Financing Health Care in Sub-Saharan Africa through User Fees and Insurance

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Contents

Foreword v
Preface vii

Introduction and Overview 1
Mechanisms for Mobilizing Resources 2
Setting Prices and Anticipating Effects 5
Implementation and Future Performance 6
Partners in Cost Sharing 8

1. User Fees 13
The Goals of User Fees 14
Mobilizing Revenues 14
Promoting Efficiency 21
Fostering Equity 24
Reinforcing Decentralization and Sustainability 27
Stimulus to Private Sector Development 28
Ability and Willingness to Pay 30
The Tradeoff between Price and Quality 33
Exemption Policies 42
Administration and Collection of Fees 44
Conclusions and Recommendations 50

2. Self-Financing Health Insurance 55
Risk Sharing: How Did It Evolve? 55
Insurance Basics 57
Formal Health Insurance in Africa 58
Risk Sharing and Efficiency Issues 63
Pooling Risks and Equity Issues 64
Promoting Development of the Private Sector 66
Pre-Payment Plans for Rural Populations 69
Evaluating the Potential for Formal Risk Sharing in Africa 71
Supply-Side 71
Demand-Side 73
Potential for Expanding Coverage 74
Conclusions and Recommendations 77

Appendix Table 81
Notes 85
References 91
Boxes

1. Key Messages 10
2. The Structure of Health Systems in Africa 20
3. Payment Options in the Central African Republic 48
4. Minimizing Problems that Can Undermine Insurance Plans 58
Foreword

Investments in health are a key ingredient in the formation of human capital and the sustainability of socioeconomic development. Yet expenditures on health in Sub-Saharan Africa are often lamented as being inadequate, inefficient, inequitable, and unsustainable. The central problems facing governments and other stakeholders in health are how to mobilize more revenues for health, improve the efficiency of investments in better health, and correct persistent inequities created by current health financing systems.

This volume is meant to open the way for a more informed discussion, offer new perspectives, and to challenge some widely held assumptions about cost recovery. User fees are emphasized because private out-of-pocket expenditures for health account for nearly one half of total health expenditures in Africa. In the past, user fees have been viewed simply as a way of raising money for governments, without improving health systems in the process. Such an approach could lead to the exclusion of the poor from access to health care. Rethinking user fee policies is particularly appropriate because they can, indeed, be designed to improve both quality and equity in the delivery of health care.

Self-financing health insurance is emphasized because this type of insurance enables many people to pool their resources to provide coverage for catastrophic illness or injury. In the past, however, positive aspects of self-financing insurance in Sub-Saharan Africa have been overlooked and underestimated. The potential for self-financing insurance programs is critical because they offer an alternative to tax-based, publicly funded health care systems and because they can foster private sector development and can help free up government funds that are currently allocated, disproportionately, to hospitals. In the process, insurance can facilitate greater equity through reallocation of public funds for public goods and services, as well as through subsidies targeted to the poor.

The heart of the issue is to find acceptable ways to tap resources that African households seem generally willing and able to pay for health, while simultaneously ensuring that people are receiving good value for money. It is now time to build on the growing evidence that well-designed user fees and self-financing insurance offer previously unexpected opportunities to develop better health care systems in Sub-Saharan Africa.

Ravi Kanbur
Chief Economist, Africa Region
Preface

The findings and recommendations in this volume are part of a broad search for ways to improve the effectiveness of World Bank support for health in Africa. They complement a major publication, *Better Health in Africa* (World Bank 1994) and draw heavily on the results of seven country case studies reported in “Financing Health Services through User Fees and Insurance: Country Case Studies from Sub-Saharan Africa” (Shaw and Ainsworth, forthcoming). The country case studies were produced with the generous assistance of the Norwegian Agency for International Development and the Swedish International Development Authority.

The work for this volume was conducted under the general supervision of Ishrat Z. Husain and Kevin M. Cleaver. Reviews and helpful commentary were provided by Martha Ainsworth, Larry Forgy, Jeffrey Hammer, William McGreevey, Germano Mwabu, Reiko Niimi, Marie-Odile Waty, and Annemarie V. Wouters. Editorial assistance was provided by Emily Chalmers, Susan Dynerman, and Virginia Hitchcock. The text was desktopted by Cynthia Stock.
Introduction and Overview

In 1987, the World Bank recommended that the principle of cost recovery be incorporated into an agenda for financing publicly provided health services in developing countries (World Bank 1987). Since that time, there has been much debate and policy analysis on the economic and social implications of such an approach (World Bank 1987, 1993b, 1994). In the countries of Sub-Saharan Africa, agreement is growing that some kind of cost sharing is needed in view of escalating health costs and the limited capacity of the ministries of health to finance or deliver subsidized health care to all citizens. The government's ability to finance and expand health services has been undermined by unstable economic performance, unprecedented rates of population growth, and the immense cost that the AIDS epidemic is beginning to impose on public health budgets.

Concern remains widespread, however, that the introduction of user fees in government-operated facilities or costly membership in health insurance plans could deny the poorest people access to modern health services. Household surveys conducted by the World Bank show that one-third to one-half of those who fall ill do not seek care at modern health facilities but rather draw on home remedies, locally purchased drugs, or traditional healers. An important question is whether the added costs of consultation, transportation, medication, and lost earnings may restrict the use of health services among these people. In Africa, where poor people currently make up about 48 percent of the population—or 216 million people in 1990—the ability to pay for essential health care is clearly of immense importance (World Bank 1993c).

The debate over cost sharing and related issues has yielded several new insights. First, the underlying principles and modalities of cost recovery have become progressively clearer. In the past, too much emphasis has been placed on raising revenues and too little on how cost sharing might contribute to the efficiency, equity, and sustainability of national health systems. Second, a growing number of empirical assessments of the impact of cost recovery have shed new light on the prerequisites to successful cost-sharing strategies and the obstacles that must be overcome. In the past, narrowly framed studies tended to overemphasize both the negative effects of user charges and the limited opportunities for self-financing health insurance. Third, as revenues...
accrue from cost sharing, all those who have a stake in improved health services, including households, private and public providers, and donors, are questioning whether funds can be used more effectively to extend the quantity and quality of services. This is important because recent studies show that government expenditures on health can be allocated far more cost-effectively, with the prospect of extending basic services to larger numbers of low-income Africans (World Bank 1994). Because of the importance of improving health care in Africa, it is time to take stock of recent experiences in the region and review the lessons that have been learned.

Mechanisms for Mobilizing Resources

There are several options for financing better health care in Africa. They include the general systems of taxation used to finance government expenditures and the ministries of health; donor assistance that is specifically earmarked for health projects; charitable donations targeted to private voluntary health providers, such as church missions; user fees; and health insurance (Figure 1).

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**Figure 1. Sources of Financing in a Typical Health Care System**
User fees are emphasized in this volume because private, out-of-pocket expenditures for health account for more than 40 percent of total health expenditures in Africa. Government expenditures, however, account for about 37 percent of total health expenditures, and are financed largely by import duties, sales and income taxes. Donors and charitable contributions account for the remaining 20 percent of total health expenditures in Africa. Most donor funding goes to maintain capital or development budgets rather than to finance recurrent operating expenses such as salaries, drugs, equipment, and maintenance.

Self-financing health insurance is given prominence in this volume because this type of insurance enables many people to pool their resources so as to provide coverage for catastrophic illness or injury. Without access to such insurance, many people would be unable to obtain costly treatment or would have to incur major debts to pay hospital bills. Of course, governments in Africa have been providing health insurance to their populations for years in the form of “free” and universal treatment financed by tax dollars. However, rising costs, limited funding, and increasing inefficiency have greatly weakened the public systems’ ability to provide quality care. Self-financing health insurance represents a progressive change to the prevailing system that enables governments to accomplish the same objectives in more efficient and equitable ways. This approach involves fees and premiums, cost controls, the coordination of health care facilities and providers, and explicit measures to improve equity and efficiency.

There are several reasons why combining user fees and self-financing health insurance can have mutually reinforcing effects on sustainable sources of financing for health care. First, user charges are essential to stimulating self-financing health insurance schemes. Countries cannot undertake widespread promotion of self-financing health insurance schemes without first imposing user fees in government facilities, especially hospitals. The reason is simply that if people can obtain health care for free or at a uniformly low cost, they will not have much incentive to pay insurance premiums to cover unexpected health hazards.

Second, when health insurance begins to cover costs associated with expensive hospital overhead and treatments, public sector subsidies for curative care can more effectively be withdrawn from services used primarily by the rich and then retargeted to poor clients.

Third, self-financing health insurance allows ministries of health to reallocate scarce public resources from curative services that render private benefits to services of a more preventive nature that are aimed at the public at large, such as immunizations or programs to prevent sexually transmitted diseases (STDs) and AIDS. Such services tend to be underfunded in most African countries, while 50 percent or more of public health budgets may be concentrated on curative services at tertiary-level facilities (World Bank 1994).
Table 1. Prices and Anticipated Effects on Publicly Financed or Provided Services

<table>
<thead>
<tr>
<th>Zero or uniformly low price</th>
<th>Cost sharing or increased price</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenues and access to quality services</strong></td>
<td></td>
</tr>
<tr>
<td>Uniformly low prices mean there is little opportunity to mobilize revenues to relieve the shortage of government financing for health services. Typically, this financing is based on direct or indirect taxes and budgetary deficits supported by domestic and foreign borrowing.</td>
<td>Cost sharing means increased opportunities to complement inadequate and often fluctuating government revenues so that recurrent budgets can be partially sustained and investments to expand and improve services undertaken.</td>
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</table>

**Efficiency**

Uniformly low prices for services mean large subsidies, especially for high-cost curative services, no accountability for rising unit costs of providing services, and no incentives for administrators to minimize costs. Pricing services so that they are more in line with their unit costs sheds greater light on the actual value of the service and benefits rendered, whether the government should be financing them, who is likely to use them, and who will pay for them.

Uniformly low prices undermine the providers' ability to ration services according to need (demand) and the capacity of the health system to provide them (supply). Pricing helps reduce excessive or unwarranted demand for a service and brings supply capacity more in line with willingness and ability to pay. Put differently, when a service costs money, people will think twice about demanding it.

Zero or uniformly low prices hinder a health system from efficiently directing users to places where unit costs for particular services are lowest. Users may simply flock to the hospitals with the highest unit costs rather than to health centers and dispensaries, where unit costs are far lower. Pricing signals can help restore efficiency in the referral system by announcing to users that basic preventive and curative services can be provided at lower costs at facilities such as community clinics than at facilities such as hospitals, which should be reserved for more complex curative treatments at higher user charges.

**Equity**

With uniformly low prices, higher income groups tend to consume more expensive curative care than poorer groups, especially because such services tend to be concentrated in urban hospitals, which are usually near better-off households. Charging those who make the most frequent use of expensive curative care and are able to pay can supplement public coffers and raise funds to help subsidize those least able to pay.

**Public-private collaboration**

Zero or uniformly low prices choke off the incentive for private for-profit providers to expand services. Competition and the efficiencies that arise from competitive processes are suppressed as well. Fees and higher prices help foster competition between private and public providers and promote substitution of private for public providers. This shift can help reduce pressure on public providers and free up resources to deliver free health care to those unable to pay.
No pretense is made, however, that user fees and self-financing health insurance will rescue national health systems in Africa from all their financial woes. This volume does not envision or recommend, therefore, that governments play a lesser role in mobilizing more resources for health. Health expenditures in Africa from all sources are only about $8 per capita in the countries containing around 60 percent of the region's population. This figure is considerably lower than the estimated $13 per capita that is considered necessary to provide a cost-effective package of basic preventive and curative services, including safe drinking water and improved sanitation, in low-income African countries (World Bank 1994). Governments have a critical role in promoting better health in Africa, and there is ample evidence they can do so by increasing budgetary allocations to health as a share of total government expenditures and by mobilizing additional support from donors.

Setting Prices and Anticipating Effects

Prices are at the heart of well-functioning user fee and self-financing health insurance systems. Price levels—and the signals they give to consumers—can go a long way toward reducing inefficiencies and inequities in the provision and allocation of health services and can help stimulate private sector development. For this reason, it is important to be clear about the expected effects of pricing and to closely examine the experience of the countries in Africa. Some policy options are reviewed in Table 1. The evidence in this volume strongly confirms the following conclusions.

- Charging user fees clearly affects the use of health services, but the negative impact of prices on the demand for services can be greatly offset, sometimes completely, by improving the quality of services offered. This offsetting mechanism affects even the poorest households.
- Several African governments are adopting user fees and promoting self-financing health insurance to help restore efficiency and equity to national health systems. Such initiatives are creating a more rational referral system through price signals; employing cost sharing to supplement funding for essential supplies, particularly drugs; increasing incentives to providers by allowing them to retain fees they collect; and expanding local participation in both sharing the costs and managing the proceeds.
- As countries gain experience in administering and collecting fees and as users of health services become more familiar with the system and willing to pay for treatment, the gap between the potential and actual roles of cost sharing is beginning to narrow. In many cases, user fees are making a significant contribution to the recurrent budgets of district facilities. In addition, close scrutiny of
countries where self-financing health insurance was believed to be virtually nonexistent has revealed a surprising amount of small-scale activity. Governments have a critical role in pushing these positive developments further, particularly in mandating employer-based insurance and creating enabling environments for private sector initiatives.

Implementation and Future Performance

Policies to implement user fees or to mandate compulsory insurance need to be researched thoroughly and implemented gradually. No system will be perfect, and it will take time to win users' confidence. Many countries are implementing user fees in phases, first in tertiary facilities, then in district hospitals, and finally in health centers. For providers, this system allows the best practices for administering fees and collecting bills to be established in the environments most conducive to charging for services—namely, hospitals. What is learned in hospitals can then be adapted for health centers. For users, this system gives them time to become accustomed to paying and to understand the rationale behind fees.

Other countries are implementing experimental user fee systems at all health facilities simultaneously, but in a specific geographical area—for example, in selected districts. This approach concentrates efforts on improving services at all levels in a district while permitting close monitoring and assessment of the effect of user charges on revenues, efficiency, and equity. If the system performs well, then the country has a successful model that can be duplicated in other districts. For users, the method gives them the chance to evaluate the complete system and to see how they can benefit from the full effects of promised health reforms.

In the case of health insurance, feasibility studies need to begin by assessing those factors affecting the viability of insurance markets. In particular, groups need to be identified that would be viable candidates for an insurance "risk pool." Initially, it may also be advisable to develop an insurance package with a limited, but affordable set of services. The least expensive type of system that can offer risk protection is catastrophic coverage for a life-threatening event requiring expensive hospital inpatient treatment. More expensive coverage could be added at a later stage, depending on the size of the risk pool, income and willingness to pay, and demand for an expanded package of services.

Specifically, African governments can improve the performance of user fees and self-financing health insurance by taking the following actions.

• Providing better information. Users of health care tend to be far more receptive to paying fees when they understand the nature
and level of the charges. An information campaign launched before introducing or raising fees can facilitate this process by explaining why changes are necessary and how the system will work. At a more basic level, posting simple pricing structures for outpatient services in clearly visible places at clinics and hospitals can promote public understanding and participation.

- **Involving health professionals.** Health facility staff not only can help to promote user fee strategies but tend to be far more motivated to collect fees when there are professional and personal incentives for doing so. Retaining fees at the point of collection to help supplement recurrent expenditures—for example, for salaries and essential drugs—is one way to address this issue.

- **Improving administrative procedures.** Efficient collection and administration of fees, particularly at hospitals, is critical in view of the high cost of tertiary-level services and the heavy subsidies provided to hospitals by the ministries of health.

- **Implementing appropriate financial strategies.** Income from user fees can be protected by adjusting for inflation and by keeping revenues in interest-bearing accounts.

- **Exploring payment options.** Permitting alternate forms of payment can enhance users' willingness and ability to pay and thus improve prospects for collecting debts. For instance, farm households are more likely to have access to cash after the harvest than during planting season and are also likely to be more able to pay for services with income-in-kind, such as a bag of grain or poultry, than with cash.

- **Developing risk pools.** Feasibility studies need to assess factors that affect the viability of insurance markets. In particular, groups need to be identified that would be viable candidates for insurance risk pools. Governments can help bring about risk pooling on a larger scale by requiring employers to provide insurance and mandating arrangements that bring small employers and the self-employed into risk pools. Mandating that employers provide insurance in the formal sector, including the civil service, would substantially increase the incidence of insurance coverage and help provide a stable and sustainable source of financing for urban hospitals.

- **Beginning in urban areas.** Urban areas in Africa should be the first focus of a policy to develop self-financing insurance markets because cities tend to have lower administrative costs and more competitive market conditions for medical services. In addition, extending an insurance system to low-income people is most easily begun in cities. Tapping the formal sector can also be relatively easy in urban areas, which are disproportionately populated by government employees. The feasibility of extending insurance in Africa can and should be assessed with the data at hand; both governments and donors can play a decisive role in fostering insurance in potentially viable markets.
Minimizing adverse selection and moral hazard. Adverse selection occurs when the chronically ill or those with a high probability of developing an illness or injury join insurance plans and (healthy) low-risk individuals do not. An effective way to combat adverse selection is to require all family members to join a plan, rather than just an employee (who might be more prone to work-related illness or injury). However, moral hazard arises when people use services more frequently than they would have had they not been members. Moral hazard can be combatted by requiring users to pay part of the costs of their care, such as a copayment or deductible.

Keeping costs in check. Costs need to be kept from escalating. Insurance adds a loading fee to the cost of medical care in the form of administrative costs, sales costs or commissions, and profits. The systems needed to handle the administrative paperwork have become less expensive, however, and at the same time it has become easier to assemble risk pools. With the greater availability of personal computers, the development of banking systems, and falling communication and transportation costs, the decreasing administrative costs of supplying insurance in developing countries may make private insurance systems more feasible for much larger segments of the population than they were even just a decade ago.

Partners in Cost Sharing

To be willing partners in cost-sharing strategies, both providers and users must be able to see the advantages of a proposed system. Policymakers must be able to explain why cost sharing is necessary. If the explanation emphasizes the needs of administrators—for instance, to shore up government budgetary deficits—and offers little prospect of improved health services, then people will be reluctant to participate. If the answer is to contribute to better health by reallocating public revenues, making them more cost-effective, and improving quality, then people are far more likely to be supportive and willing to pay. This point should take precedence in the design of any cost-sharing program in Africa, because user fees and health insurance in most countries have been implemented with mixed objectives and without properly informing potential users of the advantages of the proposed systems.

Perhaps the ultimate goal of cost sharing should be to ensure that households and communities have a say in the design and delivery of basic, cost-effective services. A recent World Bank study estimates that a basic package of preventive and clinical health services can be pro-
vided at the community level for less than what many countries are
currently spending per capita on health (World Bank 1994). Asking
people to pay at least something for such a package means that three
things will happen. First, users will receive more and better services
than they have in the past, or more value for their money. Second,
more people will be able to afford the less costly package. And finally,
cost sharing will produce a greater sense of transparency and account-
ability, so that people will better understand how revenues are used.

It is important to recognize that what goes into a basic package of
cost-effective services, so as to provide high value for money, cannot be
separated from how the package is delivered. Again, based on the
African experience, cost-effectiveness is enhanced in district-based de-
ivery systems where quality services are provided at the first point of
contact in the health system (such as health centers or posts) and then
backed up by a referral to a specialist or district hospital. At the com-
munity level, fees can be structured to reinforce the referral system; in-
come can be retained and revenues used to assure that quality is
improved at the district or local level. And it is at the local level that us-
ers are most aware of improvements in health services and thus more
willing to share in costs.

The evidence presented in the following chapters shows that the
most important issue in health care delivery in Africa today is not
whether user fees should be implemented or self-financing health in-
surance advocated. These things are already happening, with sure
signs of expansion in the future (Bennett and Ngalande-Banda 1994;
Normand and Weber 1994). The important issue is to find ways to
structure and implement user fees and health insurance jointly, maxi-
mizing both the desires and needs of potential users and the efficiency,
equity, and sustainability of the health care systems themselves.

Box 1 on the following pages summarizes the key messages about
how user fees and self-financing insurance can help to finance im-
proved delivery of health care in Africa.
Box 1. Key Messages

User Fees

The issue facing Sub-Saharan Africa is not whether to charge user fees—user fees are being charged—but rather how to employ user fees to promote better, more equitable health care and to create a self-sustaining mechanism for financing health care. Among the lessons learned:

- Households in Sub-Saharan Africa are already paying for health care. In fact, private expenditures are the largest single contributor to health care expenditures throughout the region.
- People will pay for quality care. Traditionally, user fees have been viewed as having a negative impact on the use of modern health care facilities. But recent research suggests that when the introduction of user fees is accompanied by simultaneous improvements in quality, those negative effects can be offset.
- All too frequently, the negative price effects on utilization have been overstated. Multivariate analysis reveals that many factors aside from price—including distance to health facilities, personal characteristics, and the quality of care—play an important role in health care decisions.
- By sending price signals to consumers, user fees can actually improve the referral network and the efficiency and quality of the health care system.

