Africa Region Human Development
Working Paper Series

Primary Health Care in Mozambique

Service Delivery in a Complex Hierarchy

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Interior Design by Jennifer Vito
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Cover photo by Eric Miller (2002) of parents with sick children in a waiting room in Marracuene (30km from Maputo).

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Foreword

Since independence in 1975, the Government of Mozambique has promoted a health policy based on principles of broad and equitable access to basic health services. A commitment to these principles has been espoused in the Mozambican constitution, and, more recently, in the government's *Action Plan for the Reduction of Absolute Poverty*. During the past three decades the government has sought to meet its health objectives through a sustained expansion of the primary health care system. The considerable increase in aggregate service output has been accompanied by notable problems in service delivery, including low technical quality, a shortage of drugs and equipment, low staff morale, and illicit charging for drugs and services. Moreover, while public resources to the health sector have been growing steadily, there are questions about the equity and efficiency of resource allocations that currently cannot be answered on the basis of routine data.

In the face of these challenges, the government decided to implement an Expenditure Tracking and Service Delivery Survey (ETSDS) in 2001. With financial support from the Department for International Development (United Kingdom), and technical and implementation support from Oxford Policy Management, Austral Consultoria e Projectos, and the World Bank, the ETSDS was implemented nationwide between August and October 2002. It focused on the primary health care system, which is the main or only source of health care for the majority of the Mozambican population. In contrast to much previous analytical work in this area, the survey explicitly recognizes that primary health services are delivered in the context of a complex institutional hierarchy. The operation of an individual health care provider must therefore be understood in relation to the financing, supply management, and support system in which the facility operates.

With this perspective in mind, the survey collected data from the following five levels: (a) Provincial Directorates of Health; (b) District Directorates of Health; (c) primary health care facilities; (d) health workers; and (e) users. The survey covered a random sample of 90 primary health care facilities in 35 districts. The resultant data offers a unique perspective on the interaction between different levels of the health system.

This report provides an overview of the findings from the survey. While it paints a picture of a resilient system that continues to operate and deliver services despite adverse conditions, it also points out important challenges: administrative systems are poor; weak financial and supply management systems undermine service delivery; unclear allocation criteria result in inequities and inefficiencies in resource allocation; and inconsistent implementation of user fee policies creates unfair financial burdens on users.

Overall, the ETSDS offers a broad picture of the primary health care system. It looks well beyond the facility to consider both the administrative and financing system in which facilities are embedded, the perspectives of the staff working in the facilities, as well as the clients that are the intended beneficiaries of the services delivered. This comprehensive diagnostic provides an ideal starting point from which to deepen the policy dialogue and identify practical solutions to problems in service delivery.

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Abstract

This report presents findings from a nationwide Expenditure Tracking and Service Delivery Survey (ETSDS) implemented in Mozambique between August and October 2002. The study focuses on the primary health care system, which is frequently the only source of health care for most Mozambicans. The survey collected data from five levels: Directorates of Health in all 11 provinces, 35 Directorates of Health at the district level, 90 primary health care facilities, 167 health workers, and 679 users. The data set offers a unique perspective on interactions between different levels of the health system, in particular in relation to the financing, allocation, distribution, and use of resources. The report covers a broad set of issues, including institutional context, budget management, cost recovery, allocation and distribution of drugs, human resources, infrastructure and equipment, and service outputs. The analysis reveals a number of weaknesses in service delivery.

Poor Record-Keeping

Absent or inconsistent records on finances, drugs, and human resources hamper both financial and administrative control and strategic allocation of resources. In particular, inaccurate and unconsolidated information about the volume and composition of resources allocated to districts and facilities severely limit the extent to which issues of equity and efficiency can be analyzed and monitored. These problems are a reflection of poor record-keeping systems, weak capacity, as well as a lack of demand for reliable information from the top.

Financial, Supply, and Management Systems

Problems in the distribution of drugs and other material are compounded by a lack of basic equipment such as weighing scales, blood pressure gauges, or sterilizing equipment. Despite an adequate overall supply of drugs, many basic essential drugs were out of stock at the time of the survey. The findings imply important challenges in moving forward on general budget support for the health sector.

Equity in the Allocation of Resources and the Delivery of Services

Notable inequities exist in the allocation of specific resources, like drugs. The most disadvantaged facility received 1.2 tablets of chloroquine per outpatient in 2001, while the most advantaged facility received nearly 13 tablets per outpatient. Although, there are good reasons for drug distribution to vary across facilities, these differences reflect considerable discretion at district and facility level in the allocation and distribution of resources.

User Payments and Cost Recovery

The notable heterogeneity across provinces, districts, and facilities in all aspects of charging policy is driven by outdated, incomplete, sometimes contradictory and poorly understood legal and policy frameworks. The upshot is a lack of transparency and control, and the inequities associated with users facing arbitrary differences in charging practices.

Acknowledgments

The Expenditure Tracking and Service Delivery Survey was implemented as a component of an ongoing DFID-financed project of support to the Planning and Budgeting Directorate (DNPO) of the Ministry of Planning and Finance (MPF). Oxford Policy Management and Austral Consultoria e Projectos were responsible for design, fieldwork, and analysis. The MOH and MPF provided both technical and logistical support throughout the process. The fieldwork was managed by Jeramy Gottwals, Eduardo Macuacua, and Chissomo Chilemba at Austral Consultoria. The actual data collection was carried out by a team of 12 enumerators: António Lopes, Jaime Chirindza, Maria Tomás, Eugénio Salvador, Eusébio Raso, Fiston Neves, Mario Basílio, Quitenze Ramadani, Ascensão Chauchane, Isaú Godinho, Mario J. Januário, and João Binda. Carlos Lauchande was responsible for data entry, with support from David Furvela, Elias Zavale, and Pedro Moandula. Gabriel Domingos, Manuel Ndimande, and Eleuteria Munguambe from the MOH provided invaluable assistance—both technical and logistical. Research assistance was provided by Victoria Rames in Washington, D.C. A number of individuals provided helpful comments on the draft text. Final editing of the Portuguese report was undertaken by João Schwalbach. Finally, and perhaps most importantly, the implementation of this survey depended on the collaboration, patience, and support of innumerable health sector staff and health service users.

Preliminary findings were presented to the Ministry of Health, the Ministry of Planning and Finance, and donor agencies in January 2003. The findings from the revised and extended analysis were then presented to the Health Sector Coordination Meeting in July 2003 (*Comité de Coordenação Sectorial)*. The analysis has benefited from comments received on both occasions.

Abbreviations and Acronyms

APE	Community health worker (*Agente Polivalente Elementar)*
CMAM	*Centro de Medicamentos e Artigos Médicos*
CS	Health Center (*Centro de Saúde)*
DAF	Department of Finance and Administration of the DPS
DDS	District Directorate of Health (*Direcção Distrital de Saúde)*
DFID	Department for International Development (United Kingdom)
DNCP	National Directorate of Public Accounting
DNPO	National Planning and Budget Directorate (*Direcção Nacional do Plano e Orçamento)*
DPPF	Provincial Directorate of Planning and Finance (*Direcção Provincial do Plano e Finanças)*
DPS	Provincial Directorate of Health (*Direcção Provincial de Saúde)*
EDP	Essential Drug Program
ETSDS	Expenditure Tracking and Service Delivery Survey
EPI	Expanded Program on Immunization (World Health Organization)
FCP	Provincial Common Fund for (donor) budget support (*Fundo Comum Provincial)*
GDP	gross domestic product
GOM	Government of Mozambique
HIS	health information system
INE	Instituto Nacional de Estatistica
MCH	maternal and child health
MAE	Ministry of State Administration
MISAU	Ministry of Health *(Minsterio Saúde)*
MOH	Ministry of Health
MPF	Ministry of Planning and Finance
MT	Meticais
NGO	nongovernmental organization
NHS	National Health Service
OE	State Budget (*Orçamento do Estado)*
PARPA	Poverty Reduction Strategy Plan (*Plano De Acção Para A Redução Da Pobreza Absoluta, 2001-2005)*
PESS	Health Sector Strategic Plan (*Plano Estratégico Sector Saúde)*
PER	public expenditure review
PS	health post (*Posto de Saúde)*
SDC	Swiss Agency for Development and Cooperation
SDU	service delivery unit
TMP	traditional medical practitioner
USD	United States dollars

Executive Summary

This report presents the findings from a survey of primary-level health care providers in Mozambique. The overall objective of the survey was to assess the functioning of this level of the National Health Service (NHS), with a particular emphasis on the flow of resources and their relationship with service outputs. The survey also provides baseline data against which progress under the Health Sector Strategic Plan (PESS) can be assessed. The fieldwork took place between August and October 2002.

The survey covered a random sample of 90 primary health care facilities in 35 districts. Detailed information was collected about these facilities. In addition, samples of staff and clients at the selected facilities were interviewed. To better understand problems observed at facility level, the survey teams conducted detailed interviews with staff from the administrative units that are responsible for the management of the primary-level system—the District Directorates of Health (DDS) and Provincial Directorates of Health (DPS). The information collected at these levels provides a comprehensive picture of the functioning of primary-level services and of the systems that support them. In particular, the survey focused on six areas:

- allocation and execution of district recurrent budgets
- distribution and management of drugs and other supplies
- district and facility revenues from user fees
- human resources
- infrastructure and equipment in primary-level facilities
- service outputs.

The sample of health facilities was selected in two stages: a random selection of districts, followed by a random selection of facilities within the district. Facility users and staff members were also sampled randomly. Sampling weights were used to provide nationally representative estimates. Many estimates are presented separately for urban and rural districts.

Budget Allocation and Execution at the District Level

Information was collected on allocations in district recurrent budgets for 2000 to 2002 and on budget execution for 2000 and 2001 from both the district and provincial directorates of health. The information covered both the state budget and the provincial common fund for donor budget support (FCP). The data, and the process of collecting it, revealed a number of problems in the budget allocation and execution process.

The unreliable and inconsistent data on salary and nonwage recurrent budgets at the district level is troubling. For example provincial directorates could provide complete district-level data for only 40 percent of their districts. The lack of this information makes it difficult to assess whether the resources allocated to the districts reach their intended destination, and suggests that the DPSs are unable to monitor district expenditure effectively.

Many districts experience considerable delays in receiving the first monthly transfer of the state budget and the FCP. Approximately 70 percent of districts received the first transfer of the state budget between mid-February and mid-April. Seventy-five percent of district directors identified this late transfer as the main problem in effectively implementing the budget.

Late initial transfers and the slow processing of acquittals contribute to low execution rates of nonsalary budgets in many districts. For the state budget, the average execution rate in 2001 was 80 percent, but for many districts it was considerably lower.

District per capita health spending, excluding drugs and other material provided to districts in-kind, ranges from 5,000 to 47,000 Meticais (MT) per annum. The nine-fold variation in resources raises serious concerns about equity, and appears to be largely driven by staffing and infrastructure patterns.

There are substantial differences in the composition of spending across districts. For example, spending on staff ranges from 35 to 90 percent of total spending, excluding drugs and other in-kind resources. It seems likely that such a large range sometimes represents an inefficient mix of inputs. Although 84 percent of districts had been audited in 2001, the findings did not translate into changes in DDS operations, since many of the problems identified in the audits were found by the survey team.

User Payments

Users themselves, health facilities, and district and provincial directorates of health all reported on the user fees paid or collected. Users paid an average total of 1,700 MT; 46 percent of those who paid said that it was difficult or very difficult to find the money. Users in rural areas were more likely to report this difficulty.

Charging regimes faced by users are highly diverse. The fees charged for consultations and medicines vary between province, districts, and facilities and do not appear to follow national guidelines. Similarly, rules for exempting specific user groups or services from payment for consultation or medicines vary greatly across districts and facilities. Guidelines on the display of fees at facilities are rarely followed—only 16 percent of facilities clearly displayed information on consultation charges.

Records of user fee receipts are largely consistent between the DPS and DDS. There was less consistency between the DDS and facilities, although there were no systematic differences in the information recorded at these different levels. However, overcharging users is a common practice. A comparison of the expected total facility receipts (amounts users report paying and the total number of users), with the amounts actually reported by the facilities suggests that they are recording 68 percent of the total consultation fees paid and 80 percent of medicine payments.

Almost all recorded user fees were transferred to the DDS and used to finance expenditures at this level. There are large variations in the amounts received between districts, with urban areas (particularly Maputo) receiving the most. However, the component of user fees retained by the DDS constitute a small fraction of their total budget—an average of 2 percent of total spending, excluding drugs and other in-kind resources.

The lack of clarity about how these revenues should be used may be related to the considerable variation in expenditure patterns across districts. Outside Maputo, staff payments are the largest single item of expenditure.

Drugs

Considering the total supply of drugs—through the kit system (Essential Drug Program) and the requisition-based system (via clássica)—the volume of basic drugs seems to be more than adequate, at least on average. Overall, the kit supply was in line with the number of outpatients seen in 2001. In addition, the supply of drugs through the requisition-based system comprises an important additional source for most primary facilities; some 90 percent report receiving drugs through this system. The

average proportion of six basic drugs supplied via the clássica system ranges from 15 to 54 percent of volume. This is despite the policy of supplying primary facilities largely through kits.

Despite the apparent adequacy of drug supply, a small number of facilities were out of basic essential drugs at the time of the survey, and many districts and facilities report having suffered stock-outs in the six months preceding the survey. Only three-quarters of facilities that said that they offered child vaccination services had all the EPI (World Health Organization Expanded Program on Immunization) vaccines in stock at the time of the survey. The supply system does not seem to ensure a consistent supply of drugs and vaccines to all facilities in quantities sufficient to replace the amounts used.

Occasionally stock-outs may be due, at least in part, to overprescribing. Almost all outpatients receive a prescription, and they are often prescribed more than one drug. Users were prescribed 2.2 items on average; one-third was prescribed three or more items. Outpatients received some form of antibiotic 30 percent of the time and nearly 18 percent received an injection. Occasionally there are delays in the supply system. Most requisitions for medicines by the DDS were supplied by the DPS in 18 days. However, a few facilities reported waiting up to 90 days.

Although it is difficult to control adequately for differences in need arising from local epidemiological profiles, there seems to be a considerable inequity in the distribution of drugs. This is evidenced from a notable variation across districts and facilities in the volume of drugs provided relative to service outputs. Via clássica supplies do not seem to be "filling gaps" where the kit supply fails: if anything, facilities that receive more drugs through the kit system also seem to receive more via clássica drugs. In part, this appears to be driven by the lack of clear criteria for the allocation of via clássica drugs. Moreover, the lack of transparency about the monetary value of kit and via clássica drugs prevents an effective analysis of efficiency and equity.

There were substantial problems in drug records at the DPSs, DDSs, and facilities. The via clássica records had particular problems. In 20 of the 31 districts for which records were available, the value of drugs received (as recorded by the DDS) was different from the amount sent (as recorded by the DPS). In some cases, differences were consistent with leakage occurring, although the evidence is far from conclusive. The poor quality of records clearly provides scope for leakage, however.

Human Resources

The records held by the DPS on district-level staff were surprisingly poor, making rational planning and adequate control of human resources difficult. The DDS had better, though still somewhat incomplete, information on staff at facilities. The differences between records at each level did not provide any evidence of "ghost workers." However, only 81 percent of facility staff members were actually present on the day of the survey, suggesting that human resources are not being effectively managed. The possibility that some of these absent staff members were ghost workers cannot be excluded.

Human resources are not equitably distributed, with the population per district health employee ranging from 400 persons per staff member to over 4,000. Rural districts are relatively underserved by the primary health care system, with a smaller share of staff (based on population served) and less-qualified staff.

Rural areas also have a much higher staff turnover—staff members had spent an average of 2.7 years at the facility in rural areas compared with over 5 years in urban areas. Three-quarters of rural staff wanted to transfer to another facility, citing lack of access to services and training as particular problems. The DDS identified budget restrictions as the main constraint to recruitment, but also complained of bureaucratic barriers.

