administrative requirements, though often tedious, are usually well defined.

Other criteria that may be used to evaluate health financing options include acceptability, community involvement, flexibility, and health impact. Acceptability refers to the balance of support and resistance from the public, providers, and politicians. With financing mechanisms that meet other criteria, acceptance often grows with experience and understanding. Community involvement may be valued for its own sake, but it is often considered with the other criteria because it may contribute to efficiency, equity, and sustainability. Flexibility is the extent to which funds can be used for various purposes. Donor funds tend to have the greatest restrictions, and community financing schemes have greater flexibility. Improved health impact is the ultimate objective of pharmaceutical financing reforms, but data that directly link funding and impact are scant. Access to essential medicines becomes a more immediate measure of potential impact.

### Application of the criteria for evaluating funding mechanisms

Using these evaluation criteria helps structure the comparison of funding mechanisms. Experience, local circumstances, and degree of subjectivity affect the way individual criteria are applied to financing mechanisms. Table 11-4 provides an illustrative comparison of funding mechanisms according to the preceding evaluation criteria. Several overall observations can be made.

**Stereotyping and oversimplification should be avoided.** Free government services may appear equitable, unless (as in some countries) political forces result in public pharmaceutical supplies being concentrated at national and regional referral hospitals in urban areas. User fees for poor rural populations may appear inequitable, but equity is actually improved if a situation of constant shortages requiring out-of-pocket purchase in the private sector at high prices is replaced by a community pharmaceutical scheme providing a reliable supply of low-cost medicines. Some national social health insurance programs provide health benefits so that low-income members are actually subsidizing high-income members. For example, in some countries, social security taxes are imposed only on wages below a certain level, so those with higher earning capacity do not have to pay taxes on much of their income. These wealthier people are often

city dwellers who have the greatest access to, and make the most use of, government health services, thereby benefiting disproportionately from the payments of those with lower incomes.

Examples of common misperceptions about access, rational use, efficiency, sustainability, and administrative requirements could also be cited. The point is that comparisons of financing mechanisms should be based on clear analysis, experience, and the best available information, rather than on untested assumptions or stereotyped thinking.

**Evaluation often depends on effectiveness of implementation.** Proponents of RDFs cite their potential for financing a sustainable supply of low-cost medicines. Opponents cite numerous programs that generate minimal revenue with much effort, and nonfunctioning exemption programs for the poor. As noted earlier, the financial performance and health impact of a user-fee program are highly dependent on the way the program is managed and monitored.

Similarly, insurance programs are complex undertakings. A successful insurance plan must organize the registration of members and dependents, the definition of services covered, accurate projections of payments to set premiums, collection of premiums, handling of claims, payment to providers, utilization review, quality monitoring, and cost control. Bad planning or poor implementation of different elements can result in a program that is inefficient, inequitable, unsustainable, and administratively chaotic.

In short, it is important to distinguish between a financing mechanism that is inappropriate for a given setting and one that might be appropriate but is ineffectively implemented.

**Seek improvement, not perfection.** Policy makers sometimes discard a new financing alternative because it has certain limitations, potential inequities, or other undesirable features. The question is not whether a specific financing mechanism meets all criteria—none do. The question is whether it will, on balance, improve the pharmaceutical financing situation.

Doing nothing about pharmaceutical financing is often the easiest course for an uncertain policy maker or a nervous manager. But if financial resources are inadequate, access and quality of care will decline. Analysis of financing mechanisms should aim at identifying actions that will lead to significant improvements, not at finding perfect solutions.

## 11.10 Developing a pharmaceutical financing strategy

Because pharmaceutical financing is part of health financing, in many countries, complementary financing arrangements are evolving for different health care needs and population groups. Although each financing mechanism has benefits and limitations, the net effect of the pluralist