If appropriately implemented and efficiently administered, user fees can make health care delivery more equitable, foster private sector development, and promote a self-sustaining financial base for better health care. Even the poor stand to benefit from such an approach. The requisites to the successful implementation of user fees include (a) encouraging the use of fee-based health care through information campaigns that clarify the rationale for user fees and make allowances for in-kind and alternative forms of payment; (b) retaining fees at the local or district level to promote decentralization, as well as local control over quality improvements and staff involvement; and (c) establishing appropriate methods to collect and administer fees.

It is time to move ahead with user fee strategies by identifying prospects for implementing them on a country-by-country basis and by sharing lessons learned in the process. First steps include formulating explicit policies on user fees, rethinking current government programs that undermine the successful implementation of user fees, and beginning the process of educating and informing policymakers, public officials, health professionals, and consumers about the potential benefits of user fees. For policy analysts, it will be essential to continually monitor and evaluate new approaches to user fees as they take shape. It is also clear that a user fee policy must be part of a larger strategy to reallocate government expenditures to health services that benefit the entire community.
Self-Financing Insurance

Pessimism regarding prospects for self-financing insurance in Sub-Saharan Africa is giving way to a new optimism, given the recognition that such systems are implementable and that insurance represents the only feasible mechanism for protecting large numbers of people against catastrophic illness through risk-sharing. Lessons learned suggest:

- Risk-sharing, in a variety of forms, is far more common in Sub-Saharan Africa than previously thought. In fact, opportunities for the growth of self-financing insurance exist in all African countries.
- Prospects for implementing insurance are particularly strong in urban areas, where there are high concentrations of formal sector employees. Policymakers can promote the growth of insurance by tapping into existing employer-mandated programs and rationalizing such schemes, especially as these schemes apply to the civil service.
- In rural areas, establishing insurance programs is more difficult, but not impossible. Pre-payment schemes—organized through existing agriculture cooperatives and timed to coincide with harvest seasons—have met with success in Africa and elsewhere.
- Insurance offers advantages that are often overlooked, including the inherent direct equity-enhancing impact of insurance programs wherein, among participants, benefits are provided on the basis of need rather than income.
- Privatization of health services, especially tertiary-level services, cannot occur without some kind of self-financing insurance to provide protection against, and payments for, catastrophic illnesses on a large scale.

Before implementing insurance programs on a large scale, a foundation must be carefully laid within each country, and knowledge on how to manage such factors as adverse selection, moral hazard, and cost escalation in the African economic environment must improve. Requisites to a successful insurance scheme further include (a) setting premiums at levels that are substantially below the expected cost of individual medical treatments; (b) introducing some form of user fees, thus motivating consumer interest in alternate forms of payment; (c) minimizing "moral hazard" and "adverse selection" through deductibles and co-payments; (d) undertaking adjustments on a continuous basis to assure insurance premiums, coverage and quality of services remain attractive; and (e) initially limiting coverage to select populations, requiring clients to pay some portion of the costs, and, particularly in rural areas, exploring pre-payment schemes. However, these requisites must also be subjected to careful and repeated evaluation and adjustment in the process of broadening coverage of the population incrementally.
1. User Fees

Although African governments have primary responsibility for overall policymaking and strategic planning for their countries' health care delivery systems, they are not the only actors in financing these systems and allocating health care expenditures. Private out-of-pocket expenditures represent about 43 percent of all expenditures on health in Africa, compared with 37 percent from governments and about 20 percent from donors (World Bank data). Governments can help to mobilize private and out-of-pocket resources to stimulate private financing, increase revenues, and alleviate budgetary shortfalls among public providers. This can help free up public resources so they can be used for public ends, thus contributing to equity in the process.

African countries have considerable experience with user fees, for the simple reason that private for-profit and voluntary clinics, including church missions, have had to recover costs to survive. In Tanzania, which had a per capita income of only $100 in 1990, nine of eighteen nongovernment dispensaries recovered 100 percent of their operating costs from user fees, and seven of twenty-one hospitals run by nongovernmental organizations (NGOs) recovered more than 75 percent of their operating costs (Mujinja and Mabala 1992). In Uganda, where per capita income is $170 a year, four mission hospitals recovered 78 to 95 percent of their operating costs, with the balance provided by donors (World Bank 1993b). In the Central African Republic, which has a per capita income of $390 a year, two private hospitals recovered 55 to 80 percent of their recurrent costs, and another two recovered 22 to 30 percent (Central African Republic 1992).

This chapter concentrates on user charges in public health facilities and the substantial positive impact these charges can have on the efficiency, equity, and sustainability of health financing in Africa. By charging fees for services that primarily benefit the user, such as tertiary-level curative care, governments can free up tax-financed health expenditures and reallocate them to activities that yield benefits extending beyond the individual. Such activities include public services that target community health, immunizations, and communicable diseases.

This chapter also assesses the impact fees have had on the utilization of health services in many African countries, the prevalence of subsidies or exemptions for the poor, and practical steps in administering and collecting fees. Particular attention is paid to studies that examine
the simultaneous impact of higher prices and improved quality on the demand for health care and utilization. The lesson that can be drawn from these studies is that the willingness to pay for government health services is strongly affected by the quality of care patients believe they are receiving—that is, value for money.

The Goals of User Fees

The main goals of user fees are to mobilize revenues, promote efficiency, foster equity, increase decentralization and sustainability, and foster private sector development.

Mobilizing Revenues

A recent World Bank survey covering thirty-eight African countries found that national systems of user fees are operating in eighteen countries but play a relatively small role or are not enforced effectively in another nine. In four of these nine countries, user fees are not in place; in the remaining five, they are collected not as part of a national system but by individual facilities or communities (Table 2).

Of twenty-nine African countries that have some kind of national system of user fees in place (category I and II countries), about one-third see the mobilization of revenue as their primary objective; these include Ghana, Kenya, Lesotho, Malawi, Mozambique, Namibia, Zambia, and Zimbabwe. The remaining two-thirds emphasize improvements in primary health services, such as staff incentives or drug availability. Many countries in this group, particularly the francophone countries, participate in the Bamako Initiative: a cost-sharing scheme launched by African ministers of health in 1987 that aims to involve communities in managing and financing health care. An important principle of the initiative is that everyone is expected to pay at least something, and proceeds are used to improve primary health care services.

Initial impressions are that revenues from user fees represent a small—at times an insignificant—share of recurrent government expenditures on health in Africa (Table 3). However, the percentages seem to improve over time, as has occurred in Côte d’Ivoire, Ethiopia, Lesotho, and Zimbabwe. When fees were first introduced in these countries, charges for services were very low, and the revenues that were generated amounted to only 2 to 12 percent of government expenditures. Over time, however, these revenues have risen to 4 to 20 percent and are likely to increase further as the gap between fees that are actually collected and those that remain only “potentially collectable” narrows. Several factors will help increase revenues.
Table 2. Cost Recovery in Public Health Facilities in Africa, 1993

<table>
<thead>
<tr>
<th>Category I: Cost recovery dominated by national system of user charges</th>
<th>Category II: Some national system of fees but minimal or not enforced effectively</th>
<th>Category III: No national system of user fees but some facilities or communities collect them</th>
<th>Category IV: No apparent forms of user fees or cost recovery in place</th>
</tr>
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<tr>
<td>The Gambia</td>
<td>Equatorial Guinea</td>
<td>Uganda</td>
<td>Angola</td>
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<td>Ghana</td>
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<td>Namibia</td>
<td>Zambia</td>
<td>Tanzania</td>
<td>Zimbabwe</td>
</tr>
</tbody>
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Anglophone/Lusophone countries

Francophone countries

- Improved billing and collection procedures, especially at hospitals
- Stricter exemption policies, with particular attention to subsidies that currently benefit relatively well-off households, such as those of civil servants and members of the medical establishment
- Progressively higher charges for relatively expensive inpatient hospital stays, particularly for people who bypass the referral system
- Systematic increases in outpatient charges, which in Africa averaged only $0.22 to $0.33 per outpatient visit in the mid-1980s (Griffin 1988).

Health centers. The experience of community health centers suggests that these facilities have the potential to significantly increase the amount of user fees they collect. Because costs per unit of service tend to be much lower at health centers than at the large hospitals where most government funds are concentrated, these facilities can set their

Source: Derived from Nolan and Turbat (1993) and World Bank data.
Table 3. Revenue from User Charges as a Percentage of Recurrent Government Expenditures on Health in Selected African Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botswana</td>
<td></td>
</tr>
<tr>
<td>1979</td>
<td>1.3</td>
</tr>
<tr>
<td>1983</td>
<td>2.8</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>0.5</td>
</tr>
<tr>
<td>Burundi</td>
<td></td>
</tr>
<tr>
<td>1982</td>
<td>4.0</td>
</tr>
<tr>
<td>Côte d'Ivoire</td>
<td></td>
</tr>
<tr>
<td>1986</td>
<td>3.1</td>
</tr>
<tr>
<td>1993</td>
<td>7.2</td>
</tr>
<tr>
<td>Ethiopia</td>
<td></td>
</tr>
<tr>
<td>1982</td>
<td>12.0</td>
</tr>
<tr>
<td>mid-1980s</td>
<td>15.0–20.0</td>
</tr>
<tr>
<td>Ghana</td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>5.2</td>
</tr>
<tr>
<td>1987</td>
<td>12.1</td>
</tr>
<tr>
<td>Kenya</td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>2.0</td>
</tr>
<tr>
<td>Lesotho</td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>5.7</td>
</tr>
<tr>
<td>1991/92</td>
<td>9.0</td>
</tr>
<tr>
<td>Malawi</td>
<td></td>
</tr>
<tr>
<td>1983</td>
<td>3.3</td>
</tr>
<tr>
<td>Mali</td>
<td></td>
</tr>
<tr>
<td>1986</td>
<td>2.7</td>
</tr>
<tr>
<td>Mauritania</td>
<td></td>
</tr>
<tr>
<td>1986</td>
<td>2.7</td>
</tr>
<tr>
<td>Mozambique</td>
<td></td>
</tr>
<tr>
<td>1985</td>
<td>8.0</td>
</tr>
<tr>
<td>Rwanda</td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>7.0</td>
</tr>
<tr>
<td>Senegal</td>
<td></td>
</tr>
<tr>
<td>1986</td>
<td>4.7</td>
</tr>
<tr>
<td>Swaziland</td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>2.1</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td></td>
</tr>
<tr>
<td>1986</td>
<td>2.2</td>
</tr>
<tr>
<td>1991/92</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Source: Vogel (1988); Nolan and Turbat (1993); World Bank (1994).
prices at levels that more closely reflect operating costs. Experience from the Bamako Initiative reveals that users are more willing to pay for tangible products such as drugs at the community level. In more than 220 of 1,100 districts in 18 countries that are participating in this initiative, fees are retained at the point of collection, and the revenues are used for drugs, operating costs, and worker incentives.

Senegal adopted the Bamako Initiative in 1991 to help pay for pharmaceutical products through user fees. A representative national sample revealed that the contribution of user fees to public health facilities was 5 to 11 percent for hospitals; 8 to 23 percent for health centers; 14 to 35 percent for health posts; and 87 percent, on average, for health huts. Health posts furnish a limited range of medical and nursing care not provided by professional staff, whereas health huts deliver minimal services at village levels and appear to be declining as a way to provide health services (Bitran and others 1993).

In Benin, user fees have consistently contributed between 42 and 46 percent of the overall operating costs of the forty-four health centers currently participating in the Bamako Initiative. In Guinea, the community contribution has been between 38 and 49 percent of operating costs of the first cluster of participating health centers. In the Gabu Region of Guinea-Bissau, communities have been able to contribute 39 percent of the operating costs of health units, or the equivalent of 87 percent of the facilities’ drug costs (UNICEF 1992).

Another country with significant potential for collecting user fees is the Central African Republic. A financial analysis of thirteen public health centers found that cost-recovery rates ranged from 110 to 138 percent of recurrent costs (excluding salaries) to 5 to 75 percent (Central African Republic 1992). The difference results from the variations in the way the clinics operate. Those with the highest cost recovery rates are autonomous, sell their own drugs, and systematically charge for services. Their decision-making power, particularly with respect to drug acquisitions, rationalizes their management of drugs and helps these facilities avoid the enormous waste evident in facilities with low cost-recovery rates. In contrast, the facilities with the lowest cost recovery rates provide a wider range of free services, charge only for medical certificates, and have limited control over the sale of drugs.

HOSPITALS. User fees tend to make a significantly smaller contribution to the operating costs of hospitals for several reasons. First, charges tend to be a small portion of the relatively costly clinical services hospitals provide. Second, people referred to hospitals tend to suffer from acute problems requiring expensive care but often are less able to pay for it. (This fact provides the principal argument for health insurance, as is discussed in chapter 2.) Third, hospitals often have difficulty collecting outstanding debts, especially when those who owe money live far away and are unknown to the hospital staff.
Table 4 shows the percentages of user fees that public and private hospitals were able to recover in certain years. Between 1991 and 1993 in Lesotho, user fees represented only 4.5 to 5.3 percent of the operating costs of Queen Elizabeth II hospital, a government-operated facility in the capital city. This amount is considerably less than the 13 to 22 percent collected by publicly operated, district-based health facilities, such as district hospitals and health centers. In Ethiopia, user fees rep-

Table 4. Average Revenue from User Fees as a Percentage of Recurrent Hospital Expenditures in Selected Countries

<table>
<thead>
<tr>
<th>Country and kind of hospital</th>
<th>Year</th>
<th>Number of hospitals</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central African Republic</td>
<td>1990</td>
<td>5</td>
<td>26</td>
</tr>
<tr>
<td>Public prefectural</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public regional</td>
<td>4</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Public maternity</td>
<td>3</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>4</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td>Ethiopia</td>
<td>1984/85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All urban</td>
<td>8</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>All rural</td>
<td>10</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Ghana</td>
<td>1991</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>Central</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesotho</td>
<td>1991–93</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Urban</td>
<td>1</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Niger</td>
<td>1986/87</td>
<td>3</td>
<td>58</td>
</tr>
<tr>
<td>Private</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nigeria</td>
<td>1986</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private maternities</td>
<td>3</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Public maternities</td>
<td>9</td>
<td>82</td>
<td></td>
</tr>
<tr>
<td>Senegal</td>
<td>1993</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Public</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swaziland</td>
<td>1988/89</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Public</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mission</td>
<td>2</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>Tanzania</td>
<td>1992</td>
<td>22</td>
<td>56</td>
</tr>
<tr>
<td>Mission</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uganda</td>
<td>1992</td>
<td>5</td>
<td>72</td>
</tr>
<tr>
<td>Mission</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zambia</td>
<td>1989</td>
<td>42</td>
<td>3</td>
</tr>
<tr>
<td>Public</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>1990</td>
<td>All</td>
<td>90–97</td>
</tr>
</tbody>
</table>

Note: All hospitals in this table are publicly operated unless otherwise indicated (such as private or mission). China included for comparative purposes.

Source: Compiled from Barnum and Kutzin (1993); Bitran and others (1993); Bumgä rner (1989); Central African Republic (1992); Cri el and Van Balen (1993); Ferster and others (1991); McNees (1993); Mujinja and Mabala (1992); Smithson (1993); World Bank (1991, 1992a, 1993c).
resented 23 percent of the operating costs for ten rural public hospitals and 32 percent for eight urban public hospitals. In the Central African Republic, five prefectural and four regional hospitals recovered 26 and 45 percent of operating costs (excluding salaries and drugs), respectively. Maternity hospitals recovered more than 80 percent of such operating costs (McInnis 1993). The immense impact of unpaid bills on cost recovery is particularly relevant here and is addressed later.

A final perspective on the potential for increasing (and collecting) user fees derives from a study of Bwamanda District, Zaire (Shepard and others, forthcoming). Health services in Zaire are organized by zone or district, each with ten to twenty satellite health centers and a referral hospital. The study shows that user fees accounted for 109 to 111 percent of the operating costs of the health centers between 1986 and 1988. In Bwamanda Hospital, however, the share of operating expenses covered by user fees was 24 to 30 percent between 1986 and 1988. The fees were supplemented by insurance payments, which accounted for 22 to 33 percent of operating costs, and employer billings, which accounted for another 13 to 22 percent. Revenues from cost sharing at the hospital therefore ranged from 59 to 75 percent of total operating costs in 1986–88.

The high levels of cost recovery in Bwamanda District can be attributed to the organization of health services, whereby people voluntarily join the insurance program at the health centers in a concerted effort to pay for referral services and sustain the referral hospital financially. Approximately 60 percent of the rural population are voluntarily enrolled.

Were public hospitals in Africa to recover even 40 percent, on average, of their operating costs, large sums could be available for reallocation. The magnitude of these improvements can be derived from information contained in Better Health in Africa (World Bank 1994). On average, ministries of health in African countries spend about $4.70 per capita on health, most of it on operating costs. One-half of this amount, on average, goes to operating public hospitals. Were 40 percent of these hospital operating costs recovered through cost sharing, almost $1 per capita could be freed up, for a total of more than $400 million. This would be sufficient to provide all the essential drugs for primary health care to all Africans.

Summing up, time and experience are required to develop a well-functioning system of fees for health care services. The actual contribution of fees to operating costs seldom reflects the potential, for several reasons. Policies mandating these fees tend to be poorly administered, facilities often are not efficient in collecting unpaid bills, patients are unwilling to pay for low-quality services, and abuses of exemption policies are widespread. A 40 percent cost-recovery rate for public hospitals could free up substantially more public resource for basic services that have broad impacts on community health. China recovers 90 to
Box 2. The Structure of Health Systems in Africa

In most African countries, modern health care is provided through health facilities operated by a combination of government, private voluntary organizations such as church missions, and the private for-profit sector. Services are also rendered by traditional healers. Government facilities tend to be most numerous, followed by private voluntary providers. The private for-profit sector tends to be rather small, dispensary-based and concentrated in urban areas. Private voluntary organizations usually play an important role in extending health services to poor and underserved areas and may operate up to one-half of district-level hospitals.

When people seek services, three broad levels of modern health care can be usefully distinguished.

- **Primary-level health care** takes place at the "first point of contact" between clients and a facility in the health system. In most African countries, health care at this level is provided at a health dispensary, clinic, or health center. On average, facilities at this level serve a population of about 5,000 to 10,000 people.

- **Secondary-level health care** takes place at a referral hospital, when treatment of illness or injury is beyond the capacity of health officials at lower-level health facilities. In such cases, patients are referred to higher-level facilities where the expertise and equipment for more complex cases are available. In most African countries, health care at this level is provided at a district hospital, closely aligned with administrative districts as defined by government. On average, facilities at this level may serve a population ranging from 75,000 to 200,000 people.

- **Tertiary-level health care** takes place at higher-level referral hospitals—regional and so-called national hospitals—as well as those officially designated as teaching hospitals. Some African countries have numerous such hospitals—all publicly financed and operated—which consume a large share of ministry of health funding, yet are believed to have a relatively small impact on the national burden of disease.

A long-standing concern of governments in Africa has been to strengthen the quantity and quality of health care at the local and district level. This implies larger budgetary allocations to health, reallocation of public funds from tertiary to primary levels of health care, cost recovery at public facilities where health services are often provided free of charge, and self-financing health insurance to cover catastrophic illness and major medical bills associated with such illness. Aside from "symbolic" pledges in support of such reforms, however, progress has been slow in most countries.
97 percent of hospital costs and more than 80 percent of the costs of all health facilities from user fees. Interestingly, China's per capita GNP of $370 in 1991 was almost identical to the $350 average for Africa.

Promoting Efficiency

By sending the appropriate signals, user fees can make the referral system work better and help improve efficiency of health care delivery. Ideally, a user's first point of contact in the system will be a facility such as a health dispensary or health clinic, where services can be provided relatively cost-effectively. Should users have a problem that is beyond the abilities of the health dispensary or clinic, trained health personnel direct them to a first-referral hospital, where treatments and personnel are more specialized and costly. Box 2 describes common elements of medical systems in Africa.

When prices are zero or uniformly low across a health care system and include the most expensive hospital services and the least expensive immunizations, consumers tend not to pay attention to costs (Griffin 1988). They may converge on the most expensive facilities and use the most sophisticated services, even when afflicted with relatively minor or inconsequential problems. Price signals can serve as fair warning that people who choose to bypass the referral system and head directly for more costly hospitals should be prepared to pay the entire cost of the service.