The proportion of district staff working in administration ranges from 5 to 20 percent, and the proportion of staff based in peripheral facilities ranges from 18 to 93 percent. This suggests that there is scope to re-deploy staff within some districts, as well as between them.

Of all primary health facilities, 62 percent have one or more clinician at or above basic level, while only 43 percent of health posts do. Clearly the goal of staffing all facilities with at least one basic-level clinician (or above) has not been met.

Around 25 percent of staff have attended promotion courses. However, there is a lack of clarity about the criteria used to select staff for these

opportunities. A significant proportion of staff complained that salary payments were late (30 percent), or were less than the amount they expected (15 percent). There are also substantial variations in the types of benefits received in-kind by staff members.

Infrastructure

Districts have an average of 14 primary-level facilities, of which 7 are health centers and health posts and the remainder are community posts. There are, however, notable differences across districts in the number of community posts, with some districts having many and many districts having none.

Twenty percent of all primary facilities reported having inpatient beds, and almost 75 percent reported having maternity beds. While most facilities have a private area for patient examination, only 69 percent had a place for staff to wash their hands. Only a minority of facilities had communication service; 5 percent had a telephone and 16 percent had a two-way radio.

Equipment and Supplies

Most DDSs have some means of transport, but many in rural areas lack communication and office equipment: 36 percent of rural DDSs had a telephone and 33 percent had a computer. Maintenance problems are also common, with broken vehicles or office equipment in some districts.

Many facilities lack basic equipment. Around 75 percent had infant weight scales, 80 percent had a blood pressure gauge, and 75 percent had a refrigerator. Over 25 percent had neither an autoclave nor a pressure sterilizer.

Many DDSs reported problems in the supply of nondrug materials and equipment. Over 60 percent reported a stock-out in the previous six months. The effects are seen at the facilities, where 10-25 percent are missing basic items such as cleaning materials. Around 60 percent of facilities had disposable syringes and needles.

Nondrug supplies (and other resources) provided in-kind to the DDS comprise between 7 and 35 percent of total recurrent spending. The items supplied from the DPS to the DDS vary from province to province. The criteria used to allocate the materials to districts are often unclear, making it difficult to assess equity and efficiency.

Supervision of Facilities

Nearly all facilities have regular contact with the DDS, over 95 percent having had contact in the preceding two months. Over 80 percent received an annual supervision visit. Most also report meeting a range of community representatives on health matters.

Service Delivery

Districts delivered an average 2,209 service delivery units (SDUs) per 1,000 inhabitants in 2001, with outpatient consultations comprising between 33 and 50 percent of the total. Maputo has the highest level of output per capita, while other urban areas have an average similar to rural areas.

The variation across districts in the volume of services delivered per capita ranges from 1,000 to over 4,000 SDUs per capita in the sampled districts. Some populations are receiving over four times the volume of services received by others. Differences in staffing patterns and facility infrastructure can explain most of these differences.

Variations in output per health worker are also an important factor. Annual outpatient consultations per health worker vary by district, with some as low as 413 and others as high as 2,800; SDUs per worker varied from less than 1,200 to over 8,000. There is even larger variation in output per staff member between facilities, ranging from around 100 to over 1,000 SDUs per staff member per month. Rural facilities have a higher average output per staff member than urban facilities. It is unclear what causes these variations, but high-output facilities do not seem to be situated in high-output districts, or vice versa. An analysis of the workload suggests scope for increasing output at the facilities where it is lowest.

Outpatient consultations are the most common facility activity, with the average facility providing around 850 per month, followed by growth monitoring consultations and child vaccinations. Outreach and environmental sanitation activities are rare.

On average, users traveled 48 minutes and waited for 45 minutes for a consultation of 4 minutes. Although it may be difficult for users to estimate the consultation time exactly, this suggests

that many consultations are rather cursory. However, most users were satisfied with the health worker they saw.

The DDS and facility directors identified the lack of staff, transport, and equipment as the main constraints to improving the quality of health services.

Conclusions and Recommendations

The survey has provided a useful baseline for assessing operational dimensions of primary health services, many of which are identified as priority areas for improvement under the Health Sector Strategic Plan (PESS). While in the longer term it is hoped that the strengthening of routine information systems will make such surveys less important, the MOH should consider undertaking a similar survey in the future as a basis for assessing progress under the PESS. In the meantime, the analysis suggests a number of initial conclusions, which should be further developed and deepened in a process led by the Ministry of Health.

Record-Keeping

Information on the resources allocated to districts is often of poor quality and difficult to consolidate. Information on all key inputs—salaries, nonstaff budgets, drugs, consumables, and other resources—is frequently missing or inconsistent. This hampers both financial and administrative control—making manipulation and fraud difficult or impossible to detect—and strategic resource allocation. There is an urgent need to improve compliance with existing information systems. In the longer term, the information systems need to generate a single, consolidated, monetized measure of all resources allocated to each district and each facility. Without such measures, the analysis of resource flows, including their equity and efficiency implications, will always be incomplete. Strengthening these information systems should also include ways to address the apparent irregularities in the supply of via clássica drugs and the illegal overcharging of users by facility staff.

Financial, Supply, and Management Systems

The DDSs should be supported to increase the level of budget execution. Simple and clear guidelines about the roles and responsibilities of the respective administrative units, combined with an explicit route to redress, have the potential to improve administrative performance. The delays in the first monthly transfer of the state budget and the FCP should also be reduced. To accomplish this, the MOH and MPF need to initiate a purposeful dialogue that involves both the province and district levels to identify and address existing bottlenecks in the budget execution system.

The large variation in drug supplies between facilities, and the overdependence on via clássica drugs, should be addressed. A more detailed assessment of prescribing practices, coupled with action to reduce bad practices, is required. The systems that supply equipment and nondrug materials should be strengthened at all levels, including the capacity for planning and monitoring.

Equity in the Allocation of Resources and the Delivery of Services

Data problems notwithstanding, there are substantial inequities between districts in both inputs to, and outputs from, the primary level of the NHS. Addressing these inequities will require careful work to define operational tools and criteria for resource allocation for all of the key inputs in the sector, as well as the definition of clear monitoring indicators. A strategy for staffing underserved districts is also needed that includes not only staffing norms for peripheral facilities, but also clear rules and procedures to address health workers' concerns about working in rural and remote areas. There also appears to be scope for re-allocating staff within and between districts. Given the centrality of equity as an objective in the government's health sector strategic plan, this merits immediate attention.

User Payments and Cost Recovery

User charge policy at the primary level should be reviewed. Clear guidelines should be developed for all aspects of user charges, supported by a legal framework where necessary. The large variation in output per staff member suggests that there is scope to increase productivity in the least productive facilities and districts, either through increasing the demand from users in the population served or through re-allocating staff away from relatively overstaffed areas and facilities.

Key Indicators at a Glance

Indicator	*Posto de Sáude (health post)*	*Centro de Sáude (health center)*	*Total*
The functioning of financial and management systems			
Mean percentage district budget execution rate (state budget 2001, goods and services)	–	–	80.4
Percentage of DDSs audited (2001)	–	–	84.0
Percentage of primary facilities that have had a supervision visit by the DDS in last 12 months	79.4	85.3	82.1
Percentage of primary facilities visibly displaying user consultation fees	–	–	15.6
Human resources (percentage)			
District health staff on the establishment	–	–	79.7
Facility clinical staff who have attended a promotion course (during career)	–	–	24.5
Facility clinical staff who have attended a short course in last 12 months	–	–	65.8
Primary facilities with at least one clinical staff member above elementary level	43.1	86.5	62.4
Primary facility staff present on the day of the survey	74.5	84.0	81.1
Primary facility conditions and equipment (percentage)			
With access to water (any source)	68.9	72.8	70.7
With electricity (any source)	29.2	46.9	37.2
With a toilet for patients	71.4	83.9	77.0
With a place for staff to wash their hands	58.3	82.5	69.2
With autoclave or pressure sterilizer	69.6	74.2	71.7
With infant weighing scales	69.2	83.3	75.6
With box or kit for births	54.4	71.1	61.9
With a functioning refrigerator	71.2	78.9	74.7
Offering malaria tests on site	2.1	27.6	13.6
Primary facility supplies (percentage in stock at time of the survey)			
With antiseptics	100.0	96.3	98.4
With disposable syringes	60.0	64.9	62.2
With cleaning materials	82.1	67.9	75.8
With aspirin or Paracetamol	92.8	96.9	94.6
With chloroquine	96.8	96.9	96.8
With oral rehydration salts	95.0	100.0	97.2
With condoms	88.2	96.9	92.1
With all EPI vaccines	56.1	65.9	60.5
Service delivery and service quality			
Mean number of external consultations per 1,000 inhabitants (annual–district services only)	–	–	841.0
Mean number of service delivery units per capita (annual–district services only)	–	–	2.2
Mean number of service delivery units per staff member at primary facilities (per month)	474.0	451.0	464.0
Mean waiting time for an outpatient consultation (minutes)	–	–	44.6
Mean duration of outpatient consultation (minutes)	–	–	4.2
Percentage of outpatients satisfied with the health worker's attitude	–	–	89.0
Percentage of outpatients prescribed three or more items	–	–	32.8
Equity and productivity			
Equity in inputs: ratio of highest to lowest per capita district primary health expenditure	–	–	9.4
Equity in inputs: ratio of highest to lowest district (population per health worker)	–	–	10.4
Equity in outputs: ratio of highest to lowest district (SDUs per capita)	–	–	4.4
Variations in productivity: ratio of highest to lowest district (SDUs per staff member)	–	–	7.2

– Disaggregated data not available.

Source: ETSDS (2003).

Introduction

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This report presents findings from an Expenditure Tracking and Service Delivery Survey (ETSDS) in Mozambique. The survey—implemented nationwide between August and October 2002—focused on the primary health care system, which is the main or only source of health care for many Mozambicans. In contrast to much previous analytical work in this area, the survey explicitly recognizes that primary health services are delivered in the context of a complex institutional hierarchy. As a consequence, the operation of an individual health care facility must be understood in relation to financing, supply management, and the support system in which the facility operates. With this perspective in mind, the survey collected data from the following five levels: (a) Provincial Directorates of Health; (b) District Directorates of Health; (c) primary health care facilities; (d) health workers; and (e) users. The resultant data offers a unique perspective on the interaction between different levels of the health system, in particular in relation to the financing, allocation, distribution, and use of resources. The survey highlights how the lack of clear and understood criteria for resource allocation, combined with weak systems of budget execution and control, can result in inequities and inefficiencies in service delivery.

The introduction presents further details on the survey design and implementation. Section 2 lays out the policy and institutional context of the health system in Mozambique. Sections 3 through 8 present data from the survey in six areas. Section 9 brings the results together and considers their implications for effectiveness, efficiency, and equity in the delivery of primary health care services.

The Survey Concept

The National Health Service (NHS) is the main provider of allopathic health services in Mozambique. Level I of the NHS—health centers and health posts—deliver a sizable proportion of the total volume of health services in the country and comprises the first (and often only) point of contact with the health system for a large part of the Mozambican population.

The current approach to delivering primary health services in Mozambique has been quite successful at expanding aggregate service outputs. In a context of very limited human and material resources, the NHS has managed to increase coverage over the past decade through an expansion of health facility infrastructure and health sector staff. However, there is also evidence of notable problems in service delivery, such as low technical quality, lack of drugs and equipment, low staff morale, and informal charging. In addition, little is known about the processes by which resources are allocated—between districts as well as between facilities within districts—in part due to inadequacies of the health management information system.

In view of these issues, the objective of the ETSDS was to provide quantitative and qualitative evidence on how current systems and procedures affect efficiency, equity, and quality in the delivery of primary health care.[1] In this way, the survey comprises an input into the design of strategies to improve the development impact of public spending. It also provides baseline data against which progress in the implementation of the Health Sector Strategic Plan (PESS) can be assessed.

The survey approach reflects the complex institutional setting for delivery of health services. Health services delivered by the NHS are almost entirely subsidized from general revenues and aid financing. However, individual facilities do not hold their own budgets. Rather, financial resources are allocated to administrative units above the facility—the Ministry of Health (MOH), Provincial Directorates of Health (DPS), and District Directorates of Health (DDS)—which are responsible for contracting and payment of staff, procurement and distribution of key recurrent inputs, as well as for supervision and inspection of staff and facilities. Although cost recovery is limited, some resources also flow in the reverse direction, specifically in the form of revenues from charges for consultations and medicines.

The survey collected data at a number of levels to capture information on these resource flows and on primary-level infrastructure, staffing, and service outputs. The data were collected through structured interviews and record reviews at both Provincial and District Directorates. A detailed questionnaire was administered to the facility director at the selected primary facilities. In addition, samples of staff and clients were interviewed. Between them, the questionnaires cover the main inputs considered particularly important in the delivery of primary-level health services: (a) district recurrent budgets; (b) cost recovery; (c) human resources; (d) drugs and other supplies; and (d) facility infrastructure and equipment. In addition information was collected on service outputs and on user perceptions of the services provided. Much of the information on a particular topic was collected from more than one source to compare consistency.

Sample Design

The sample design for the ETSDS was complicated by the fact that the survey considers five units of observation: (a) the DPS; (b) the DDS; (c) primary-level health facilities; (d) staff in primary-level health facilities; and (e) users of primary-level health facilities.[2] Because it is important that health staff and the clients are selected from the same establishments, the most natural starting point for the various samples required by the ETSDS is a sample of health facilities.

The sample of primary health care facilities was selected in two stages: a random selection of districts, followed by a random selection of facilities within the district. The selection strategy was motivated by both analytical and operational considerations. First, to assess to what extent facility performance can be explained in terms of local management parameters rather than by overall conditions of a higher level, it is important to observe more than a single health facility in each of the selected districts. Second, the costs and logistical problems associated with the fieldwork are also reduced if the health facilities visited by the survey are clustered into some districts, rather than scattered more sparsely throughout the country. Finally, an additional reason for implementing a two-stage sampling design in this case was the lack of a reliable sample frame—namely, a list of all the primary health facilities currently operating in the country.

Since a nonstratified sample would contain too few urban facilities for any significant analyses of resource flows and service delivery in urban areas, the sample of districts was stratified along urban-rural lines. The classification of districts as urban or rural was based on the Instituto Nacional de Estatistica (INE) classification. In the first stage all 15 urban districts (12 + 3 *Áreas de Saúde* in Maputo City) were selected with certainty, along with a sample of 20 rural districts selected with a probability proportional to the number of first-level facilities in the sample frame. The sample of rural districts was implicitly stratified to ensure that it is geographically distributed in proportion to the number of facilities in each region. In the second sampling stage three facilities were selected with equal probability in rural districts, while only two facilities were selected in urban areas. The selection of facilities was done by the enumerators in the field using an updated list of facilities operating in the district.[3] Only primary-level facilities were sampled (health posts and health centers). Rural hospitals were

excluded from the sample of facilities.[4] The resulting sample is approximately self-weighted in the rural areas—in other words, all rural facilities in the country have the same chance of being observed by the study. Sampling weights for each unit of observation, the inverse of its selection probability, were used to ensure that estimates are nationally representative.

The survey further included up to three interviews with staff members in each of the selected facilities. The head of the facility was always interviewed, whereas the other two (or less if there were fewer than three staff in the facility) were selected randomly from a roster of staff members with technical responsibilities (excluding helpers and other auxiliary staff).

Finally, approximately eight outpatient clients were interviewed during the day of the visit to the health facility. The selection of clients posed particular problems. Serious selection biases can be introduced if the selection is left to the discretion of the interviewers, the staff of the health facilities, or the clients themselves. Selection biases can also stem from informal selection rules, such as restricting the interviews to particular hours of the day. Instead, arrangements were made with the facility staff to hand out numbered tokens to users. All outpatients were then asked to see one of the enumerators after the consultation. Users were then selected randomly, with the interval between users determined by an estimate of the total number of users expected on that particular day.[5] As a result of errors in predicting the number of users, there is some variation in the number of patients actually interviewed at each facility. Moreover, depending on idiosyncrasies in local conditions, the precise arrangements for sampling users varied somewhat across facilities. Despite these limitations, the exit poll sampling procedure worked well in most cases, and is likely to have resulted in a more representative sample than an ad hoc alternative.

