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CHAPTER 13

Revolving drug funds and user fees

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SUMMARY

Many governments, nongovernmental organizations, and community health programs have implemented user fees to fund or partially fund the cost of pharmaceuticals or other health services. Many different forms of revolving drug funds (RDFs) exist. Their common element is that fees are charged for medicines dispensed. In the context of the Bamako Initiative, community pharmaceutical schemes often have cost-recovery objectives that include the financing of health education, immunization, and other aspects of primary health care.

During the 1990s and early 2000s, the debate over user fees intensified within the context of a global call for increased access to medicines: evidence supports arguments from both sides, and opinions still differ about the feasibility of creating and sustaining an equitable cost-recovery system based on user fees (Meessen et al. 2006). Supporters assert that RDFs can raise substantial revenue, improve pharmaceutical availability and quality of care, promote equity by making pharmaceuticals more accessible to the poor while charging those who can afford to pay, reinforce decentralization through local control of resources, and encourage efficiency in pharmaceutical management and medicine use. Others caution that collection costs may exceed revenue collected, no improvement may occur in pharmaceutical availability or other quality measures, user charges are a form of “sick tax” that substitutes for public spending, people are dissuaded from seeking essential health care, and incentives are created for overprescribing. Note that some critics judge RDFs separately from health system user fees (for example, Save the Children 2002).

Planning and implementing an RDF require simultaneous commitment to public health goals and sound business management. A number of steps are involved—

Feasibility: Determine whether the concept of an RDF is politically acceptable, economically viable, and realistic in terms of managerial requirements.

Organizational structure and legal status: Decide which RDF functions will be centralized and which decentralized. Seek government or legal endorsement for such issues as retention of revenue at the facility or district level. Community involvement is often essential for the acceptability, credibility, and accountability of RDFs.

Pricing and exemptions: Establish policies that ensure access to services and also maintain the financial integrity of the RDF. Determine fee collection mechanisms as well as fee levels. Consider willingness to pay and cost data in setting pharmaceutical prices.

Financial planning: Ascertain initial capitalization requirements and recurrent costs. The availability of government and donor subsidies helps determine the RDF’s cost-recovery objectives.

Supply management: Consider management requirements because weaknesses in any area can threaten the RDF’s service performance and financial viability.

Public communications: Tailor target audiences, messages, and media to each stage of RDF implementation.

Monitoring and supervision: Put in place recording, reporting, supervisory, and other measures to monitor effect on patients, financial performance, pharmaceutical availability, and medicine use.

Establishing and sustaining RDFs have been difficult in practice. Improved pharmaceutical availability, equity, and efficiency are more likely with local control and retention of revenue; reliable supply of low-cost essential medicines; locally appropriate fee schedules; protection mechanisms to ensure equitable access; continued or increased levels of government funding for health; businesslike orientation to personnel, financial management, and supply management; strict measures to ensure accountability; and implementation in phases or through a well-conceived pilot approach.

13.1 Introduction

Revolving drug funds (RDFs) are difficult to implement. Examples of successful large, national RDFs are limited. Revenues are often much less than expected. Use of health services and, therefore, equity of access often decrease. Reliable pharmaceutical supply, management, accountability, and rational medicine use are challenges for any RDF.

Countries and programs that implement RDFs should do so with a full understanding of the problems other programs have faced and the solutions that have succeeded elsewhere. (Country Study 13-1 illustrates the number of years and tremendous political commitment needed to establish an RDF in the Sudan.)

At the same time, many countries providing “free” health services have found that public resources are insufficient to

Country Study 13-1

Establishing a successful revolving drug fund in Sudan

With initial capitalization and technical support from Save the Children, the Ministry of Health in Sudan's Khartoum state phased in an RDF from 1989 to 1996. A 2006 evaluation included record review and interviews with policy makers, health care practitioners, patients, and households in the catchment area of facilities operating under the RDF. A control group comprised facilities not affected by the RDF.

The results showed that the RDF facilities had a higher level of medicine availability (97 percent) compared with controls (86 percent). Clients reported the medicines to be affordable—the average cost of a prescription amounted to only 2 percent of the lowest monthly government salary.

Key success factors included autonomy that allowed the RDF managers to keep their funds separate from other government accounts, government tax and licensing exemptions, and an innovative currency swap agreement that allowed the RDF to access hard currency at official rates.

The table below lists the lessons learned in Khartoum's RDF experience. Based on the results, the Ministry of Health is expanding the RDF to the rest of the country in phases—by the end of 2006, nineteen of twenty-five states were part of the RDF.

Lessons learned from the RDF in Khartoum state

	Factor for success	Components/results
1	Substantial investments	<ul style="list-style-type: none"> • Helping RDF to absorb devaluation loss • Allowing RDF to mature until sustainable
2	Gradual implementation	<ul style="list-style-type: none"> • Allowing time for necessary preparation • Testing of drug supply and cash collection systems • Proper staff training
3	Management style	<ul style="list-style-type: none"> • Adopting transparency • Flexible organization structure • Business-oriented management • Joint management between national Ministry of Health and expatriate Save the Children staff
4	Political commitment	<ul style="list-style-type: none"> • Tax and import duty exemptions • Independent account • Import license exemption • Monopoly
5	Currency swap agreement	<ul style="list-style-type: none"> • Safeguard against devaluation • Permitting importation of low-cost and quality medicines • High markup on cost covering the RDF operating expenses while keeping retail prices lower
6	Price revision	<ul style="list-style-type: none"> • Protecting the RDF against devaluation • Keeping pace with market prices • Maintaining users' ability to pay
7	Community acceptance	<ul style="list-style-type: none"> • Increasing RDF turnover • Permitting replenishment of exhausted stocks • Avoiding the tie-up of funds • Ensuring revenue available to cover RDF operating expenses
8	Focus on common diseases	<ul style="list-style-type: none"> • Short list for treatment of common diseases • Avoiding the wastage of limited resources • Increasing coverage by purchasing large quantities
9	Reliable supply system	<ul style="list-style-type: none"> • Regular availability of medicines • Low-cost medicines • Maximizing RDF sales • Allowing RDF to make medicines regularly available
10	Supervision	<ul style="list-style-type: none"> • Prohibiting medicine leakage • 100% cash collection rates • Reducing losses due to expiration and deterioration of medicines

Sources: Ali 2009; Hamed and Ibrahim 2009.

meet rising costs and increasing demand. When funds are limited, provision of essential medicines is among the first components of health care to suffer: medicine shortages become common even when selection, procurement, distribution, and use are efficient and rational.

On the basis of research showing that user fees can easily cause a decrease in the use of preventive health care services, most international agencies discourage implementing user fees for preventive care, including the World Bank and World Health Organization (WHO). (Nevertheless, even when preventive services are free, they are still underused in both developed and developing countries, as reported by Liu and O'Dougherty 2005.) In addition, 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. For example, the elimination of medicine fees at public facilities may result in more stock-outs, leading patients to pay more in private pharmacies that have reliable stock (James et al. 2006; Xu et al. 2006). Although user fees can contribute to budgets for services and pharmaceuticals that would otherwise not be available, evidence shows that fees are usually a major detriment to access to the poorest people in the community, because exemption plans that are supposed to act as a safety net for needy patients are often nonfunctional (Gottrett and Schieber 2006).

Proponents on both sides of the issue recognize the challenges of providing sustainable financing for pharmaceuticals that maximizes equitable access, especially for long-term treatment, such as that for HIV/AIDS. WHO now promotes minimizing fees for health care and medicines and encourages countries to use taxes or insurance schemes to finance health expenses (Foster et al. 2006). Ghana is one country whose government decided to abolish its national “cash-and-carry” system of financing health services and replace it with a national health insurance system while maintaining local facilities’ autonomy in managing their RDFs. Chapter 12 discusses health insurance in detail.

Cost sharing through medicine fees is one of several pharmaceutical financing strategies described in Chapter 11. That chapter is concerned with programs in which medicine fees are used to finance essential medicines at the national level, at the district level, at individual institutions such as teaching and referral hospitals, or through community pharmaceutical schemes.

Medicine fees may be simply one component of a broader program of user fees. Although such programs may not think of themselves as RDFs, this chapter should be useful for any program involved in setting medicine fees and using the revenue to resupply medicines.

13.2 The revolving fund concept

What is a revolving drug fund?

In an RDF, a sum of money (contributed by the government, donors, or the community) is used to purchase an initial stock of essential and commonly used medicines to be sold, ideally at a price sufficient to replace the stock of medicines and ensure a continuous supply (see Figure 13-1). Reasons usually given for establishing an RDF are—

- Essential medicines are a critical component of effective preventive and curative care.
- Patients perceive the increased availability of pharmaceuticals as a real improvement in the quality of care.
- Pharmaceuticals are tangible, and most patients are willing to pay for them.
- The public spends significant amounts of money for pharmaceuticals from the private sector, often buying inadequate quantities at high prices. Medicines supplied through an RDF are generally more affordable.
- Patients may attach greater value to medicines for which they have paid. A potential result is improved patient adherence to treatment.
- RDFs linked to essential medicines programs offer the potential for increasing the efficiency of pharmaceutical services as well as generating additional revenue.
- Increased price awareness by prescribers and patients may result in improved use of medicines.