Referral systems do not work well in many African countries, as many have noted. A World Bank survey of thirty-eight African countries revealed that only a few anglophone and francophone countries that utilize cost recovery schemes have structured their fees to promote appropriate use (Nolan and Turbat 1993). Most common are higher fees for outpatient services at hospitals. Least common are fee waivers at hospital outpatient clinics for those appropriately referred from local health centers; only Niger appears to provide free care for referrals. Conversely, some countries charge at health clinics and posts but not at hospitals. In Senegal, for example, there is no cost recovery program at the large national hospitals. User fees are generally charged only at the primary level of the health care system and at some regional hospitals. In both of these countries, the system is sending the wrong signals to potential users. When people can easily take a bus into Dakar and receive free care from the Dantec Central Hospital, they may not be inclined to seek care at a health center in the suburbs.

Ghana provides a striking example of how a referral system can fail when fees are imposed at community-level health facilities without improving the quality of care. In 1991, eleven government hospitals saw almost twice as many outpatients as the rest of the government
health network combined, including thirty-three general health centers and posts, five clinics, and seventy-nine maternal and child health clinics (Figure 2). As Smithson (1993) observes, there is little point in maintaining an infrastructure and human resource base at the subdistrict level if there is minimal utilization of these services. Moreover, using sophisticated medical specialists and technology as a first point of contact in the health system is more expensive for governments and patients alike than providing quality services at nearby health centers and posts.

Clearly, the fee structures need to be reformed to make the referral system more efficient. Zimbabwe has demonstrated that it is making progress with the needed reforms (Hecht and others 1993). In the late 1980s, basic outpatient charges for adults in Zimbabwe were Z$1.50 in a district or first-referral hospital, Z$3 in a provincial general hospital, and Z$5 in a central hospital. Maternity ward fees in a provincial hospital were Z$15, compared with Z$20 to Z$30 in a central hospital. These charges are currently being increased. Individuals are therefore given incentives to enter the health system at the lowest level appro-
proportionate for the services required, while health care (provided by the ministries of health) is priced in a manner that encourages restraint in the use of scarce financial resources, while endeavoring not to exceed household’s ability to pay.

Malawi is another country where the government began phasing in a cost-sharing strategy in 1992. One of the goals of this initiative is to discourage people from using hospitals as their entry point to the health system. To strengthen the referral system and to reallocate government funds from tertiary- to primary-level health services, cost sharing is being extended from central hospitals to general and district hospitals and then health centers. To help establish prices, studies were undertaken to differentiate between the unit costs of services at the central and district hospitals and between the urban and rural health centers (Table 5).

In Kasongo District in Zaire, user fees have simultaneously reduced use of the district hospital as a first point of service and have increased attendance at district health centers. The number of patients using the hospital’s outpatient clinics as the first point of service fell from 11,800 in 1973 to 1,050 in 1989. There were corresponding increases in the number of people visiting health centers and outpatient clinics: the figure climbed from 13,522 in 1973 to 54,400 in 1987 (Criel and Van Balen)

Table 5. Unit Cost of Average New Outpatients and Inpatient Days at Selected Hospitals and Health Centers in Malawi, 1990/91

<table>
<thead>
<tr>
<th>Region and facility</th>
<th>Unit cost per new outpatient (MK)</th>
<th>Average number of outpatients a day</th>
<th>Unit cost per inpatient day (MK)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Southern region</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central hospital</td>
<td>9.40</td>
<td>1,441</td>
<td>15.80</td>
</tr>
<tr>
<td>District hospital</td>
<td>1.62</td>
<td>1,114</td>
<td>9.72</td>
</tr>
<tr>
<td>Urban health center</td>
<td>1.03</td>
<td>429</td>
<td></td>
</tr>
<tr>
<td>Rural health center</td>
<td>0.78</td>
<td>549</td>
<td></td>
</tr>
<tr>
<td>Central region</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central hospital</td>
<td>7.55</td>
<td>1,716</td>
<td>19.23</td>
</tr>
<tr>
<td>District hospital</td>
<td>1.71</td>
<td>1,186</td>
<td>10.80</td>
</tr>
<tr>
<td>Rural health center</td>
<td>0.71</td>
<td>126</td>
<td></td>
</tr>
</tbody>
</table>

— Not available.

Note: The unit costs covered here include all costs associated with the operation of a facility. This is different from estimates of “direct patient care unit cost,” which covers items directly related to patient care and do not include costs of general administration or common services costs.

a. Includes the treatment of children under five and adults but not maternal antenatal checkups. Clinics operate 280 days a year.

In this case, the fee structure not only created effective financial disincentives to direct hospital utilization but strengthened both the district health system’s appeal and its success in promoting primary health care in the communities where people live.

Summing up, user fees contribute to efficiency by providing better signals about appropriate points of entry to the health system. Cost-effectiveness is enhanced not only by reducing the use of expensive technology and personnel that should be reserved for more complex, referred cases, but also by encouraging local health centers to offer less costly services in order to combat preventable illnesses (World Bank 1994). In the delivery of quality health care, it is indeed the “packaging” of services at the first point of contact in the health system that makes a difference to efficiency, equity, and sustainability (World Bank 1993c; 1994).

An important caveat, of course, is that adopting user fees to reinforce the use of community facilities requires simultaneous improvements in the quality of care provided. As has been noted, people must be able to see the value of the services they are receiving, since these services are no longer free. The issue of quality is taken up in the section on the tradeoff between price and quality.

**Fostering Equity**

User fees in public health facilities help to promote equity because the demand for health care rises disproportionately with income. People who are well off are more able and willing to pay for costly services, so charging wealthier people for services they demand and can afford—particularly at hospitals—and pooling those revenues to subsidize those least able to afford care is a way to improve health care delivery to the poor.

A survey of health facility utilization in Ogun State, Nigeria revealed that about one half of the households in the top income quintile benefited from free or heavily subsidized services in public health clinics and hospitals. The top quintile was also about five times as likely to use private hospitals as those in the poorest quintile, demonstrating the former group’s greater willingness and ability to pay for health care.

A 1993 household survey in Tanzania provides striking evidence that relatively rich households are capturing disproportionate shares of public health subsidies. Table 6 shows clearly that the wealthy make the greatest use of in- and outpatient services in private, fee-charging hospitals, health centers, and dispensaries, as would be expected, accounting for around half of all users. The wealthy also appear in greater numbers than the poor among patrons of fee-charging mission facilities, accounting for up to 35 percent of inpatients and 25 to 29 percent of outpatients in mission hospitals, health centers, and dispensa-
Table 6. Incidence of Relatively Well Off Clients Making Use of Fee Charging and Government-Subsidized Health Facilities in Tanzania (percent)

<table>
<thead>
<tr>
<th>Panel A (expenditure quintile)</th>
<th>Private hospitals</th>
<th>Private clinics and dispensaries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Share of inpatients</td>
<td>Share of outpatients</td>
</tr>
<tr>
<td>Poorest</td>
<td>5.9</td>
<td>9.5</td>
</tr>
<tr>
<td>2nd</td>
<td>6.7</td>
<td>34.1</td>
</tr>
<tr>
<td>3rd</td>
<td>14.2</td>
<td>20.6</td>
</tr>
<tr>
<td>4th</td>
<td>17.9</td>
<td>35.8</td>
</tr>
<tr>
<td>Richest</td>
<td>57.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel B (expenditure quintile)</th>
<th>Private voluntary (mission) hospitals</th>
<th>Private voluntary clinics and dispensaries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Share of inpatients</td>
<td>Share of outpatients</td>
</tr>
<tr>
<td>Poorest</td>
<td>16.2</td>
<td>9.7</td>
</tr>
<tr>
<td>2nd</td>
<td>12.8</td>
<td>10.5</td>
</tr>
<tr>
<td>3rd</td>
<td>28.1</td>
<td>19.3</td>
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<tr>
<td>4th</td>
<td>21.0</td>
<td>20.2</td>
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<tr>
<td>Richest</td>
<td>35.2</td>
<td>27.6</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel C (expenditure quintile)</th>
<th>Government hospitals</th>
<th>Government health centers and dispensaries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Share of inpatients</td>
<td>Share of outpatients</td>
</tr>
<tr>
<td>Poorest</td>
<td>16.2</td>
<td>16.6</td>
</tr>
<tr>
<td>2nd</td>
<td>12.8</td>
<td>45.5</td>
</tr>
<tr>
<td>3rd</td>
<td>14.8</td>
<td>10.5</td>
</tr>
<tr>
<td>4th</td>
<td>21.0</td>
<td>11.7</td>
</tr>
<tr>
<td>Richest</td>
<td>35.2</td>
<td>15.7</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Preliminary data from World Bank 1993a.

But what is most surprising is the extent to which the rich also predominate among in- and outpatients in government hospitals, where they account for 35 to 37 percent of all users. These hospitals provide a significant share of all inpatient care in the country. Were public subsidies for health benefiting those who needed them, many more Tanzanians from the lowest quintiles would be making use of free services in government facilities. 9

Relatively well-off households also tend to benefit more from high-cost, publicly subsidized curative services in tertiary-level hospitals. This results from the fact that more affluent households are concen-
trated in urban areas, close to central and teaching hospitals. Again, the evidence from Tanzania highlights this fact. Forty-seven percent of those using government inpatient services in Tanzania are from urban areas, and 62 percent of these are from the top two income quintiles.

Structuring fees so that higher rates of cost recovery are imposed in tertiary facilities would allow ministries of health to recover costs from those most able and willing to pay. This rationale lies behind the cost-sharing strategies in several countries that are introducing fees at central hospitals before district and community facilities. The demand for curative care also tends to be price inelastic, so an increase in user fees will result in a less-than-proportionate drop in demand and an increase in revenue.

User fees also foster equity when some portion is retained at the point of collection, especially at local facilities. Budgetary shortfalls tend to affect these facilities disproportionately, resulting in drug shortages, interrupted salaries, and delayed maintenance and purchases of equipment. Because district and community facilities are closest to relatively poor households in rural or remote areas, any effort to boost local revenues is likely to improve the quality of care. This reasoning finds support in surveys of local fee retention schemes in Cameroon, the Central African Republic, and Swaziland (McInnis 1993). Facilities that retain revenues generally performed substantially better than facilities that sent all their revenues to the treasury. More people used the facilities that were able to retain some funds, and the poor benefited proportionately more than the rich.

Several governments are now implementing cost recovery policies that permit local facilities to retain fees at the point of collection. In Kenya, for example, revenues from fees are now treated as supplementary to allocations made by the Ministry of Health. Facilities retain 75 percent of the revenues they collect, and the other 25 percent is earmarked for primary health services in the district. This supplement is expected to improve and extend preventive and primary services at the district level through activities such as environmental health, family planning, and immunization programs. The overall level of government funding will not be reduced, and cost sharing is expected to generate additional funds for both curative and preventive services. In addition, district- and facility-level governance of the funds collected is being strengthened.10

Specific to the question of equity is the fact that imposing higher fees at tertiary facilities rather than at community facilities allows ministries of health to offset part of their huge budgetary commitment to hospitals, freeing up funds for public health goods and services and primary health care.11 Increasing expenditures on public health goods and services such as immunizations, malaria control, safe drinking water, and health education promotes equity, because even the poorest cannot be denied the benefits of these services.
Reinforcing Decentralization and Sustainability

The approaches described above help to decentralize and sustain public health services in three important ways. First, by rationalizing the referral system with price signals, user fees will help direct people to district facilities close to where they live—first-referral hospitals, health centers, and health posts—thus reducing the burden on regional hospitals and higher-referral hospitals in urban areas. Second, by recouping government funds that are now being swallowed up by tertiary-level facilities, user fees can accommodate policies to reallocate funds to district- and community-level primary health care. Third, by allowing fees to be retained at the point of collection, the central government can partially shift control over budgetary matters and expenditures to districts. This latter point is a key one in Africa, because true decentralization means that districts and communities should have control over money and health system inputs, perform monitoring and evaluation, and be able to respond to local needs.

Such benefits are important to successful district-based systems that are widely advocated in Botswana, Ghana, Lesotho, Tanzania, Zaire, and Zimbabwe; under discussion in Benin, Guinea, Mali, and Nigeria; and proposed on an experimental basis in Burundi and Senegal (World Bank 1994). In many cases, the health sector is leading the way in plans to shift government authority down to district and local levels. A major challenge is to empower so-called district management committees, which are made up of the heads of the local departments of health, education, and public works, so that the committees have greater control over budgetary matters. Within the districts themselves, district health management teams are being encouraged to work with the management committees to promote both local involvement in cost-sharing strategies and more efficient use of revenues in health centers (World Bank 1994).

Mobilizing local resources, especially at community health centers, can also contribute to the sustainability of drug supplies, particularly in countries where medicines are in short supply. A popular form of community financing is the so-called drug revolving fund, the main features of which include an initial stock of drugs donated by the community, government, or donor agency; the sale of drugs to community members; pricing that allows the distributing facility to recover the full cost of the drugs; and the application of revenue from these sales to other community needs, such as replacing stocks and covering operating and distribution costs.

In Africa, drug revolving funds are operating in Benin, Cameroon, the Central African Republic, Chad, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, Sudan, Tanzania, and Zaire. About half of the funds in seventeen countries have been able to cover drug costs with revenues from sales and user charges. Around 49 to 83 percent of the funds
have been observed to be operating on a sustainable basis—judging from positive drug margins. Utilization statistics reveal an increase in attendance at health facilities in seven countries after the introduction of cost recovery, compared with decreases in four countries that did not attempt to recover costs (World Bank 1992b).

As noted previously, mobilizing resources to promote the decentralization of control over health care and to improve the sustainability of health delivery systems has been most widely practiced and thoroughly documented in countries participating in the Bamako Initiative. That initiative concentrates community financing on low-technology components of the health system, that is, on areas where people understand and can take part in the health care choices and where results are clearly visible (Pangu and Van Lerberghe 1990; Criel and Van Balen 1993). Some communities have also willingly participated in cost sharing in the interests of promoting greater transparency and community control over the use of revenues (McFake and others 1993).

Acknowledging that better services are likely to draw more people, community management committees in several countries—Congo, Guinea, Kenya, and Nigeria, for example—have even been willing to offer health workers incentives and to tackle the increased workloads that result from increased community involvement in the delivery of services. This fact is evident from the expenditure profiles of ongoing community health center activities in these countries (Figure 3).

**Stimulus to Private Sector Development**

When people have the option of obtaining services free or at uniformly low charges at public health facilities, barriers to private sector development are increased. Some examples of the disparities in charges between public and private fees are provided in Table 7. The lower prices at public facilities cannot be attributed solely to the need for subsidized care for the poor. As noted previously, the relatively rich as well as the poor make use of the public facilities in Ogun State.

It comes as no surprise, therefore, that free services at government health facilities hinder the efficiency of the health sector as a whole. Private for-profit providers are almost impossible to find in rural areas and are concentrated instead in urban and more well-to-do areas (where public subsidies also tend to be concentrated), and the line between public and private medical practice is blurred. Despite the fact that they charge fees, private voluntary providers such as mission facilities continue to attract residents in rural areas because the quality of services in many rural government facilities is dismal.

Without a tradition of cost recovery in public facilities, households are also unlikely to be predisposed to pay for private or public health insurance. When user fees become common in the public sector, how-
Figure 3. Use of Community Health Center Funds in Four African Countries

Nigeria
(6 centers, covering population of 317,321 over 9 months)
- Drugs $2,991 (37%)
- Incentives $3,400 (42%)
- Savings $658 (8%)
- Supplies $962 (12%)

Congo
(6 centers, covering population of 48,051 over 12 months)
- Incentives $4,047 (12%)
- Operating costs $4,057 (12%)
- Supplies $513 (2%)
- Drugs $17,712 (53%)
- Savings $7,291 (22%)

Kenya
(5 centers, covering population of 59,000 over 6 months)
- Savings $8,858 (43%)
- Incentives $9,689 (48%)
- Supplies $1,525 (7%)
- Operating costs $480 (2%)

Guinea
(6 centers, covering population of 1,223,662 over 6 months)
- Incentives $20,295 (12%)
- Operating costs $19,895 (11%)
- Supplies $4,766 (3%)
- Savings $44,941 (26%)

Note: The information reported for each country pertains to a 6 to 12 month period (as indicated) in and around 1990.

However, households are more likely to be interested in alternative ways of paying for their care, which gives rise to prepaid public or private health insurance plans that charge all participants a fixed amount periodically. The funds can then be pooled so that insurance providers are reimbursed for their services, especially for costly hospital-based curative care. User fees in public facilities can therefore help to stimulate the development of insurance and a robust private sector that is independent of the public system.
Table 7. Average Charges for Various Services Rendered in Public and Private Facilities
(Nigerian naira)

<table>
<thead>
<tr>
<th>Service</th>
<th>Small hospital</th>
<th>Basic health clinic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td>Setting broken arm</td>
<td>12.50</td>
<td>20.00</td>
</tr>
<tr>
<td>Malaria treatment</td>
<td>7.08</td>
<td>23.00</td>
</tr>
<tr>
<td>Dressings</td>
<td>1.75</td>
<td>3.88</td>
</tr>
<tr>
<td>Room and board</td>
<td>2.50</td>
<td>20.00</td>
</tr>
<tr>
<td>Appendectomy</td>
<td>23.33</td>
<td>187.50</td>
</tr>
<tr>
<td>Basic delivery</td>
<td>7.50</td>
<td>26.25</td>
</tr>
<tr>
<td>Chest X-ray</td>
<td>20.00</td>
<td>18.75</td>
</tr>
<tr>
<td>Blood count</td>
<td>3.50</td>
<td>5.25</td>
</tr>
<tr>
<td>Paracetamol</td>
<td>1.00</td>
<td>9.00</td>
</tr>
<tr>
<td>Immunization</td>
<td>0.00</td>
<td>2.50</td>
</tr>
</tbody>
</table>


Ability and Willingness to Pay

If user fees are to have the kinds of positive effects described thus far, people must be willing and able to pay for services. Otherwise, the initial revenue gains from cost sharing will be offset by lower utilization rates among people who probably consume too little health care already. To the extent that these people were disproportionately poor, equity in the delivery of health care would suffer also.

Nevertheless, there is considerable evidence of ability to pay, willingness to pay, and actual payment of medical care costs among the rich and poor alike in Africa. According to household expenditure surveys in Table 8, households make substantial out-of-pocket payments for health care, including direct payments to private practitioners, pharmacists, and traditional healers.

In Côte d’Ivoire, where per capita GNP was about $900 in 1985, household expenditures on health averaged about $19 per capita, compared with central government expenditures of about $8.20 per capita. In Ghana, which had a considerably lower per capita GNP of $240 in 1987–88, per capita expenditures for health care were also relatively high, around $7.30 in 1986, compared with central government expenditures of around $4.20. In Nigeria, where per capita GNP was $400 in 1985–86, average per capita household expenditures for health care were about $15, whereas per capita central government expenditures were around $1 to $2. The substantial differences between public and household expenditures offer further support for the idea that households may be willing to share costs and purchase basic health care packages.
Additional evidence supports the premise that people are open to paying for services.

- Fees for public health services have already been instituted in some low-income areas of Africa. Users of facilities in more than 200 districts participating in the Bamako Initiative are charged at least a minimum fee for basic health services, regardless of income level. An evaluation of five participating countries estimates that only 10 to 30 percent of households have difficulty paying minor fees (Forsberg 1993).

- People are willing and able to pay for traditional healers. Household surveys in Ethiopia suggest that expenditures on traditional medicine constituted 20 percent of total household expenditures on health in the mid-1980s compared with 33 percent for private doctors and 47 percent for "modern" medicines (Dunlop and Donaldson 1987). In Mali, the average household spent the equivalent of 13 percent of its total household health expenditures on traditional medicines (Brunet-Jailly 1989). In rural Kenya, the average cost for a visit to a traditional healer was Ksh46, far more than even the average charge of Ksh14.2 for treatment in private health facilities (Mwabu and others, forthcoming). In Tanzania, rural people paid Tsh2,009, on average, to traditional healers, compared with Tsh2,860 for admission to NGO mission facilities. In urban areas, the payments were Tsh5,110 and Tsh4,147, respectively (Abel-Smith and Rawal 1992).

Table 8. Per Capita Household Expenditures on Health in Selected African Countries

<table>
<thead>
<tr>
<th>Household quintile</th>
<th>Côte d’Ivoire</th>
<th>Guinea-Bissau</th>
<th>Nigeria</th>
<th>Senegal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest</td>
<td>3.99</td>
<td>2.55</td>
<td>2.44</td>
<td>2.58</td>
</tr>
<tr>
<td>2nd</td>
<td>6.59</td>
<td>4.25</td>
<td>3.88</td>
<td>5.88</td>
</tr>
<tr>
<td>3rd</td>
<td>14.33</td>
<td>6.19</td>
<td>4.38</td>
<td>10.07</td>
</tr>
<tr>
<td>4th</td>
<td>17.04</td>
<td>8.54</td>
<td>4.63</td>
<td>14.08</td>
</tr>
<tr>
<td>5th</td>
<td>46.38</td>
<td>14.83</td>
<td>8.34</td>
<td>35.16</td>
</tr>
<tr>
<td>Average</td>
<td>18.88</td>
<td>7.27</td>
<td>4.74</td>
<td>15.05</td>
</tr>
<tr>
<td>Per capita income</td>
<td>911.31</td>
<td>239.00</td>
<td>196.00</td>
<td>400.00</td>
</tr>
<tr>
<td>Average expenditure as a share of per capita income (percent)</td>
<td>2.1</td>
<td>3.0</td>
<td>2.4</td>
<td>3.8</td>
</tr>
</tbody>
</table>

Note: Household expenditures include both traditional and modern health services and medicines.

such as livestock, are also common among patients of traditional African healers.