Since all eleven DPSs were interviewed, there is no sampling error around the province-level information. In survey terms, the samples of facilities, particularly DDSs, are relatively small, which means that the sampling error around estimates can be quite large. This is particularly true if the DDS estimates are disaggregated. Nevertheless, it was felt that the information was sufficiently important that it should be presented, but it should be remembered that the figures provide relatively imprecise estimates for the strata in formal statistical terms.[6]

Survey Implementation

After a lengthy design phase, a first set of survey instruments were piloted in Maputo Province (Moamba and Magude districts) in April 2002. Following the pilot survey questionnaires were revised extensively and circulated to the MOH, MPF, and other stakeholders for comments. A second pilot was implemented in July 2002, this time including the six lead enumerators. It was carried out in Maputo City and Gaza (Xai-Xai and Mabalane districts), which included visits to three facilities and approximately 30 client interviews and 8 staff interviews. This exercise led to further revisions of the questionnaires and the sampling procedure. The actual fieldwork was preceded by a full week of enumerator training in Maputo City in early August. The fieldwork was then launched on a pilot basis, with the full team starting in a single province (Inhambane) so the survey managers could closely monitor the work of the enumerators and agree on a common approach in case of ambiguities. The

Table 1. The Sample

Questionnaire	*Target sample*	*Actual sample*
Provincial directorate of health (DPS)	11	11
District directorate of health (DDS)–interview component	35	35
District directorate of health (DDS)–record review	35	35
Facility director/representative	90	90
Staff interview	270	167
User interview	720	679

Note: The actual sample of staff was lower than the target due to the presence of less than three staff in some of the selected facilities; the sample of users was reduced due to overestimation of the number of users by facility staff, and low numbers of users in some rural areas.
Source: ETSDS (2003).

fieldwork in the remaining provinces was carried out between August 27 and October 28, 2002, with six teams operating simultaneously in different provinces. The survey managers spent a considerable amount of time in the field supporting the enumerators and conducting random checks of questionnaires and data quality. [7]

Data Processing

Survey questionnaires were returned to Maputo for processing on a province-by-province basis so that data entry could begin well before the completion of the fieldwork. Data entry errors were minimized both through automatic verification and controls in the dedicated data entry program, and through random checks against the questionnaires. After data entry, analysts ran consistency checks to identify any problems in the data. Where necessary, enumerators followed up with provinces or districts to complete or verify information. The administrative records were sometimes of poor quality or inconsistent so the analysts sometimes had to make judgments about which records should be included for particular estimates. It is possible that some estimates would be appreciably different if different decisions were taken in this regard.

Data Analysis

The clean data have been analyzed using statistical software (STATA). As a consequence of the fairly complex sample design, district, facility, staff, and user weights were used to obtain unbiased estimates from the sample. All quantitative information presented in the report has been estimated using weights with the exception of provincial data, which does not require weights because all eleven DPSs were interviewed.

In some areas, the survey sought to assess the adequacy of control systems and "leakages" in the flow of resources between different levels. Two points should be noted in this respect. First, the survey was not an audit; it depended on the willingness of respondents to provide accurate data. On the basis of the piloting, it was decided that interviewers should, on the whole, prioritize the collection of the best possible data on each item and make an effort to reconcile inconsistent data in the field rather than prioritize the collection of first-response answers as a measure of the quality of records held. For this reason, the degree of inconsistency between records is substantially less than it would have been otherwise. Notwithstanding these efforts to reconcile different data sources, the survey provides direct evidence on the functioning of management and control systems, and an indirect assessment based on whether basic information was available, plausible, and consistent with other information.

Second, because the survey often depended on administrative records of variable quality and because surveys can themselves produce data errors, inconsistency between any two particular observations was treated with caution. A facility record stating that the quantity of a particular drug received was less than the quantity distributed by the DDS would not be taken, per se, as an indication of leakage. Inaccuracies or inadvertent errors in one or both records could also have produced such an inconsistency. However, high levels of inconsistency were taken as providing *scope* for leakage, since control systems are clearly inadequate in such circumstances. In addition if inconsistencies were random then the average discrepancy across all facilities should be close to zero since random errors would tend to cancel one another out across units. If leakage is occurring (and is captured in the records), then the average discrepancy would not be expected to be zero. In the analysis, the proportion of records that were inconsistent in each direction (positive and negative) is used to look for evidence of leakage. The mean (net) discrepancy is also calculated for a similar purpose.

Findings

The findings identify a number of important problems in the operation of the National Health Service at the primary level. Some recommendations for change are made in this study. However, the development of detailed recommendations to address the problems is outside of scope of work, and can only be done by individuals working in the sector. The dissemination of these findings will be used as an opportunity to further develop recommendations to address the problems identified.

Notes

1. Although primary health care is delivered at all levels of the NHS (including hospitals), the survey focused exclusively on the primary level. This choice was motivated by the relative lack of information about the resources and activities of health centers and health posts.
2. This section is based on a sampling report by Juan Muñoz (2002). The full report can be downloaded from http://www.worldbank.org/research/projects/publicspending/tools/newtools.htm
3. The sampling was done using preprinted forms with a random numbers series and clear criteria for listing facilities. In this way the risk of manipulation was minimized.
4. Information collected about the district as a whole covers the operation and activities of the district as a whole, including a rural hospital if one is present. Information collected on the facilities covers only the primary facilities that were sampled.
5. Many of the interviews had to be carried out in local languages, in which case the questionnaires were informally translated.
6. The analysis of a relatively small number of districts may sometimes be thought of as a kind of case study approach, but is informative nevertheless. Figures for individual districts do not, of course, have any sampling error around them.
7. The report by Austral Consultoria e Projectos (2002) describes the field work in greater detail, and is available from the authors upon request.

Policy and Institutional Context

2

At Independence Mozambique inherited a health system that was severely biased toward urban and curative services.[8] Health status was extremely poor in rural and isolated areas. With a view toward meeting the constitutional obligation of making health services widely available to the population, all private health care providers were nationalized in 1975. Since then Mozambican health policy has been based on principles of broad and equitable access to health services with an emphasis on preventive and basic curative care. This policy was to be implemented through the National Health Service (NHS), with the MOH as the state body responsible for formulating health policy and planning and managing the activities of the NHS.[9]

In the post-independence period there was a rapid expansion of the network of primary health care facilities, from 326 in 1975 to 1,195 in 1985. In addition nearly 10,000 health workers were trained between 1975 and 1990. The expansion is reflected in public expenditure data. For example, according to estimates from the early 1990s, health sector expenditure as a proportion of total government expenditure grew from 8.7 to 10.7 percent between 1975 and 1981.

The Mozambican economy deteriorated in the 1980s, with negative GDP growth in most years with deleterious impacts on the the health sector. The effects of the economic situation were compounded by civil conflict: many facilities were looted or destroyed, and health facility staff were intimidated and in some cases injured or killed. As a consequence the reach of the NHS was reduced dramatically and most new investments went into safe urban areas or rural hospitals.

Despite the conflict there was a spectacular increase in external financing to the health sector in the 1980s, particularly after 1987. By one estimate it increased from 9 percent of total spending in 1983 to approximately 60 percent in the late 1980s and early 1990s (Noormahomed and Segall 1994). Overall, as a result of aid, there was an estimated increase in total spending (internal and external, recurrent and investment) of 40 percent during 1986–1991. At the same time, changing international trends in health care policy led to an emphasis on sustainability and an increased reliance on user fees.

The reconstruction and development of the health sector in the post-conflict period was guided by a number of important policy documents,[10] which, in turn, shaped the policy framework espoused in the Government Program, the Health Sector Policy 1995–1999, and the Health Sector Recovery Program. The central features of this policy framework follow:

- An emphasis on primary health care—especially health promotion and disease prevention—through programs on mother and child health, immunizations, and communicable disease control.

- A health system composed of three sectors: the NHS; the private for-profit and private nonprofit sector; and the community sector.[11]
- Rehabilitation of the health infrastructure, including the improvement of peripheral health facilities (including rural hospitals) to restore the facility network of the previous decade, and improving access through more reliance on small facilities situated closer to people's homes, and by integrating nongovernmental organizations (NGO) into the district health system.
- Improvement of the quality of care and the efficiency of services, while also trying to expand it quantitatively to the level attained in the early 1980s.
- Attention to human resource issues, including raising provider productivity through training, increasing real income, providing clearer promotion criteria, and providing incentives for personnel to work in rural areas. Also crack down on the illegal behavior of health sector personnel, including illicit charging.
- Strengthen logistical, administrative, and management capacity in the NHS. Improve hospital management and performance monitoring, health planning, and resource allocation. Policies also focused on improving the impact of international aid by reviewing spending on technical assistance, reducing tied aid, and streamlining projects.

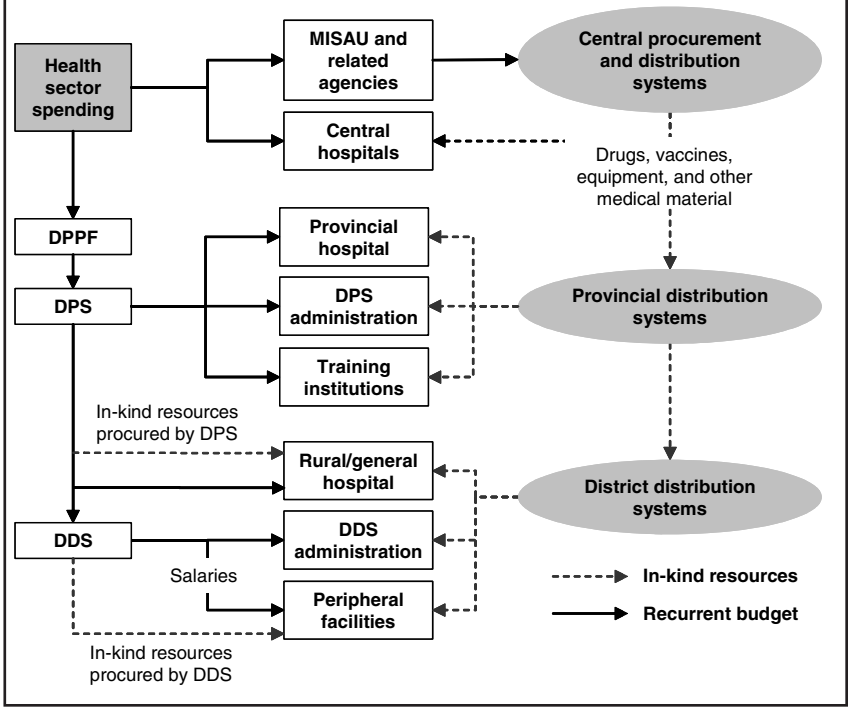
The first half of the 1990s saw a sustained expansion of service volume, but also stresses arising from the management of increasing amounts of external aid and slow progress in expanding the health facility network into underserved areas.

More recently, the current policy framework for the health sector has been set out in three main documents: (a) the 2001-2004 Government Program; (b) the Action Plan for the Reduction of Absolute Poverty (PARPA 2001-2005); and (c) the Health Sector Strategic Plan. These policy documents are broadly consistent, and do not represent a substantive shift from previous policy. The new policy framework emphasizes primary health care and the battle against endemic diseases, the profound challenge posed by HIV/AIDS, the need to better address the needs of poor and vulnerable groups in the population, improvements in health care quality and strengthening of human resources in the health sector, and institutional and management reforms. In parallel to ongoing health sector reforms, the government is implementing a broad public sector reform agenda that impinges on health sector operations and management. The reforms—including further decentralization, community participation, and strengthening of public expenditure management systems—are designed to increase efficiencies and transparency in public service delivery.

The Institutional Framework

The first two levels of the NHS—rural and general hospitals, health centers, and health posts—are managed by the DDS. The district is the

Figure 1. Flow of Resources in the Health Sector



Source: ETSDS (2003).

lowest administrative level of state administration.[12] The DDS, which is typically a small unit staffed by health workers rather than professional managers, is responsible for the operational implementation of activities at district level, in particular the delivery of primary-level health care services through the network of facilities in the district, including, where applicable, the rural or general hospital. This includes organization and planning, budget management, human resource management, medical supply provision, supervision (including private clinics), and inspection.[13] The DDS is subordinate to the DPS, as well as the District Executive Council. The DPS, in turn, is responsible for the overall administration of health activities in the province and enjoys considerable autonomy in the allocation of resources to districts, deployment of staff, and supervision.

The operation of the primary health care system depends on three key recurrent inputs: (a) staff; (b) medicines and vaccines; and (c) other nonwage recurrent resources. As a rule, level I and II facilities do not hold their own budgets.[14] Rather, they depend on a complex administrative and logistical system that is supposed to ensure the smooth operation of the respective facilities (figure 1). The DDS has a central role to play in this process, as it is responsible for the distribution of in-kind resources, as well as for salary payments to all health workers in the district. Some of these resources (some nonwage recurrent inputs) are procured directly by the DDS, while others (medicines, vaccines, medical and surgical supplies, and some equipment and materials) are procured at a higher level (province or central), and distributed through established systems. In parallel with the investment budget, the systems for allocating nonrecurrent budgets, staff, and other inputs hence become the primary instrument for promoting the government's health and equity objectives. Of course at the provincial level this process is constrained by the amount of resources allocated to the province by the MOH.

Notes

8. This section draws on the recently completed Health Sector Expenditure Review (Government of Mozambique 2002).
9. The NHS was formally established in 1991.
10. Government of Mozambique (1992), Noormahomed and Segall (1994).
11. Private health care providers were legalized in 1991. Community health workers are recruited locally and receive basic training in curative and preventive health care. They do not form part of the NHS but receive basic supplies from the District Directorates of Health.
12. Only the Ministries of Agriculture, Education, and Health are represented in all districts. Other ministries may be represented in strategically important districts. Districts are divided into two to five Administrative Posts. However, these do not play any discernable role delivering health services. In addition, a Constitutional revision in 1996 introduced autonomous local authorities, providing for municipalities in cities and towns and villages (povoações) at the level of administrative post. Following municipal elections in 1998, 33 cities and towns became municipalities. The legal framework regulating municipalities provides for a transfer of competencies—including primary health care—to the municipalities. The process of transferring the responsibility for management of health centers and health posts (and the requisite financial resources) is still in an early stage.
13. These functions are established through the Diploma Ministerial 9/88, which is based on Lei 4/87.
14. Many hospitals (provincial, general, rural) manage their own budgets.

Allocation and Management of Budgets and Budget Support

3

Key Findings and Conclusions

- Information on district health sector resources is difficult to consolidate. Fragmented or incomplete reporting on resource flows (consumables, drugs, nonstaff budgets, salaries, and other resources) results in a lack of transparency, with potential implications for efficiency, equity, and the appropriate control of public resources. The problem is compounded by flows recorded only in volume terms, with no information on values.
- Unreliable and inconsistent data on district budgets at the provincial level—both for salaries and nonwage recurrent expenditures—make it very difficult to assess whether the resources allocated to the districts reach their intended destination, and raises further questions about how effectively district expenditure can be monitored.
- Many districts experience considerable delays in receiving the first monthly transfer of the state budget and provincial budget support, with consequences for both efficiency and due process. Seventy-five percent of district directors identified this as the main problem in effectively implementing the budget.
- Late initial transfers and slow processing of acquittals result in low execution rates of nonsalary budgets in many districts. For the state budget, the average execution rate in 2001 was 80 percent, but for many districts it was considerably lower.
- District per capita health spending (excluding drugs and other material provided to districts in-kind) ranges from 5,000 to 47,000 MT, which raises serious concerns about equity. The variation is largely driven by staffing and infrastructure patterns.
- The composition of spending differs across districts. For example, spending on staff ranges from 35 to 90 percent of total spending (excluding drugs and other in-kind resources), which raises questions about efficiency.
- Most districts had been audited in 2001, but the findings did not seem to have been translated into changes in DDS operations.