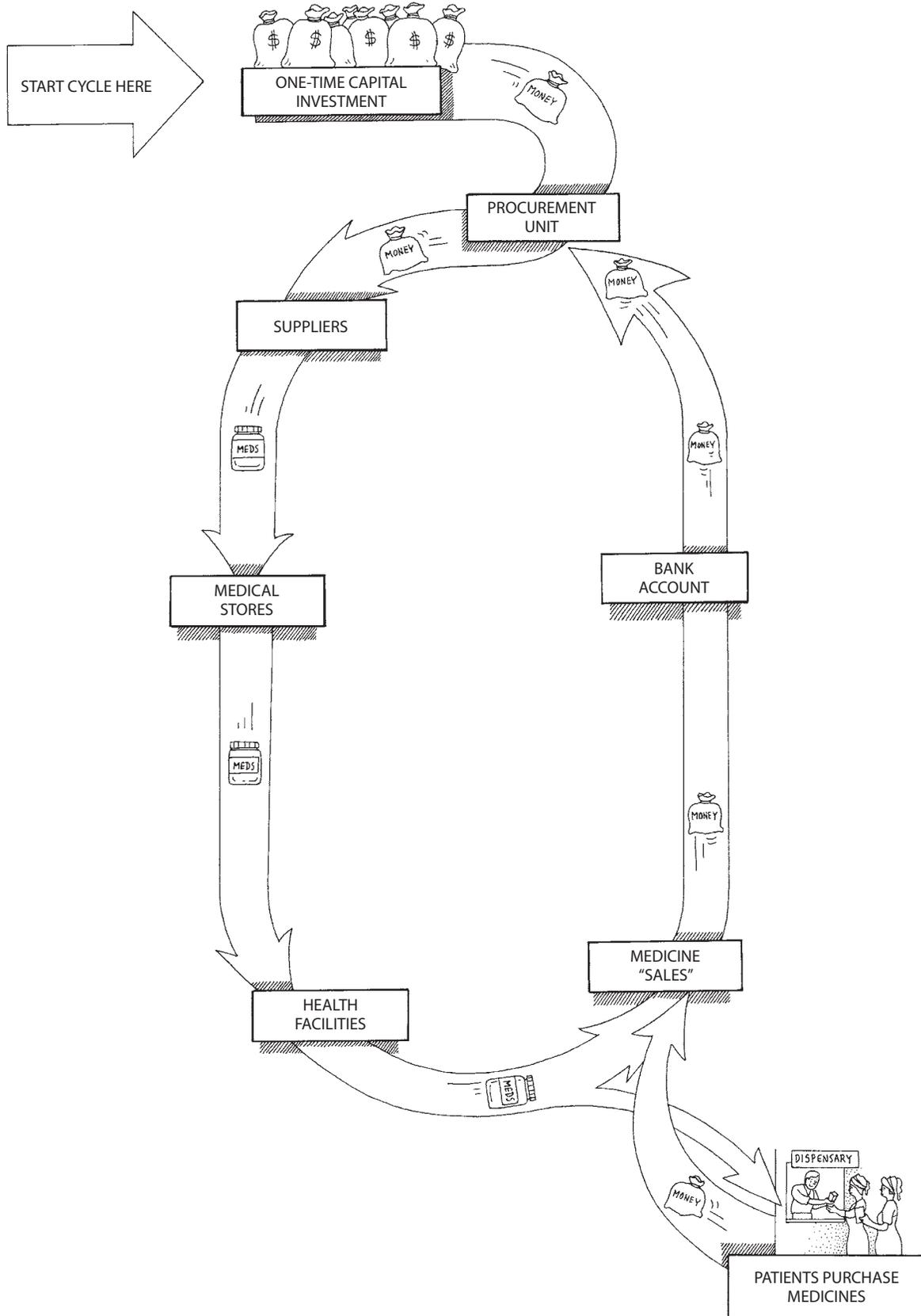
Whereas the primary objective of private pharmacies is to maximize profit, the objective of RDFs is to maximize access. If current public financing is sufficient to ensure universal access to essential medicines without charge, medicine fees are unnecessary. If current financing is inadequate, an RDF can provide supplementary resources to make low-cost essential medicines more accessible (Uzochukwu and Onwujekwe 2002; Xu et al. 2006).

Experiences with RDFs

There are numerous examples of experiences with user-fee programs and, in particular, with RDFs. From these experiences, proponents of user charges suggest the following—

- Substantial revenue can be raised by user fees, which add to central allocations.
- Pharmaceutical availability and quality of care are improved with the additional revenue.
- Equity is promoted because limited public funds can be targeted to the most needy while the rest pay.
- Decentralization is reinforced through local control of resources.

Figure 13-1 The RDF cycle



- Efficiency is fostered through lower fees at first-level facilities to reinforce the referral system and through higher fees at higher-level hospitals to reduce the disproportionately large expenditures typically made on pharmaceutical supply for referral hospitals.

Not all governments or health financing experts favor user fees for medicines. Opponents observe the following—

- Collection costs may exceed revenue collected when the full cost of developing the system and all additional administrative costs are considered.
- No improvement may take place in pharmaceutical availability and other quality measures (as has occurred in some user-fee programs).
- User charges may become a form of “sick tax,” substituting for rather than supplementing central allocations.
- People, particularly the poor and other target groups, are dissuaded from seeking essential health care.
- Incentives for overprescribing are created if revenue is used to support staff salaries.

Decades of experience with RDFs and user fees for services demonstrate the need for thoughtful design that includes community involvement, careful implementation associated with quality improvement, and good management. However, experience also shows that cost-recovery programs are rarely able to achieve these standards in the long term.

Programs that have implemented large 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 resulted in abuse and generated little revenue compared with the cost of fee collection; programs that have not reinvested revenues to improve quality have resulted in a decline in public confidence and use; RDFs without a reliable source of low-cost medicines have quickly ceased to revolve, and some schemes with pharmaceutical charges have led to overprescribing.

Steps for planning and implementing an RDF

The planning and implementation of a successful RDF require simultaneous commitment to public health goals and sound business management principles. Each of the following steps requires careful attention—

- Carry out a situation analysis and feasibility assessment.
- Prepare a financial plan that considers cost-recovery objectives, capitalization requirements, and long-term financial needs.

- Determine the organizational structure, staffing, and legal status of the RDF.
- Develop an implementation plan.
- Determine pricing and exemption policies.
- Develop the necessary systems for pharmaceutical management and financial management.
- Prepare public communications for introducing the RDF.
- Monitor impact and adjust the program accordingly.

13.3 Situation analysis and feasibility assessment

Governments considering whether to introduce cost recovery must address questions of political, economic, and managerial feasibility, given local circumstances (see Figure 13-2).

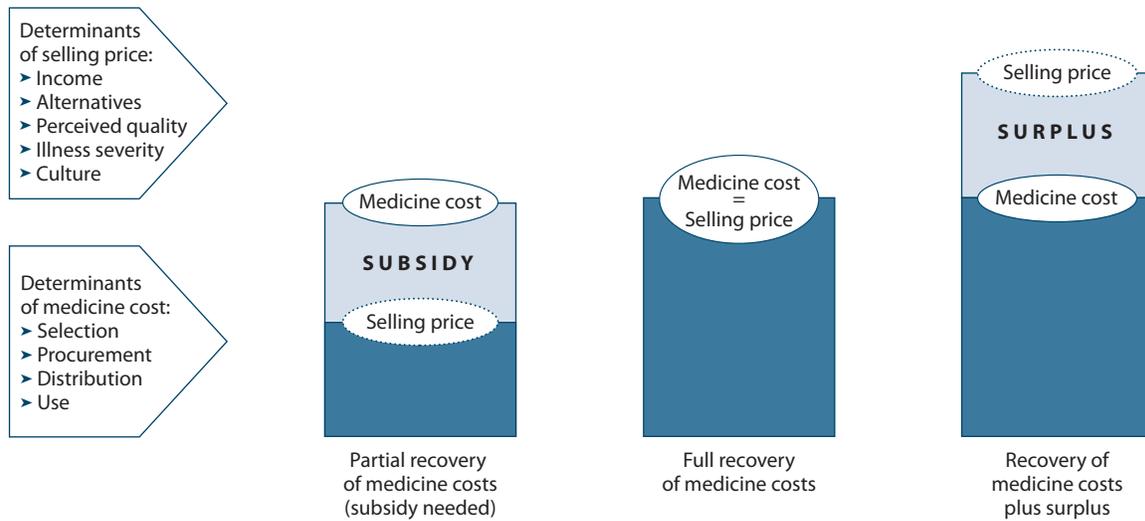
Similarly, governments that are considering discontinuing such programs must take measures and have the resources in place to handle the consequences of losing revenue, such as increased medicine stockouts and upsetting health care providers who have come to rely on fees to supplement income (Gilson and McIntyre 2005).

Political issues

Three political issues are key in establishing an RDF: acceptance of the user fee concept, local retention of fee revenue, and political and administrative decentralization.

Acceptance of user fees. Although many believe strongly in the concept of universal access to health care, a policy of free medicines is worth little if medicines are unavailable. When RDFs have been proposed in settings where pharmaceuticals at health facilities have been scarce, public reaction has generally been positive. Moreover, when an RDF has resulted in a noticeable increase in the availability of pharmaceuticals, public acceptance has been much greater than government officials anticipated. Studies have shown that the public’s willingness to pay for government health services is closely tied to people’s perception of quality and the value that they are getting for their money (Shaw 1995). Conversely, if people have experienced a steady supply of medicines provided free of charge by the government, they are more likely to oppose any introduction of fees. In this setting, the need for an RDF should be carefully considered.

Local retention of fee revenue. The “law of the treasury” often requires that revenues earned by any arm of government be remitted to the central government. RDFs will not revolve, however, unless the facilities that collect medicine fees can retain this revenue to replenish their pharmaceutical supplies. Reinvestment of revenues in the collecting facility also promotes a sense of community ownership, which further protects and strengthens the RDF. Facilities

Figure 13-2 Cost-recovery potential determined by patients and costs, not by policy

in a pilot project area are often permitted to retain revenues, but replication on a broader scale requires permanent changes in government policy.

Political and administrative decentralization. The question of local involvement and autonomy can be politically sensitive. Successful revolving drug funds often involve community participation and supervision, which ensures financial sustainability and greater community interest in the local health facility. Local empowerment must be accepted and supported by higher levels of government (which must give department or provincial authorities the authority and flexibility to design policies appropriate for their areas). An RDF's local autonomy in the Lao People's Democratic Republic provided financial flexibility and allowed it to avoid decapitalization during a period of rapid inflation (Murakami et al. 2001).

Economic issues

Can sufficient funds be recovered to justify the effort required to make an RDF successful? The answer to this question depends on national and local economic strength, patients' ability and willingness to pay, "competition" from other sources of supply, the availability of capital, policies on exemptions and subsidies, and the program's overall ability to balance public health and economic objectives. All these issues should be carefully considered. Household and patient surveys that ask people about their choice of health services and health care expenditures can reveal a great deal about both willingness and ability to pay for health treatment.

Economic feasibility is also influenced by the level at which fees are introduced. Should RDF implementation be top-down, starting first in hospitals, or bottom-up, begin-

ning in the community? Each approach has advantages and disadvantages.