- A nationally representative survey in the Central African Republic has determined that 64 to 81 percent of respondents are willing to pay the estimated costs of seven quality improvements in public health services. Rural respondents are willing to pay considerably more, on average, than urban residents, presumably because the gap between existing services and what residents want or need is larger in rural areas. Furthermore, the median amounts that respondents are willing to pay for improvements in quality generally exceed the estimated costs of making such improvements. Indeed, the differences are such that the authors conclude that revenues from a user fee program could be used to subsidize those least able to pay. Judging from information on consumption patterns, approximately 25 to 30 percent of the population may need some kind of subsidy (Weaver and others 1993).

- Opinion polls taken before the implementation of user fees in Tanzania revealed that 87 percent of respondents agreed with the statement, "People will pay, provided they are assured of good service." Some 76 percent also agreed that "if good service is provided, people will give what little they have to pay for treatment" (Mujinja and Mabala 1992). In a household survey in Zambia, only about 4 percent of families cited inability to pay as a reason for not seeking care. In Sierra Leone, most families were able to pay the fees imposed, although poorer households found it more difficult to mobilize cash during the rainy season (Forsberg 1993).

- Even where services in government facilities are ostensibly free, it is not uncommon for people to pay "under the table." This practice has been documented in Guinea, Tanzania, and Uganda (Abel-Smith and Rawal 1992; McPake and others 1992). In such cases, the implementation of fees basically formalizes a practice that already exists in order to improve both transparency and accountability.

In short, households typically pay substantial out-of-pocket sums for health care. Whereas ability to pay is obviously related to income level and economic well-being, consumers' willingness to pay may be equally, if not more, contingent on perceived value for money. Prospects for sharing costs for quality health services therefore appear positive. Requiring all people to pay at least something regardless of income appears to have the added advantage of making providers more accountable to users for the quality of services rendered. Exemptions and subsidies for the poor are addressed in Chapter 2.
The Tradeoff between Price and Quality

Much of the concern about implementing user fees in Africa is contingent on the assumption that, all else remaining constant, rising prices will reduce the demand for health services and consequently the utilization of modern care. If the quantity of health services demanded falls faster than prices rise (relative to past price levels), then overall revenues will suffer. And if high prices dissuade people from using modern health care when they really need it, then both individuals and society will be deprived of an important investment in human capital.

A related concern is that poor people can be expected to reduce their use of modern health care facilities more than wealthier groups, because the burden of price changes is more significant when household incomes are low. Women and young children in households headed by women are thought to be particularly susceptible. Pricing policies that could cause poor families, women, and children to stop using modern health care facilities are therefore hotly debated.

Tradeoffs that make user fees palatable are therefore of immense interest to policymakers. One possibility is that prices for services are less important to clients than costs of travel. In some areas, such costs may be so high that residents would be willing to pay to use facilities closer to their communities. A study with focus groups in Imo State, Nigeria, emphasized the considerable costs and time associated with travel, such as waiting time—first to register at public health facilities, then to see a doctor, then to pick up the results of laboratory tests or fill prescriptions at the pharmacy (Attah 1986). Another possible tradeoff noted above involves improving the quality of services so that people are more willing to pay for them. In strictly economic terms, it is not surprising if demand for a poor-quality service falls off sharply when prices are raised. If the service has been free in the past, this outcome could be even more marked.  

The challenge facing health economists is to provide greater clarity on these issues and to back up conclusions with more rigorous empirical assessments. Figure 4 depicts the events that policy analysts typically try to "model" in determining the tradeoff between price and quality. In Ghana, for example, a household survey revealed that about one-third of a sample of 15,000 people had experienced a period of illness or injury during the previous four weeks. Forty percent sought care from government hospitals and health centers; private for-profit health clinics; and private voluntary hospitals and health centers. The remaining 60 percent treated themselves, relying on pharmaceutical outlets, traditional healers, or their own knowledge. What factors affect user choice and which are most amenable to policy intervention?
Fortunately, several studies have appeared during the past few years that permit sharper insights into the causal variables involved as well as the research methodologies needed to uncover them. These have been classified into five types in Table 9. The advantages and disadvantages of the different methodological approaches that have been used and the key findings are discussed below.

**TYPE I.** Studies in this category make use of time-series data on health facility utilization rates before and after the introduction of user fees. An advantage of this approach is that utilization statistics tend to
Table 9. Assessing the Relation between Utilization and Rising Prices

<table>
<thead>
<tr>
<th>Type</th>
<th>Country</th>
<th>Factors assessed</th>
<th>Type of assessment</th>
<th>Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Ghana</td>
<td>Price changes</td>
<td>Before or after analysis of changes in utilization based on health service statistics</td>
<td>Matji and others (forthcoming)</td>
</tr>
<tr>
<td></td>
<td>Lesotho</td>
<td></td>
<td></td>
<td>Waddington and Enyimayew (1989)</td>
</tr>
<tr>
<td></td>
<td>Swaziland</td>
<td></td>
<td></td>
<td>Yoder (1989)</td>
</tr>
<tr>
<td>II</td>
<td>Côte d'Ivoire</td>
<td>Distance to facility, personal</td>
<td>Multivariate statistical analysis with control variables and “policy simulations”</td>
<td>Gertler and van der Gaag (1990)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Zaire</td>
<td>Price, distance to facility, personal</td>
<td>Multivariate statistical analysis with control variables and “policy simulations”</td>
<td>Bitran (1992)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV</td>
<td>Ghana</td>
<td>Price, distance to facility, personal</td>
<td>Multivariate statistical analysis with control variables and “policy simulations”</td>
<td>Lavy and Germain (forthcoming)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>characteristics, facility characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kenya</td>
<td></td>
<td></td>
<td>Mwabu and others (forthcoming)</td>
</tr>
<tr>
<td></td>
<td>Nigeria</td>
<td></td>
<td></td>
<td>World Bank (1991)</td>
</tr>
<tr>
<td>V</td>
<td>Cameroon</td>
<td>Price, distance, personal characteristics, facility characteristics, direct quality improvements</td>
<td>Pre-test and post-test of communities undergoing quality improvements compared to control group, multivariate statistical analysis</td>
<td>Litvack and Bodart (1993)</td>
</tr>
</tbody>
</table>
be plentiful, permitting government officials to rapidly assess pricing policies. The major disadvantage of studies in this category is that very little information is available on the socioeconomic characteristics of the users, on the quality of services, or on what happens to patterns of use in the whole population. Unfortunately, without controls for other critical variables, the effects of prices per se are likely to be greatly overstated.

In Ghana, a major increase in user fees between 1983 and 1985 was associated with a sharp drop in utilization at all government health facilities. Utilization rates gradually returned to their pre-1985 levels over a two-year period in urban areas but remained at their reduced levels at rural health units for three years (Waddington and Enyi-mayew 1989). In Zaire, a rapid increase in the price of health care led to a sharp fall in the demand for curative services, prenatal care, and routine checkups for children under five. The overall utilization rate fell from 37 to 31 percent in a defined population, and the coverage rate for prenatal contacts fell from 95 to 84 percent (De Bethune and others 1989). A similar drop in utilization patterns was observed in Mozambique (World Bank 1994). In each of these cases, however, few improvements were made in the quality of the services offered, and the bulk of the revenue from the fees went to the central treasury.

In 1988, the government of Lesotho raised fees for outpatient consultations in all public facilities with the explicit intention of eliminating excessive demand on hospitals and inducing a shift in demand from government-run facilities to private providers. Analysis of time-series data for two districts reveals a drop in utilization rates in these facilities after the fee increase and a corresponding jump in the rates at other facilities (Matji and others, forthcoming). However, authors of the study are careful not to attribute falling utilization entirely to the increases in user fees. They note that several other factors, which were not controlled for, could have produced the same qualitative result individually or in combination. These factors include declining household incomes during a time of drought, a 50 percent increase in bus fares, natural disasters that inhibited travel around the time of fee increases, and a decline in the quality of health care in government facilities.

Other studies that use utilization statistics demonstrate that, without an analysis of the changing utilization patterns, the tendency to overstate drop-offs in utilization or revenue will prevail. In Swaziland, for example, a 300 to 400 percent price increase at government-run facilities resulted in a 32 percent drop in utilization rates. Examined more closely, however, the data show a substantially lower overall drop, because 30 to 40 percent of those who had used public hospitals and clinics switched to private facilities (Yoder 1989).
TYPES II AND III. Studies in these categories use multivariate statistical analyses of cross-sectional household data to separate out the effects of price and distance on utilization and also control for selected personal characteristics of users. The studies quantify price effects in terms of elasticities that can be compared across studies with a similar research design. They also control for several influences in addition to price, thus producing more rigorous estimates of price effects. For example, with appropriate control variables it is possible to quantify specific price elasticities of demand for people of the same gender, age, income, or type of residence (rural or urban).\textsuperscript{17}

A disadvantage of studies in this category is that the results are sometimes used by both the authors and policy analysts to make claims that are not supported by the data. This problem is frequently caused by the use of inappropriate proxy variables to test key hypotheses. Also problematic is the fact that policy inferences tend to be based on computer simulations of what people are likely to do—as assessed from results of the multivariate statistical model—rather than on what people actually do in response to a real policy change.

A study of the demand for medical care in Côte d'Ivoire illustrates these issues (Gertler and van der Gaag 1990). On the basis of a multivariate analysis of household demand for hospital and clinic care in 1985, the authors concluded that the poor are two to three times more negatively affected by the price of medical care than are the non-poor. This result has been used to imply that modest user fees may be regressive. However, it is important to keep in mind how the researchers arrived at their conclusion. At the time of the study, there were no user fees for public clinics or hospitals in Côte d'Ivoire. Gertler and van der Gaag had to introduce a proxy for the cost of obtaining care by multiplying the user's round-trip travel time by a wage rate. What the study actually shows therefore is that distance and travel time create a barrier to health facility use and that building facilities closer to where the poor live would help remove that barrier. The study does not actually identify the likely impact of introducing public user fees. The study also was not able to control for the quality of care at nearby health facilities.

A study of user fees in Zaire by Bitran (1992) provides a more rigorous assessment of actual effects of price on utilization and controls for travel time, waiting time, and personal income levels. This study was motivated by a finance survey that revealed that parastatal health facilities in ten zones were able to recover 80 percent of their costs. This high rate of cost recovery for health services is remarkable for a developing country such as Zaire, which ranked as one of the world's poorest nations in 1987.
In the study, moderate fees had a statistically significant negative effect on usage rates, as had been hypothesized. The effect was more pronounced for relatively expensive health centers and less severe at relatively inexpensive pharmacies. Travel distance also had an expected statistically significant negative effect on users' ability to choose their health facility, but distance appeared to be considerably less important than the actual price users pay for services.

Differences between the studies on Côte d'Ivoire and Zaire are striking. Bitran sets out to assess the effects of prices on utilization rates that are specific to different income groups. He shows that the negative conclusions that have been drawn about the deleterious effects of health care charges on the poor are unwarranted. Bitran then shows that travel time to various health facilities is not an important rationing mechanism because the low wages prevailing in Africa mean that people are often willing to give up a day's pay and because people have a strong preference for quality care. Finally, Bitran finds that people in their fifties and sixties frequent health facilities more than young people. He speculates that people may seek additional health care as they age because they are aware of their bodies' weakened ability to fight disease and because they are more likely to forgo work and earnings to seek health care than when they were younger. Gertler and van der Gaag, however, report that young people seek health treatment more often than the elderly. They speculate that families may prefer to invest scarce resources in the health of young people who are likely to produce higher economic returns over time.

Do these disparate findings mean that the peoples and cultures of Côte d'Ivoire and Zaire are entirely different? Probably not. The reason these findings are so dissimilar is more likely to lie in the quality of the health services available. Although neither study controls for variations in the quality of services, it is known that functional health zones in Zaire have been offering cost-effective health care packages tailored to meet specific needs for years.

Low sensitivity to changes in the price of medical care have also been observed in Ethiopia (−0.05 to −0.50) and Sudan (−0.37) (Jimenez 1989). Similar findings have been reported for Mali (Birdsall and Orival 1983) and Rwanda (Shepard and others 1987). This kind of evidence has been used to support the policy of charging fees for primary health services.

Type IV. Studies in this category go beyond those in types II and III by including facility characteristics as a determinant of utilization. This method makes it easier to assess the quality of the services available. Earlier studies on the demand for health care services used the availability of a physician as a proxy for quality, although this variable was
not found to influence utilization (Heller 1982; Akin and others 1985). Indeed, one study asked households, physicians, traditional practitioners, and pharmacists what most needed to be done to improve health services. Only physicians included "more physicians" among their choices (Abu-Zeid and Dann 1985).

Having information on a wider range of variables that affect quality allows researchers to get at the heart of the tradeoff between price and quality. These variables include the numbers and types of health personnel available, the variety and consistency of the drug supply, and the physical condition of the health facilities themselves.

A disadvantage of these particular studies is the high cost involved in gathering and processing the detailed surveys. In addition, these cross-sectional studies do not necessarily lead to firm conclusions, because ultimately they simulate user responses to changes in surrogate measures of quality. These simulated changes rarely add up to the kinds of specific findings that policy analysts want to evaluate. Furthermore, no study in this category measures or simulates people's response to a basic package of cost-effective services offered in a well-functioning health center.

In their study of rural Kenya, Mwabu and others (forthcoming) pay particular attention to drug supplies at health facilities. Both user fees and distances to facilities are found to have negative effects on utilization, as hypothesized by the authors. However, both variables fall short of being statistically significant. The authors further report that people with relatively high incomes use all facilities more, particularly mission and private facilities. This fact suggests that income can offset the effects of price increases on utilization.

Availability of drugs is also positively correlated with utilization rates in the Kenya study, with aspirin supplies showing the greatest statistical significance. However, a counterintuitive finding—that the lack of antimalarial drugs is positively correlated with utilization rates—leads the authors to warn of an "endogeneity problem." That is, the lack of antimalarial drugs might not be due to a problem of supply but may be the result of excess demand for the drugs. The significance of this finding is methodological, because no studies to date have controlled for endogeneity. Rather, they have interpreted drug scarcity and the consequent effects on demand only as a problem of supply. Another finding of note is that gender does not consistently affect the kind of treatment people select. This finding reverberates throughout most of the multivariate analyses reviewed here, suggesting that the topic requires closer examination and more systematic treatment.

To illustrate the impact of prices per se on utilization rates, the authors estimated the number of people who would likely stop using government facilities if user prices were imposed or increased. For ex-
ample, out of 1,000 people needing care before the fee changes, 536 would have used government services, 40 would have visited missionary health services, 135 would have purchased private care, and 290 would not have sought modern treatment. After the increase in user fees, about 97 people could be expected to abandon government health services. Eight of these people would seek treatment from missionary health facilities, 28 would shift to private clinics, and 61 would treat themselves. In this case 61 people (not 97) could be expected to drop out of the health care system if user fees are imposed.

The authors conclude that user charges in public clinics serve two important functions in a system of health care that features public and private providers. The first is to divert demand for medical care from government to nongovernment facilities. The second is to reduce unwarranted use of medical services by those who may have “profited” from previously inexpensive or free government facilities. It is this “demand reduction effect” and not the “demand diversion effect” that is the source of much concern about user fees in low-income countries. As the results of the simulations reported above show, however, the negative effect user charges have on demand is overstated when diversion effects are not considered. Similarly, the positive consequence of user charges in terms of revenue generation is exaggerated when demand reduction effects are ignored—for instance, the possibility that people with serious illness will drop out of the modern health care system.

Lavy and Germain’s study on Ghana (forthcoming) takes up several of the themes visited above, but with the added advantage of a nationally representative socioeconomic survey of the population and a more comprehensive survey of facility characteristics. The study aims to shed greater light on the dramatic decline in health service utilization in Ghana from 1973 to 1987, when the number of outpatients fell by half—from well over 10 million to 5 million. The research is informed by several prior studies showing that government expenditures on health were reduced, resulting in a sharp deterioration in the quality of available services.

According to the authors’ simulations, the changes that have the greatest impact on utilization at public facilities if all else remains constant are improvements in the availability of drugs and in the range of services provided. These improvements not only increase attendance at public facilities, but, combined with similar improvements in private facilities, reduce the number of people opting to treat themselves by around 15 percent. Measures to shorten the distance to public facilities are also important and could include, for example, the construction of additional facilities or public transportation. Increases in user fees at public facilities alone, or at both public and private facilities, are likely to have a relatively small effect on the number of people opting to treat themselves.
Lavy and Germain’s most important conclusion is that the direct effect of user fees on utilization in Ghana is less significant than the effects of distance and travel costs. Moreover, the strong positive effect that improvements in quality have on utilization relative to the weak negative effect of fees suggests that there is ample opportunity to finance improvements in the quality of public health care by raising fees without compromising utilization.

Finally, a study of the demand for health care in Ogun State, Nigeria, confirms several of the findings reported above (World Bank 1991). Multivariate analysis was used to assess the kind of health care chosen—public, private, or self-treatment—by approximately 1,800 adults in rural and urban areas. The results strongly support the views that price affects health care choice, but its impact is relatively small; quality has a significant impact on health care choices; and increases in prices can be offset by improvements in quality. People in Ogun State prefer health facilities that spend more per capita on care, have an adequate supply of drugs available, and are in relatively good physical condition. The authors conclude that were public facilities to offer the same level of drug availability as the private sector and improve physical conditions, assuming constant public and private sector spending per patient, then outpatient prices could be raised to private sector levels.

Type V. Studies in this category are especially valuable because they involve real-world experience as well as the scientific imperative of a control group. Thus, when a policy is changed, the resulting changes in the behavior of the experimental group can be compared with the behavior of a control group that has not been affected by the policy change. Equally important, this approach comes closest to an actual test of a “package” of the integrated health services that policymakers believe are important for preventing and curing illness. Compared with a multivariate analysis of loosely defined facility attributes, an assessment of user reactions to a high-quality package of services affords greater insights into the relative roles that price and quality play in the choice of health care.

The disadvantages of this approach include its costs and the time-consuming field work. Setting up an experiment involving hundreds of households and major improvements to health facilities is not feasible for most researchers. Nor is it always politically acceptable to make improvements in one district or region while depriving another.

The controlled experiment reviewed here is based on a “natural experiment” conducted in 1991 in Adamaoua Province, Cameroon (Litvack and Bodart 1993). Three of five public health facilities not only introduced user fees but also improved the quality of the services offered. Two other facilities introduced user fees without improving services. For purposes of the study, these five facilities were selected as
treatment centers. The two comparable facilities that had not introduced such changes represented the controls.

The results indicate that income did indeed affect utilization differently in the two groups. However, in the treatment group, it appears that the poorest individuals were the most likely to use the "treatment" health centers. Conversely, in the control group, the poorest individuals were the least likely to use the health center. The authors argue that when efficient, low-cost care became available locally, people used it rather than a distant facility that might be free. The fact that proportionately more poor people sought good care when it became available at a nearby treatment center indicates that this alternative was simply not available to them before. This experiment suggests that rather than being negatively affected by Cameroon's policy of charging for health care, the poorest groups are benefiting from the change proportionately more than wealthier groups.22

Exemption Policies

Even the most optimistic studies of people's willingness and ability to pay find that some proportion of the population requires assistance. The most obvious groups are the mentally ill, who are unable to care for themselves; paupers and the indigent; and those unable to raise cash or even in-kind payment when severe illness strikes. The central problems are defining such people, working out an acceptable formula for providing subsidies, and effectively administering exemptions. In most countries, tested and low-cost models for identifying those who simply cannot afford to pay for health care are as rare today as they were a decade ago.

A survey of official cost-recovery policies for health care systems in African countries suggests that exemptions are remarkably uncommon (Table 10). Of twenty-one, only one has an official income ceiling below

<table>
<thead>
<tr>
<th>Exemption policy</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>National policy and income ceiling criteria</td>
<td>Zimbabwe</td>
</tr>
<tr>
<td>National policy, but criteria not clear (for example, unable to pay, indigent paupers)</td>
<td>Burundi, Congo, Ethiopia, Gambia, Ghana, Kenya, Lesotho, Mauritania, Mozambique, Nigeria, Rwanda, Swaziland</td>
</tr>
<tr>
<td>Local policy (for example, community decisions tied to a local project)</td>
<td>Cameroon, Central African Republic, Equatorial Guinea, Guinea-Bissau, Nigeria, Uganda, Zaire, Zambia</td>
</tr>
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</table>

which people are exempt. Twelve countries report that their national health policy provides for exemptions but have no clear criteria for determining who qualifies for them. The remaining eight countries provide exemptions only as part of local projects or facilities, with criteria determined on an ad hoc or community basis. The limited capacity to administer exemptions in most African countries may well be the most important explanation for their infrequency and ineffectiveness in reaching the truly poor.