Financing of District Health Services

This section focuses on the findings from the survey that cover a broad range of questions concerning financing—including the timing and volume of flows, compliance with norms and procedures in the area of financial management, and perceptions about problems in budget execution.

Many of the inputs into the delivery of health services at district level are distributed in-kind through separate supply management systems. This is the case, for example, with drugs, medical equipment and materials, and some other supplies. But the DDS is also responsible for some procurement. For this purpose, the DDS has access to three separate sources of financing: the state budget (*Orçamento do Estado–OE)*; provincial budget support through the donor common fund (*Fundo Comum Provincial–FCP)*; and revenues from outpatient and inpatient consultations.[15] The state budget is the most important source of financing followed by the FCP. The process of budget formulation and execution is governed by a detailed legal framework. The FCP, which primarily finances nonsalary expenditures, is partly integrated in the budget system, although a number of separate rules and provisions apply.

Record-Keeping and Data Consistency

Data on district budget allocations and execution were collected for the period 2000 to 2002 (due to the timing of the survey, it was only possible to collect execution data for 2000 and 2001), and cover both the state budget and the FCP. The collection of these data presented considerable challenges. Given that the DDSs render accounts to the DPS and Provincial Directorate of Planning and Finance (DPPF) on a regular basis, it should, in principle, be possible to collect complete financial data at the provincial level. However, in the course of preparing the survey it became apparent that provincial-level data on district budgets and expenditures were sometimes incomplete and often inconsistent with information collected at the district level. These inconsistencies may have many sources, including poor record-keeping and a failure to close annual accounts, error in data entry, and uncoordinated updating of records to reflect budget changes during the year. It is also possible that they may reflect, in some cases, willful manipulation to hide financial irregularities.

The enumerators found that in almost all provinces the financial records suffered from large gaps—it was possible to collect complete district-level budget data at the DPS for less than 40 percent of districts. Moreover, the enumerators often found that district records bore little relation to the information that had previously been collected from the DPS (there were discrepancies between provincial and district records in approximately 75 percent of the districts). In some cases, the discrepancies were minor, and can easily be explained by a single failure to update a budget change or record a transaction. Many of the discrepancies were large and more difficult to explain. Whatever the source of the problem the enumerators, with support of staff from the DPS and the DDS (and in one case, the DPPF), sought to reconcile the records. In most instances data from the DDS was favored over DPS data, as they were seen as more reliable. Indeed, many of the problems encountered seem to arise in the processing and consolidation of information by the DPS. The result is a single set of budget data (allocations and expenditures) based on both provincial and district records. Given the nature and extent of the problems encountered these data should be treated with caution. The process also demonstrated that the budget system operating at the provincial level and below is unable to deliver reliable and timely data on allocations and expenditures. The lack of timely data in combination with a lack of comprehensiveness (due to the fragmentation of the resources flows) result is a serious lack of transparency, which makes it difficult to assess essential aspects of the health system—including whether resources have been allocated equitably, used efficiently, and accounted for properly.

Budget Execution

Despite many improvements in recent years, the budget execution process is still fraught with problems, particularly at lower levels of the administration. The survey showed that two related problems predominate. First, many provinces and districts receive their first budgetary transfer late in the year resulting in temporary liquidity problems and often low levels of budget execution over the year.[16] The delay is attributable to liquidity problems at the

central level or delays in closing accounts from the previous year. Second, delays in the processing of accounts during the year also contribute to periodic liquidity problems and low execution rates. These delays may have many sources. The DDS may fail to submit accounts on a timely basis or fail to comply with accounting norms and regulations, leading to acquittals being returned (often more than once) by the DPPF. In the case where the DDS renders accounts to the DPS, capacity problems in the DPS may hamper the process of verification and consolidation. Also full consolidation of DPS accounts may require a complete set of verified DDS accounts. The failure of a single district to submit acceptable accounts can hold up the entire process. Finally, there may be problems in the processing of these accounts by the DPPF.

The available data on budget allocation and execution for the districts in the sample certainly provide evidence of important problems in budget execution. The pattern of execution rates is fairly consistent for 2000 and 2001. Given the semi-automatic nature of salary payments most districts execute around 100 percent of their salary budget. However, for nonsalary staff expenditures and goods and services, average execution rates are around 75 to 85 percent for both the state budget and the FCP (table 2). There is, however, considerable variation in execution rates across districts. For example, for the 2001 budget 3 districts executed less than 50 percent of their budget for goods and services and 25 percent of the districts executed less than 65 percent.[17]

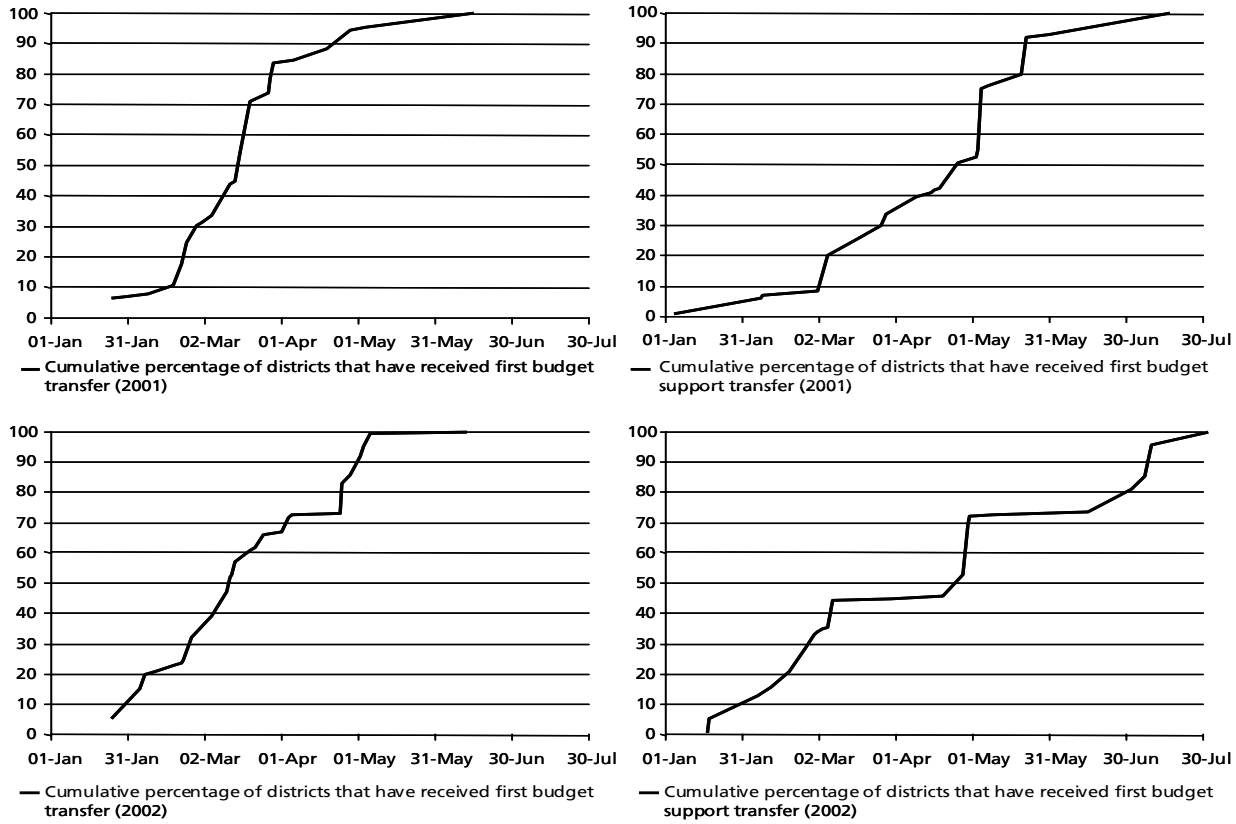
To shed further light on budget execution problems, the survey also contained questions about the timeliness of budget transfers in 2001 and 2002—both for the state budget and the FCP. Although data are missing for some districts the available information presents a fairly clear picture about the timeliness of resource transfers. The information is presented in figure 2, which graphs the cumulative proportion of districts that have received the first transfer against a time line for both the state budget and the FCP. As can be seen, very few districts received their first transfer in January. For the state budget, approximately 70 percent of the districts received their first advance between the middle of February and the middle of April. Some districts received their transfers only in May or June. The timing of FCP transfers is more spread out with many districts receiving their first transfer only in May and June, a problem that can partly be explained by the fact that districts can carry over budgets from one year to the next, resulting in less dependence on the first transfer. In contrast, funds from the state budget cannot be carried over from one year to the next. As a consequence delays in the first transfer can result in serious liquidity problems for affected districts.[18]

Table 2. District Execution Rates for the State Budget and the Provincial Common Fund *(percent)*

	2000			*2001*		
	Salaries	*Nonsalary staff expenditure*	*Goods and services*	*Salaries*	*Nonsalary staff expenditure*	*Goods and services*
State budget (OE)						
Rural	99.8	82.4	86.9	108.0	84.4	80.4
Urban	104.6	61.9	90.2	103.6	46.8	80.4
Total	100.4	80.0	87.3	107.5	80.4	80.4
Lowest execution rate	60.3	9.9	31.8	72.1	2.2	32.8
Highest execution rate	186.1	132.0	197.2	194.3	194.1	106.0
Provincial common fund (FCP)						
Rural	89.8	88.3	75.0	101.7	87.2	73.9
Urban	95.6	55.4	71.9	108.3	73.4	66.6
Total	90.3	85.4	74.7	102.5	85.7	73.2
Lowest execution rate	68.5	11.2	14.4	98.1	9.2	12.0
Highest execution rate	100.0	102.2	108.2	125.0	125.9	104.5

Source: ETSDS (2003).

Figure 2. The Timing of the First State Budget and Provincial Common Fund Transfers
(percent)



Source: ETSDS (2003).

Also related to the timeliness of budget processes, the survey inquired about how long it takes the DPS and DPPF to process accounts rendered by the DDSs. Specifically, district administrators were asked when the acquittals for March and August (2001) were submitted, when the acquittal was dispatched by the DPS to the DPPF, and, finally, when the DDS was reimbursed by the DPPF (*liquidação*).[19]

The processing of acquittals by the DPS and DPPF took, on average, around 32 days. For the districts where data were available (30 for the March acquittal and 24 for the August acquittal), the time ranges from 8 to 89 days for the March submission, and from 7 to 97 days for the August submission. Although the incompleteness of the data makes it difficult to draw any firm conclusions, there does not seem to be any systematic evidence that the processing of accounts takes longer for either urban or rural districts.

Problems of missing information were more severe for the dates of DPS dispatches. It is therefore difficult to draw any firm conclusions about how the total processing time is distributed across the DPS and by the DPPF, respectively. However, on the basis of the available information (10-15 districts), it appears that DPS processing comprises approximately one-third of the total time. There is some indication that the DPS plays a more limited role or keeps the acquittals for a shorter time in urban districts.

In part, the delays in processing acquittals are due to gaps or errors in the submitted information. When such problems arise representatives from the DDS are often required to travel to the provincial capital to resolve the issues, sometimes with costly and disruptive consequences. Indeed, according to information provided by the district director of health, problems with the processing of accounts are resolved by sending a representative from the DDS to the provincial capital in over 60 percent of districts. In the remaining districts the issue is resolved by returning the process to the DDS for corrections.

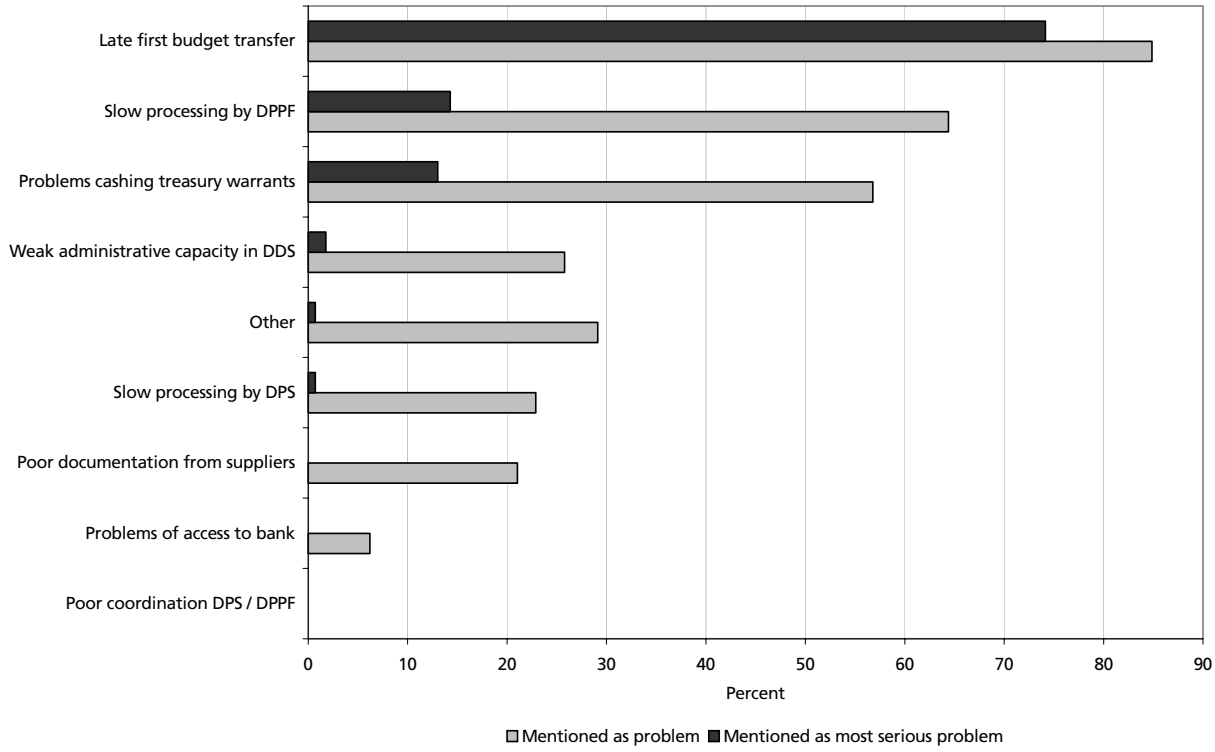
To get a sense of how these problems in budget execution were perceived, the district

directors of health were asked to identify and rank the three most important of eight different pre-defined problems or constraints that they face in the process of budget execution.[20] Figure 3 reports the findings. Approximately 75 percent of all district directors rank delays in the first budget transfer of the year as the most important problem in the budget execution process. Most districts also mention slow processing of acquittals by the DPPF and a lack of liquidity when depositing treasury warrants as important problems, although only a few districts consider them the most important problem. The pattern of identified problems is quite similar for urban and rural districts, although problems with treasury warrants appear to be more serious in rural districts. The DDS perceptions of problems in the process of budget execution are broadly consistent with the perceptions of the DPS directors. In the case of the DPS, five provinces consider slow processing by the DPPF to be the main problem hampering effective budget execution. The remaining provinces consider late advances, poor administrative capacity in the DDS, and liquidity problems with treasury warrants to be the most serious problems (2 provinces mention each of these issues). Almost all provinces (9 of 11) mention slow DPPF processing and weak DDS capacity as constraints, although they do not always rank these as the most important issue. When asked what the DPS is doing to resolve these problems most provinces referred to capacity building efforts (in the area of administration) and the recruitment of new personnel. Some provinces also report seeking better coordination with the respective DPPF. Despite these efforts, some province officials feel that many of these issues are beyond their control.

Budget Allocation and Execution

Turning from budget execution issues to what districts actually spend, the survey provides information on expenditures by line item and source of financing for 2000 and 2001. The variation in total spending across districts in the sample is large; the total level of expenditures financed from the state budget and the FCP in 2001 ranges from 523 to

Figure 3. DDS Perceptions of Problems in Budget Execution



Source: ETSDS (2003).