Table 11-4 Comparison of funding mechanisms by evaluation criteria

Funding mechanism	Access to essential medicines	Appropriate medicine use	Efficiency	Equity	Sustainability	Administrative requirements
<b>Public financing (government budgets)</b>	<ul style="list-style-type: none"> <li>↑ If budget sufficient and management adequate</li> </ul>	<ul style="list-style-type: none"> <li>↑ With good selection and prescribing</li> </ul>	<ul style="list-style-type: none"> <li>▫ No incentive for improvement</li> </ul>	<ul style="list-style-type: none"> <li>↑↓ Depends on who pays taxes and who receives services</li> </ul>	<ul style="list-style-type: none"> <li>↑↓ Depends on economic growth and government revenues</li> </ul>	<ul style="list-style-type: none"> <li>▫ No new requirements</li> </ul>
<b>User fees</b>						
Government RDFs	<ul style="list-style-type: none"> <li>↑ Access decreases for poor unless exemptions and other protections in place</li> </ul>	<ul style="list-style-type: none"> <li>↑↓ Fees may discourage overuse or lead to underuse; may encourage overprescribing if revenue for staff</li> </ul>	<ul style="list-style-type: none"> <li>↑ Success depends on supply management improvements</li> </ul>	<ul style="list-style-type: none"> <li>↑↓ Higher-income contribute more; poor benefit if supply improved; exemption plans rarely work</li> </ul>	<ul style="list-style-type: none"> <li>↑ With good management, reliable pharmaceutical supply</li> </ul>	<ul style="list-style-type: none"> <li>↑ Much more demanding than free system</li> </ul>
Community pharmaceutical schemes	<ul style="list-style-type: none"> <li>↑ Same as RDFs</li> </ul>	<ul style="list-style-type: none"> <li>↑↓ Same as RDFs</li> </ul>	<ul style="list-style-type: none"> <li>↑ Same as RDFs</li> </ul>	<ul style="list-style-type: none"> <li>↑ Local control and targeting support equity</li> </ul>	<ul style="list-style-type: none"> <li>↑ Same as RDFs</li> </ul>	<ul style="list-style-type: none"> <li>↑ Improvements require significant local management capacity</li> </ul>
Direct private medicine purchases	<ul style="list-style-type: none"> <li>↑ Primarily benefits urban and higher-income people</li> </ul>	<ul style="list-style-type: none"> <li>↓ Prices create affordability problem, which often leads to inadequate doses</li> </ul>	<ul style="list-style-type: none"> <li>↑ Strong financial incentive</li> </ul>	<ul style="list-style-type: none"> <li>↓ Poor cannot afford essential medicines</li> </ul>	<ul style="list-style-type: none"> <li>↑ For population that can afford medicines</li> </ul>	<ul style="list-style-type: none"> <li>↑↓ Systems exist in private sector</li> </ul>
<b>Health insurance</b>						
Social	<ul style="list-style-type: none"> <li>↑ If pharmaceutical benefits included in benefit package</li> </ul>	<ul style="list-style-type: none"> <li>↑↓ Appropriate use if insurance cost controls in existence; inappropriate use if patients exert pressure on provider for medicines</li> </ul>	<ul style="list-style-type: none"> <li>▫ No efficiency incentive</li> </ul>	<ul style="list-style-type: none"> <li>↑ Should be very equitable</li> </ul>	<ul style="list-style-type: none"> <li>↑ Requires good management, adequate premiums</li> </ul>	<ul style="list-style-type: none"> <li>↑ Substantial administrative requirements for new system; requires fraud and abuse controls</li> </ul>
Private	<ul style="list-style-type: none"> <li>↑ Same as social insurance</li> </ul>	<ul style="list-style-type: none"> <li>↑↓ Same as social insurance</li> </ul>	<ul style="list-style-type: none"> <li>↑ Some incentive</li> </ul>	<ul style="list-style-type: none"> <li>↑↓ Increased equity depends on membership</li> </ul>	<ul style="list-style-type: none"> <li>↑ Requires good management; sufficient number of members to maintain sustainability</li> </ul>	<ul style="list-style-type: none"> <li>↑ Same as social insurance</li> </ul>
Community financing (different mechanisms have different effects)	<ul style="list-style-type: none"> <li>↑↓</li> </ul>	<ul style="list-style-type: none"> <li>↑↓</li> </ul>	<ul style="list-style-type: none"> <li>↑</li> </ul>	<ul style="list-style-type: none"> <li>↑</li> </ul>	<ul style="list-style-type: none"> <li>↑</li> </ul>	<ul style="list-style-type: none"> <li>↑↓</li> </ul>
<b>Donor financing</b>						
Bilateral and multilateral grants	<ul style="list-style-type: none"> <li>↑</li> </ul>	<ul style="list-style-type: none"> <li>↑↓ Similar to public financing</li> </ul>	<ul style="list-style-type: none"> <li>▫ Similar to public financing</li> </ul>	<ul style="list-style-type: none"> <li>↑ Usually involves transfer from richer countries</li> </ul>	<ul style="list-style-type: none"> <li>↓ Not sustainable</li> </ul>	<ul style="list-style-type: none"> <li>↑ Reporting requirements</li> </ul>
Development loans	<ul style="list-style-type: none"> <li>↑</li> </ul>	<ul style="list-style-type: none"> <li>↑↓ Same as grants</li> </ul>	<ul style="list-style-type: none"> <li>▫ Same as grants</li> </ul>	<ul style="list-style-type: none"> <li>↑↓ Depends on terms and sources of funds for repayment</li> </ul>	<ul style="list-style-type: none"> <li>↓ Not sustainable</li> </ul>	<ul style="list-style-type: none"> <li>↑ Reporting requirements</li> </ul>

Note: ↑ = increases; ↓ = decreases; ↑↓ = may increase or decrease; ▫ = no change.

approach is to distribute the burden of health financing across several sectors. No one health financing strategy will fit all countries—each country's context must dictate the best approach.