A closer look at existing exemption practices also raises questions of rationale and fairness. In Lesotho, for example, relatively strict criteria have been used to distinguish between the poor and the nonpoor. Exemptions are awarded only to people with no income and no land, livestock, or other belongings. These individuals must be certified by village chiefs and district officers as "paupers" (only about 200 people have received this certification). This low figure suggests that other hardship cases, such as members of poor households headed by women who cannot afford to pay for health care, might be denied treatment. However, almost 30,000 people, comprising 99 doctors, 620 nurses, 5,120 village health workers, and all their children under ten, pay no fees. An imbalance of this magnitude clearly prevents an exemption policy from playing any meaningful role in promoting equity.

Distortions are apparent in other countries as well. In Ghana in 1986, most statutory exemptions from user fees were granted to employees of the Ministry of Health and their dependents. The revenue that would have been collected had the exemptions not existed would have been about 21 percent of total collections for that year (Waddington and Enyimagew 1990). In the Central African Republic, 80 percent of the cost of health care for civil servants is supposed to be covered by the appropriate ministry and 20 percent by the patient. However, neither the ministries nor the patients pay their share of health costs regularly, and relatives of civil servants manage to receive free or heavily subsidized care despite regulations requiring them to pay (Central African Republic 1992).

The picture on exemptions policy therefore remains incomplete. Unfortunately, no one formula is likely to suffice to determine who should be justly exempt from user charges. Rather, countries and communities are in the best position to work out their own schemes. The following examples suggest promising alternatives.

- The government of Malawi is including low-income exemptions as part of its "phased" user fee program, first in central hospitals, then in district hospitals, and finally in health centers. The "core poor" are to be exempt from fees, and the government is examining the landholding structure to identify those who qualify. The core poor, defined as families farming less than 0.5 hectares, comprise an estimated 500,000 households, or about 19 percent of all
households in Malawi (Ferster and others 1991). In areas where these households predominate, affordable fee schedules are being determined in collaboration with the communities.

- Private voluntary hospitals and dispensaries in Tanzania report that up to half their patients may have some difficulty making full payments. Most facilities accept alternative forms of payment, including deferred payment, payment in kind with crops, or temporary employment (without pay). Ninety percent of hospitals and 20 percent of dispensaries exempt the disabled; 36 and 30 percent, respectively, exempt children under five; and 23 and 5 percent, respectively, exempt people with chronic diseases (Mujinja and Mabala 1992).

- Targeting by type of service rather than to broad groups is also considered a possibility. This approach would heavily or fully subsidize those services needed disproportionately by low-income households, such as prenatal and delivery services, management of a sick child, and treatment for sexually transmitted diseases (STDs) and tuberculosis. Better Health in Africa has identified several components of a basic package of services that are believed to contain strong public benefits and therefore might be exempt from fees or at least heavily subsidized for the poor (World Bank 1994).

The central problem is to determine which services should be publicly subsidized or exempt from fees, since many health services yield both private and public benefits, and which authority should carry out and administer any exemptions policy. Polio and tetanus vaccinations provide a good example. Clearly, they offer private benefits because they reinforce an individual's immune system. People should be, and often are, willing to pay for such benefits. Yet it is also true that communities are unlikely to be protected from the hardships associated with communicable diseases unless vaccinations are made universally available. Thus, governments often advocate broadly based vaccination campaigns and are willing to provide vaccinations at highly subsidized rates, especially to people who would otherwise be unable to afford them.

Administration and Collection of Fees

Unfortunately, revenues are often lost in African countries because charges are not administered and collected efficiently. Although research on how best to combat this problem has only begun, six ways to improve systems of user fees have emerged.

- People who know what charges to expect when they seek care tend to be far more receptive to user fees. Posting simple pricing structures for out-
patient services in clearly visible places at clinics and hospitals will help to make this information clear.

Many clients at health facilities in Africa are likely to be illiterate, unfamiliar with fee schedules and billing procedures, and uneasy with the idea of paying for services whose quality and value they cannot measure. One way to deal with this problem is to launch an information campaign before introducing or raising fees that will explain why the changes are necessary and how the system will function. In Sierra Leone, for example, a study concluded that such information would help make fees more comprehensible, reduce the incidence of overcharging, and increase the confidence of the community in the benefits of cost sharing (Fabricant and Kamara 1990).

- **Health facility staff tend to be far more motivated to administer and collect fees when they perceive that there are professional and personal benefits involved.**

Again, when revenues from user fees are retained at the point of collection, they can be used to improve the quality of care (especially the supply of drugs), maintain facilities, and cover recurrent expenditures on salaries. Provisions that allow fees to be used this way help motivate health care workers to provide better services (World Bank 1994). Incentives can also take the form of prizes, with health facilities competing to recover the largest share of expenditures. In Lesotho’s system of district-based health care, for example, the staff of the district that recovers the largest proportion of costs through user fees shares a prize of M20,000.

- **Collecting and administering fees efficiently takes on immense importance at public hospitals, not only because the care provided is expensive but also because these hospitals receive large government subsidies that need to be reduced.**

Charges for inpatient care at hospitals tend to be high, and hospitals lose large amounts of money by not collecting fees when patients are released. In Zimbabwe, both hospitals and health centers had relatively low cost-recovery rates during the late 1980s, owing to a combination of low fees, poor billing, and lax collection procedures. On average, only 62 percent of hospital bills were collected nationally, with some hospitals retrieving as little as 13 percent and others as much as 100 percent (Hecht and others 1993).

Fortunately, hospitals are in the advantageous position of having “gatekeepers” in the form of administrators who are responsible for admissions, relatively well developed admission procedures, accountants and bookkeeping systems, and access to the banking system—capabilities that should make it relatively easy for them to collect and administer fees. Based on a survey of hospital fee collection systems in
West Africa, Vogel (1988) recommends several practices: well-defined admissions offices for the hospital; a system for issuing receipts, with duplicate copies, to serve as evidence of payment; a rigorously enforced system for determining those eligible for exemption; training for all staff on the importance of collecting fees; periodic spot checks to establish that staff are carrying out the above recommendations; and periodic audits of the financial transactions and flow of funds.

- The contribution of user fee policies to cost recovery will be undermined unless charges are adjusted for inflation and the revenues collected are appropriately invested.

One of the most important ways to maintain the revenue potential of user fees is to regularly adjust the fee levels to keep pace with inflation (Barnum and Kutzin 1993). However, in some countries—Botswana, Lesotho, and Zimbabwe, for instance—an act of parliament was required to change fee schedules, and so fees for health services remained unchanged for many years. As the authors point out, maintaining the real level of prices does not negatively affect equity, so there are good reasons to recommend that periodic adjustments be built into any system of user charges. Such a policy is most likely to be successful if the price changes are an administrative rather than a political act (USAID 1993).

In Guinea-Bissau, the failure to adjust user fees for inflation has reduced revenues to an almost insignificant share of total recurrent expenditures (Ekund and Stavem, forthcoming). The fee for a consultation at a national or regional hospital during the 1980s was PG100, on average; at district hospitals, PG50; and at health centers, PG30 to PG50. These fees, set in 1978, were not adjusted despite an annual inflation rate that reached around 100 percent in 1986–88. To put these figures in perspective, in 1989 a kilo of rice cost PG1,000 and a chicken between PG4,000 and PG6,000.

Countries as diverse as Ghana, Zaire, and Zambia have also neglected to adjust health services fees to reflect increased inflation. In their study of Zaire, Shepard and others (forthcoming) warn that inflation rates of up to 100 percent a year could seriously erode the revenues accumulated through district-based insurance programs unless the money is invested wisely. They recommend that the revenues not be held in cash but rather be invested in responsible local institutions or essential drug supplies, since drugs are usually imported and may gain in value if the exchange rate is devalued.

- The way fees are structured can influence users' perceptions of the value they are receiving for their money, the frequency with which they utilize facilities, and thus the amount of fees these facilities are able to collect.
A preset or standard fee for all services rendered during a visit is common at health centers in many African countries, including the Central African Republic, Côte d'Ivoire, Ethiopia, the Gambia, Ghana, Guinea-Bissau, Mali, Rwanda, Senegal, Swaziland, Uganda, and Zimbabwe (Nolan and Turbat 1993). Preset fees have the advantage of being simple (Box 3). However, unless the quality of treatment and services is high, these fees may be unpopular. In Uganda, for example, people reacted negatively to flat fees in facilities that were understaffed and had frequent drug shortages (McPake and others 1992).

One way around this problem is to use a fee-for-service approach, which separates charges for drugs and other special treatment costs from the preset consultation fee. In Kenya, a sustained negative reaction to the government's preset consultation fee resulted in its suspension in September 1990. Subsequently, the outpatient consultation fee was replaced with a treatment fee for services actually rendered. Levy-
ing fees in this way is more complicated administratively but is ultimately more successful. Combined with other improvements (but no additional fee increases), this approach helped triple monthly revenue at provincial hospitals in Kenya between April and June 1991 and, subsequently, was responsible for doubling revenue at district hospitals between October 1991 and the fourth quarter of 1992 (Collins and Hussein 1993).

Charging fees for an episode of illness is another practice that is common in such African countries as Benin, Congo, Guinea, Lesotho, Mozambique, Namibia, Nigeria, and Zaire (Nolan and Turbat 1993). One advantage of this approach is that it is believed to motivate patients to complete treatment (see Box 3). A second advantage is that charges are linked to a "package" of the services that are required to make the treatment effective, including the costs of personnel, equipment, medicines, and overhead, rather than only items such as drugs, which clients may be willing to pay for separately. High-quality health care cannot be sustained financially if revenues are generated only for, say, drugs, while operating costs and incentives for staff are neglected. Finally, charging fees for an episode of illness, as opposed to individual services, also makes it easier to manage public subsidies for expensive treatments (World Bank 1992).

However, much about pricing mechanisms remains unknown, which suggests that understanding the advantages and disadvantages of various pricing systems is a priority for future research on health care delivery in Africa (Creese 1991). One hypothesis is that fee-for-service providers may recommend more services than are actually needed to earn more money, resulting in overcharges and possibly in escalating costs at facilities that are unable to collect payment. However, health care providers who charge for an episode of illness may provide
Box 3. Payment Options in the Central African Republic

According to the Central African Republic's Ministry of Public Health and Social Affairs, in 1991 the country's private and public health facilities used a variety of payment options, including charges for services rendered (62 percent), a flat charge for each episode of illness (22 percent), a charge for each visit (13 percent), and prepayment for a year of service (3 percent).

Charges for Services Rendered (Fee-for-Service System)

This option requires patients to pay for the treatment they receive when they receive it. The prices of the various services—consultations, outpatient diagnostic exams, and hospitalization—are added together, and the patient must pay the full sum to be treated. This option has the advantage of promoting better resource allocation in health facilities, but it also has significant drawbacks. First, patients may not be able to pay the necessary fees and therefore may not receive adequate, or even any, treatment. This problem is particularly acute in private hospitals, which rarely have effective methods of collecting overdue bills. These facilities solve the problem by providing treatment for only a few days and then inducing the patient to pay the bill. Second, this option requires more effort in terms of management and accounting; in particular, it requires staff who are specially trained in cost recovery. Despite its shortcomings, however, this option still seems to be favored by health facilities, but users themselves need to be asked what they think of this practice.

Flat Charge for Each Episode of Illness

This option requires the patient to pay the total cost of all consultations and care for an episode of illness during the first visit. All subsequent visits are free. Basically, there are two methods of setting prices under this option. One is to calculate the average cost of all episodes of illness and to charge each patient this flat, one-time fee. The problem with this method is that patients whose treatment costs are less than the fixed price may not want to pay the set fee and thus may receive no treatment.

fewer services than are merited, because the cost (and efforts) of doing so are borne entirely by the provider.

- Permitting different forms of payment may enhance users' willingness and ability to pay, as well as the prospects for collecting debts.

Low-income households in Africa may have more difficulty paying for health services during certain times of the year. In particular, farm
In addition, this option will not cover all the costs of treatment, especially for very ill patients, so that eventually the charges will have to be increased. At that point, some users will stop seeking treatment, and gradually adverse selection will ensue.

Charges can also be linked to the expected cost of treating each episode of illness. This method not only covers more of the costs of treatment but motivates patients to complete the recommended treatment.

**Flat Fee per Visit**

This option requires the user to make one payment for each visit to the health facility. The sum may or may not include the cost of drugs. The fee for each visit is determined by dividing the average cost of an illness episode by the likely number of visits.

This system also has both advantages and drawbacks. Charging for each visit reduces the likelihood that users will visit the clinic more often than is necessary and thus allows the facility to allocate its resources more effectively. However, this option requires a well-run accounting system and sound management techniques. And charging for each visit may cause some people who need care to stop visiting the facility because they cannot pay the fees.

**Prepayment for a Year of Service**

While not common, this payment option is found in some private health facilities (such as the Boguila Medical Center) and is essentially restricted to certain categories of patients. Under this option, students at Yaloke Evangelical High School and Bata Theological Faculty are accepted as patients based on a lump-sum payment made at the beginning of each year. This payment gives them access to all services free of charge for the year. Although highly regarded, this option does not permit resources to be allocated efficiently and has not been widely tested. Even the managers of the Boguila Medical Center admit that the prepayment scheme is one of the main reasons for the facility's chronic deficit.

*Source: Central African Republic (1992).*

Households are likely to have more access to cash after harvesting their crops than during the planting season. They are also likely to be in a better position to pay for services with income in kind, such as a bag of grain or poultry, which has long been a common method of payment to traditional healers.

Accommodating in-kind payments is, of course, more awkward and time consuming than handling cash transactions. However, permitting
some form of alternative payment from low-income households allows these households to seek more services from modern health facilities (McPake and others 1993). In Tanzania, for example, privately operated hospitals and clinics allow those with little or no income to pay for services with crops or through temporary employment (Mujinja and Mabala 1992). In Guinea-Bissau, community-based prepaid insurance plans allow villages to make in-kind contributions of agricultural products. In 1988, four villages contributed the value of a crop produced through joint labor on a common field (Eklund and Stavem, forthcoming).

Conclusions and Recommendations

Debate today centers less on whether user fees are warranted than on how to increase their contribution to more efficient, equitable, and sustainable health care systems. At the heart of the issue is the need to find acceptable ways to tap resources that African households seem generally willing and able to pay, while simultaneously making people feel they are receiving good value for their money. It is equally important that improvements in quality associated with cost recovery benefit the morale of health care personnel, thus making them more effective agents in the health care delivery system.

Assessing the amount that can be raised through fees is only one of many important concerns surrounding the broader issue of cost sharing and its purposes. Through pricing signals, user fees can help rationalize the referral system. Appropriate fee structures that charge more for inpatient services and are complemented by health insurance can help both to reduce government spending on expensive tertiary-level care and to cross-subsidize primary and preventive care. Allowing facilities to retain some revenues at the point of collection and working to ensure that users can see improvements as a result of the fee systems can contribute to the sustainability of health services in general and of supplies of essential drugs at lower-level facilities in particular. Systematic increases in very low levels of fees over time can foster more competitive environments, raising the chances that private providers will survive. As fees become a fact of life, people will be more receptive to the idea of health insurance and the critical role it will almost certainly have to play in financing expensive hospital care.

User fee policies are still in their nascent stages in Africa, and it will be some time before the potential contribution of such fees to cost sharing can be realized. It is important to stress that several actions must be taken simultaneously if user fee policies are to maximize the desires and needs of households seeking care and the goals of national health care systems.
Formulate an Explicit Policy on User Fees

Governments should be explicit about the revenue mobilization and reallocation goals it expects to accomplish through user fees. This process can be facilitated by assessing the costs of providing a basic package of essential services—including the costs of the referral and supervision system—and determining the appropriate levels of fees to be charged for these services. Governments need to be clear about how much user fees can be expected to contribute in total health system financial needs, how government funds freed up by cost recovery are to be reallocated to primary and public health care services, and what additional steps are needed to ensure that government subsidies will be available to cover budgetary shortfalls in the provision of these services.

Rethink the Targeting of Subsidies

Governments also need to state clearly their policies on user fee exemptions and to implement mechanisms that can best achieve targeting goals. An intervention approach, for example, may stress exemptions for health services that benefit the public at large, such as low-cost or free immunizations or treatment for sexually transmitted diseases (STDs). A more strictly targeted approach might focus on core low-income groups that otherwise could be excluded from the range of benefits offered by a basic package of health services. When exemptions are provided at health facilities, both staff and clients should be well informed about the exemption policies, and there should be a clear community consensus on who qualifies as “poor.”

Emphasize the Efficient Management of Facilities

Well-managed health facilities are a linchpin of successful user fee policies. Unless fees are accompanied by improvements in the way facilities are maintained and services are provided, utilization rates are likely to decline. Governments can help to improve the management of health care by fostering development of locally-controlled management boards, giving them autonomy in planning and budgetary decisions, and allowing them to purchase supplies at competitive prices. Additional priority areas for facility management include improving incentives for staff to collect fees from clients, implementing follow-up procedures for collecting unpaid bills, and establishing methods to scrutinize exemption loopholes. Unless the procedures are in place to administer and collect fees efficiently, revenues will never reach their potential.
Permit Facilities to Retain a Portion of the Fees Collected

Permitting facilities to retain some of the fees they collect helps to empower the managers and staff of health centers and hospitals. With the additional revenues, they are able to make improvements to their facilities that will be readily perceived by the users, such as providing better sanitation or stocking more essential drugs. Managers can also use some of these fees for incentive payments to motivate their workers. When facilities adopt fee retention policies, however, governments need to take appropriate steps both to combat leakage at the point of collection by promoting more transparent fee schedules and strong, locally managed supervisory and control systems.

Give Communities a Voice on the Boards of Their Local Health Facilities

Involving communities in the management of health facilities is a proven way to foster accountability and transparency in the management of funds and to increase consensus and support for cost sharing. Communities have a vital interest in the relation between their out-of-pocket payments and the quality of services they receive.

Stress Better Procurement Practices, Especially for Drugs

An important criterion for a successful cost-sharing strategy is whether increased revenues result in more regular supplies of essential drugs. In combination with improved facility management and the local control over revenues, more sophisticated and flexible procurement procedures need to be available to health centers and hospitals. For example, administrators of health facilities in Kita, Mali, estimated that they could cut their current expenditures on medicines in half if the country used competitive international bidding (Vogel 1988). Cumbersome procurement and allotment procedures can be effectively replaced by a system that contracts out for essential drugs.

Promote the Development of Private Sector Providers

User fees in public health facilities can be expected to stimulate private sector development if and when clients switch to private-voluntary and private for-profit providers. Private sector development will also be aided by health insurance schemes and as public facility managers increasingly deal with private suppliers (for example, for drugs). Stimulus to private sector development might take the form of subsidies to cover start-up costs, subventions to fund relocation to more marginal areas, or subsidies to patients to be used at any provider (rather than to specific facilities). Subsidies to private sector providers might also be
contingent on their compliance with appropriate public health standards and norms pertaining, for example, to use of essential drug lists and other quality-control procedures.

*Build an Information Base for Future Policy Analysis*

Health personnel need to be trained in health finance and health economics because the impact of user fees will need to be monitored. Areas that need to be evaluated include revenue levels and utilization rates, as well as the efficiency, equity, and sustainability of national health systems.

Policy analysts will also want to turn their attention to important gaps in the general knowledge of cost-sharing issues, including:

- Measuring how governments perform in reallocating public funds from tertiary-level services to primary and preventive care
- Identifying examples of proven and politically acceptable procedures for “means testing”
- Investigating possibilities that fee retention policies might exacerbate inequities between communities that differ considerably in resources and wealth (and thus compensatory steps governments might take to correct such inequities)
- Understanding the socioeconomic differences between those who seek care from modern providers when they are seriously ill or injured and the 40 to 50 percent that do not
- Analyzing the implications of AIDS-related illnesses on the sustainability of health financing and the role of cost sharing.
2. Self-Financing Health Insurance

Health insurance aims to protect the welfare of individuals who fall seriously ill. By pooling financial contributions from many people, insurance plans can cover the hospital expenses of those experiencing catastrophic events, such as near-fatal illness or injury. Without access to such insurance, many people are unable to obtain treatment or must incur debts to pay hospital bills.

Insurance mechanisms can also generate large amounts of revenue for health services. Health insurance is virtually the only practical instrument governments can use to get out of the expensive business of providing across-the-board subsidies for hospital care, thereby releasing funds for public health programs and preventive and primary services that benefit the poor.