Despite the many concerns related to economic feasibility, health service use and equity may actually improve with medicine fees (Murakami et al. 2001). A brief explanation of the economic underpinning of this observation may be illuminating. Although opponents of cost sharing often speak about the increase in cost, purchasing medicines locally often avoids the high travel and time costs of seeking care elsewhere, and paying a fee for a medicine as part of an RDF may cost less than paying for it in the private sector (Xu et al. 2006). The key lesson is that price must be examined from the perspective of the patient.

Managerial issues

Given the human and physical infrastructure, can a cost-recovery system be made to operate? Accountability, a businesslike orientation, supply management capacity, and human resources capacity are especially critical when a revolving drug fund is initiated at the community level, because management systems and capacity may need to be developed.

Demonstrated commitment by the government (and often by the donor) is essential. Is support available to help maintain the fund until self-sufficiency is reached?

13.4 Financial planning

RDF financial planning involves defining the cost-recovery objective, the roles of government and external funding, the capitalization requirements, and foreign exchange issues. Because the goal of an RDF is to maintain steady

pharmaceutical supply while serving as many people as possible, careful analysis is necessary of both recurrent costs and regular government and donor contributions. Pharmaceutical sales must make up any shortfall between these costs and revenues. Many countries that are eager to commence cost-recovery programs fail to do a careful financial analysis before embarking on such programs. As a result, a well-intentioned RDF may quickly decapitalize; some revenues are raised, but a direct relationship does not necessarily exist between revenues and stock replacement.

Cost-recovery objective

The cost-recovery objective for an RDF may be set by policy, but the actual level of cost recovery depends on the response of patients to medicine fees, the number of exemptions, and collection efficiency, among other factors. Although some programs attempt to cover all primary health care costs through user fees, many countries have found recovering full costs on a large scale extremely difficult.

Cost-recovery alternatives. The level of cost recovery reflects the relationship between the total operating costs and the total revenues collected. Possible cost-recovery objectives include—

- Partial recovery of pharmaceutical costs, which require continued subsidy from government or other sources
- Full recovery of pharmaceutical costs
- Full recovery of pharmaceutical costs plus some local operating costs
- Full recovery of all pharmaceutical costs and local operating costs

Tension between public health and financial objectives is inherent in the RDF concept. Because RDF fees are intended to increase the availability of essential medicines at the local level, they must not serve as financial barriers to people receiving needed services. The RDF must improve total access to service, not decrease it. Yet the fees must be high enough to ensure replenishment of supplies and financial sustainability of the RDF.

Establishing a realistic cost-recovery objective depends on striking a balance among operating costs, revenue collection, and government and other funding.

Operating costs. Pharmaceutical costs should be calculated based on the full replacement cost of medicines. This cost includes the original purchase price (with insurance and freight), price increases caused by inflation and currency fluctuations, and the cost of losses caused by expiration, spoilage, and pilferage. Other recurrent costs include management of the procurement office, transportation, storage at various levels, and perhaps repackaging. In addition to pharmaceutical costs, local operating costs include health

workers' salaries, fuel for vehicles, consumable items such as dressings, cold-chain costs, and utilities (see Chapter 41).

Revenue collection. Revenue collection in RDFs is determined by patients' willingness to pay, exemption rates, and collection efficiency; it is often far below target levels.

The price at which most patients will buy medicines at a government health facility, which is a reflection of their willingness to pay, depends on several factors—

- Household income, which can vary dramatically by season, especially in rural areas
- Availability and cost of alternative sources of medicines and health care (the “competition”)
- Perceived quality of the pharmaceuticals and associated health care services
- Severity of the illness
- Cultural factors, such as the priority given to health care for men, women, and children

Basing RDF prices only on actual costs sometimes leads to a dramatic and dangerous decline in health facility use. Because of differences in access, perceived quality, and usual quantities of pharmaceuticals purchased, direct comparison with private-sector prices can be misleading. Estimates of willingness to pay can be made using the techniques described in Section 13.7 on pricing.

Exemption rates are another major determinant of actual revenue collections. In cost-recovery programs with broad exemption criteria, over 50 percent of patients do not pay; a high level of cost recovery is difficult, if not impossible, in such circumstances. Exemption criteria, administrative arrangements, and mechanisms for financing exemptions are considered later in this chapter.

Finally, total revenue reflects collection efficiency: What share of expected revenues is actually collected? When the number of patients treated, quantity of medicines dispensed, pharmaceutical prices, and exemption rates are considered, how much money should have been collected, and how much money actually was? It is not unusual to find that actual collections are less than two-thirds—sometimes as little as one-third—of expectations.

Reasons for collection inefficiency include simple laxity in implementing fees, unofficial (“backdoor”) exemptions, and pilferage of medicines and cash. A high collection rate depends on sound pharmaceutical management systems, well-developed financial management and accountability measures, regular monitoring and supervision, and when necessary, vigorous use of disciplinary and legal measures. Collection inefficiency is a major threat to RDFs.

Role of government and external funding

Government and external funding are often necessary to plan and implement an RDF and to cover the cost of exemp-

tions, subsidize high-cost medicines, and fund other health system costs not financed through user fees.

Maintaining government funding. If continued government funding is needed for pharmaceuticals, how can it be secured? What strategies can ensure that RDF revenue supplements, rather than substitutes for, central treasury allocations?

The simple but vague promise of “continued funding at present levels” may be difficult to monitor and enforce in practice. Trends in government revenues, allocations among ministries and within the ministry of health, local inflation, and foreign exchange fluctuations (which usually have a major effect on pharmaceutical purchasing power) all make increases or decreases in pharmaceutical budgets difficult to predict.

At least three budgeting strategies exist: (1) maintaining an annual per capita pharmaceutical budget; (2) establishing a budgeting formula and an agreed-upon list of groups of patients or treatments for public support (for example, children, prenatal supplements, tuberculosis treatment); and (3) excluding RDF revenue entirely from all national or local budget information and expenditure analysis.

The last approach has been implemented in one East African country by showing user-fee revenue as a nominal amount in official budget figures and excluding it from historical comparisons and budget analyses. As a result, rising user-fee and insurance revenue has not measurably affected central government allocations for health.

Funding from donors and development loans. Grants and development loans can be instrumental in planning and implementing an RDF. This category of funding may include financing of start-up capital, development costs, and price subsidies during the first few years of operation. Such funding should not be relied on for long-term subsidy, however, because it puts the RDF’s financial sustainability at risk.

In an RDF, donated medicines should normally be sold through health facilities at regular RDF prices, and the revenues from such sales should be used to support health services, as determined by the community. Distributing donated medicines without charge creates confusion for health staff and patients. Medicines provided to support programs such as leprosy or tuberculosis control, which are often included in the list of exempt health conditions, would be an exception.

Start-up financing

Starting or expanding a revolving drug fund requires working capital, support for the development of management systems, and sometimes partial subsidy of pharmaceutical costs.

Capitalization requirements. Capitalization means filling the RDF pipeline—from central warehouses through

peripheral medicine stores—with appropriate inventories at each level before pharmaceutical sales begin. Only when the pipeline is filled is the drug fund able to revolve. Gaps in the pipeline result in missed deliveries from one level to the next and eventual stockouts at the point of service delivery.

The central government or an external donor may provide seed stock for RDF capitalization, or it may be contributed at the local level by the community. Pipeline calculations for an RDF are illustrated in Box 13-1. The pipeline is affected by inventory management decisions (Chapter 23), distribution system design (Chapter 22), and cost-saving measures related to pipeline management (Chapter 40).

Overcapitalizing RDFs wastes money, but RDFs that are undercapitalized quickly break down—for example, when fees are collected from pharmaceutical sales, but funds are inadequate to replenish pharmaceutical stocks. When revenues intended for pharmaceutical purchases are inadequate to purchase all necessary medicines, funds may be used for emergency purchases of small quantities at higher-than-expected prices or to pay other expenses, further decapitalizing the fund.

Development and implementation of management systems. Support may be needed to develop pharmaceutical and financial management systems and for training, community orientation, monitoring, and other implementation activities.

Price subsidies. Lower prices and broader exemptions may be needed at the beginning to gain acceptance for the system. The total development cost of an RDF, therefore, may need to include funds to partially subsidize prices for the first few years.

Foreign exchange

Foreign exchange is an extremely important issue that requires support and cooperation from government groups outside the health sector. Where local currency is not freely convertible and the demand for foreign exchange exceeds supply, government commitment is required to provide the foreign exchange necessary to replenish pharmaceutical supply on a regular basis. Because revolving drug funds are designed by health policy makers but foreign exchange allocations are made outside the health sector, often by the ministry of finance, central bank, or national planning ministry, the issue of foreign exchange can be problematic. Coordination among different arms of government is difficult but essential to ensure the sustainability of supply.

Liberalization of foreign exchange markets has greatly improved the situation in many countries. Even where governments continue to allocate foreign exchange for government ministries, an RDF may be able to obtain a waiver for foreign exchange on the open market.

Box 13-1 Pipeline calculations for capitalizing an RDF

A revolving drug fund must have sufficient working capital (pharmaceuticals and cash) to start revolving and keep revolving. Working capital depends on the amount of pharmaceuticals and cash in the pipeline. The length of the pipeline is measured in numbers of months. It is determined by the number of levels in the distribution system, the safety stock at each level, and the average working stock (which depends on the delivery interval—see Chapter 23). The diameter of the pipeline is determined by the final outflow—the total value of pharmaceuticals dispensed per month.

The following example illustrates a pipeline calculation for establishing an RDF to serve a network of 210 community pharmacies. It includes a central supply agency, district stores, and community pharmacies.

The pipeline for the proposed pharmaceutical sales program begins with the disbursement of funds for procurement and ends at the point where funds are collected and made available for purchasing replenishment supplies. The pipeline can be broken down into a number of segments, as illustrated below.