Table 3. District Current Expenditures, 2000 and 2001
(million MT)

	2000		2001	
	Total spending (OE + FCP)	*Percent financed from FCP*	*Total spending (OE + FCP)*	*Percent financed from FCP*
Rural	1,120	15.7	1,451	10.8
Urban (excluding Maputo City)	2,325	8.4	3,060	8.4
Maputo City	10,005	0.8	9,125	0.4
Total	1,410	12.4	1,750	9.3

Note: Spending estimates include salaries, nonsalary staff expenditures, and goods and services.
Source: ETSDS (2003).

12,175 million MT (USD25,400 to 591,000).[21] As table 3 shows, average spending is considerably higher in urban areas, in particular Maputo City. On average, a small percentage of total spending is financed through the FCP (12.4 and 9.3 percent in 2000 and 2001, respectively). However, in 10 percent of the districts the FCP finances over 25 percent of expenditures, so for some districts it is an important source of financing.

In terms of overall spending, expenditure on staff is the biggest component. It ranges from 35 to over 90 percent in the sampled districts with an overall average of 70 percent. Most of this is spent on salaries with only around 11 percent going to other staff expenditures. As shown in figure 4, the FCP finances primarily goods and services and nonsalary staff expenditures.

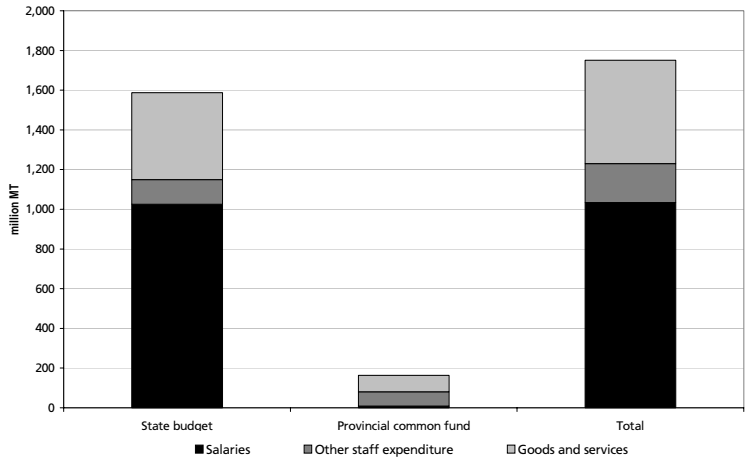
The differences in overall district spending reflects, in part, differences in district population. Average per capita spending (OE + FCP) in 2001 was approximately 18,200 MT. However, there is a lot of variation across districts with per capita spending in 2001 ranging from 5,000 to 47,000 (figure 5).[22] Average per capita spending is somewhat lower in rural areas, but this difference is not statistically significant (although the sample is small). Given the importance of staff expenditures in district budgets the differences are largely driven by differences in per capita salary and nonsalary staff payments.

This observation raises the question of what factors determine whether a district is well-resourced or not. Clearly, this is partly driven by the allocation of staff, which can be seen by looking at the relationship between total spending per capita and the number of staff per 1,000 inhabitants (figure 6). Salary spending will also be higher in districts with staff with higher level of qualifications.

In other words, differences in per capita spending reflect, in part, differences in infrastructure and staffing. But there are also notable differences in spending per service output. For example, we can look at spending per outpatient or spending per service delivery unit (SDU).[23]

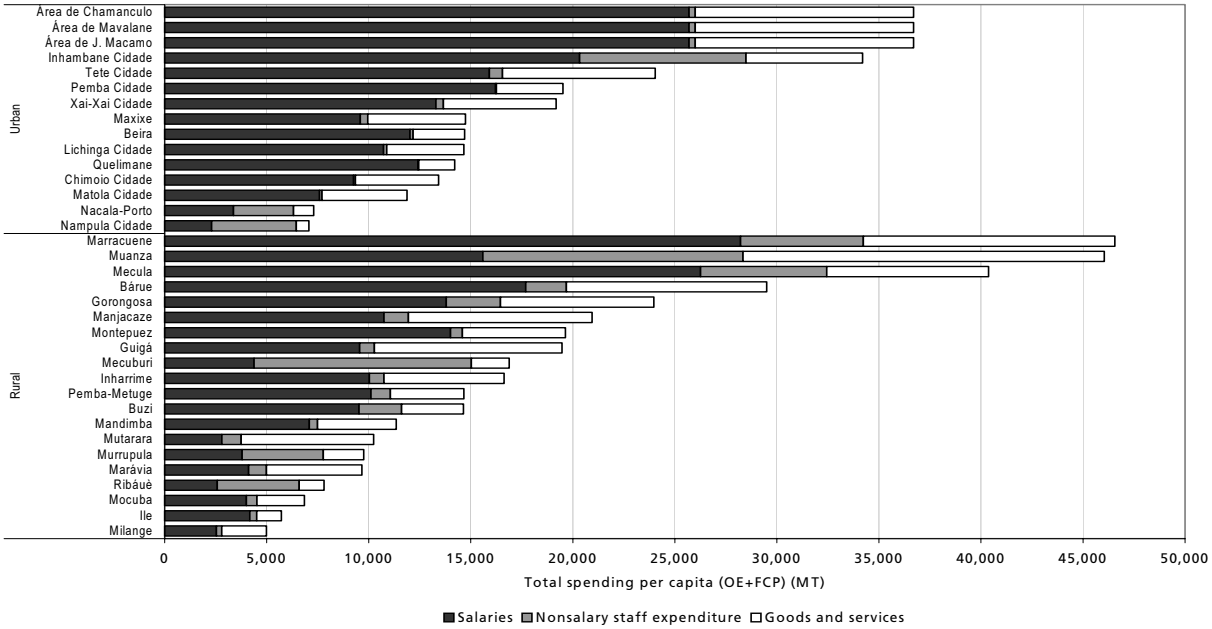
For example, how do nonstaff recurrent expenditures relate to service outputs? On average, districts spend 2,396 MT per SDU on goods and services. As figure 7 shows, spending varies from less than 400 to over 5,500 MT. Even excluding outliers there are notable differences in spending per service output across districts. Given the nature of expenditures financed through the goods and services budget line it is unlikely

Figure 4. Composition of Total Spending by Line Item, 2001



Source: ETSDS (2003).

Figure 5. Variation Per Capital in District Spending, 2001



Source: ETSDS (2003).

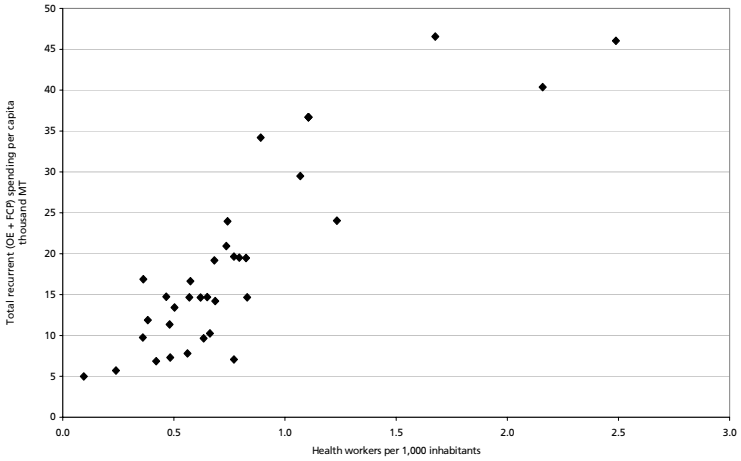
that this variation is explained by differences in service mix and the complexity of interventions. This issue requires further attention. The figure also illustrates that although there is also a notable variation in nonsalary staff expenditures the variation is not related in an obvious way to spending on goods and services.

Additional Forms of Financial and In-Kind Support

Over 70 percent of districts report receiving some support from an NGO, church organization, or donor agency (excluding the FCP) (table 4). Much of this support comes from bilateral donors, but many districts also report receiving support from NGOs such as CARE, Concern, Action Aid, Médicos Mundi, or church organizations.

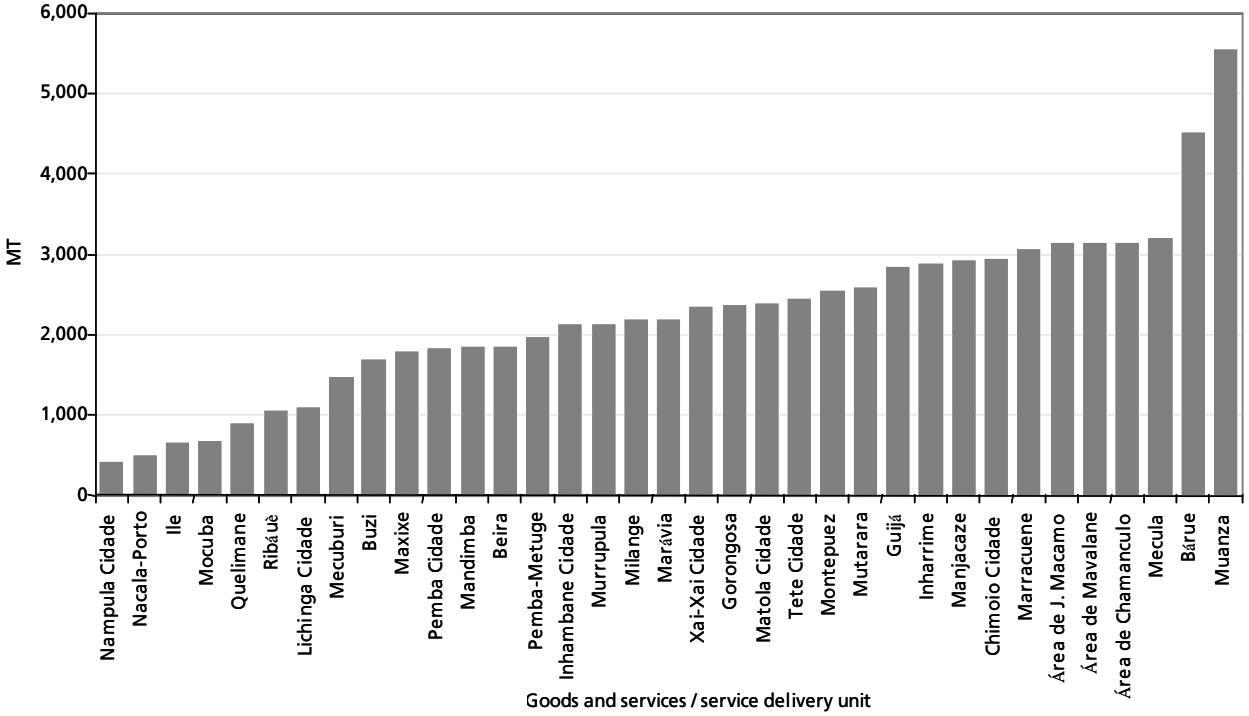
In one-half of the districts receiving some kind of support, it primarily benefits the DDS proper, while in 25 percent of the districts the support is primarily targeted at peripheral facilities. The district directors were asked about the amount of support received. Given the multiplicity of sources and the in-kind nature of some support these estimates have to be treated with some caution. Also, only 18 out of the 25 districts that received such support reported an amount. With these caveats in mind the reported value of other support in 2001 ranged from 5 to 1,000 million MT. For most districts these are small

Figure 6. The Relationship Between Per Capita District Spending and Staffing



Source: ETSDS (2003).

Figure 7. District Spending on Goods and Services per Service Delivery Unit



Source: ETSDS (2003).

amounts relative to overall spending from the state budget and the FCP—ranging from 1 to 6 percent in most districts. However, in a few districts the reported amounts are equivalent to between 30 and 40 percent of total spending from other sources.[24]

Financial Management and Audits

Notwithstanding the problems of reconciling financial data between provincial and district levels, current financial management procedures provide the basis for some degree of control. All DDSs report having at least one bank account, most have 2 or 3, and some have more (ten districts have between 5 and 8 accounts). Both control and efficiency is, however, hampered by problems of access to the bank for many districts. While all urban districts have accounts in banks that are located in the district capital (sometimes coinciding with the provincial capital), only 18 percent of rural districts have a bank branch in the district capital. The remaining districts have to use a bank branch in the provincial capital.

Table 4. Financial and In-Kind Support Received at the District Level

	Percent of districts that receive financial or in-kind support (excluding FCP)	
	NGO/Church	*Donor*
Money	29.4	44.5
Staff	31.8	12.9
Training	16.3	15.8
Drugs	10.9	0.0
Other in-kind consumables	23.9	10.9
Equipment	16.7	21.0
Other	10.5	9.6

Source: ETSDS (2003).

Eighty-four percent of the districts report that they were audited in 2001. In most cases the audit was carried out by the DPS/MOH, often with the collaboration of DPPF/MPF and/or the Swiss Agency for Development and Cooperation. The audits typically go well beyond the state budget—most audits cover financial records for both the state budget and the FCP, verification of user fee revenues, checks of drug revenues and stock cards, and

an inventory of warehouses. The district directors of health were asked about the findings from the most recent audit and about what measures were taken in response to these findings. Interestingly, many districts directors report specific complaints from the most recent audit, including discrepancies and irregularities in record-keeping for in-stock cards, financial records, and revenue information. As has been noted, many of these problems were also documented as part of the survey. According to the director of the DDS most problems were remedied following the audit. On the basis of the available information it does appear that audits are carried out, and that they reach meaningful conclusions. Yet, for some reason they do not seem to have bite or a lasting impact, since substantial problems clearly persist.

Notes

15. The state budget finances recurrent expenditures, including salaries, nonsalary staff expenditures, and goods and services. The components of the state budget under the two latter budget lines are sometimes referred to as the Fundo Permanente. Provincial budget support refers to untied donor support allocated directly to the Provincial Directorates of Health. Funds from the state budget and provincial budget are allocated to the districts and other budget lines through a joint integrated planning process. The investment budget is executed exclusively at the central and provincial level and not decentralized to district level. The legal framework and the modalities for budget formulation and execution are discussed in more detail in appendix A.

16. The ways in which liquidity problems affect districts depend on a range of factors. Insofar as the district has access to alternative sources of financing, it may be able to bridge periods when state budget funds are not available with financing from these sources. Where no other sources of external financing are available the district may resort to spending user fee revenues or relying on credit from suppliers. Ultimately, the shortage of financial resources may, of course, be reflected in shortages in real resources, with attendant problems in service delivery.

17. It is possible for districts to have execution rates in excess of 100 percent. This is because actual expenditures are related to initial allocations when execution rates are calculated. The budget allocation of districts can, however, be altered at different stages during the year, thus permitting expenditures above the original allocation.

18. The transfer dates to districts are, in general, dependent on when the DPSs receive their transfer. For 2001, 10 of the 11 provinces report receiving the first budget transfer between March 1 and March 30. One province received the transfer in the end of January. The picture was broadly similar in 2002. The timing of the first transfer of budget support is more spread out, ranging from mid-January to mid-May in both 2001 and 2002.

19. Most of the acquittals considered cover March and August, respectively. However, in part because of delays in the initial budget transfer, not all districts submitted acquittals for only these months and some of the data refer to submissions that cover more than one month of expenditures (but include March and August). As a consequence, there is some variation across districts in terms of when the acquittals were actually submitted. It was not possible to collect complete data on the timing of submissions and dispatches in all districts.

20. Respondents were also given the opportunity to introduce problems or constraints not mentioned in the questionnaire; these are coded as "other."

21. According to official exchange rates for 2001, 1U.S. dollar (USD) = 20,608 Meticais (MT).

22. Due to difficulty of acquiring population data for the respective health areas in Maputo City the per capita estimates refer to Maputo City as a whole. As a consequence these data shed no light on variation in per capita spending within Maputo City.

23. SDUs are calculated as a weighted sum of five categories of service outputs: SDU=12 x Deliveries + 9 x Bed occupancy days + 0.5 x Immunizations + 1 x Ext. cons. + 1x MCH cons. Although the weights are selected to broadly reflect the labor input for each respective service, the formula lacks a solid empirical foundation and can be contested on methodological grounds. Despite these limitations the SDU provides a useful complementary output measure to outpatient consultations and is widely used by the MOH.