This chapter provides an overview of the principles and practices of self-financing health insurance, drawing on the limited but growing experience of African countries. The evolution of risk-sharing mechanisms and insurance basics are described briefly. Next, a review of the existing systems in African countries sets the stage for a discussion of the potential contribution health insurance can make both to the efficiency and equity of health care delivery and to the development of private health care. The chapter then highlights the obstacles to setting up health insurance programs in Africa, with emphasis on administrative and market factors that need to be assessed before a viable insurance program can be established. A concluding section discusses future prospects for expanding insurance systems in Africa.

Risk Sharing: How Did It Evolve?

In a traditional subsistence society, the largest social structures capable of absorbing health risks are extended families, clans, and tribal organizations. These structures provide a system of mutual aid should disaster strike. Households that are most vulnerable to catastrophe tend to be small, to have a high proportion of young or old residents, or are detached from village or tribal organizations.

The direct costs of medical care in subsistence economies are handled through simple transactions within highly institutionalized, traditional risk-sharing arrangements. For example, traditional healers and midwives do not use capital-intensive procedures but are remunerated
only for their personal services, drugs, or ceremonies. In addition, re-
muneration often involves a sharing of risk by provider and patient.
Payments are typically agreed to in advance, and one charge covers
care for an entire episode of illness. Payment is usually in kind; ofter:
no charge is made until a cure is achieved; payment schedules are con-
sistent with crop cycles; and sliding fee scales are common (Akin and
others 1985). But these arrangements split the risk only between pa-
tient and healer. They do not spread risks across the population, as
health insurance systems in industrial countries do.

As an economy modernizes, new technologies evolve to combat ill-
nesses or accidents that otherwise might have ended in death. Treat-
ments associated with these new technologies typically involve a
prolonged hospital stay, expensive procedures and drugs, and a long
period of recuperation. The nature of these treatments has prompted
the development of new ways to cope with the associated expenses. In
particular, monetization of transactions and the spread of markets
have improved the prospects for creating more broadly based risk-
sharing arrangements by extending the pool of risk sharers beyond the
immediate family and community. The institutional arrangements that
accompany the modernization of economies—centralized govern-
ments, labor unions, large enterprises, and farmers' cooperatives—
provide the means to pool risks on a large scale.

However, the actual development of risk-sharing arrangements can
easily lag behind the need for them. Traditional health care arrange-
ments may crumble rapidly as revolutionary health technologies be-
come available in an extremely short period and new economic and
legal arrangements—such as laws governing property ownership and
contracts—suddenly change the rules of everyday economic life. Yet
the institutions required to share risks, medical and otherwise, are
financially complex and difficult to develop on a large scale. For this
reason, people may suddenly find themselves at risk of suffering a cat-
strophic illness or injury and unable to meet the expenses involved.

Although labels such as “traditional” and “modern” are only ap-
proximate, they are useful in differentiating between rural and urban
Africa. Formal health insurance is least feasible in rural areas, where
traditional risk-sharing arrangements prevail, and may not increase
the welfare of individuals significantly. Thus, to finance health care in
more traditional rural settings, it may be most appropriate to charge
user fees for relatively inexpensive services and to initiate an insurance
system only for more costly inpatient interventions, which can then be
handled by other means, such as a stop-loss mechanism. In urban ar-
eas, traditional methods of risk sharing are less available, so the poten-
tial for organizing market-based, risk-sharing institutions is greater.
Insurance Basics

How insurance works to protect people from the huge losses associated with a catastrophic illness or injury can be illustrated with a simple example. Suppose that in a town of 10,000 people a typical African adult between the ages of 15 and 60 years has one chance in 10,000 of experiencing a severe illness or injury in a given year that would result in a $3,000 hospital bill. If this hospital bill were spread over all 10,000 people, each person’s expected annual cost would be $0.30. Many people in Africa might well be willing to pay more than $0.30 a year for insurance that would cover such a catastrophe, thus transforming the low probability of losing $3,000 into a certain but small $0.30 annual loss.

If an insurance company could assemble 10,000 people with this loss probability and collect $0.30 from each of them, it would be prepared to incur $3,000 in hospital expenses in a year. If no administrative costs were involved, the company could also expect to break even. But if each person were to pay $0.50 per year, the insurance company would stand to make a profit, provided that its costs remained low. The additional revenue of $0.20 per member in insurance jargon, this extra $0.20 is called the “loading cost” of insurance.

Alternatively, saving to pay for an unexpected catastrophic illness or injury is not an economically efficient substitute for insurance. A person facing the low probability of losing $3,000 in a year would have to save $60 a year for 50 years to achieve the protection that would otherwise have been available through the insurance plan described above for $0.50 a year, for a total lifetime premium of only $25.00. The efficiency gains attributable to insurance are clear: there is no alternative to pooling medical risks that provides the same level of protection.

Insurance is not problem free, however. It creates incentives for consumers and providers to behave in ways that, if uncontrolled, can greatly weaken an insurance system. These types of behavior are well known to insurance planners and include adverse selection, moral hazard, and incentives for cost escalation (Box 4).

Catastrophic events that are beyond the control of the individual are the easiest and cheapest to insure, because the probability of their occurring is low. In developing countries with no insurance systems, catastrophic coverage should be introduced first. Not only is it relatively easy to administer, but this approach addresses the problem of financing hospitals, the institutions where patients often incur catastrophic losses. Furthermore, because so many hospital bills go unpaid, the absence of a credible insurance system destroys the financial viability of hospitals.
Box 4. Minimizing Problems That Can Undermine Insurance Plans

In providing coverage to all individuals, health insurance plans face certain risks, including adverse selection, moral hazard, and cost escalation. However, these risks can be minimized by careful planning and management.

Adverse Selection

When people with a high risk of sustaining a severe illness or injury and the chronically ill dominate a health insurance plan, the plan experiences adverse selection. The least expensive way to correct this problem is to insure groups that are selected on the basis of a characteristic other than health status—for example, trade unions and other workers’ groups—so that the health risks are random. Governments have the power to force this kind of correction in the insurance market and often do so for automobile or homeowner’s insurance.

In the long run, the most expensive way to correct for this problem is to do nothing. In this case, insurance companies must screen out high risks, put caps on coverage, or charge prohibitively high rates, leaving the government to absorb the costs of care for many chronically ill patients without insurance. Insurance plans may also “risk rate” entire groups as well as individuals. For example, coal miners may be charged a higher premium than academics because miners are engaged in a more dangerous occupation. Insurance companies also protect themselves from adverse selection by developing plans with different combinations of premiums, deductibles, and copayments in an effort to prompt individuals with high risks to identify themselves by selecting a plan with a high premium and low copayment.

Over time, and if it is legal to do so, an insurance company may also “experience rate” its members (or groups and “communities” of members), charging them based on the number of their earlier claims. Risk-rating schemes increase the economic efficiency of insurance but are often perceived to be unfair or inequitable.

Moral Hazard

Moral hazard occurs when members of a health insurance plan use services more frequently than they would have had they not been members.

Formal Health Insurance in Africa

In a survey of twenty-three African countries between 1971 and 1987, Vogel (1990) found that only seven countries (30 percent) had formal health insurance systems. The percentage of the total population insured ranged from a low of 0.001 in Ethiopia to a high of 11.4 in
Thus, an expected 1/10,000 probability of a loss for all members of a group, on average, may actually become a 1/9,000 probability once people join the insurance plan, because they no longer have to pay the full cost of medical bills. If the changes in probability are significant enough, an insurance company can become economically unviable.

Insurance companies can reduce the potential for moral hazard by forcing clients to pay part of the costs of their care before insurance takes over, by careful policing of utilization, by conservatively keeping premiums high to compensate for possible behavioral changes, and by limiting benefits. Often, copayments or deductibles are used. For example, the insurance plan may require the client to pay 25 percent of all hospital claims (a copayment) or a certain predetermined amount before insurance begins to pay (a deductible).

Cost Escalation

Both physicians and consumers can promote cost escalation. Physicians do so by providing more elaborate treatment than required, with little resistance from clients whose insurance plans pay the bill. Moreover, in developing countries, insurance companies face several unique problems that contribute to cost escalation. Insurance companies add what is called a "loading cost" to the base costs of medical care. The loading cost includes administrative fees, sales charges or commissions, and profits. As these loading costs increase, they diminish the value of the insurance to the consumer and make it less likely that paying the premiums will continue to be a viable alternative to accepting catastrophic risks.

Sources of higher administrative and sales costs include an inability to identify and insure groups (as opposed to individuals) to reduce adverse selection, the high cost of collecting premiums because there is no regular income stream or banking system, the high cost of credit (which is typically rationed), the high cost of policing claims in a dispersed population, and the lack of reinsurance markets. All of these characteristics mitigate against insurance in developing countries, especially in rural areas.

Kenya. To arrive at these figures, Vogel restrictively defined health insurance as a formal pool of funds held by a third party or by the provider (in the case of a health maintenance organization). The third party can be a government-run social security or other public insurance fund, or any private fund; however, employer-provided health care was not included as health insurance under Vogel’s conservative
definition. In Vogel's classification, insurance plan members must pre-
pay their fees, thus creating the pool of funds the third party draws on
to meet members' health care costs (Figure 5).

Vogel classified the prevailing health insurance arrangements in Af-
rica as follows:

- Those that provide universal free health care financed by national
tax revenues, as in Tanzania
- Those that provide government-sponsored health care financed
through a combination of general tax funds and cost recovery, as
in Ghana
- Compulsory social security systems for the entire formal labor
force, as in Senegal
- Special health insurance funds for government employees, as in
Sudan
- Those that provide a discount at health care facilities for govern-
ment employees, as in Ethiopia
- Other public schemes, such as those entitling government
employees to private medical care as a fringe benefit, as in Kenya
- Mandated employer coverage of health care for employees, as in
Zaire.25

More recently, a World Bank survey of thirty-seven countries docu-
mented formal and employer-provided schemes (Nolan and Turbat
1993). Using the same restrictive definition as Vogel, the survey found

Source: Adapted from Olsen and Mogedal (1993).
that fifteen countries had formal insurance systems in place (almost 40 percent). Another four countries had some kind of employer-provided program, and eighteen had no formal system. The status of health insurance in one country could not be determined.

Summary characteristics of fifteen of the countries reviewed by Nolan and Turbat are presented in Table 11. Coverage ranges from less than 10 percent of the population in most countries to about 15 percent in Burundi and Senegal and 25 percent in Kenya. Private insurers are active in about half the countries studied; the rest have public insurers

Table 11. Profile of Health Insurance Coverage in Africa

<table>
<thead>
<tr>
<th>Country</th>
<th>Provider</th>
<th>Groups covered</th>
<th>Population covered (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burkina Faso</td>
<td>Social insurance scheme</td>
<td>Formal sector employees</td>
<td>0.9</td>
</tr>
<tr>
<td>Burundi</td>
<td>&quot;Mutuelle&quot; for public servants</td>
<td>Civil servants and parastatal employees</td>
<td>10-15</td>
</tr>
<tr>
<td>Cameroon</td>
<td>National social insurance fund</td>
<td>Employees</td>
<td>—</td>
</tr>
<tr>
<td>Côte d'Ivoire</td>
<td>Social insurance scheme, &quot;mutuelle,&quot; private insurers</td>
<td>Employees</td>
<td>—</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>Private insurer</td>
<td>No information</td>
<td>0.01</td>
</tr>
<tr>
<td>Kenya</td>
<td>National health insurance fund</td>
<td>Employees and families</td>
<td>Up to 25</td>
</tr>
<tr>
<td>Lesotho</td>
<td>Unknown</td>
<td>Employees</td>
<td>—</td>
</tr>
<tr>
<td>Mali</td>
<td>Social insurance scheme, company schemes</td>
<td>Employees</td>
<td>About 3</td>
</tr>
<tr>
<td>Namibia</td>
<td>Public schemes, private schemes</td>
<td>Employees and families</td>
<td>20 percent of formal labor force</td>
</tr>
<tr>
<td>Nigeria</td>
<td>Private insurers</td>
<td>No information</td>
<td>0.4</td>
</tr>
<tr>
<td>Senegal</td>
<td>Civil service employers, private insurers</td>
<td>Employees</td>
<td>13</td>
</tr>
<tr>
<td>Tanzania</td>
<td>Private insurers</td>
<td>No account</td>
<td>1</td>
</tr>
<tr>
<td>Zaire</td>
<td>Employers buy health insurance or provide care</td>
<td>Employees</td>
<td>—</td>
</tr>
<tr>
<td>Zambia</td>
<td>State mining company provides care</td>
<td>Employees and families</td>
<td>6</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>Private insurers</td>
<td>No account</td>
<td>5</td>
</tr>
</tbody>
</table>

Note: — = not available.

Source: Derived from Nolan and Turbat (1993) and World Bank data.
and employer-based schemes. The potential for expanding health insurance coverage is especially apparent in Kenya in view of Vogel's prior estimate that only 12 percent of Kenyans were covered in 1984.

Finally, a review of social security systems throughout the world reveals that among forty-seven African countries in 1991, seven (15 percent) had formal social security systems providing direct medical benefits or reimbursement for medical expenses; fifteen (32 percent) had an employer mandate that obligated the employer to pay for certain medical services; and seventeen (36 percent) had no formal system (no information was available on eight of the countries). Country specifics are provided in the last column of the Appendix Table. When combined with information assembled by Vogel and Nolan and Turbat, these data reveal considerable variability in estimates of health insurance prevalence in African countries.

The apparent shortage of formal insurance schemes that fit Vogel's definition should not detract from other important insurance activities in the region. Vogel himself observed that small local voluntary risk pools were operating in Rwanda, that employers were voluntarily providing medical care directly to their employees in Zambia, and that some employers in Nigeria and other countries provided medical care for their employees by contracting with private health care providers. In fact, the last arrangement is common among larger firms and parastatals in all countries without formal insurance.

Indeed, many countries in Africa rely on employer mandates to provide health benefits to employees. Private or parastatal firms in the formal sector provide medical allowances, reimburse workers for expenses, operate clinics and hospitals for their employees, or contract with private and mission hospitals and clinics to provide services. In Zaire, for example, employer-organized insurance schemes comprised about 30 percent of revenue in Kasongo Health District, which has a catchment area population of 30,000 urban and 165,000 rural residents. About 60 percent of the district hospital's revenue derived from insurance, compared with around 13 percent of health center revenue (Table 12).

<table>
<thead>
<tr>
<th>Facility</th>
<th>1986</th>
<th>1987</th>
<th>1989</th>
</tr>
</thead>
<tbody>
<tr>
<td>First point of contact (for example, health centers)</td>
<td>12.2</td>
<td>14.0</td>
<td>12.9</td>
</tr>
<tr>
<td>Referral level (for example, district hospital)</td>
<td>55.5</td>
<td>67.0</td>
<td>57.9</td>
</tr>
<tr>
<td>Total</td>
<td>28.7</td>
<td>34.7</td>
<td>30.2</td>
</tr>
</tbody>
</table>

Source: Derived from Criel and Van Baien (1993).
The case of Tanzania illustrates how actual figures on the prevalence of health insurance can vary, depending on the concepts and assessments that are used. The survey information reported in Table 11 suggests that only 1 percent of Tanzania's population was covered by health insurance in 1993, whereas Vogel's study reported that Tanzania had no health insurance at all. But a 1992 survey of 200 employers in Dar es Salaam and three regional cities found that three distinct types of insurance systems are operating in Tanzania, only one of which fits Vogel's definition (Abel-Smith and Rawal 1992).

First, the National Insurance Corporation manages insurance policies for 43 Tanzanian employers with a total of some 2,000 employees, half of whom work for the corporation itself. This figure is clearly low in a country of 25 million people, but it represents a start. Second, the Tanzania Occupational Health Service covered about 250,000 employees in 1992 under contracts with employers under a system that can be classified as a kind of prepaid plan. Third, all but 7 of the 200 surveyed employers had some kind of formal scheme for their employees, namely, self-insurance. Around 50 percent had contracts with private or mission facilities or ran their own clinics or hospitals, about 20 percent reimbursed employees' medical expenses, and the remaining 30 percent used other variations on these two approaches. About 90 percent of the schemes were available to all employees. Eighty-six percent of parastatal schemes and 68 percent of private schemes covered at least some dependents.

If civil servants are included, then about 13 percent of Tanzania's population (including dependents) were associated with someone in formal employment with access to employer-based health coverage in 1992. Tanzania is the second-poorest country in the world, with a twenty-year history of attempting to implement universal government-funded health care, and therefore is the least likely place one would expect to find any sort of insurance coverage.

*Risk Sharing and Efficiency Issues*

Employer-based schemes—if conceived as part of a health-financing strategy—are promising because they can free up government resources that would otherwise be devoted to expensive curative care. Presumably, the sophistication and breadth of such schemes improves as per capita income rises. However, existing employer-based schemes, such as those described in Tanzania, are not economically efficient, because the risk pools are generally too small. An efficient insurance system requires large risk pools. But in Tanzania, for example, 63 percent of the firms have fewer than 200 employees. Only 8 percent of the firms interviewed were satisfied with the current approach, and 73 percent favored compulsory health insurance. These figures are hardly
surprising. A firm of ten employees is in only a slightly better position than a family to share risks, and the administrative costs of paying medical bills and adjudicating the use of health services are high. Even a firm of 200 employees, which is twenty times larger, is not big enough to manage such risks.

Governments can help increase efficiency in such a system through employer mandates and other mechanisms to create risk pools. As Abel-Smith and Rawal (1992) point out, combining employees and civil servants into an employer-mandated insurance scheme in Tanzania would offer several advantages.

- The insured, with the help of their employers, can sustain the entire cost of the services they use, not just a small part of the cost that, in practice, user charges can collect.
- The scheme can be designed to provide both preventive and curative services from the same health units.
- By using a few large insurers, companies can lower administrative costs, improve bargaining terms with providers, and avoid unnecessary and costly promotional campaigns.
- The mandated health insurance contributions will provide insurers with a relatively stable source of income that cannot be used by government for other purposes.
- Health insurance can promote the development of private sector facilities and thereby improve the quality of public health facilities as well. The more people choose to use insurance from private sector facilities, the shorter the queues will be at public health services. In addition, fewer people will have to share the limited drugs and other supplies that public health facilities have difficulty purchasing.

Thus, even in a country as poor as Tanzania—with its long tradition of publically financed health services—it is possible to find substantial effort by employers to establish self-insurance. There is little question that substantial gains could be made in this system by helping employers and others to pool their risks.

*Pooling Risks and Equity Issues*

One beneficial aspect of both government-supported and private insurance that is often overlooked is the impact on equity. Within the risk pool, benefits are provided on the basis of need rather than by income class. Payments go to the sickest people, and, because lower-income and less-educated people tend to be sicker, they also have the potential of benefiting more from insurance claims. The expenditure side of the equation consequently tends to be progressive.
Inequity remains, however, when people are left out of the risk pools and are therefore forced to pay for their own medical care or to forgo it altogether. To a large extent, this is a design problem that can be solved and is not characteristic of all insurance systems. The most straightforward way to solve this problem is by constantly expanding the eligible risk pool. Over a long period, many Latin American countries have done just that, bringing the poor into risk pools so that more people have access to health care (McGreevey 1990).

The same challenge is currently being taken up by South Africa. Until recently, South Africa's health insurance system catered largely to the needs of highly paid, predominantly white-collar workers. Approximately 70 percent of white-collar workers were covered by the system, compared with 33 percent of Asian workers, 29 percent of "colored" workers, and only 7 percent of black workers (Table 13). In addition, the system itself was rigid. For instance, married women could not become members except through their husbands. The government-financed Medical Aid System was obligated to pay 70 to 100 percent of the costs of various services and 50 percent of all drug charges. These rigid requirements, along with a restrictive legal environment, resulted in high premiums that those with small incomes could not afford.

Under the new Medical Schemes Act, which took effect in January 1994, a more flexible system is being developed that aims to increase the participation in health insurance plans of those groups that have previously been excluded. Married women may become members of an insurance scheme in their own right, for instance, and may even claim their husbands as dependents. Many other constraints have been removed, so that more flexible packages can be developed at more affordable rates.

The positive effects of health insurance on issues of equity become more evident when viewed in light of the prevailing alternative: denying the rich the opportunity to pay for health insurance and forcing them into the same public health care delivery system as the poor. In

Table 13. Membership in South Africa's Health Insurance System, 1993

<table>
<thead>
<tr>
<th>Population group</th>
<th>Beneficiaries</th>
<th>Estimated population (thousands)</th>
<th>Percentage of population covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>1,523,702</td>
<td>21,871</td>
<td>6.9</td>
</tr>
<tr>
<td>Colored</td>
<td>948,164</td>
<td>3,302</td>
<td>28.7</td>
</tr>
<tr>
<td>Asian</td>
<td>329,488</td>
<td>991</td>
<td>33.2</td>
</tr>
<tr>
<td>White</td>
<td>3,490,001</td>
<td>5,080</td>
<td>68.7</td>
</tr>
</tbody>
</table>

Source: Sidders (1994).
this situation, the distribution of benefits almost always favors the rich. Estimates for rural Kenya in 1991–92 show that the average hospital subsidy was Ksh76 a year, with Ksh128 going to the richest decile and Ksh55 to the poorest. In contrast, the average subsidy at the health center level was Ksh10, with Ksh9 going to the poorest decile and Ksh5 going to the richest. The hospital subsidy is so large relative to the health center subsidy that it skews the overall distribution of health subsidies heavily toward the rich. If the urban population is included in these estimates, the subsidy pattern becomes even more regressive (Dayton and Demery 1994).