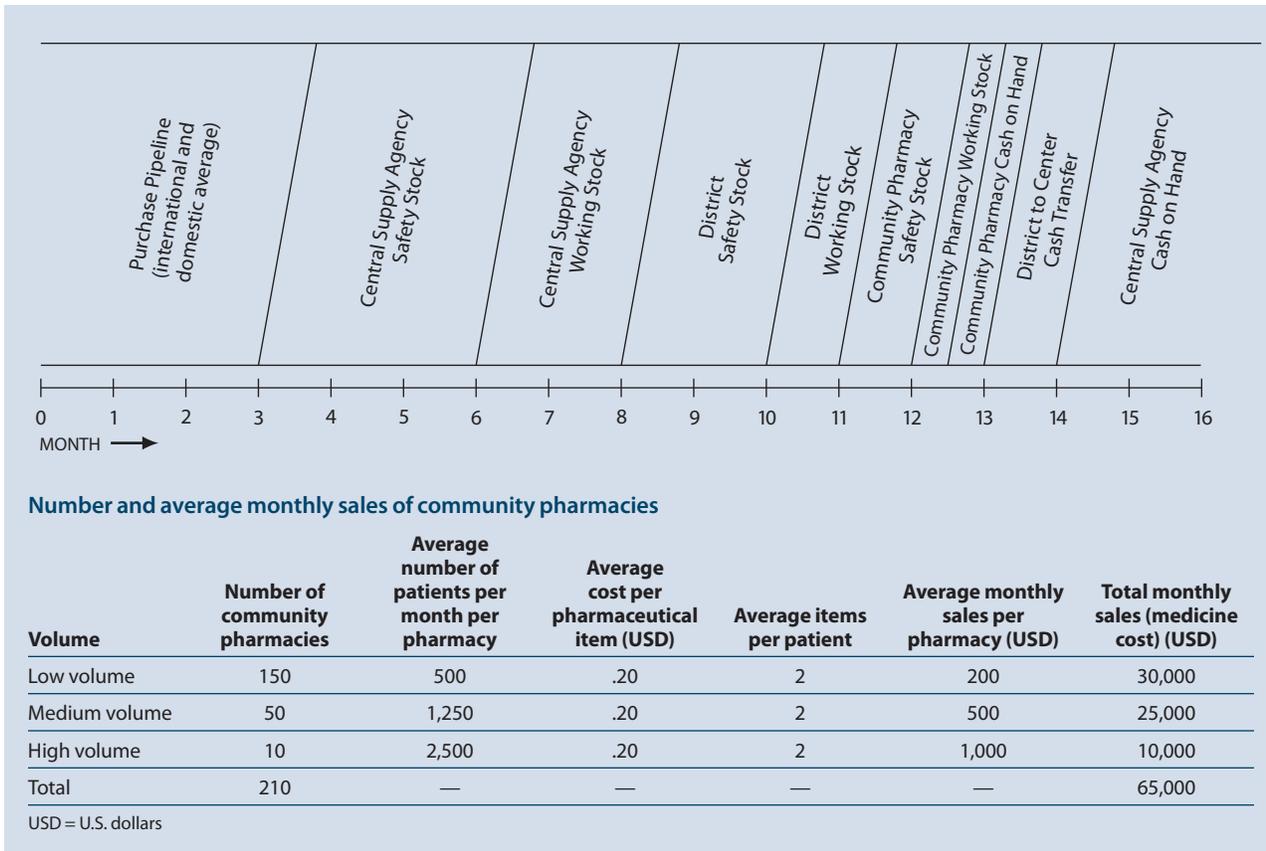
Average monthly sales. The number of low-, medium-, and high-volume community pharmacies and the average monthly sale per pharmacy are estimated in the table opposite.

Capital requirements. With an average pipeline length of sixteen months and an average consumption for all 210 pharmacies of 65,000 U.S. dollars (USD) per month, total capital requirements would be as follows—

$$16 \times \text{USD } 65,000 = \text{USD } 1,040,000$$

Sources of capital and possible cost savings. Working capital can be supplied from various sources: the purchase pipeline and safety stock could be financed by donations, the working stock for central and district levels by government allocations, and the community pharmacy funds from community fund-raising efforts. Improved procurement payment terms, more rapid flow of medicines through the system (faster turnover), and more efficient bank transfers could shorten the pipeline and reduce capitalization costs.

Cash and pharmaceuticals in the pipeline	Months
Purchase pipeline: In this example, it is assumed that roughly 50 percent of pharmaceuticals will be purchased from international sources and 50 percent from local sources. For international purchases, an average of six months will elapse between the provision of a letter of credit and the receipt of the pharmaceuticals at the central supply agency. For domestic purchases, payment will be made upon receipt. Therefore, the average purchase pipeline will be three months.	3
Central supply agency safety stock: A three-month safety stock will be maintained at the central supply agency.	3
Central supply agency working stock: The supply agency will tender once a year but will receive deliveries every four months, which implies a maximum working stock of four months and an average working stock of two months.	2
District safety stock: The district medical stores of the supply agency will maintain a two-month safety stock.	2
District working stock: The district medical stores will receive shipments from the central supply agency every two months, implying a maximum working stock of two months and an average working stock of one month.	1
Community pharmacy safety stock: The community pharmacies will maintain a one-month safety stock.	1
Community pharmacy working stock: The community pharmacies will be resupplied once a month, implying a maximum working stock of one month and an average working stock of half a month.	0.5
Community pharmacy cash on hand: The community pharmacies will use their revenues once a month when they purchase their resupplies from the district medical stores. On average, these funds will have been held half a month by the community pharmacies.	0.5
District to center cash transfer: Money received by the district medical stores will be deposited within the week at the local branch of the national bank. On average, this money will take one month to be credited to the account of the supply agency.	1
Cash on hand: In general, purchases made by the supply agency will represent one-third of its annual turnover. As a result, money will sit in the agency's central account up to four months, or an average of two months, before being used to make a purchase.	2
Total pipeline =	16



13.5 Organizational issues

Organizational issues for RDFs include their structure, pharmaceutical supply system, need for a multidisciplinary team, community involvement, and legal matters.

Organizational structure

RDFs can be managed through a highly centralized structure, a decentralized approach, or a mixed approach in which different functions are managed at different levels. Centralized systems have the potential advantages of a standardized medicine list, bulk purchasing, and national uniformity in pricing policies. Decentralized price setting, determination of exemption policies, and adjustments in the medicines list, however, may make an RDF more responsive to local circumstances.

In practice, many RDFs combine the two approaches. For example, procurement may be centralized, and policies with regard to prices and exemptions may be determined locally. Or the central government may provide training and supervision, and all other management systems, including procurement and distribution, may be decentralized. The important issue is to identify the key requirements for RDF implementation and to clarify

where responsibility lies for each. Major routine functions include—

- Product selection (review and revision of the essential medicines list)
- Procurement and distribution
- Price setting
- Determination of exemption policies
- Audit and financial oversight
- Local representation and oversight

Pharmaceutical supply system

RDF survival depends on a regular supply of low-cost, high-quality medicines; if procurement and distribution are not reliable, the RDF will quickly stop functioning. RDFs may be established as part of a major effort to revitalize government pharmaceutical supply systems, including central medical stores (CMS), or in conjunction with the establishment of an autonomous pharmaceutical supply agency.

RDFs may also be supplied through a direct-delivery system, in which tenders establish the supplier and price for each item and suppliers deliver medicines directly to districts and major facilities. Pharmaceuticals may be supplied through a primary distributor system, in which the

government establishes a contract with a single private distributor (or prime vendor) as well as separate contracts with pharmaceutical suppliers. The primary distributor manages pharmaceutical distribution by receiving medicines from the suppliers and distributing them to districts and major facilities. Finally, some RDFs that have the authority (that is, they are not required to buy from the public-sector supplier) may procure pharmaceuticals through the local private sector, especially in cases where the government supply is unreliable. The Nyamira district RDF in Kenya normally procures from the district medical store; however, it uses a private procurement agent to fill gaps (Enemark, Alban, and Vazquez 2004). In the Lao P.D.R., the RDF often buys medicines from private pharmacies, which are also its competition (Murakami et al. 2001).

Pharmaceutical supply strategies—including the CMS system, autonomous agencies, direct delivery, and primary distributors—are described in detail in Chapter 8. Because a reliable supply of medicines is essential to the success of RDFs, decision makers and managers involved in planning or implementing RDFs must carefully consider the best pharmaceutical supply strategy.

Multidisciplinary team

Just as an immunization program needs staff specialized in cold-chain maintenance, epidemiology, and community mobilization, RDFs need staff specialized in certain areas. In addition to staff with clinical and pharmacy training, RDFs need staff with skills in economics, business, and accounting. Such skills are often found in other ministries and in the nongovernmental sector. Recruitment of some specialized staff may be needed.

Community involvement

Community involvement is essential for the acceptability, credibility, and accountability of RDFs. Informal involvement may include advising on program development and the collection and use of revenue and participating in public awareness campaigns. Formal involvement may include participation in generating start-up funds, setting fees, determining who receives exemptions, ensuring accountability, and monitoring the use of revenues. For example, cases in sub-Saharan Africa showed that by involving communities in initial cost-sharing strategies, the community-based management committees were empowered to make more complicated management decisions down the road (Shaw 1995). Also, rural districts in Uganda where communities owned and managed funds from user fees had improved service quality and increased usage, while urban districts, which had little community involvement, saw decreases in service usage (Kipp et al. 2001).

Community stakeholders must be a part of the design and planning process, so that they become owners of and therefore advocates for the program. Garnering community support and providing information to the public are particularly important at the outset, when user charges are just being introduced or when major program changes occur. Chapter 31 discusses community participation in greater detail.

Legal aspects

Government-run RDFs and broader user-fee programs often involve policies and actions that are not strictly legal under current law or whose legal status is unclear. Examples include the policy that user-fee revenue will add to, not replace, central government allocations; retention of revenue at the facility or district level; opening of local bank accounts; carrying forward of unspent funds to the next fiscal year (as opposed to returning funds to the treasury); and independent external audits of RDF financial accounts and stocks.

Depending on local conventions and the policy or action involved, official endorsement may require various combinations of ministry circulars, legal notices, cabinet approval, acts of parliament, and presidential decrees (executive orders). Generally, the more cumbersome the method (such as an act of parliament), the harder it is to reverse. This fact can provide a degree of protection from future political whim. Therefore, if some principles are vital to the success of the RDF (such as local retention of fees or additivity to treasury allocations), the effort to have these principles endorsed through legal notice or even an act of parliament may be worthwhile.