If the essential medicine supply is adequate, the challenge for policy makers and essential medicines program managers is to maintain the funding, pharmaceutical supply system, and medicine use patterns that ensure this adequacy. If the supply of essential medicines is inadequate, efforts should be made to use available funds better through more efficient selection, procurement, distribution, and use of medicines. Efforts to balance public resources and the demand for health care may also include measures to encourage private and NGO health providers.

When efforts to improve therapeutic and operational efficiency and to moderate demand for medicines do not balance the sustainability equation, additional funding is needed. Managers can make the case for greater government funding of pharmaceuticals, introduce or strengthen user fees for medicines, introduce or expand health insurance coverage for medicines, or seek donor assistance. In each case, efforts should be made to ensure that available public resources are targeted to those most in need.

The challenge for policy makers, essential medicines program managers, NGO managers, and others concerned with pharmaceutical financing is to make optimal use of every available source of financing. Success depends on political commitment, adaptation of financing mechanisms to local circumstances, good leadership and management, and modification of financing systems based on experience. Equity of access, quality of medicines, and rational use remain key objectives for any financing strategy. ■

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## ASSESSMENT GUIDE

### Pharmaceutical financing policy and needs

- Is pharmaceutical financing included in national health and national medicine policy?
- Has a comprehensive estimate been made of pharmaceutical financing needs?
- Has a formal budget gap analysis been done recently?

### National economic and health financing indicators

- What is the per capita GDP?
- What is the total national health expenditure (public and private) per capita?
- What is the total national health expenditure as a percentage of the GDP?
- What are total government expenditures as a percentage of the GDP?
- What percentage of total public expenditures do health expenditures represent?
- What is the percentage breakdown of health spending by source (public, private, NGO, donor)?

### National pharmaceutical financing indicators

- What is the total per capita pharmaceutical consumption (from all sources)?
- What percentage of total health expenditures (from all sources) do pharmaceuticals represent?
- What is the percentage breakdown of pharmaceutical spending by source (public, private, NGO, donor)?

### Public pharmaceutical financing indicators

- What is the total public expenditure on pharmaceuticals?
- What is the per capita public expenditure on pharmaceuticals?
- What is the percentage breakdown of public health expenditures (personnel, medicines, other)?

### Efficiency of public pharmaceutical expenditures

- **Allocative efficiency:** Is the pharmaceutical budget appropriately distributed to ensure a supply of essential medicines, address priority health problems, and serve groups most in need?
- What percentage of the public pharmaceutical budget is used for national and referral hospitals?

- **Therapeutic efficiency:** Are an essential medicines list and standard treatments used? Is medicine use rational?
- **Operating efficiency:** Are procurement and distribution well managed?

### User charges for medicines (see Chapter 13)

- Are user fees charged for medicines and services at government facilities?
- Is revenue used as a revolving fund specifically to resupply medicines?
- What percentage of government pharmaceutical expenditures is recovered through user charges?

### Health insurance (see Chapter 12)

- What types of health insurance presently exist: compulsory, voluntary, community?
- What percentage of the population is covered by health insurance?
- What percentage of those insured have policies that cover pharmaceuticals?
- What methods exist for supply and payment for pharmaceutical benefits?

### Donor financing (see Chapter 14)

- What percentage of total government health expenditures is represented by international assistance?
- What is the total value of international aid for pharmaceuticals?
- What are the major sources of donor funding for the pharmaceutical sector?

### Effects of current pharmaceutical financing arrangements

- What is the availability of medicines in the public and private sectors?
- How affordable are pharmaceuticals in the public and private sectors?
- How equitable is access to medicines for rural, poor, and medically needy populations?
- What are the incentives for rational or irrational medicine use?

*Note:* It is preferable to compare budgets and expenditures in terms of local currency, U.S. dollars, and international dollars. Data for the three most recent years should be used to show expenditure trends. Both budgeted and actual expenditure data should be included. Price basis for pharmaceuticals should be clarified (producer, wholesale, retail).

## 11.18 FINANCING AND SUSTAINABILITY

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