24. There is some doubt about the accuracy of these amounts. In particular, it is possible that the district director included the FCP in the reported support, thus resulting in double counting.

User Fee Payments and Revenues

4

Key Findings and Conclusions

- Users paid, on average, a total of 1,700 MT, and 46 percent said it was difficult or very difficult to find the money.
- The charging regimes faced by users are highly diverse. The fees charged for consultations and medicines vary between province, districts, and facilities and do not appear to follow national guidelines. Similarly, exemption practices vary greatly across districts and facilities.
- Guidelines on the display of fees at facilities are largely not followed.
- Records of user fee receipts are largely consistent between the DPS and the DDS. There was less consistency between the DDS and facilities, but there were no systematic differences in the amounts recorded at these levels.
- The total number of consultations and average reported payments by users, however, suggests that facilities collect substantially more in revenues than is recorded and transferred to the DDS—illegal overcharging appears to be common.
- Almost all of the recorded user fees are spent by the DDS; virtually nothing is retained by or returned to facilities. There are large variations in the amounts received between districts with urban areas, particularly Maputo, receiving the most.
- The component of user fees retained by the DDS constitute a small fraction of their total budget—an average of 2 percent of total spending (excluding drugs and other in-kind resources).
- There is little clarity about norms on how revenues should be used and expenditure patterns very considerably across districts. Outside Maputo payments on staff are the largest item of expenditure.

The User Fee System and Its Implementation by Provincial Directorates

While the state budget and the FCP represent resources that flow down from the central level some resources are mobilized and flow up from the local level. Three primary sources of revenues at district level are (a) fees for outpatient care; (b) fees for inpatient services; and (c) charges for medicines. In addition many districts collect revenues from other public health-related services, such as sanitary inspections and the provision of "special services." The Mozambican legal and policy framework provides some guidance on both fee levels and drug prices.[25] However, rules and norms are unclear in many areas, including in respect of the utilization of user fee revenues and the charging and management of fees from special services. This section reviews both the legal and policy framework, and the evidence from the survey.

Legal Framework for Fee and Drug Charging

The approach to fee charging has changed considerably in the period since independence. Following the nationalization of the health care system in 1975, an overarching user-fee law was passed in 1977. This law sought to harmonize charging practices across nationalized facilities while also meeting the government's constitutional obligation of making health care broadly available to the Mozambican population. The law established that all inpatient and preventive health care was to be provided free of charge. Outpatient consultations were subject to a nominal fee (7 escudos and 50 centavos). It is noteworthy that the laws provided for variation in outpatient fees across districts or localities subject to a proposal by the provincial governor and approval by the MOH. Both this and subsequent legislation establish clearly that emergency treatment may not be withheld on account of failure to pay. In response to a financing crisis and external pressure new laws were introduced in 1987 (Law 4/87 and Ministerial Diploma 38/87). These laws broadened the basis for charging, increased the level of fees, and provided for the regular revision of fee level. Fee levels were initially set at 500 and 100 MT for inpatient and outpatient care, respectively. The law provided for a range of exceptions, including health care associated with childbirth, minors, combatants in the armed struggle for national liberation, blood donors, the disabled who cannot work, retired persons, pensioners and invalids, domestic servants, the unemployed, and people with no means of subsistence although it does not specify how eligible individuals can or should be identified. The law also provide for disease-specific exemptions, although these were only specified in subsequent legislation (they include pulmonary tuberculosis, leprosy, trypanosomiasis (sleeping sickness), and chronic psychological disorders). Fee levels were updated in 1996 (Ministerial Diploma 10/96), increasing the daily inpatient fee in hospitals to 10,000 MT and the fee for outpatient consultations to 1,000 MT in urban areas and 500 MT in rural areas. Fee levels have not been changed since 1996 despite substantial increases in the general price index.

The user fee legislation of 1977 established that all drugs are free for inpatients. A number of basic drugs were also free for outpatients, while nonbasic drugs were to be charged according to a price list approved by the MOH and MPF. The law also established a scheme of price reductions contingent on individual or household income, although it did not clarify how income should be measured or verified.[26] The list of nonbasic drugs was expanded in a Ministerial Diploma in 1985, which also introduced a fixed-price charge per prescription in rural primary facilities and specified a formula for calculating drug prices based on actual costs.[27] The MOH approved a manual on drug charging (*Manual de Normas e Procedimentos para Distribuição e Cobrança de Medicamentos*) in 1989. The fixed fee in rural primary facilities has now been increased to 500 MT. In other primary facilities drugs are charged according to a price list.[28]

The legal framework does not provide much guidance on how user fee revenues can or should be used. The laws concerning fees and drug charging, passed in 1977, establish that all revenues from the sale of medicines should revert to the *Central de Medicamentos e Artigos Medicos.* In contrast, it is only the 1987 law on user fees that explicitly states that revenues from consultation fees should directly support the operating costs of health facilities. The modalities for accounting and

using user fee revenues were also set out in a *Ministerial Diploma* and a *Despacho* in 1987.

Implementation of Charging Policies by the DPS

The issue of how policies are actually implemented was broached in interviews with the DPS representatives. Insofar as the responses are correct, they reveal a considerable heterogeneity across provinces. In five provinces a unique fee of 500 MT was reportedly applied in all facilities—urban and rural—whereas one province reports charging a fee of 1,000 MT in all cases. Nine provinces claim that inpatient care is free of charge to all users. Similar heterogeneity was reported in charging for medicines; only four provinces are implementing a drug charging policy that is fully consistent with the national guidelines. A number of provinces report using a price list in all facilities, while others report applying a fixed charge irrespective of urban or rural location.

Each province reports using the revenues from user fees for out- and inpatient clinics according to needs without reference to any particular norms or guidelines.[29] According to the respondents revenues are usually used by the districts as an additional source of funds to finance recurrent cost expenditures such as food, fuel, salaries, and emergencies. With the exception of one province all revenues are returned in full to the DDSs. In the remaining provinces 20 percent is retained by the DPS to finance salaries. In most provinces, respondents claim that no revenues are collected for special services, and where revenues are reported there is little clarity about how they are or should be used.

In summary, the provincial-level questionnaires make it clear that compliance with established norms for fee and medicine charges is weak. The DPS has considerable discretion to adapt or modify the fee level and drug prices. Although the official fees and prices remain fairly low the differences in charging policies have implications for equity. Moreover, the lack of guidelines and control in the utilization of user fees give the DDSs a degree of flexibility, which, if applied judiciously, can help districts overcome problems resulting from weaknesses in the budget system. However, it also opens the door to potential misuse of public resources, a particularly pressing concern in relation to fee revenues from special services, which, in the provinces where they exist, can be substantial.

Table 5. Facility Charging Regimes as Reported at Facilities
(percent of facilities)

Characteristic	*Facility location*		
	Urban	*Rural*	*Total*
Standard consultation charge			
500 MT	29.0	55.5	52.5
1,000 MT	71.0	42.3	45.6
Other (750) MT	0.0	2.2	1.9
Drug charging regime: Health posts[a]			
Fixed price	22.0	71.7	66.0
Price list	78.0	28.3	34.0
Drug charging regime: Health centers[a]			
Fixed price	10.8	63.7	57.7
Price list	89.2	36.3	42.3
Drug charges at facilities with fixed price[b]			
500 MT	—	75.0	74.0
750 MT	—	3.0	3.0
1,000 MT	—	17.0	17.0
1,500 MT	—	6.0	5.0

Note: a. Small samples for urban areas (14 posts, 16 centers).
b. Sample size too small to present separate estimates for urban facilities.
Source: ETSDS (2003).

Table 6. Exemption from Consultation Charges for Specific Groups and Services Reported at Facilities
(percent of facilities)

Group or service	*Pay full charge*	*Sometimes exempt*	*Pay reduced charge*	*Do not pay*
Children under five	4.1	1.7	0.0	94.2
The old or retired	53.2	8.7	0.9	37.2
The extreme poor	30.8	7.9	0.0	61.4
Facility staff	39.5	1.5	19.2	39.7
Family of staff	65.8	1.9	15.7	16.6
District or administrative post officials	88.8	7.5	1.1	2.6
Family of officials	92.5	5.7	1.3	0.5
Disabled	26.3	5.8	1.7	66.2
Retired soldiers	70.5	7.4	1.8	20.3
Tuberculosis	16.7	1.9	0.0	81.4
Prenatal consultations	0.0	2.0	0.0	98.0
Postnatal consultations	2.1	2.1	0.0	95.9
Delivery assistance	0.0	2.0	0.0	98.0
Sexually transmitted disease consultations	79.0	0.0	0.0	21.0

Source: ETSDS (2003).

Consultation and Drug Charging Practices

Policy implementation often diverges considerably from established norms and legislation. With this issue in mind, this section presents evidence on actual charging practices, as reported both by facility heads and patients.

Evidence from the Facility Survey

The variation in consultation and medicine charging policies seen at the provincial level is reflected at facility level (table 5). Almost one-third of urban facilities are charging only 500 MT, although they are expected to charge 1,000 MT. Slightly over one-half of all rural facilities charge the expected 500 MT for an outpatient consultation. The differences in rural charging practices do not appear to depend greatly on whether the facility is in the district capital or not. Of those in the district capital 55 percent charge 1,000 MT while the rest charge 500 MT; 38 percent of rural facilities outside the capital charge 1,000 MT.[30]

Similarly, many facilities do not follow the guidelines on medicine charges, which stipulate that primary facilities in rural areas charge a fixed fee for prescriptions of 500 MT, and that urban facilities charge according to a standard price list *(preçário)*. In practice 11 percent of health centers and 22 percent of health posts in urban areas charge a fixed price. Conversely, over one-quarter of health posts and health centers charge according to the price list in rural areas. Many facilities that charge a fixed price for drugs do not charge the standard 500 MT; around one-quarter charge more—between 750 and 1,500 MT. Most of the facilities charge a fixed fee per prescription, regardless of the number of items, but 5 percent report that the fee is charged for each item. The clinics that offered inpatient services reported that they charged nothing for this service. Units also reported a zero fee for maternity inpatients and laboratory tests.

Only two clinics—less than 1 percent of the sample—reported running special clinics (*atendimento especial)*. Both were in Maputo City. Only one of these reported the fee charged, which was 20,000 MT. It reports an average monthly income from this source of around 2.1 million MT, none of which was reportedly retained by the facility.

Facility heads reported on whether charge exemptions were made for various groups and services for consultation and medicines. Exemption policies varied substantially between facilities.

The group most often receiving an exemption from consultation charges was children under five—in line with national policy (table 6). Indeed, the vast majority of facilities reported that charges were not made for consultations with children—although some 6 percent of facilities reported that they did

Table 7. Exemption from Medicine Charges for Specific Groups and Services Reported at Facilities
(percent of facilities)

Group or service	*Pay full charge*	*Sometimes exempt*	*Pay reduced charge*	*Do not pay*
Children under five	94.5	0.0	1.7	3.9
The old or retired	65.7	12.0	4.0	18.2
The extreme poor	39.4	7.7	0.0	52.9
Facility staff	51.5	1.5	25.7	21.4
Family of staff	68.2	1.6	22.3	7.9
District or administrative post officials	89.9	4.7	2.1	3.4
Family of officials	94.0	3.2	1.1	1.7
Disabled	28.8	5.8	2.1	63.3
Retired soldiers	70.3	5.7	3.5	20.5
Tuberculosis	7.8	0.0	0.0	92.2
Prenatal consultations	6.2	0.0	0.0	93.8
Postnatal consultations	9.6	0.0	0.0	90.4
Delivery assistance	2.1	0.0	0.0	97.9
Sexually transmitted disease consultations	90.1	0.0	0.0	9.9

Source: ETSDS (2003).

charge. The next group most often given exemption from consultation charges was the extreme poor and the disabled although this was not consistent; almost one-third of facilities reporting charging them. Staff members and their families were often charged reduced or zero fees, and around 10 percent of facilities reported the same for local government administrative staff.

In line with national norms, assistance at a birth and pre- and postnatal consultations were almost always reported to be free. Some 80 percent of facilities reported that they did not charge for consultation for tuberculoses cases; in contrast, the same proportion did charge for consultations for sexually transmitted diseases.

Exemption regimes for drug charges were often similarly variable (table 7). Among the different groups, the very poor and the disabled were most likely to be exempt from medicine charges although this was far from universal. One-fifth of facilities reported that ex-soldiers or the elderly and retired were exempt. Staff members and their family quite often pay a reduced charge or nothing for medicines. Most, but not all, facilities reported that they did not charge for drugs for tuberculoses, births, pre- or postnatal consultations. Some 90 percent of facilities charge patients for drugs for sexually transmitted diseases (STDs), while 10 percent exempt them.

Only around one-fifth of facilities had a schedule for user fees and medicine charges; the proportion of facilities clearly displaying the charging schedule to users was lower still. Compliance with these guidelines appears to be somewhat lower in rural areas. Some 20 percent of facilities had a strong box for cash, rising to 33 percent in urban areas (table 8).

Evidence from an Exit Poll on Actual Payments

While facility heads were asked about the charging regimes in the facility, the exit poll asked clients about payments actually made at the facility on the day of the visit, as well as on previous occasions.[31] As shown in table 9, most outpatients paid for the consultation and for medicines. Only a very small

Table 8. Facility Compliance with Guidelines on Visibly Displaying User Consultation Fees
(percent of facilities)

Characteristic	*Urban*	*Rural*	*Total*
User fee chart displayed	20.2	20.0	20.0
Chart displayed and clearly visible to users	20.2	15.0	15.6
Schedule of medicine prices displayed	27.3	16.4	17.6
Schedule displayed and clearly visible to users	17.2	13.3	13.7

Source: ETSDS (2003).

Table 9. Percent of Outpatients that Paid for Services

	Area		*Region*					
	Rural	*Urban*	*North*	*Central*	*Zambezia*	*South*	*Maputo City*	*Total*
Consultation	75.7	75.9	75.1	70.1	85.3	66.1	75.8	75.8
Analysis/test	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Injection	1.4	3.2	4.7	2.6	0.7	0.4	2.3	1.9
Medicines	85.2	86.3	63.7	90.1	95.8	81.8	92.3	85.5
Payment for material	0.4	1.5	1.4	0.0	0.2	0.7	2.7	0.7
Special services	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Extra payment	0.0	0.8	0.0	0.0	0.0	0.0	2.7	0.2
Other payment	0.0	0.8	0.0	0.0	0.0	0.0	2.7	0.2

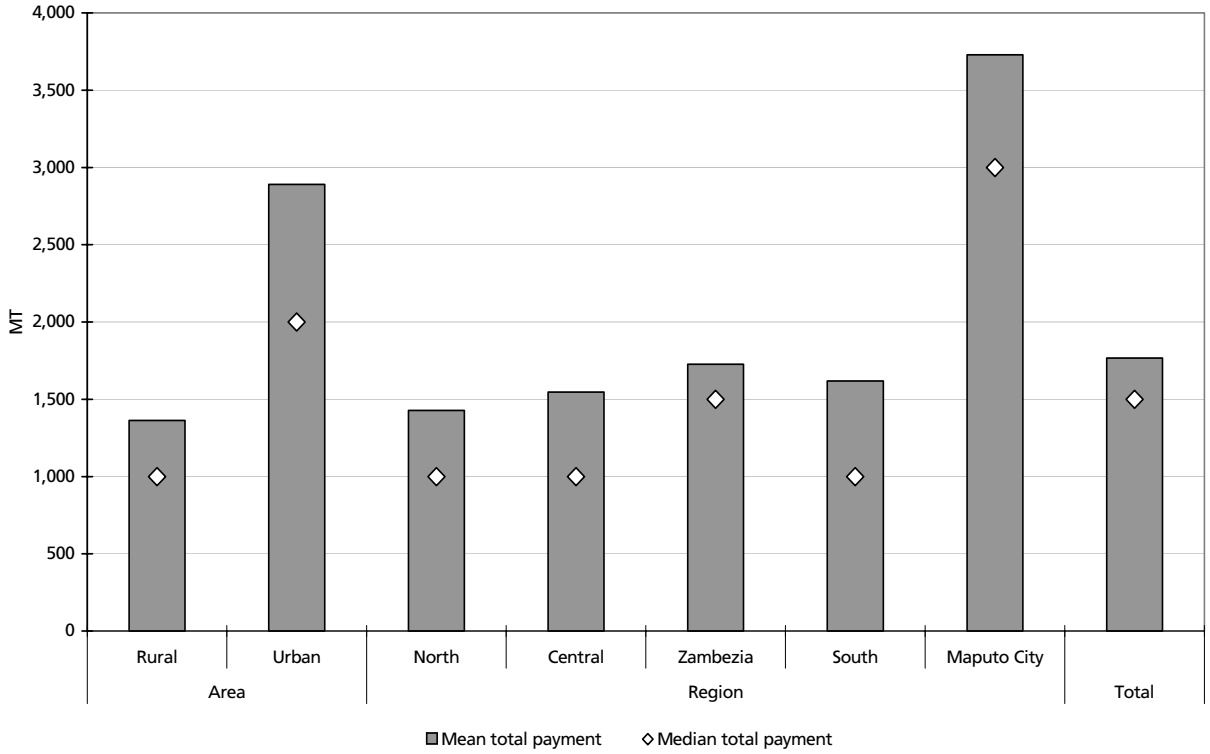
Source: ETSDS (2003).

percentage of respondents report making any other payment.[32] Reported total payments range from 0 to 24,000 MT, with a mean of 1,767 MT and a median of 1,500 MT. There are no clear regional differences, but payments are notably higher in urban areas.