13.6 Implementation planning

Implementation planning involves decisions about bottom-up versus top-down implementation, phasing and pilot testing, and development of RDF procedures.

Bottom-up versus top-down implementation

Bottom-up versus top-down development of user charges is both a policy question and an implementation question. Introducing fees at all levels at the same time is rarely feasible. Therefore, should fees be introduced first at the hospital level or at the community level?

Arguments favoring starting at the top include the following (Griffin 1988; Blakney, Litvack, and Quick 1989)—

Equity: Higher-level facilities generally serve populations that are better able to pay for services and have access to other health providers.

Reinforcement of referral system: Introducing charges at higher levels encourages the use of cost-effective lower-level services.

Revenue potential: Higher-level facilities provide large volumes of more costly pharmaceuticals and other services.

Administrative capacity: Senior managers, pharmaceutical management staff, accountants, and other necessary staff may be better equipped to undertake the additional administrative burden.

Impact evaluation: The health care and financial effect of user fees is easier to monitor at a smaller number of more accessible facilities.

Arguments favoring starting at the level of the community or primary care facilities include the following—

Demand: Communities are actively interested in ensuring a regular supply of essential medicines.

Lack of alternatives: Rural populations often have fewer choices in health care; if the government or community cannot provide medicines, they may go without.

Support for prevention: Increasing pharmaceutical availability at the primary health care level also attracts people for essential preventive services.

Community involvement: A bottom-up approach provides greater opportunity for community involvement. Also, government or donor start-up funds may be supplemented by community contributions.

The relative strength of the case for bottom-up versus top-down implementation varies with local circumstances. Too often, however, the choice is strongly influenced by local political pressures or donor interests rather than by the merits of each approach.

Experience and careful monitoring can help determine the viability of an RDF at each level. The cost of establishing and maintaining user fees at the lowest level may be greater than the revenue collected.

Phasing and pilot testing

Most countries find implementing an RDF at all levels and in all parts of the country at the same time unworkable. Success depends on developing and testing fees, pharmaceutical supply procedures, and financial management systems. It is best done through pilot testing or phased implementation.

Pilot testing an RDF in one province or one district before it is implemented nationally enables systems to be developed and monitored under close supervision. In countries such as Nepal, Nigeria, and Liberia, different approaches to RDFs in different parts of the country allowed cross-fertilization of experience.

Pilot tests can be misleading, however, if they are conducted only in more accessible, better organized areas;

if they are conducted with much more intensive technical and financial support than could be expected with national implementation; or if they result in systems suitable to the pilot area but less suitable to other parts of the country. Circumstances can also change; for example, Azerbaijan successfully piloted RDFs in populations of refugees and internally displaced persons. The pilot experience showed that RDFs were feasible and relatively sustainable. However, plans to expand the funds were canceled when market prices of pharmaceuticals dropped lower than what the RDF would have to charge to recoup procurement and overhead charges (Holley, Akhundov, and Nolte 2004).

Phased implementation, beginning at the higher levels of the system, offers the advantage of firmly establishing effective pharmaceutical supply, financial management, pricing, exemption, and accountability systems at each level before proceeding to the next level. A phased approach can help build public acceptance, test and revise fee structures, develop management capacity, and train staff over a reasonable period of time.

With phased implementation, the high-level facilities in each area serve as training and demonstration centers for the next level: provincial hospitals establish their systems, then become training sites for district hospitals; district hospitals develop their systems and become training sites for health centers; health centers become training sites for health posts or community health workers. It may take six to eighteen months to develop, implement, and reinforce RDF management systems at each level.

With either a pilot or a phased approach, an RDF cannot expand any faster than the capacity of the supply system to provide a steady supply of essential medicines.

Development of RDF procedures

An essential aspect of any approach is the development of procedures for pharmaceutical and financial management. Normally, a procedural manual or set of manuals should be developed. Shorter versions of these manuals, including one-page checklists, can be prepared to address the information needs of specific levels and functions.

13.7 Pricing and equity of access

RDF pricing and exemption policies are critical for ensuring that patients in need of essential medicines and medical supplies receive them and that the RDF does not decapitalize. These two requirements pull in opposite directions, creating a constant tension. Prices, as well as the accompanying policies with regard to exemptions, are the mechanism by which the necessary balance is achieved.

Pricing strategies

Pricing for RDFs involves two related questions: what type of medicine fees should be charged, and what should the level of fees be?

Types of medicine fee. Alternatives include course-of-therapy fee, prescription fee, item fee, multilevel item fee (price bands), and variable item fee (see Table 13-1). These mechanisms can be compared with respect to the following criteria—

Effect on prescribing practices: Does the fee create incentives for prescribing more medicines or fewer medicines, higher-cost or lower-cost medicines?

Effect on patients: Is the fee likely to dissuade patients from buying needed medicines, or does it create incentives for patients to use medicines more cost-effectively? Will patients feel they have paid a fair price?

Ease of collection and accounting: How easily can health staff calculate the required payment, make change, and keep accurate payment records?

Balancing pharmaceutical costs and revenues: How closely do the fees received for individual medicines balance the actual cost of medicines dispensed? Can fund managers easily ensure that the collected funds are sufficient to resupply the medicines dispensed?

The effect of fees on prescribing practices is not shown in Table 13-1 because that correlates with whether health staff salaries or bonuses depend on revenue derived from medicine fees. Like private practitioners, government and community health care providers are likely to prescribe more medicines and more costly medicines if their income depends on pharmaceutical sales.

Course-of-therapy fees, multilevel item fees, and variable item fees can all differ for individual medicines. In such instances, the fees charged to patients can be based on the actual cost of the medicine, an assessment of the health impact of the medicine, or a combination of these factors. Pricing can be based on the VEN (vital, essential, nonessential) system (see Chapter 40): for example, the equivalent of USD .10 per item for vital medicines, USD .20 per item for essential medicines, and USD .30 per item for nonessential medicines. With this approach, vital medicines may be sold at prices lower than their replacement cost.

With the variable item fee, the price can be based on a fixed percentage markup over cost, a variable percentage markup, actual cost plus a fixed dispensing fee, or another formula (see the discussion of retail margins in Chapter 9). For example, higher-cost medicines or medicines with a greater health impact may have a lower markup.

Ease of collection and accountability are important considerations, because administrative and accountability

Table 13-1 Comparison of types of medicine fees

Type of fee	Example	Effect on patients ^a	Ease of collection and accounting ^b	Balancing pharmaceutical costs and revenue ^c
Course-of-therapy fee Fixed fee for diagnosis based on standard treatment	USD .20 for one course of malaria treatment; USD .30 for one of pneumonia treatment; USD 1 for one month of hypertension treatment	<ul style="list-style-type: none"> • Promotion of standard treatments • No incentive to overuse or underuse medicines 	+++	0
Prescription fee Standard medicine fee per visit	USD .40 per visit (regardless of number, amount, or type of medicines)	<ul style="list-style-type: none"> • Patient pressure for more medicines • No incentive for cost consciousness 	+++	0
Item fee Standard fee per medicine	USD .20 per item (regardless of amount or type of medicines)	<ul style="list-style-type: none"> • Patient pressure for high-cost medicines • Incentive to use fewer medicines 	++	+
Multilevel item fee Three to five levels or price bands	Fee based on pharmaceutical category: A USD .10 per item B USD .20 per item C USD .30 per item	<ul style="list-style-type: none"> • Preference to buy low-cost medicines • Incentive to use fewer medicines 	+	++
Variable item fee Variable fee per medicine, based on type or cost of medicine	Medicine cost plus 20 percent for all items	<ul style="list-style-type: none"> • Preference to buy low-cost medicines • Incentive to use fewer medicines • More cost consciousness 	0	+++

^a Medicine prescribing is influenced by whether the prescriber's salary depends on pharmaceutical revenues (see text).

^b 0 to +++ = range from hardest to easiest for collection and accounting.

^c 0 to +++ = range from hardest to easiest to balance pharmaceutical costs and revenues.

problems are major constraints on the success of RDFs. Unfortunately, course-of-therapy and prescription fees—which are the easiest to implement and are in some respects the most equitable—make it difficult to ensure that revenues collected are sufficient to pay for medicines dispensed.

One approach is to begin with fees that are easy to implement and then move to more complex but financially sustaining fees as the program evolves. More complex fees require more staff training and more sophisticated accounting systems, which can be implemented over time.

Level of medicine fee. What level of fee is appropriate? With an item fee, for example, should the fee be the equivalent of USD .10 per item, USD .15 per item, or USD .20 per item? If the system is introduced first at rural hospitals, prices can be set on the low side, and patient response can be monitored. Prices can be adjusted accordingly during the first year or two, before moving to the next level.

For RDFs, as in business, there are two basic approaches to price setting: (1) the willingness-to-pay, or market, approach and (2) the cost-based, or accounting, approach. Pricing decisions should draw on information gained through both approaches.

In the willingness-to-pay approach, price levels can be set by using any feasible combination of the four methods used by private companies—

- *Consumer opinion:* Survey questionnaires and focus groups ask community members what they would be willing to pay for specific services.
- *Expert opinion:* The most efficient way to set prices is by asking someone who really knows the product and the population. The expert must have firsthand knowledge of the population being served and how people value medicines. Ministry officials and essential medicines program managers are usually not expert at price setting.
- *Comparative pricing:* Surveying private facilities, mission hospitals, retail pharmacies, patent medicine sellers, and other nongovernmental providers to find out their medicine charges may be useful. However, results must be interpreted in light of differences in income level and perceived value of services.
- *Test pricing:* Companies sometimes use early experience in a small area to establish national prices; the response to initial prices can be used to adjust subsequent prices.

In the cost-based approach, prices are established according to the cost-recovery objectives. Because RDF revenues are used to purchase replacement stocks, a factor for inflation and anticipated stock losses must be built into the calculation of sales price. Some programs include a factor for “stock replacement reserve” and “general reserves,” and

any program offering exemptions must adjust for them (see Chapter 41). In the cost-based approach to pricing, the markup percentage must also be determined. Many programs use a fixed percentage, with the more expensive medicines thus producing higher revenues. Other programs use variable markups.