In a census of patients in Tanzania, Abel-Smith and Rawal (1992) found that relatively well off Tanzanians and their dependents made up only 13 percent of the population in 1991 but accounted for 21 percent of public hospital inpatient services. They also accounted for 44 percent of outpatients in referral hospitals, 36 percent in regional hospitals, and 27 percent in district hospitals. The authors estimate that compulsory insurance programs for these approximately 200,000 employees could have financed 27 percent of the Ministry of Health’s recurrent budget in fiscal 1990/91.

In Zimbabwe, private insurers covered less than 5 percent of the population in 1987 yet were responsible for almost 17 percent of total expenditures on health care—largely curative care for relatively well off Zimbabweans. These expenditures were the equivalent of about one-third of central government expenditures on health and around one and a half times the amount of foreign assistance Zimbabwe received for health. And they freed up Ministry of Health funds for public health services.

The above evidence suggests that a sensibly designed insurance system, even if targeted to the richest 10 to 20 percent of the population, will almost certainly improve equity, if only by channelling the rich into a system that they, rather than the rural poor, support financially. Although such a system may initially concentrate on high-income households, a sensible long-term policy would extend coverage to poorer segments of the population.

Promoting Development of the Private Sector

A well-capitalized, unsubsidized, nongovernmental presence in a national hospital system is unlikely to develop unless an insurance system is in place to minimize risks that hospitals will have to absorb catastrophic expenses of patients who cannot afford to pay for services rendered. Nongovernmental hospitals can and are kept afloat without insurance through a combination of user fees and donations, but always under the specter of imminent collapse. Insurance systems help solve this problem by providing a guaranteed pool of funds for pay-
ment of such bills, therefore increasing chances that nongovernment hospitals can remain viable.

An example from Asia helps illustrate how the development of health insurance promotes private sector development. The Philippines finances health care through public and private spending and a compulsory insurance system that covers about one third of the population, reimbursing services from both private and public hospitals (Griffin 1992). The insurance system began operating in 1972, and within ten years the number of private hospital beds had doubled, despite the continued expansion of the public sector (Figure 6). Although private hospital capacity expanded all over the country, it was concentrated in areas that had seen the least private sector development before the insurance system was introduced (Griffin and Paqueo 1993).30 Yet this small insurance system has never accounted for more than 10 percent of all health expenditures.

A similar situation exists in Eastern Africa. Kenya developed the National Hospital Insurance Fund in the late 1960s. As a result, by 1989

Figure 6. Expansion of Public and Private Hospital Bed Capacity in the Philippines, 1972–90

<table>
<thead>
<tr>
<th>Year</th>
<th>Government</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>1972</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1983</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Philippines (annual).
nearly half of Kenya’s tertiary-level facilities (medical centers and hospitals) were either private or operated by a private voluntary church mission. New facilities offering routine hospital services (for example, maternity and nursing homes) have developed that are completely dominated by private for-profit ownership, and there is a vigorous market for private clinicians (Table 14). The development of private, for-profit hospitals in Kenya appears to be unrivaled in Sub-Saharan Africa.

In contrast, Tanzania and Uganda chose not to develop any financial risk-sharing mechanisms but continued to fund health care through a system of public hospitals. In Tanzania, the government subsidizes seventeen nongovernmental hospitals that are designated as district hospitals. One study found that about 95 percent of the hospitals’ revenue comes from the government (the hospitals are not permitted to charge fees). Charitable support is almost nonexistent. The government of Tanzania has thus created a system of government-funded and voluntary hospitals that provide services in most areas and that have little or no competition. Nongovernmental suppliers are financed through government contracts; all are expected to provide services at little or no cost to users. It is hardly surprising that private hospital services have not yet developed, given the lack of insurance and competition (Table 15).2

In Uganda, there has been little development of secondary or tertiary private hospitals. During the past ten years, private hospital services have been limited to small operations, usually with just a few beds for patients who must stay overnight (Table 16).


<table>
<thead>
<tr>
<th>Type</th>
<th>Public</th>
<th>Mission</th>
<th>Private</th>
<th>Municipality</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical center</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Hospital</td>
<td>98</td>
<td>34</td>
<td>50</td>
<td>1</td>
<td>183</td>
</tr>
<tr>
<td>Maternity home</td>
<td>2</td>
<td>1</td>
<td>16</td>
<td>7</td>
<td>26</td>
</tr>
<tr>
<td>Nursing home</td>
<td>0</td>
<td>1</td>
<td>26</td>
<td>0</td>
<td>27</td>
</tr>
<tr>
<td>Health center</td>
<td>331</td>
<td>23</td>
<td>60</td>
<td>25</td>
<td>419</td>
</tr>
<tr>
<td>Sub-health center</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>Other types of clinics</td>
<td>38</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>38</td>
</tr>
<tr>
<td>Dispensary</td>
<td>975</td>
<td>160</td>
<td>411</td>
<td>27</td>
<td>1,573</td>
</tr>
<tr>
<td>Health clinic</td>
<td>5</td>
<td>2</td>
<td>16</td>
<td>43</td>
<td>66</td>
</tr>
<tr>
<td>Total</td>
<td>1,445</td>
<td>233</td>
<td>582</td>
<td>109</td>
<td>2,359</td>
</tr>
<tr>
<td>Percentage of total</td>
<td>61</td>
<td>9</td>
<td>25</td>
<td>5</td>
<td>100</td>
</tr>
</tbody>
</table>

*Note: Draft data subject to revision based on 1992 resurvey of health facilities.*

*Source: World Bank data.*
Table 15. Ownership of Health Units and Capacity in Tanzania, by Provider, 1991

<table>
<thead>
<tr>
<th>Facility</th>
<th>Government (including parastatals)</th>
<th>Voluntary agencies</th>
<th>Private for-profit</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals</td>
<td>85</td>
<td>84</td>
<td>3</td>
<td>172</td>
</tr>
<tr>
<td>Beds</td>
<td>12,548</td>
<td>11,341</td>
<td>241</td>
<td>24,130</td>
</tr>
<tr>
<td>Health centers</td>
<td>266</td>
<td>8</td>
<td>1</td>
<td>275</td>
</tr>
<tr>
<td>Dispensaries</td>
<td>2,411</td>
<td>573</td>
<td>30</td>
<td>3,014</td>
</tr>
</tbody>
</table>

Source: Tanzania, Ministry of Health.

Table 16. Health Units and Capacity in Uganda, by Provider, 1991

<table>
<thead>
<tr>
<th>Facility</th>
<th>Government</th>
<th>NGO</th>
<th>Private</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tertiary and secondary hospitals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>50</td>
<td>36</td>
<td>0</td>
<td>86</td>
</tr>
<tr>
<td>Beds</td>
<td>8,474</td>
<td>5,343</td>
<td>0</td>
<td>13,817</td>
</tr>
<tr>
<td>Primary hospitals</td>
<td>188</td>
<td>66</td>
<td>42</td>
<td>296</td>
</tr>
<tr>
<td>Outpatient clinics</td>
<td>612</td>
<td>165</td>
<td>284</td>
<td>1,061</td>
</tr>
</tbody>
</table>

Note: Tertiary and secondary hospitals include all hospitals from the district level and above. Primary hospitals are either health centers with inpatient facilities or dispensaries that have a few beds, usually for deliveries. Outpatient clinics include dispensaries, sub-dispensaries, and aid posts.

Source: World Bank data.

The evidence provided above is not a conclusive test of the hypothesis that direct government provision of hospital services, combined with a lack of affordable health insurance, inhibits the development of the private sector. But it is certainly consistent with this hypothesis. Efforts to provide publicly subsidized health services as part of a loosely contrived, tax-based national “insurance” plan appears to create a system that competes with the private sector for paying patients and crowds out the insurance market for all but the very rich.

Pre-Payment Plans for Rural Populations

People who do not have a regular income often find it difficult to pay health insurance premiums on a monthly or quarterly schedule, which increases administrative and billing costs for the insurer. This problem is common in both rural and urban Africa. As a result, one of the most prominent issues in the debate about health care in Africa is finding alternatives to cyclical billing for insurance premiums. As noted above, one possibility is to focus on groups that lend themselves to regular
payment schedules, such as civil service and other salaried employees, that is, people who currently have formal sector jobs.

Rural insurance is more difficult but hardly impossible. Farmers are rarely completely unorganized; often, they are members of irrigation groups that allocate water rights, savings and loan associations, or agricultural extension groups. These groups can provide a mechanism for organizing a risk pool and providing regular payments or insurance premiums.

Income from cash crops is another potential source of funds for health insurance. If products are marketed through a cooperative, the cooperative can be targeted for group coverage and the premium deducted from sales. This method is used by a well-known health plan sponsored through the National Dairy Development Board in India. Under this plan, members pay a fixed amount at a predetermined time for health services that may be needed later.

Prepayment schemes offer another alternative and are drawing increasing attention as a way to finance and organize health services in rural areas (Korte and others 1992). An important advantage of prepayment is that it can limit the effects of fluctuations in seasonal income on people's ability to purchase care. Collecting a contribution when cash incomes are highest helps to guarantee that rural dwellers have ongoing access to health care—even during seasons when much of the rural population has little cash.

Successful prepayment schemes currently operate in Guinea-Bissau and Zaire. In Guinea-Bissau, villages are participating in a prepayment scheme for drugs and basic services through annual collections made shortly after the harvest, when cash is readily available (Eklund and Stavem, forthcoming; Chabot and others 1991). Similarly, in Zaire's Bwamanda health zone, annual collections for a prepayment scheme for hospital services are made during the season when cash incomes are highest (Shepard and others, forthcoming). Seventy-five percent of the villagers studied in selected communities in Guinea-Bissau and more than 60 percent of the population studied in Bwamanda health zone were enrolled in the prepaid plans.

A comparison of the district-based Bwamanda scheme in Zaire and the nationwide rural health card scheme in Burundi—the Carte d'Assurance Maladie (CAM)—is instructive. The Bwamanda scheme has much greater enrollment rates, premium levels, and financial efficiency (USAID 1993). Its relatively high enrollment rates can be attributed to four factors. First, most of the population believe that the scheme provides them with access to high-quality health services (see the results of the opinion surveys in Shepard and others, forthcoming). Second, hospital fees are relatively high, so there is real financial risk associated with an illness requiring hospitalization—and thus an incentive to join the plan. Third, the bulk of the population can afford the premiums,
even though the rates have been increased every year to keep pace with high inflation. (The price of the premiums is linked to the value of two kilograms of soybeans, a commonly produced crop.) Fourth, the revenues from premiums and copayments in the zone are used to finance the operating costs of the local facilities. All hospital costs for beneficiaries were covered by income from premiums in 1987–88, and cost recovery in the district hospital jumped from 48 percent in 1985 (before the insurance system was introduced) to 79 percent in 1988 (Shepard and others, forthcoming).

In Burundi, however, the quality of care in public facilities is reported to be poor, with drug shortages common (World Bank 1994). A survey of the rural population found that drug shortages are the primary reason for not buying or renewing the CAM health card. In addition, the scheme is undermined by the low fees charged at health centers. CAM’s contribution is also limited by the low premium, which has not been adjusted since the scheme was introduced in 1984. Finally, revenues from CAM sales revert to government authorities and thus cannot be used to finance the local facilities. Consequently, revenues from CAM sales represented only around 3 percent of the Ministry of Health’s recurrent expenditures in 1990.

In almost any society, it should be possible to locate a group that will lend itself to group insurance coverage. Even those with the lowest incomes spend a surprisingly high percentage of their income on health services, which suggests that, even among those with little money, income may not be the binding constraint on insurance expansion. Instead, the constraints are more likely to be informational—for example, convincing healthy people that they should pay an insurance premium—or to involve administrative procedures such as collection and billing.

Evaluating the Potential for Formal Risk Sharing in Africa

While the prospects for expanding insurance in Africa are generally positive, experience at the country level shows that opportunities for financing health insurance can be established only when the factors bearing on the viability of insurance markets have been carefully assessed. These factors can be classified roughly as supply-side and demand-side issues.

Supply-Side

- **The mix of public and private facilities and practitioners.** If the system is primarily public and services are free, then the government is attempting to provide “social” health insurance through the direct provision of services. Introducing a self-financing health insur-
ance program in such an environment is tantamount to introduc-
ing fees where they previously did not exist. Revamping a system
dominated by public sector facilities requires introducing user
fees, creating a market-friendly regulatory framework that will
courage the development of private facilities, as well as planning,
begun early on, to introduce a formal insurance system.

- **Capitalization of the insurance system.** Any system will incur expenses
before adequate revenues can be collected. Enough funds must
therefore be found to cover the initial operating costs of an insurance
program. The system could be capitalized through the sale of
equity. Organizations such as the World Bank can help countries
design and capitalize the necessary financial institutions.

- **Services to be offered.** As mentioned earlier, the least expensive
approach to risk protection is catastrophic coverage. It may be
feasible to start with that level of coverage and add more expensive
coverage later, as demands and income increase. It is also
important to keep the price of the most basic insurance package
affordable.

- **Beneficiary contributions.** Deductibles and copayments should be
considered even though they may be difficult to administer. If
they are not in place, people may overuse the system, causing seri-
ous financial strain.

- **Risk pools.** Insurance can be offered through groups assembled for
other purposes, such as professional associations or unions. If
such groups are not available, adverse selection may be a problem.
Even if adverse selection is difficult to manage directly, it can be
handled by imposing upper limits on benefits, thus reducing the
impact of high and unsustainable levels of coverage on insurance
program budgets.

- **Administrative costs.** Information on the administrative costs of
health insurance in Africa is extremely scarce, although there are
some examples. In the mid-1980s, the costs of administering a pro-
gram in Mali—the Prévoyance Sociale Programme—amounted to
as much as 50 percent of the program’s revenues. But in Zimba-
bwe, the administrative costs of member Medical Aid Societies are
probably less than 10 percent of revenues (Vogel 1993). Adminis-
trative costs should be assessed in light of the costs of alternatives
to insurance systems, such as more effective management of pub-
lic hospitals, since these costs also tend to be high. Often, the costs
of administering a private insurance system are not higher than
the costs of administering other systems, especially government
programs and facilities, which tend to be highly inefficient. And
investing in financial infrastructure, especially in much-needed
technological and human capital, helps to develop skills that will
improve health care delivery and to support the creation of fungi-
ble financial institutions.
Demand-Side

On the demand side, accurate projections of administrative costs will require accurate assessments of people's willingness to pay for insurance and of the ability of the organizations involved to organize solvent risk pools. The demand for insurance is a function not only of prices but of the income levels of prospective participants, the types of services and benefits offered, and most important, the current levels of health expenditures. Several demand-side factors need to be considered.

- **The insurance premium and health expenditures.** Insurance premiums must be lower than the costs of using other care. A family that anticipates using a hospital once every five years and can reach a free government hospital for less than $25 may not be willing to pay even $5 a year for an insurance policy. Charging user fees at the hospital would, of course, completely change the equation.

- **Household income.** Because the demand for voluntary insurance is highly and positively correlated with income, low-income households will tend not to buy it. This problem can be offset in part by converting government subsidies for hospitals and other curative services to targeted subsidies that enable low-income households to purchase insurance. These subsidies are predicated on the theory that even very poor households will purchase health insurance if the price is right. But it remains to be seen how far health insurance schemes can be extended—and at what cost to the government. If a risk-sharing plan can offer the same or a better choice of medical services than what is already available for approximately the same amount of money, low-income groups are more likely to join.

- **Health expenditures.** Because of the shortage of information, one of the many practical problems of designing health insurance is finding accurate sources for actuarial data on age-specific morbidity and mortality, so as to better determine the likely costs of care (Borch 1990). In such cases, information on existing expenditures provides valuable data for designing an insurance plan. Such data can show how much people spend on medical care and drugs, which services and providers they use most frequently, and what portion of their expenditures goes toward meeting the expenses of a catastrophic episode each year. Expenditure and risk patterns can help to determine the types of services households are willing to pay for, how expenditures vary by income group, and, therefore, how an insurance system can best be designed and presented to the group to be covered.

- **The size of risk pools.** The "law of large numbers" used by statisticians can be used to show that illness is a predictable random event in groups of a certain size. With a group that is large
enough, an insurer can calculate a premium that reflects the average experience with illness in the group and a standard deviation around the average. The total revenues from the premiums should be sufficient to cover the costs of illness within the group for any given period (Vogel 1993). Much practical empirical work needs to be done in Africa to estimate the size, the means, and the costs of assembling risk pools for health insurance.

Considerations of both supply and demand are fluid at the design stage. The quality of care and the array of services offered by an insurance package can be adjusted to accommodate the insured group's financial situation. However, a minimal level of service must be provided before people will pay anything. Determining the demand for and current availability of health care is an important step in creating private health insurance systems in Africa.

Potential for Expanding Coverage

This section attempts to extend the foregoing supply/demand framework by providing an empirical basis for classifying African countries according to their potential to develop formal insurance. Table 17 summarizes the framework in terms of both supply and demand, outlining the broad requirements for each, the factors that will facilitate meeting those requirements, and the appropriate macroeconomic variables that can be used to assess whether these facilitating factors are in place.

The framework in Table 17 has been used to rank African countries by producing "scores" for each country's performance in terms of the aggregate variables. For each of the characteristics in the table, a country received +1 if its value stood beyond one standard deviation from the average for African countries. Alternatively, the country received -1 if it lagged behind the average by more than one standard deviation, and 0 (the average) otherwise. Each of the characteristics is weighted equally, so that the maximum positive or negative score a country can receive is +8 or -8.

The results of this exploratory exercise are reported in Table 18, based on the data reported in the Appendix Table. The values for the forty-seven countries range from -3 to +3. Zimbabwe outscores the rest of the countries, principally because its per capita income, private medical expenditures, and foreign assistance for health care are all above average. Along with South Africa, Zimbabwe probably has the continent's best-developed private insurance market.

The message for countries like Zimbabwe is that the potential for insurance and consequent benefits of investing local or donor funds to expand insurance coverage and strengthen these financial institutions is strong. The same can be said of countries rated +2. Labor laws in
Table 17. Summary of Issues in the Supply and Demand of Health Insurance

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Facilitating factors</th>
<th>Appropriate aggregate variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply of insurance</td>
<td>Lower administrative cost</td>
<td>Population density, urban population</td>
</tr>
<tr>
<td>Ability to reduce adverse selection and moral hazard</td>
<td>Assembly of sizable groups to pay for coverage</td>
<td>Total population multiplied by percentage of labor force in industry (or formal sector employment)</td>
</tr>
<tr>
<td>Greater donor involvement in health sector</td>
<td>Donor motivation to invest in new financial systems for private sector development</td>
<td>Aid flows to health sector</td>
</tr>
<tr>
<td>Demand for insurance</td>
<td>Income</td>
<td>Per capita income</td>
</tr>
<tr>
<td>Greater private sector potential</td>
<td>Higher probability of losses for consumers; reduced prospects of free care</td>
<td>Private medical expenditures, supply of physicians, private hospital beds per thousand population</td>
</tr>
</tbody>
</table>

Three of these five countries currently have an employer mandate for certain medical services; but there is no publicly sponsored risk-sharing mechanism for medical care. Except for Mauritius, each country has either above-average foreign assistance in health or the potential for it. Expanding insurance may be a key investment in these countries for improving social welfare. The seventeen countries rating a +1—nine of which have an employer mandate to provide medical benefits—already have a base that can be expanded to provide a broader system of risk sharing. Viable health insurance schemes for all income groups in these countries are key to improving overall social welfare.