The majority of individuals who do not pay a consultation fee are children who are entitled to free services. That said, in approximately 35 percent of cases (n=167), the parents of children up to age five report paying a consultation fee. In other words, it does not appear that the exemption for children is applied consistently.

In general, payments are quite low (figure 8). For the country as a whole, the median total payment is 1,500 MT (1,000 and 2,000 in rural and urban areas, respectively). The mean payment is slightly higher due to a few very high payments. Despite relatively low average payments, almost one-half of the respondents report that they found it difficult or very difficult to find money for payment (table 10). Although subjective statements of this nature have

Figure 8. Total Payment



Source: ETSDS (2003).

Table 10. Problems in Paying for Health Care and Source of Money
(percent of users)

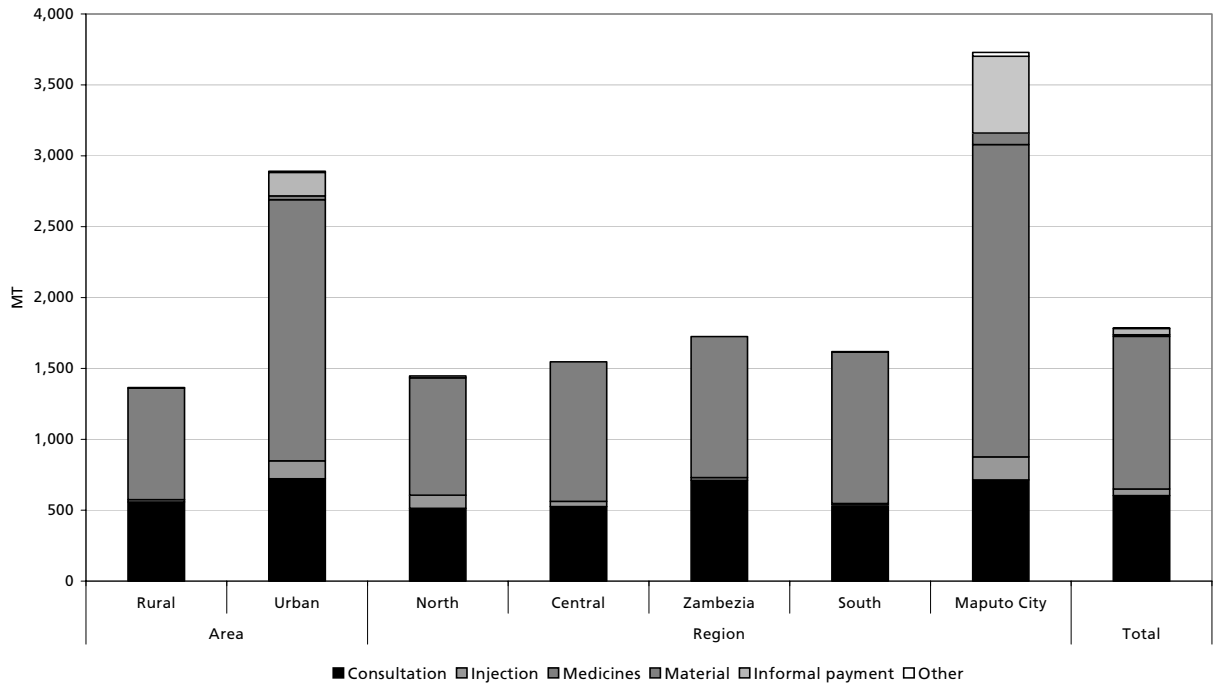
	Difficult of very difficult to find money	*Had money*	*Borrowed money*	*Sold items*	*Other*	*Total*
Area						
Rural	51.5	56.8	20.1	17.0	6.1	100
Urban	31.7	79.0	12.7	3.4	4.9	100
Region						
North	57.0	73.1	11.3	4.8	10.8	100
Central	36.3	66.1	16.7	11.3	5.9	100
Zambezia	60.7	39.5	26.9	28.5	5.2	100
South	31.4	75.4	16.5	4.8	3.3	100
Maputo City	19.3	88.2	9.5	2.3	0.0	100
Total	46.4	62.7	18.2	13.4	5.8	100

Source: ETSDS (2003).

to be treated with caution, the fact that over 30 percent of respondents (nearly 40 percent in rural areas) had to borrow money or sell household items to pay for health care is an indication of the cash constraints that many individuals face.

As figure 9 shows, the difference in payments between urban and rural areas arise from differences in the payment for medicines.[33] In general differences in payment are largely driven by differences in charging practices for the respective facility. For example, in facilities that claim that they charge 500 MT for outpatient consultations, 68 percent of outpatients did in fact report paying 500 (25 percent pay nothing and 7 percent pay 1,000 MT). Conversely, in facilities that charge a fixed fee of 1,000 MT, 69 percent paid 1,000 (24 percent pay nothing and 7 percent pay 500 MT). Similarly, with medicines the average payment for drugs in facilities that use a price list is 1,476 MT compared to 536 MT in facilities that charge a fixed price per prescription.

Figure 9. Composition of Average Payments



Source: ETSDS (2003).

Table 11. Informal Charging: Comparing First Visit Payment for New and Returning Patients *(MT)*

	N	*Consultation*		*Medicines*		*Total*	
		Mean	*Median*	*Mean*	*Median*	*Mean*	*Median*
Current payment reported by patients on first visit with current problem (not asked to return)	337	631.1	500	1,179.2	500	1,902.2	1,500
Current payment reported by patients on first visit with current problem (asked to return)	249	608.8	500	928.9	500	1,629.7	1,000
Payment at first visit reported by returning patients	92	641.8	500	1,952.5	1,000	2,867.0	2,000

Source: ETSDS (2003).

On the basis of the findings presented so far, there is little evidence of informal payments. Indeed, in an explicit question about whether users had ever made an informal payment only 4 percent claim to have done so (3 and 7 percent in rural and urban areas, respectively; reported payments range from 10,000 to over 1,000,000 MT). Some users may be reluctant to report informal payments in response to a direct question due to fear of repercussions. It is also possible that the presence of the enumerators may lead health workers to change their charging practices on the day of the visit, so payments on the day of the interview may be a poor indicator of normal payments. With this possibility in mind, returning patients were asked how much they paid at the first visit to the health facility with the current problem. In table 11 these past payments are compared with the payments made on the day of the interview. If we assume that the presence of the enumerator does not alter charging behavior, payments on the day of the interview by new patients should be similar to past payments for the first visit by returning patients. However, as table 11 shows, first visit payments made in the past by returning patients are notably higher than first payments made by individuals on the day of the interview. This difference appears to be largely driven by drug payments, and provides some indicative evidence of informal payments.

Revenues and Their Utilization

So far, we have presented evidence on the user fee policy and practice. However, one of the key objectives of user charges is to raise revenues that can be used to expand service delivery or improve quality. This section presents evidence on the volume of revenues raised by primary health facilities and on how these revenues are managed and used.

Facility Revenues

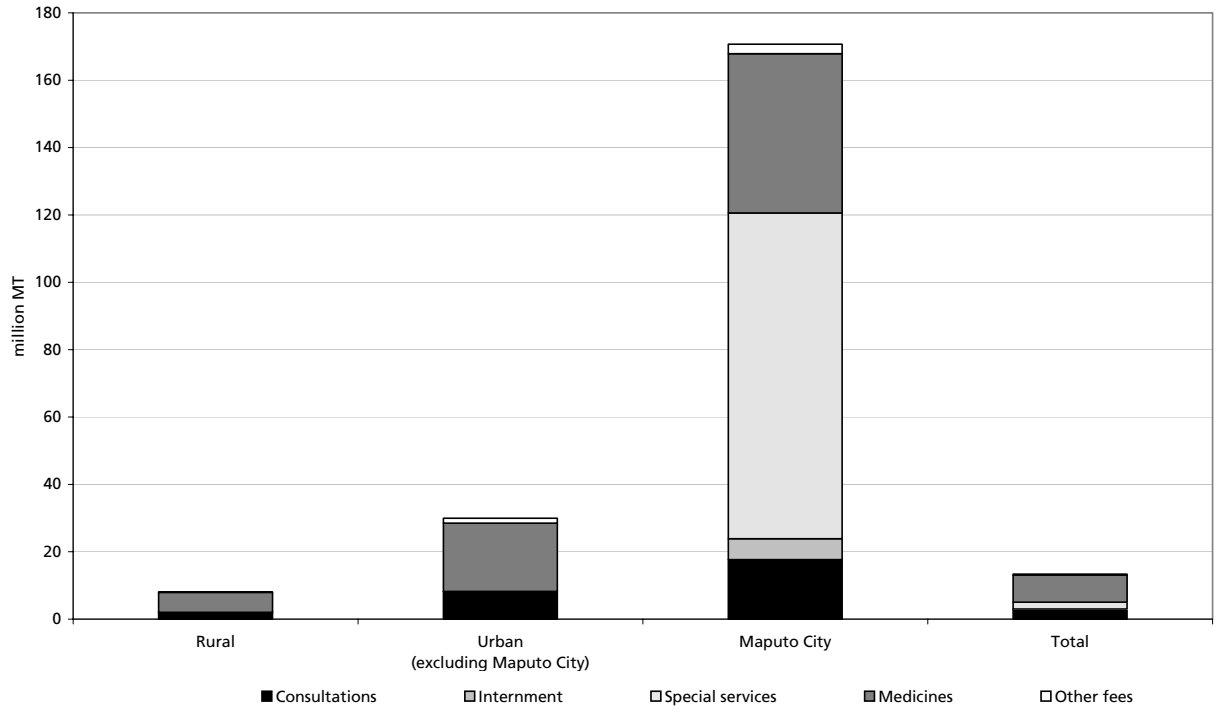
Facilities reported on their income from user fees from consultations and drugs in the three months (April-May) preceding the survey. The average total monthly income, first averaged over the three months for each facility, is shown in table 12. The

Table 12. Average Facility Revenues from Consultation Fees and Medicines *(million MT)*

Item	*By area*		*By type of facility*		*Total*
	Urban	*Rural*	*Health post*	*Health center*	
Consultations	1,429	205	231	475	341
Medicines	2,869	421	467	933	675
Both	4,137	625	698	1,353	990

Note: Based on facility reports; excludes income from special clinics due to the small number of observations.
Source: ETSDS (2003).

Figure 10. The Composition of User Fee Revenues



Source: ETSDS (2003).

average revenue from drugs is 675,000 MT, almost twice that from consultations. The average total revenue from user fees and drug charges (but excluding special clinics) is 990 million MT per month.[34] The average spans great diversity, however. Urban clinics have an average income over six times that of rural clinics.

Combining information on receipts with information on the number of outpatients seen (see section 8), clinics receive an average of 409 MT per outpatient for consultations and 848 MT for drugs (averaged across all outpatients).

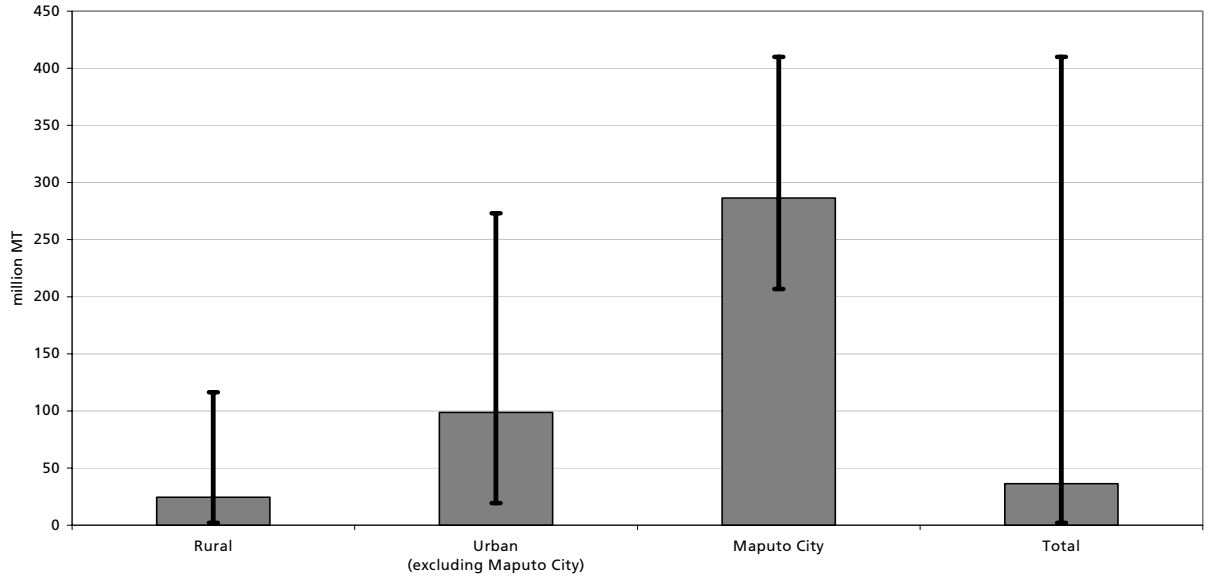
Almost all of the recorded facility revenue is returned to the DDS where it is retained. Only 4 percent of facilities reported either retaining any of the receipts or having any revenue returned from the DDS during the reference period, April to June 2002.

District Revenues

Data on district-level revenues, similarly collected for the period April-May 2002, were collected from provincial and district administration, both as a strategy to overcome gaps in administrative records at either level and with a view to assessing the consistency of reporting. Records on revenues were generally available and complete data were collected from all DDSs except one, where the administrator was unable to locate the requisite records. Complete data on revenues were also available from the DPSs visited in the survey.

The average monthly amount collected by DDSs from all sources is 13.3 million MT (approximately USD562).[35] However, the average masks a notable interdistrict variation in the sample. The monthly average total revenue ranges from just over 1 million to nearly 230 million MT (that is, ranging from less than USD50 to almost USD10,000). As can be seen in figure 10, total monthly revenues are higher in urban than rural areas, and, most notably, in Maputo City. The figure also shows the composition of revenues. In most areas, almost all revenues come from consultation fees and medicines, with revenues from medicines making up 60 to 80 percent of total revenues in most districts. In Maputo City, however, revenues from special services are very important.