In determining pricing strategies, it must be remembered that the sustainability of the RDF depends on covering some or all of the costs of the system. (What that portion is, and exactly which costs are to be covered, may vary.) The objective is not to maximize profits but to maximize service delivery at a certain basic quality level. Willingness to pay is usually as important as cost data in determining pharmaceutical prices. For example, before the RDF is introduced, estimated sales prices for all pharmaceutical items should be compared with those of similar medicines sold by the private sector. If, after accounting for the replacement costs of pharmaceuticals and exemptions, RDF prices are higher than private-sector prices, the whole RDF strategy must be reconsidered.

Pricing decisions must be made in full recognition of the tension between cost-recovery objectives and social policies regarding access to care. At the same time, administrative requirements for collecting fees must be considered. Most experiences in pharmaceutical cost recovery suggest that when equity-oriented exemption policies and administrative realities are considered, simply recovering the full replacement cost of pharmaceuticals and delivery is often a struggle. Ultimately, cost-recovery potential is determined by patients’ willingness and ability to pay for medicines, and not by a policy that mandates a specified markup (see Figure 13-2).

Financial sustainability of RDFs depends on keeping medicine fees in line with changes in the cost of medicines. During periods of high local inflation and foreign exchange fluctuation, frequent price adjustments may be required. Fee increases may present a short-term hardship to patients, but unless certainty exists that the government or a donor will finance the shortfall, such increases are imperative for the survival of the RDF.

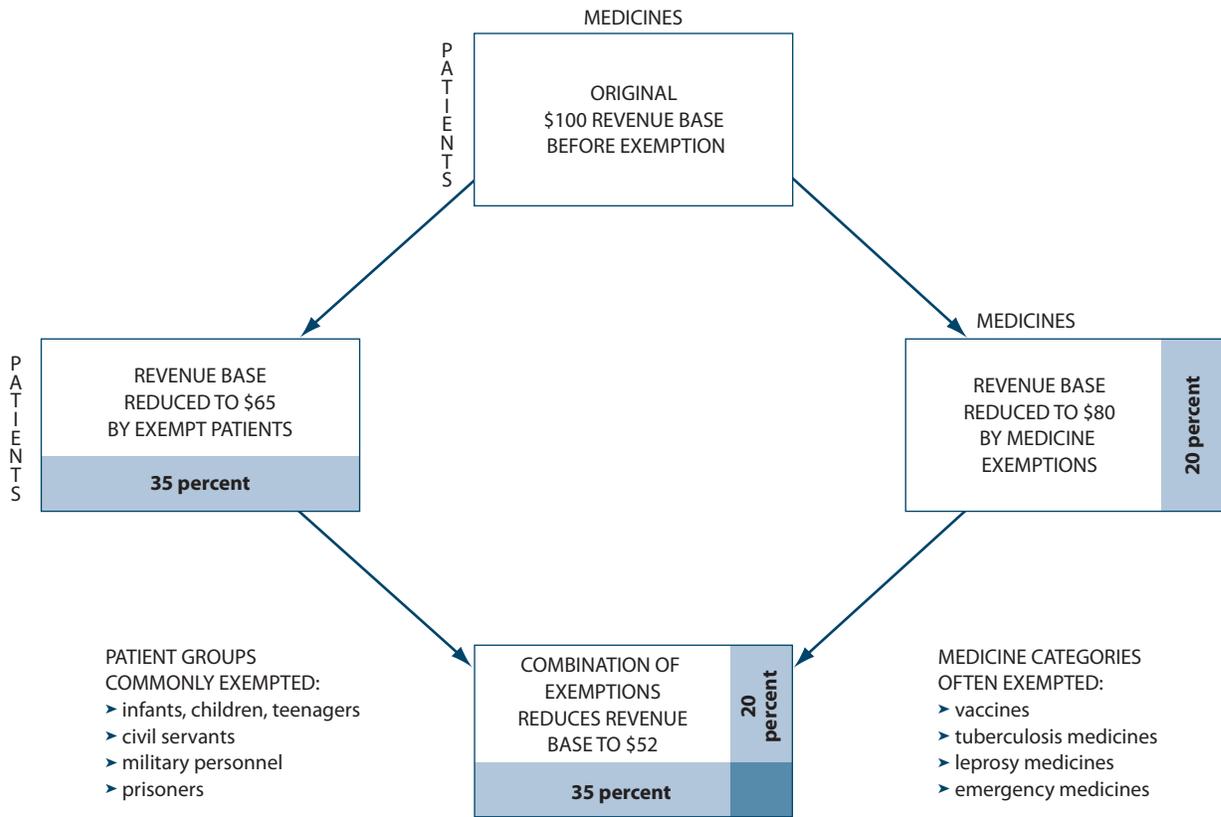
Ensuring equity of access

Protection mechanisms—a safety net—are needed to ensure continued access to essential medicines for the poor, the medically needy, and other target groups.

Many programs would like to establish generous exemption policies. But if the RDF is to be viable over the long run, the revenues collected, along with budget subsidies, must be sufficient to purchase replacement pharmaceutical stocks.

As illustrated in Figure 13-3, calculation of the anticipated cost of exemptions leads to determination of the “base” for cost recovery: the total costs that must be recovered

Figure 13-3 Effect of multiple exemptions on the cost-recovery base of an RDF



Note: Reducing the patients to 65 percent of original and the medicines to 80 percent of original leaves a revenue base of $.80 \times .65 = .52$ of \$100 = \$52.

to ensure that the RDF does not decapitalize. Assessment of total costs to be recovered and government subsidies available determines cost-recovery targets (that is, what percentage of total costs must be recovered from paying patients). This, in turn, suggests various pricing strategies.

As Figure 13-3 shows, the lower the pharmaceutical subsidy provided by the government, the greater the burden of generous exemption policies on the local community. Because of this burden, local communities should contribute to the discussion on establishing exemption policies.

Types of protection mechanisms. Exemption from payment, partial exemption (sliding scale), and differential prices are the most common protection mechanisms. Differential pricing is the setting of different price levels by type of patients, level of the health system, or type of pharmaceuticals. Fee levels may be higher for adults than for children, for example. Pharmaceutical and service fees also may be graduated by level of care, with referral hospitals charging the highest fee for a given medicine or service, district hospitals charging lower fees, health centers charging even lower fees, and community health workers charging the lowest fees. In addition to reinforcing referral patterns,

this approach seeks to improve equity by making pharmaceuticals more affordable through community health workers and lower-level health facilities. Differential pricing by the VEN classification helps make the most essential medicines available at the lowest prices.

The type of fee may also provide some protection. Registration or consultation fees paid before seeing a clinician may dissuade people from seeking needed care, even if they would have been exempt from payment. But when medicine fees are in effect, the most acutely ill patients will have been identified before the issue of payment arises.

Exemption criteria. Criteria used to grant full or partial exemptions fall into three main categories—

- *Poverty:* people below a certain income or standard of living
- *Personal factors:* children (usually those under five), the elderly, the disabled, prisoners, and some categories of students
- *Health conditions:* pregnancy, to encourage proper prenatal care; communicable diseases, such as tuberculosis, HIV/AIDS, and sexually transmitted infections, to encourage treatment or control their spread

For political reasons, user-fee programs sometimes begin with broad exemptions that include civil servants, teachers, members of the military, war veterans, older children, and other groups that are able to pay and for which no equity or public health arguments exist for exemption. Financial sustainability depends on narrowing the list of exemptions as the RDF gains acceptance and as systems develop to target those truly in need.

Administering exemptions. The practicalities of administering exemptions often present the greatest barrier to ensuring equity in RDFs. Procedures should be administratively feasible, exempt the correct groups, and prevent abuse by those who do not meet exemption criteria. An assessment of the Ghana pharmaceutical sector showed that reimbursement delays and exemptions management have substantially contributed to the decapitalization of RDFs (MOH Ghana 2002).

Exemptions and differential pricing based on objective criteria, such as pregnancy, age, or diagnosis, are easier to implement than more subjective criteria. Even verification of age can be difficult, however. Exempting children under five years of age (who are usually known to the staff of well-child clinics) is easier to enforce than exempting children under fifteen years of age (who may be difficult to distinguish from young adults).

Although policy makers usually agree that the poor should be exempt, defining who is poor is difficult, particularly in noncash economies. Measures used to assess poverty level include type of employment, household income (cash and noncash), household expenditures (for example, total cash and noncash expenditures during the last month), and wealth (housing, land, livestock, and other personal holdings).

Verifying poverty or other exemption criteria may not be difficult in a local dispensary where patients are well known to staff. But in a busy, less personal health center or hospital outpatient department, it can be quite difficult. For example, at a hospital in Ghana, only 2 of almost 42,000 patients were identified to receive “pauper” exemptions (Nyonator and Kutzin 1999). Involving the community in deciding who should receive waivers has been successful in some settings (Holley, Akhundov, and Nolte 2004; Jacobs and Price 2006).

Experiences from many countries have shown that exemption plans are rarely effective or functional—either because the system is not well understood or because pressure is great to generate revenue in the facility—and that even if a user-fee system is well organized, the lack of waivers will likely entail a trade-off between financial sustainability and access to the poor (Nyonator and Kutzin 1999; Xu et al. 2006).

Financing the cost of exemptions

An effective system of exemptions and other protection mechanisms is essential to ensure equity of access. Unless

someone pays the cost of these exemptions, however, an RDF will soon cease to revolve. Exemptions can be financed through any combination of the following—

- Central government recurrent budget allocations
- Higher markups on medicines for patients who can pay
- Community contributions
- Local or external donors

A certain level of government financial support is usually necessary to ensure equitable access for the poor and other target groups; otherwise, prices for paying patients must be increased to cover the cost of exemptions. In practice, using higher markups for paying patients to finance exempt patients usually fails, unless the proportion of exempt patients is low and collection efficiency is high. In community pharmaceutical schemes, village health committees sometimes maintain “poor funds” to pay for those who cannot afford medicine fees. In Cambodia, some public hospitals established health equity funds for poor people that used a community-based third-party-payer arrangement to administer the scheme. These hospitals saw an increase in services given to the poor (Jacobs and Price 2006).