In countries with a rating of 0 to −3, prospects for developing formal insurance systems are lower, with a few exceptions. For example, Kenya has a rating of 0, yet it appears to have the broadest insurance cov-
Table 18. Feasibility of Insurance Systems in African Countries

<table>
<thead>
<tr>
<th>Rating</th>
<th>Frequency</th>
<th>Countries</th>
<th>Number with formal system or employer mandate</th>
</tr>
</thead>
<tbody>
<tr>
<td>+3</td>
<td>1</td>
<td>Zimbabwe</td>
<td>0</td>
</tr>
<tr>
<td>+2</td>
<td>5</td>
<td>Central African Republic, Mali, Mauritius, South Africa, Togo</td>
<td>3</td>
</tr>
<tr>
<td>+1</td>
<td>17</td>
<td>Benin, Botswana, Cameroon, Chad, Comoros, Djibouti, Egypt, Gabon, Ghana, Mauritanian, Niger, Nigeria, Senegal, Seychelles, Sudan, Zaire</td>
<td>12</td>
</tr>
<tr>
<td>0</td>
<td>14</td>
<td>Angola, Cape Verde, Côte d'Ivoire, The Gambia, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Madagascar, Namibia, São Tomé &amp; Príncipe, Swaziland, Zambia</td>
<td>4</td>
</tr>
<tr>
<td>-1</td>
<td>7</td>
<td>Burundi, Mozambique, Rwanda, Sierra Leone, Somalia, Tanzania, Uganda</td>
<td>2</td>
</tr>
<tr>
<td>-2</td>
<td>2</td>
<td>Burkina Faso, Malawi</td>
<td>1</td>
</tr>
<tr>
<td>-3</td>
<td>1</td>
<td>Ethiopia</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: See Appendix Table for details.

The average of any country in the region other than South Africa and Zimbabwe. The ten countries with negative scores tend to have lower per capita incomes, are less urbanized, and have weaker formal medical infrastructures than other African countries. However, as noted previously, Tanzania, with a rating of -1, has the potential to develop at least a limited insurance system. Even in these countries, the civil service and state-owned enterprises account for 5 to 10 percent of the work force and can provide a base on which formal risk-sharing systems can be built. Civil service reform, which the World Bank actively promotes throughout Africa, should consider the potential value of monetizing health benefits through mandatory insurance.

The ratings in Table 18 are, of course, static and thus ignore changes that are likely to improve the viability of establishing formal insurance systems in the region. The most important of these changes are listed below.

- *Competition from free services.* Governments are beginning to charge fees for medical services, thereby fostering an enabling environment for the development of private health care facilities. This trend will accelerate as countries gain experience in generating revenues and take a more aggressive stance in reallocating public funds away from expensive tertiary care. It is important to encour-
age the development of higher-quality, more sophisticated private curative services, which require a more stable financing mechanism than does the current unorganized approach to private medical practice.

- Adverse selection. The prospects for reducing adverse selection are improving. The extension of markets into rural areas and the movement of people into both cities and formal sector employment have reduced the difficulty of assembling groups for insurance coverage, creating large pools of potentially insurable people. Between 1970 and 1991, the number of Africa's urban dwellers increased from 16 to 29 percent of the total population. In addition, the development of rural credit programs, agricultural extension programs, and irrigation projects has created rural institutional structures that can increasingly lend themselves to the organization of insurable groups in rural areas. None of these changes has been quantified, however, and doing so is another important step in evaluating the potential for developing health insurance systems in Africa. Countries such as Brazil, China, Ecuador, and Mexico have extended their insurance systems into rural areas with varying degrees of success. In China, which has a per capita income of $330, more than 60 percent of the population is covered by some type of insurance system (Griffin 1992).

- Administrative costs. The technology that insurers require to keep track of their paperwork and finances is becoming increasingly affordable.

Conclusions and Recommendations

The conventional justification for implementing user fees and creating self-financing insurance systems in developing countries is that these modifications will mobilize more resources for health care delivery. But a health insurance system can also promote equity, improve economic efficiency, raise the quality of medical services, and allow consumers some choice in selecting and paying for their treatment. Using prices to improve the allocation of scarce resources in the health care sector can so spur an interest in developing risk-sharing institutions and insurance systems as well as foster private sector involvement in providing and financing curative services.

The slow pace at which formal insurance systems have developed in Africa is related less to a lack of demand for risk-sharing mechanisms than to other factors: the preemptive presence of governments in the provision of free hospital services; the market prerequisites and capitalization requirements of insurance, which inhibit its spontaneous development; and the widespread poverty in the region. Poverty affects the speed with which insurance systems can develop—without gov-
government intervention—and limits their scope, but it should not affect a
government's ability to encourage insurance schemes.

In Africa, government intervention is likely to be required if health
insurance systems are to develop more rapidly. Governments may
need to monetize their contribution to health care (as opposed to pro-
viding health services), and policymakers will have to anticipate the
distortions insurance can create. Many of the problems can be man-
age at the design stage, but doing so will require additional invest-
ment in the financial and legal institutions, telecommunications, and
information networks. Countries need to choose an approach to risk
management that strikes a reasonable balance among efficiency, equity,
and feasibility.

There is a promising future for health insurance in Africa, but careful
planning will be required to ensure that the programs are sustainable
and can be expanded. Several steps can be taken in the right direction.

- **Initial focus on cities.** Urban areas should be the first focus of a
  policy to develop publicly sponsored insurance markets. Private
  insurance plans will focus on urban areas because cities offer
  lower loading costs than rural areas, better medical facilities, and
  more formal employment. If a program is to be extended to low-
  income groups, the best place to start is in the city, where incomes
  are likely to be slightly higher and more regular than in rural
  areas.

- **Tap the formal sector.** In many African countries, the formal sector is
disproportionately populated by government employees. As
Vogel (1990) points out, governments frequently provide some
health benefits for their own employees, such as medical allow-
ances, reimbursements, exemptions from government fees, or true
health insurance. Governments tend to require that health benefits
be provided to employees of large firms. Much can be done to
rationalize this system and to encourage private sector involve-
ment by converting in-kind benefits or benefits tied to govern-
ment facilities into financial instruments such as insurance. A
government can have a significant impact on the feasibility of
insurance even beyond urban areas because its employees are
spread throughout the country.

- **Implement user fees as a prerequisite.** Most countries cannot imple-
ment full-scale insurance systems without first imposing user fees
in government facilities, especially hospitals. An insurance system
like Kenya's may offer to reimburse government facilities, but if
these facilities do not charge fees or have the capacity to process
bills for insured patients, they cannot benefit from the availability
of an insurance system.
• **Stress catastrophic care.** While it is true that catastrophic services are the most insurable services, an insurance system that stresses catastrophic illnesses and injuries also creates an incentive for physicians to admit patients to hospitals. Consequently, planning should also begin early to create incentives for managed care networks that can provide more comprehensive prepaid services. Any inpatient plan should probably include a basic package of outpatient services, for medical reasons as well as to improve the incentive structure faced by doctors.

• **Pay attention to the “uninsurables.”** In some countries, the uninsurables may include virtually all of the rural population. The government can provide a form of insurance to these groups by delivering subsidized services directly or by contracting with the private sector to do so. As indicated earlier, any such services should include deductibles and copayments. Inpatient insurance can be provided by creating stop-loss cutoffs for fees. Similar methods can be used to cover other uninsurables, including the elderly and the poor, and workers can be allowed to retain subsidized insurance after they retire.

• **Explore alternatives such as prepayment schemes.** Insurance is not a forced savings program. It is a risk-pooling program. Some of the experiments described earlier, in particular those in rural Guinea-Bissau and Zaire, are more properly described as payment of taxes, forced savings, or membership dues to a service provided by the public sector (entitling the member to public subsidies). Although these are different methods of collecting user fees, they clearly merit encouragement as an ingredient of sustainable financing for health services in rural areas and could be improved to gain more of the characteristics of insurance.

• **Maintain consumer choice.** Insurance benefit packages tend to be designed as if one benefit package functions equally well for everyone. A more appropriate approach is to design a minimal required package and to leave consumers the choice of spending more on additional benefits.

• **Build an information base for policy analysis.** A regionwide analysis can provide the information on supply and demand that is necessary to design an effective, efficient insurance system.

Over the longer term, policy analysts will want to be clearer about a number of aspects of health insurance on which there is little information in Africa and other parts of the world. Perhaps most important is the issue of cost escalation, which occurs when fee-for-service providers see the opportunity to increase their profits by providing extra services, requiring additional visits, or even raising their fees. This stems
from the fact that providers can affect the quantity of services consumers demand, because most consumers trust their doctors to decide on medical treatment and to explain treatment options. Appropriate monitoring, evaluation, and incentives can help to discourage providers from expanding the volume and cost of services unnecessarily (Kutzin and Barnum 1992).

Also important is the extent to which copayments and deductibles reduce moral hazard and adverse selection. Theoretical arguments in support of copayments and deductibles require specific appraisal in Africa and elsewhere to determine their relevance. Finally, the effect of voluntary insurance on the market for health care needs to be assessed, particularly if privately insured services drive up the cost of all care and exacerbate problems of access and affordability for the uninsured. None of these issues should detract from the priority of promoting and establishing self-financing insurance programs but, rather, should be taken up in the process of evaluating and refining them.
### Appendix Table. Ratings for the Feasibility of Insurance Systems in African Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>DEN</th>
<th>URB</th>
<th>INDP</th>
<th>AID</th>
<th>PPP</th>
<th>PRVX</th>
<th>PMD</th>
<th>BEDS</th>
<th>Total</th>
<th>MISS</th>
<th>MEDCOVER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>Not known</td>
</tr>
<tr>
<td>Benin</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>Employer mandate</td>
</tr>
<tr>
<td>Botswana</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>Employer mandate</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>0</td>
<td>-1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>-1</td>
<td>-1</td>
<td>-2</td>
<td>0</td>
<td>Employer mandate</td>
</tr>
<tr>
<td>Burundi</td>
<td>0</td>
<td>-1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-1</td>
<td>0</td>
<td>Employer mandate</td>
</tr>
<tr>
<td>Cameroon</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>Employer mandate</td>
</tr>
<tr>
<td>Cape Verde</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>Social security system cash benefit</td>
</tr>
<tr>
<td>Central African Republic</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>Employer mandate</td>
</tr>
<tr>
<td>Chad</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
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<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>Employer mandate</td>
</tr>
<tr>
<td>Comoros</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>Not known</td>
</tr>
<tr>
<td>Congo</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>Employer mandate</td>
</tr>
<tr>
<td>Côte d'Ivoire</td>
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Note:
- DEN: Population per square kilometer, mid-1991 (World Bank 1993c)
- URB: Urban population (percentage of total population), 1991 (World Bank 1993c)
- AID: Aid flows, 1990 (dollars per capita) (World Bank 1993c)
- PPP: Purchasing power estimates of per capita GDP (dollars) (World Bank 1993c)
- PRVX: Private medical expenditures as a percentage of GDP, 1990 (World Bank 1993c)
- PMD: Doctors per thousand population, 1998-92 (World Bank 1993c)
- BEDS: Hospital beds per thousand population (World Bank 1993c)
- TOTAL: Total score
- MISS: Number of values missing
- MEDCOVER: Type of coverage by publicly sponsored social security coverage (United States 1992).
Notes

1. Throughout this volume "Africa" is used as an abbreviation for Sub-Saharan Africa.

2. Cost sharing is a participatory principle, whereby users of health facilities pay something for services rendered, thereby contributing to the sustainability of local, district, or national health systems.

3. Private voluntary providers include nongovernmental organizations that operate on a private, not-for-profit basis. In Africa, many of these organizations are run by church missions financed by contributions from parent organizations, government subventions, user fees, and health insurance.

4. Self-financing health insurance is a method of health financing that pools regular financial contributions of members and pays providers of health care for defined medical benefits. This is done by either reimbursing the member-patient for eligible expenses or paying the provider directly (through a "third party payer" or insurance company).

5. The average rate of cost recovery in the eighteen dispensaries was 79 percent; for the twenty-one hospitals, 56 percent.

6. Caution needs to be exercised when quantifying the contribution of user fee revenues as a proportion of the operating or recurrent costs of health facilities. In some cases, true recurrent costs are underrepresented; for example, the salary of a surgeon in a mission hospital may be paid by a charitable organization, or a health clinic may receive free drug supplies. Such omissions tend to overstate the contribution of revenues from user fees as a percentage of total recurrent costs. Often it is impossible to adjust for these accounting problems, especially when secondary data sources are being used by analysts far removed from the daily operation of the facilities.

7. Derived as follows; ($4.70 per capita on health) multiplied by (50 percent going to public hospitals) = $2.35; then $2.35 multiplied by (retrieval of 40 percent of hospital costs from cost sharing) = $0.94; then $0.94 x 425 million people in Africa = $40 million.

8. Assuming that people bypass quality services at clinics for higher-priced services at hospitals, a more severe requirement would be to charge even more than 100 percent of costs and use the proceeds to cross-subsidize services at health centers for those least able to pay.

9. The theory that the poor are on the "losing end" when it comes to health care services appears to be reinforced by the tax systems in most African countries. More than 70 percent of national tax revenues—the major source of financing for ministries of health—derives from taxes on both domestic and exported products. Because of the large share of agricultural products in exports and the fact that households spend a large share of their income on
food, these tax structures are regressive (Shalizi and Squire 1988). If there were sufficient data to match tax rates with health facility utilization rates by quintile, it would be possible to show exactly how much income is taken from the poor to pay doctors and nurses to treat the more affluent. The ratio is almost certainly disproportionate.

10. A potentially important caveat to the issue of equity as discussed here is that some communities may have more success raising fees at the local level than others because of relatively greater community wealth. There is, therefore, the risk that the gap between relatively poor and relatively wealthy communities could widen. This argument is often raised, without evidence, to support the practice of remitting user fee revenues to the treasury, under the assumption that the central government authorities alone can be counted on to spend revenues more equitably—namely, on public health goods and services with positive externalities.

11. Although policy analysts would clearly like to see more resources reallocated on this basis, the trend is uncommon, suggesting that strong political will and decisive political action may be necessary to bring it about.

12. Decentralization is often referred to as a process whereby management and administration of publicly financed and provided health care is devolved away from central levels of government administration to regional, district, or local levels. In Africa, such decentralization tends to be aligned with administrative districts, giving rise to “district-based” systems of health care.

13. However, caution should be exercised when interpreting results of contingency evaluations, because responses that indicate a willingness to pay are linked to hypothetical situations that respondents do not always fully understand or that do not represent a sound basis for forming judgments (Wouters and others 1993).

14. Attempts to shed light on people’s ability and willingness to pay for health services in Africa have been stymied in the past, for one simple reason. Researchers have failed to distinguish between the quantity and quality of services for which people could be expected to pay. Some people clearly are able to pay for health services but are unwilling to do so because the perceived quality of these services is too low. Others are not able to pay under current circumstances, but might be more able to do so if health services were “packaged” more cost-effectively, thus reducing the expense of treating an illness or injury.

The importance of the latter point is emphasized in the study, Better Health in Africa (World Bank 1994), which maintains that a cost-effective package of health services could be provided in a typical low-income African country for about $13 per capita. This amount comprises about $9 per capita for public health and clinical services offered through district health centers and first-referral hospitals and about $4 per capita for community-based safe drinking water and sanitation provisions. The $9 figure for health services compares with $14 per capita, on average, that is currently being spent on health in the African countries with the lowest income levels.

This comparison suggests that ability to pay may be less important than reallocating current expenditures so that more cost-effective health service “packaging” can be offered. Of course, not all of the $14 per capita that is currently
spent comes directly from households. About half this figure, on average, is comprised of out-of-pocket expenditures by households; about $5 is government expenditure; and about $2 comes from donors.

15. The manner in which fees are collected, administered, and used also helps to ensure that the health facility staff are held accountable to the communities they serve.

16. In the final analysis the policy response to a high price elasticity of demand for health services will depend on assumptions about what is wrong with the country's health care market. If utilization of services falls rapidly (say, by 20 percent) with a 5 percent rise in prices, and the quality of services is known to be generally poor, then the consumer response could well be interpreted as being entirely rational. (Furthermore, were it believed that consumers overuse services for minor problems, then the policy objective of an increase in prices might well be to reduce superfluous use.) In such contexts, efforts to maintain utilization levels and reduce the price elasticity of demand may well neglect the good sense of users, reinforce inefficiencies, and distort the health care market. However, if it is realistic to assume that all people are aware of the value of all health services and that user charges will uniformly discourage them from seeking care, then perhaps a case could and should be made for not having any fees (or, alternatively, for full subsidies for everyone). Fortunately, there is plenty of evidence to disqualify this extreme view. People not only value clinical services, but the demand and willingness to pay for those services is observed to rise with income levels.

17. Price elasticity of demand is a measure of the change in demand for health services associated with a change in their price. Demand is said to be highly elastic with respect to price if a relatively large change in quantity demanded or utilization of health services follows a relatively small price change. Demand is said to be price inelastic if utilization rates change little even if prices change a lot.

18. Returning to the issue of price itself, Bitran uses his model to simulate differences in utilization rates at health facilities using different scenarios. In the first simulation, all prices are eliminated (a free scenario); in the second, he assumes the prevailing average prices are in place (a charge scenario). For the most expensive facility in Bitran's study, the health center, the simulation reveals that a shift from a "free" to a "charge" scenario would reduce utilization rates for males aged 14 to 44 years by only 5 percentage points—from 35 to 30 percent. For 14- to 44-year-old females, however, utilization rates would drop from 64 to 40 percent. This finding suggests a significant gender difference in the price elasticity of demand for health services.

19. The low levels of statistical significance can be attributed in part to the small size of the sample (251 adult patients). This suggests that statistical confidence in the negative effects of prices and distance would likely rise with a larger sample.

20. It is a "natural experiment" in the sense that the government of Cameroon was systematically expanding user fees and improvements in quality into some areas and not others. The analysis is based entirely on the information gathered from the designated areas. No claim is made that this method represents a statistically random experiment.
21. The fees introduced included a CFA200 ($0.75) consultation fee and a fee for drugs that varied with the prescription but averaged around CFA1,000 ($4.00). The health centers were stocked with an initial supply of drugs, and the sales revenue was used to purchase additional drug supplies. The markup on the replacement cost of the drugs was approximately 250 percent. Revenues generated from the consultation fee and the surplus on drug prices were also used to support other primary health care activities (such as community outreach), as well as to sustain the system (for example, supervision and vehicle maintenance). In addition, community health and management committees were established and trained to oversee these cost recovery activities. The "quality component" of this policy is therefore the combination of the improved availability of drug supplies, the increased motivation of the health center staff (a result of the improved flow of supplies), and a motivated community. This notion of "quality" is roughly in keeping with principles of the Bamako Initiative and agrees with the experience of other countries participating in the initiative, including Benin, Guinea, and Sierra Leone (Krippenberg and others 1990).

22. If the utilization of health services changes relatively little with price increases (even large price increases), then consumer behavior is providing a signal that such services are valued and that people are generally willing to pay for them. From the perspective of mobilizing revenues, this kind of response suggests that user fees can be used to boost revenues because higher fees will not be proportionately offset by falling utilization. Revenues can then be used to finance improvements in quality and to expand services. From an equity perspective, subsidies also make sense when such services are targeted to the poor, whose demand for valued services is likely to be affected relatively more by price increases. The challenge in this instance is to use the funds mobilized from fee-paying clients to cross-subsidize the poor and to clearly define funding shortfalls that government should try to fill.

23. In countries like Ethiopia, Ghana, Mali, Niger, and Zimbabwe, tuberculosis treatment is provided free in government health facilities, whereas charges are imposed to treat STDS, which are also communicable.

24. Stop-loss mechanisms are simple devices that can be incorporated into user fee systems to solve risk-related problems. For example, for inpatient care, public hospitals might charge the full cost for the first five days but discontinue charging on day six to "stop the loss." There are many variants of the basic idea.

25. Employer-mandated insurance is put into motion by government decree, requiring employers to provide their employees with some form of health insurance as part of the employee benefit package. To this end, employers tend to match employee contributions to an established health insurance program operated by a third party.

26. The 25 percent figure for Kenya is derived as follows: about 1 million people are members of the National Health Insurance Fund; around five additional people per family are covered as well; therefore, approximately 6 million people, or 25 percent of Kenya's population of 24 million, were covered in the early 1990s.

27. This is a sharp drop from the 500,000 that were insured as recently as
1989. The Tanzanian Occupational Health Service is explicitly intended to be a nonprofit parastatal, as opposed to other parastatals that are intended to make a profit but never do.

28. A large literature supports the claim that low income and educational levels are associated with a high incidence of illness and death. This correlation may in part be the result of the conditions associated with poverty, which are also associated with ill health, such as substandard dwellings and polluted working environments (World Bank 1993c).

29. The census covered 3,035 inpatients in three of the four government referral hospitals, two of the seventeen regional hospitals, and four of the thirty-nine district hospitals. "Relatively well off Tanzanians" were defined as those holding formal sector, noncivil service jobs.

30. The private sector began to contract in the late 1980s, in part because of a stagnant economy and in part because of the government's relentless and ill-advised expansion of public hospital capacity and its neglect of the insurance system.

31. Government grants—determined by the number of hospital beds—to the other (nondesignated) voluntary hospitals account for only 4 to 9 percent of total revenues.

32. Private practice was legalized in 1992. Approximately 500 organizations and individuals have registered with the Ministry of Health since then; however, most are small-scale dispensaries in Dar es Salaam.

33. There are many missing values in the Appendix Table because of data shortages. This implies that empirical inferences are crude and that the information in the table should be upgraded as improved data become available.
References

The word "processed" describes informally reproduced works that may not be commonly available through library systems.


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