Finally, exemptions may be financed by local or external donors, but few are willing to provide long-term subsidies. In some cases, however, donors support exemptions through in-kind contributions (medicines for acute respiratory infection, diarrheal disease, or nutritional support), with the understanding that treatment will be dispensed without charge if the patient meets established exemption criteria. As discussed in Chapter 15, country program managers and policy makers, rather than donors, should decide how donations will be handled in cost recovery.

13.8 Management of pharmaceuticals and money

RDFs face much more demanding management requirements than free systems. The concepts of service performance and cost control must pervade the management of RDFs.

Pharmaceutical supply management

Selection, procurement, quality assurance, distribution, management information, and medicine use are all handled somewhat differently in the context of an RDF.

Selection. The essential medicines list for the RDF (its “product line”) must be based on essential medicines selection criteria (see Chapter 16), but provider perspectives and patient preferences must also be considered. For

example, if two medicines are therapeutically equivalent and similar in price, the more popular (“sellable”) one should normally be purchased. Supplying high-cost, low-volume medicines with limited health effect is probably best left to the private sector, because such medicines can tie up working capital and result in losses caused by expiry.

Procurement. Regardless of the level at which procurement is managed, a reliable source for the purchase of resupplies is essential. Turning to local distributors or private pharmacies to cover delayed shipments from normal sources often raises costs beyond what can be recovered through sales. Even if the RDF is managed by a government entity (as opposed to a parastatal or private organization), the procurement cycle must be freed from the treasury cycle to ensure that pharmaceuticals can be bought when needed and tenders are not automatically canceled between fiscal years. Procurement must ensure maximum bulk discounts (such as one-year competitive contracts) while controlling inventory-holding costs (for example, by arranging three or four deliveries per year of high-volume items).

Quality assurance. Quality assurance procedures must ensure both the reality and the appearance of quality. For example, dispensing containers should protect the medicine, but their appearance may also influence whether patients feel they have paid a fair price for the medicine inside.

Distribution and inventory control. Distribution must be through a “pull” system, based on actual demand. Inventory records must be accurate to ensure the purchase of correct quantities. Underestimates result in lost sales and gaps in health service for clients, and overestimates can lead to costly expirations. Transport arrangements must ensure steady supply.

Management information. Giveaway systems can sometimes afford not to know what happens to medicines after they are distributed, but RDFs need good information on which products are in demand and which ones are not. Information on stockouts is needed from facilities because inventory records at distribution depots may not fully reflect undersupply problems.

Rational use. If health workers benefit directly from pharmaceutical sales, monitoring must ensure that workers are not irrationally catering to patient demands (for more injections, for example) or overprescribing. Prescribers and dispensers must ensure that poorer patients, who cannot afford to buy everything prescribed, know which are the necessary, curative medicines (for example, co-trimoxazole for pneumonia) and which are the optional, symptomatic medicines (such as paracetamol). Dispensing staff must guard against patients buying subtherapeutic quantities of all pharmaceuticals prescribed, rather than therapeutic quantities of only the curative medicines.

Financial management and accountability

Traditional accounting systems for governments and not-for-profit organizations are designed primarily to account for funds spent. RDFs require systems that ensure reliable collection of fees, safekeeping of revenue, and proper expenditure of revenue.

Systems and procedures. Standard procedures must be implemented for fee collection, stock control and valuation, reporting, banking, auditing, and control of expenditures. Potential sources of theft, fraud, and abuse must be monitored to minimize losses.

Examples of accountability problems include clerks who charge patients the full fee but record only half the fee and pocket the difference; dispensing staff who give a patient ten tablets, record having issued twenty tablets, and keep the difference; accounting staff who record and deposit less than the full amount collected; and procurement staff who authorize payment to suppliers for pharmaceuticals never received and share the payment with the supplier.

Chapter 41 describes procedures and systems for financial management and accounting in the context of RDFs. In government-operated RDFs, procedures must be consistent with the law. In Ghana, for example, although the law defines standard markups for pharmaceuticals, actual fees varied dramatically by district and facility—patients paid from 11 to 275 percent over the approved prices (Nyonator and Kutzin 1999). It is therefore important that governments make the fee schedules transparent and that accounting officials review and endorse RDF accounting procedures.

Enforcement. Even the best-designed systems for financial management and accountability require enforcement. At each level, regular supervision should focus on areas of potential abuse. Disciplinary procedures provide a range of possible responses, from warnings through dismissal, depending on the severity and frequency of the offense. RDF managers should be prepared to invoke disciplinary procedures and to bring criminal charges when necessary. Government procedures on misuse of public funds must be visibly and vigorously applied to ensure full collection and proper expenditure of revenue. Well-publicized prosecution of one prominent offender can be a highly effective method for improving overall adherence to procedures.

13.9 Preparing health staff, patients, and the public

Introducing or expanding an RDF requires building support from health staff, patients, and the public through orientation programs, training, and good communication.

Orientation and training for health staff

For RDFs at the national, institutional, or community level, orienting senior officials to the objectives and organization of the program is important. Even if most such officials will have no direct program responsibility, their work may be indirectly affected and, in practice, their support (formal or informal) may be needed.

Training should consider the information needs of pharmacy, pharmaceutical management, accounting, and other staff directly involved in the RDF, as well as the needs of health workers and unskilled staff whose cooperation is necessary. Training should focus on new knowledge, skills, and attitudes needed by each group. In addition, all staff should receive basic orientation that will enable them to correctly inform patients and the community about the RDF.

Communications for the public and patients

Public and patient acceptance are vital for the implementation and further development of RDFs. A communications strategy should systematically address the following issues:

Target audiences: Target groups include national leaders, community leaders, local opinion leaders (who may be different from official community leaders), health workers, patients currently attending facilities, and the general public.

Opinion survey: A “market survey” using questionnaires, in-depth interviews, or focus group discussions can help assess how high-priority target groups might respond to fees, and how much pricing elasticity may exist.

Messages: Building on the positive aspects of user fees, without making promises that cannot be kept, is important. Clarifying exemptions, such as for maternal and child health, is good public relations and good public health policy. If the RDF fees are for pharmaceuticals only, promote this: “The doctor is still free.” Community participation and management, if appropriate, can be important concepts to convey.

Media and methods: Choice of media for communication depends on local availability and practices. Print media, radio, television, and local meetings are all appropriate options. In countries such as Nigeria, Kenya, and the Philippines, where newspapers have good coverage, stories of small successes can be distributed regularly as press releases at low cost to the program (through print media, radio, local meetings).

After the preceding issues have been addressed, an effective communication plan can be developed to support the implementation plan for the RDF. Chapter 33 is aimed primarily at public and patient communications for improved

medicine use, but it also provides useful information for preparing an RDF communication plan.

13.10 Monitoring and supervision

Regular monitoring and supervision are essential to assess the effect of RDFs on patients and financial performance. Supervisory visits should focus on patients’ responses to user fees, implementation of exemption procedures, pharmaceutical availability, and key aspects of the collection and accounting system. A supervision checklist can help ensure that critical functions are reviewed. Routine reporting systems must be adapted to handle financial and pharmaceutical supply information, as well as health care information. Some systems have a community-based management committee that monitors operations. In cases where a lack of human resource capacity makes monitoring and supervision difficult, a larger community role can ease the burden on the system.

Visits should be targeted to facilities whose reports indicate poor performance or for which routine reports are not available. An RDF in the Caribbean uses routine reports to classify community pharmacies as red, yellow, or green and to direct supervision efforts accordingly. In East Africa, a national cost-sharing program uses routine reports similarly, to classify districts for the purpose of targeted supervision.

With new RDFs, major new fees, or other major changes, supervisory visits should be as frequent as possible, and a reporting system should be used to identify and address early problems. Sentinel sites and special studies may be needed to guide the development of the program and to assess its effect. Chapter 48 describes these and other relevant aspects of monitoring, and Chapter 49 discusses information system design. Key issues for RDF monitoring appear in the assessment guide at the end of this chapter.

Decapitalization must be avoided, because it quickly leads to failure and loss of community confidence. Each health center operating an RDF should be visited every month or two to ensure that procedures are being followed and that the RDF will not become decapitalized.

If possible, a formal evaluation should be planned within the first three years of a new program to assess its overall impact, equity, sustainability, efficiency, and long-term prospects. Chapters 36 and 48 describe methods for such an evaluation.

13.11 Common pitfalls and lessons of RDFs

Although the concept of RDFs is simple, the successful establishment and long-term sustainability of such schemes have been fraught with difficulty. Often, the monies

Table 13-2 Effect of introducing user fees in health care

Change in service level	Outpatient medicine fees	Inpatient medicine fees	Who retains funds	Exemption	Effect on quality
Service usage decreased					
Burkina Faso	Yes	Yes	40 percent at hospitals	No	No improvement
Ghana	Yes	No	Distributed between district, ministry of health (MOH), and treasury	Yes	Medicine shortages persisted
Kenya	Yes	No	75 percent facility/25 percent district	Yes	Improved rating in provincial hospitals
Lesotho	Yes	Yes	MOH	Yes	Equivocal
Mozambique	Yes	Yes	Unknown	Yes	Equivocal
Zimbabwe	Yes	Yes	100 percent at national hospital/ other facilities to treasury	Yes	No evidence
Service usage increased					
Benin	Yes	Yes	75 percent facility	Yes	Improved medicine availability in public health centers
Burundi	Yes	Yes	100 percent community	Yes	Improved medicine availability in public health centers
Cameroon	Yes	Yes	100 percent health centers/ 50 percent hospitals	No	Improved medicine availability in public health centers
Guinea	Yes	Variable	100 percent facility	No	Improved public perception
Mauritania	Yes	Yes	Unknown	Yes	Improved medicine availability in public health centers
Senegal	Yes	Yes	Unknown	Yes	No evidence
Sierra Leone	Yes	Yes	Majority to RDF/remainder at facility	No	Improved medicine availability in public health centers
Togo	Yes	Yes	100 percent facility	No	Improved medicine availability in public health centers
Service usage response mixed					
Gambia	Yes	Yes	MOH or RDF	Yes	Improved medicine availability
Guinea Bissau	Yes	Yes	National facilities to MOH/Bamako Initiative related to community, facility, region	No	Improved medicine availability in some facilities
Mali	Yes	Yes	Unknown	Yes	Improved medicine availability
Nigeria	Variable	Variable	Variable from facility to state level	No	Improved medicine availability
Uganda*	Variable	No	100 percent community	No	Variable improvement
Zaire (D.R. Congo)	Yes	Unknown	100 percent community	Yes	Variable improvement

* The government of Uganda eliminated user fees in 2001.
Source: Singh 2003.

collected are insufficient to replenish the original stocks, and the fund soon becomes depleted. An important factor in RDF failure is a resistance to thinking of the fund in business terms. A lack of careful economic and financial analysis in planning the fund, or weaknesses in financial management or in management of the supply system, can lead to failure.

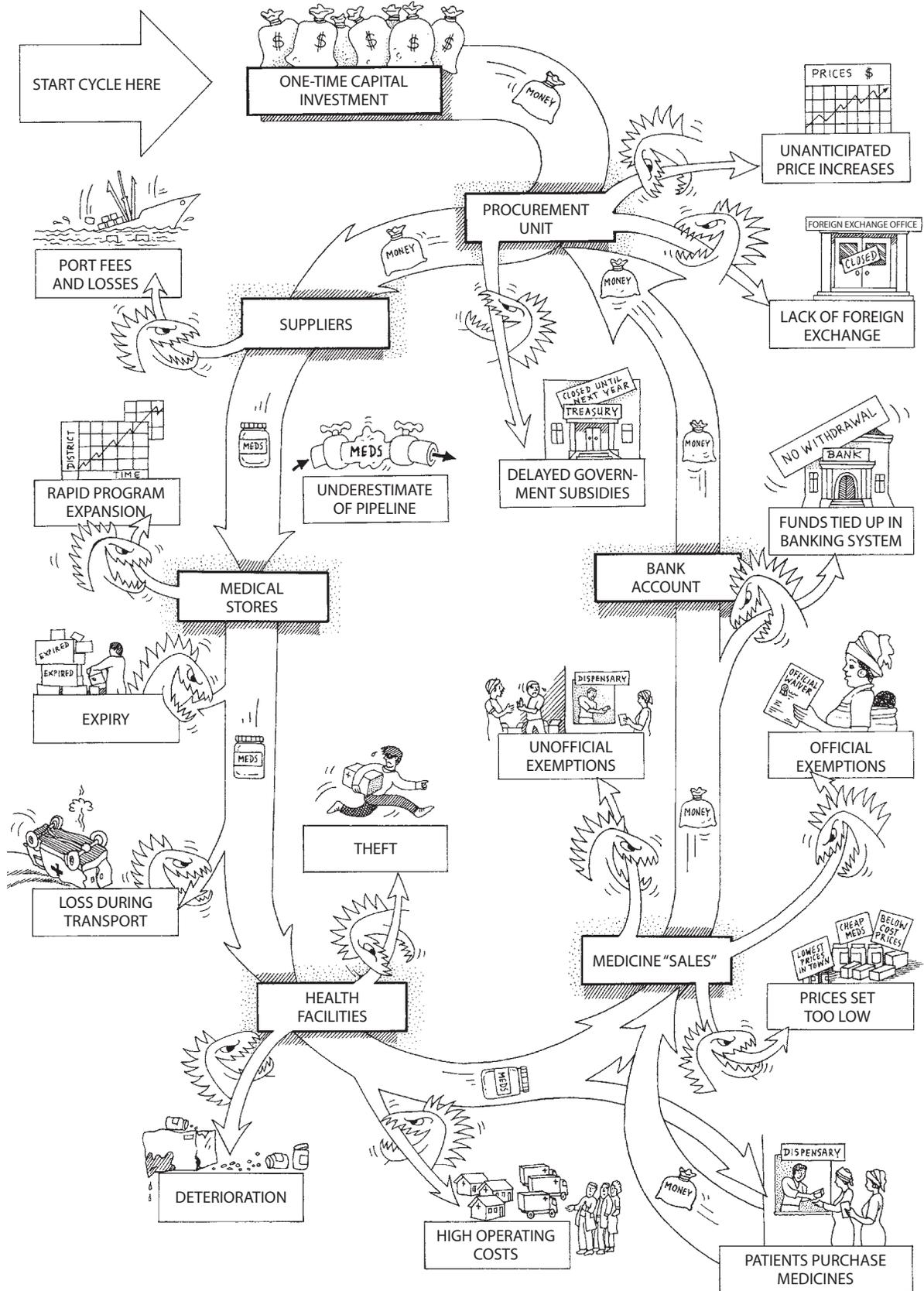
Table 13-2 illustrates the experiences in twenty African countries that instituted user fees, including RDFs. Results shown include the effect on health care service usage.

Common pitfalls

Specific causes for RDF decapitalization include the following (see Figure 13-4)—

- Unanticipated increases in procurement cost caused by inflation or changes in exchange rates
- Underestimation of the capitalization costs of the supply system

Figure 13-4 Cycle of terrors: Causes of RDF decapitalization



- Rapid program expansion for which additional capital funds are not made available
- Unanticipated losses of pharmaceuticals through theft, deterioration, or expiry
- High operating costs that exceed budget amounts
- Prices set too low for intended level of cost recovery
- Too many exemptions that are not subsidized
- Funds tied up in the national banking system or ministry accounting systems
- Delays in collecting subsidies and other payments from government agencies
- Foreign exchange limitations that restrict international purchases for resupply

Guidelines from RDF experiences

No guaranteed strategies exist for designing and implementing an RDF. However, experience with RDFs suggests some guidelines that may increase the chance that an RDF will improve pharmaceutical availability, ensure equity of access, and promote greater efficiency.

Local control and retention of revenue: Keeping the money locally creates an incentive for revenue collection and promotes the use of revenue to improve quality. When fees are remitted to a general government account, there is little incentive to collect fees and virtually no visible improvement occurs in the supply of pharmaceuticals or the quality of care. Community supervision of an RDF is important to ensure its proper management and accountability.

Reliable supply of low-cost essential medicines: RDFs require a dependable source of medicines. Some governments have established independent pharmaceutical services specifically to supply RDFs.

Locally appropriate fee schedules: The types and levels of charges cannot be determined simply as a matter of policy. Pricing decisions must consider both the cost of pharmaceuticals (and services) and the demonstrated willingness to pay. Fees must be adjusted regularly to reflect increases in real costs.

Protection mechanisms to ensure equitable access:

Exemptions, partial exemptions, and other protection mechanisms are necessary to ensure that patients are not denied essential services. Lower fees or free services at the lowest levels of health care encourage patients to use local facilities first.

Continued or increasing levels of government funding for health: Government allocations are still needed for preventive services and to subsidize the poor and other target groups. Collection of user fees should not lead to a reduction of government allocations.

Businesslike orientation: Personnel management, financial management, supply management, and “customer rela-

tions” systems provide built-in checks and balances. Qualified staff must be explicitly assigned to RDF activities. District and facility managers must set collection targets, monitor performance against targets, and take corrective action. Active community involvement is important for the acceptability, credibility, and accountability of RDFs. Public communications should explain the program and ensure that charges and protection mechanisms are understood.

Strict measures to ensure accountability: In addition to systems for the control of pharmaceuticals and revenues, dependable monitoring (often with local community involvement) is important: spot checks, periodic independent audits, and vigorous use of legal and disciplinary mechanisms when abuses are uncovered. Systems that fail to respond effectively to theft of pharmaceuticals are unlikely to fare any better when cash starts disappearing. Government procedures on the misuse of public funds must be visibly and vigorously applied to ensure full collection and proper expenditure of revenue.

Planned implementation: Phased implementation or a well-conceived pilot approach can help build public acceptance and develop management capacity before the system expands to cover the entire country.

Implementation of RDFs depends on a host of issues and, ultimately, on good management. Government and, in many cases, donor commitment are necessary for several years to ensure that sustainable organizational arrangements, financial management, and pharmaceutical supply management systems are in place. The success of an RDF lies in the details of planning and implementation. ■

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ASSESSMENT GUIDE

Policy, organization, and implementation

- Are key functions related to pricing, exemptions, supervision, and other aspects of pharmaceutical management and financial management clearly assigned and effectively performed?
- Are central, district, facility, and community roles clearly and appropriately identified and communicated to all concerned?
- Are policy or legal clarifications needed with regard to exemptions, local retention of revenue, or banking and accounting procedures?
- Are policy makers oriented, have health staff been trained, and has the public been adequately informed about the RDF?

Pharmaceutical management and financial management systems

- Does the RDF have a reliable source of pharmaceuticals through the CMS, an autonomous supply agency, or some other pharmaceutical supply mechanism?
- What types of medicine fees are used: course-of-therapy fee, prescription fee, item fee, multilevel item fee, variable item fee? Should the type of fee be revised to create incentives for more rational use of medicines or to improve accountability?
- Are fee levels set on the basis of medicine costs, assessment of ability to pay, or a combination of the two factors?
- Is there a system for regular supervision at each level and a supervision checklist?
- Are revenues, expenditures, stock levels, and other measures reported and reviewed on at least a quarterly basis?
- Are financial management systems backed up by administrative and legal actions to ensure accountability?

Effect on patients and households

- Is the number of patients decreasing, or are people being dissuaded from seeking necessary care?
- What is the effect of medicine fees on the poorest households? Is access increasing or decreasing? Are expenditures on other household essentials such as food being affected?
- What are the expected and actual percentages of patients exempted from payment? Do specific exemption criteria exist, and are they implemented as intended to ensure equity of access?
- Is the availability of essential medicines, and therefore the quality of care, increasing?
- Are medicines being rationally prescribed and bought? Are health staff overprescribing or underprescribing? Are patients overpurchasing or underpurchasing?

Financial performance

- What costs were intended to be covered by medicine fees: a portion of medicine costs, full medicine costs, or medicine costs plus a surplus to cover other recurrent costs?
- What percentage of the cost-recovery objective is being achieved?
- What percentage of MOH pharmaceutical expenditures is funded by user fees? What level of continued government funding has been planned, and what level is actually being provided?
- How is the cost of exemptions, different prices, and other protection mechanisms being funded? Can protection mechanisms be sustained to ensure access to the poor and other target groups?
- Is the current level of capitalization sufficient to ensure a steady supply of pharmaceuticals?

Note: This assessment guide assumes that an RDF exists. Section 13.3 discusses feasibility assessment when an RDF does not exist.

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