Figure 11. Estimates of DDS Annual User Fee Revenues



Note: Estimate of total annual fee revenue returned to DDS (outpatient and inpatient consultations) with high and low districts.
Source: ETSDS (2003).

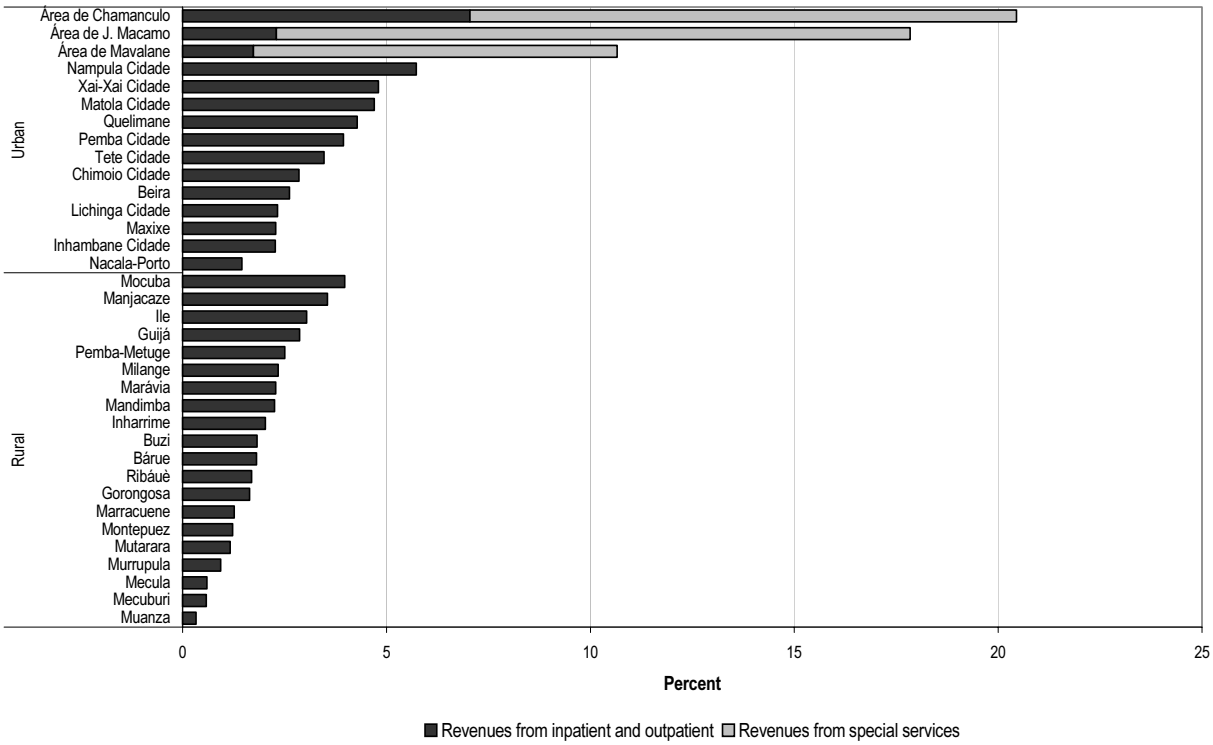
As noted, revenues from medicines are transferred by the DDS, via the DPS, to the CMAM. Revenues from consultations and inpatient days are, however, returned to the DDS after being registered by the DPPF. In some districts, this provides an important source of financing. On the basis of the revenues for the period under consideration, estimated annual revenues that are available to the DDS range from 2 to 116 million MT (average 24 million) in rural areas, and from 19 to 410 million MT (average 136 million) in urban areas (figure 11). These estimates do not include revenues from special services, which, at least in Maputo City, are considerable.

We can get an approximate sense of how important these revenues are for financing by comparing estimates of annual revenues based on data from the first three months of 2002 with total recurrent spending (state budget and the FCP) in 2001.[36] District revenues from consultations and special services comprise between 0.5 and 20 percent of total spending, with an average of approximately 2.3 percent. Despite the considerable revenues in some urban districts (particularly in Maputo City), revenues are, in fact, quite unimportant as a source of financing (figure 12). However, in a context of delayed budget transfers even low levels of revenues can prove valuable.

Utilization of User Fee Revenues

Data were also collected on how user fee revenues from 2001 were spent. In most districts (93 percent overall; 67 percent in urban districts), the district directors claim that rules exist for how revenues from user fees can be used. However, the understanding of these rules or norms in practice differ notably. In some districts, funds can only be used for food to patients. In other districts resources should be used for contracting temporary personnel, while yet in others revenues can be used for a range of purposes but that any expenditure has to be approved by the DDS board. Indeed, in approximately 50 percent of districts the DDS board reportedly makes that decisions based on utilization of revenues. In the remaining districts it is either the DPS (25 percent) or the district director of health (23 percent). In general, there seems to be little clarity or common agreement about what user revenues can and should be used for. On the basis of the responses by the district directors, revenues from special services only exist in Maputo City. In these

Figure 12. The Importance of District Revenues as a Source of Financing



Source: ETSDS (2003).

cases revenues are, according to the DDS, used for payment of staff or split between staff payments and other facility expenditures.

According to most districts, all or most of the collected revenues were eventually returned by the DPPF to the DDS (one district reports receiving only a small proportion, and 8 districts report receiving between 80 and 90 percent of total collected revenues). As can be seen from figure 13, staff expenditures is the most important item financed by user fee revenues in most districts (approximately 35-40 percent in most districts). The districts in Maputo City, where the largest part of revenues is spent on maintenance, are an exception. Fuel, maintenance, and office material are also important expenditure items in many districts.

Leakage of User Fee Revenues

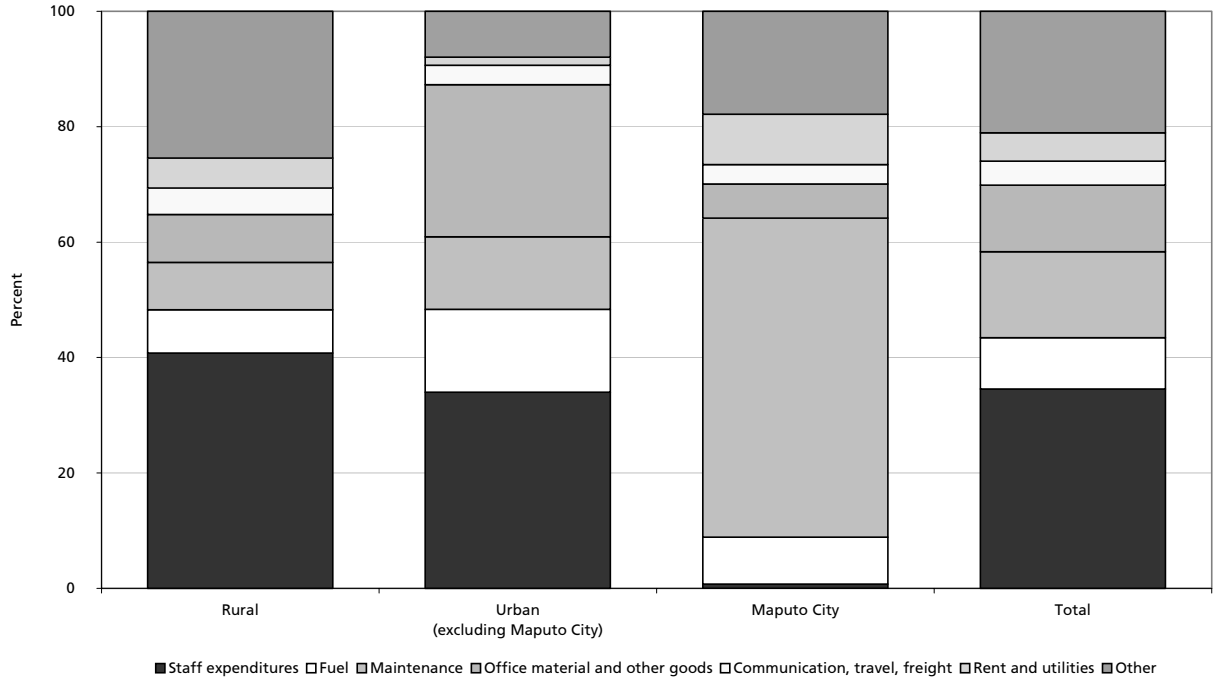
Information on the user fees paid and collected can be compared across all levels from the DPS down to the users. With few exceptions the DPS and DDS records on revenues were consistent. Indeed, any inconsistencies are likely due to poor record-keeping rather than any irregularity. On the whole, records are also consistent between the facilities and the DDS. Some 94 percent of facilities had records for the reference months and their figures were consistent

Table 13. Consistency of User Fee Records between DDS and Facilities

Measure	*Consultation fees*	*Medicine fees*
Percent of facilities with records of receipts	94.3	93.9
Percent of facilities where DDS had records of receipts	92.7	91.2
Percent of facilities where DDS and facility records are consistent	90.2	92.5
Mean discrepancy in receipt records across all facilities (MT)	7,224	3,551

Note: Calculated as averages across the three reference months, April-June 2002. Mean discrepancy excludes a small number of outliers, but their inclusion does not materially affect the results.
Source: ETSDS (2003).

Figure 13. The Composition of Spending from User Fee Revenues



Note: Other expenditures include, food, services, and photocopies.
Source: ETSDS (2003).

with the DDS figures over 90 percent of the time (table 13). While the lack of records in some cases may allow mismanagement of funds, the discrepancies observed between existing records are small (not large enough to be significantly different from zero).

The comparison of facility and user information provides more grounds for concern, however. Table 14 shows the average monthly revenues that facilities would be expected to collect based on the number of outpatients reported by the facilities from April to June 2002 and on the average fees that the users report having paid. The actual mean figures reported are, for consultation and medicine fees respectively, 67 and 80 percent of the expected figures, which suggests that users are paying substantially more than is being recorded and reported by the facilities. In other words there appears to be considerable leakage at this level.[37]

Notes

25. The legal framework is summarized in appendix B.
26. For some groups, like the chronically ill, medicines are subsidized through a social fund for medicines.
27. The National Director of Health, subject to proposal by the Provincial Director of Health, defines which facilities should be considered a rural primary facility.

Table 14. Comparison of Expected and Reported User Fee Revenues, Facility Data

Measure	*Consultation*	*Medicines*
Average number of outpatients per month	846.8	806.5
Mean amount paid per outpatient (MT)—user survey	604.7	1,065.3
Expected mean monthly revenue (thousand MT)	512.0	859.0
Reported mean monthly revenue (thousand MT)	346.0	684
Reported revenue as a percent of expected revenue	67.6	79.6

Note: Revenue figures in this table differ slightly from those in table 12 because of the exclusion of some facilities with missing data from these estimates.
Source: ETSDS (2003).

28. The list (preçário) for primary facilities was approved in 1992. A more recent (1999) price list is applied at hospital level.
29. In principle, user fees are deposited by the DDS in a DPPF account on a monthly basis. They can then be requisitioned by the DDS for their use. Acquittals for previously requisitioned funds must be submitted jointly with each requisition. In contrast, revenues from the sale of medicines are deposited directory in an account of the CMAM (Centro de Medicamentos e Artigos Médicos). In principle, the management of these funds are governed by the document MINFIN-1979, which calls for daily bank deposits and rigorous bookkeeping. Revenues from inspection are not returned to the DDS and are therefore not considered part of "receitas consignadas."
30. Although the classification of facilities either in or not in the capital was somewhat approximate, the proportion of facilities that do not follow the expected charging regime is too large to be due simply to misclassification in this regard.
31. Only patients attending normal outpatient services (triagem) were interviewed; attendees for maternal and child health (MCH) consultations, family planning, and similar services were excluded from the sample.
32. The percentages and means refer to the sample as a whole. Ninety percent of respondents that actually received medicines made some payment; 8.7 percent of individuals that received an injection paid for it.
33. In respect to informal payments in figure 9, the estimate stems from only one observation that reported making a substantial payment.
34. When scaled up nationally these facility revenues suggest a total annual income from user fees, excluding special clinics, of approximately 13,050 million MT (USD551,000) per year. Some 66 percent of this comes from charges for medicines, and the remainder from consultation charges.
35. The calculation is based on a 2002 exchange rate of USD1 = MT23,656. The monthly revenues are quite stable for the period under consideration. With this in mind, the following analysis focuses on monthly averages. There may, of course, be seasonal variations. Given that the data collection focused only on a three-month period this issue cannot be addressed.
36. The annual estimate of total revenues for 2002 was deflated to 2001 prices.
37. Similar results are obtained if the comparison is made using, instead of the mean payment, the proportion of users who report paying together with the facilities' official outpatient fee.

Allocation, Distribution, and Use of Drugs

5

Key Findings and Conclusions

- Drug kit supply—the primary source of drugs for health centers and health posts—was in line with the number of outpatients seen, at least for 2001 (based on established norms for the number of outpatients that can be treated with the respective drug kits).
- Contrary to intentions, via clássica drugs—specific drugs supplied on the basis of requisitions—comprise an important additional source for most facilities. The average proportion of six basic drugs supplied through the via clássica system ranges from 15 to over 50 percent, and approximately 90 percent of health centers and health posts report receiving them.
- Given the supply of both kit and via clássica drugs the volume of basic drugs seems to be more than adequate, at least on average.
- Despite the seeming adequacy of basic essential drugs, an appreciable number of facilities were out of stock at the time of the survey, and many districts and facilities report having suffered stock-outs in the six months preceding the survey. Hence, the supply system is not able to ensure a consistent supply of drugs to all facilities.
- Occasional stock-outs may be due, at least in part, to overprescribing. Almost all outpatients receive a prescription and are often prescribed more than one drug (2.2 items on average). Thirty percent of outpatients received some form of antibiotic and nearly 18 percent of outpatients received an injection.
- Some delays in the supply system are considerable. Most requisitions for medicines by the DDS were supplied by the DPS in around 18 days, but a few reported waiting times of up to 90 days.
- Although controlling adequately for differences in need arising from local epidemiological profiles is difficult, there seems to be considerable inequity in the distribution of drugs as evidenced by notable variation across districts and facilities in the volume of drugs provided relative to service outputs. This appears to be driven, in part, by the lack of clear criteria for the allocation of via clássica drugs. Moreover, the lack of transparency about the monetary value of kit and via clássica drugs to districts and facilities prevents an effective analysis of efficiency and equity.
- Only three-quarters of facilities that said they offered child vaccination services had all the EPI vaccines in stock at the time of the survey.
- The drug records at the DPSs, DDSs, and facilities are of poor quality. The via clássica records had particular problems. In some cases differences were consistent with leakage occurring although the evidence is far from conclusive.

The System for Allocating and Distributing Drugs and Vaccines

The operation of primary-level health facilities depends on a great variety of material inputs. For reasons relating to technical complexity, economies of scale and scope, and the lack of local markets for health service inputs in many parts of the country, all material inputs are provided in-kind to primary-level facilities by the DDS rather than locally procured. In other words, the facilities do not hold their own budget or handle procurement. The DDS procures or receives goods and services from two primary sources: (a) material procured centrally and distributed through the health sector supply systems; and (b) material procured directly by the DDS with its own budget for nonwage recurrent expenditures (OE or FCP). As noted, districts may also in some cases receive ad hoc financial or in-kind donations directly from donors or NGOs. Centrally procured inputs are not distributed through an integrated system but rather through five separate channels: (a) the essential drug program (drug kits); (b) the via clássica (drug requisitions); (c) the immunization program (vaccines); (d) the supply of medical equipment and material (*abastecimento de material medicocirurgico*); and (e) the supply system for other consumables and equipment (*aprovisionamento*). Although these parallel systems needs to seen as a whole this subsection deals only with the supply of drugs and vaccines.

Health centers and heath posts primarily receive drugs through the *Essential Drugs Programme* (EDP). Three types of kits are distributed through the EDP—kits A, B, and C. Kit A contains the greatest variety and largest volume of drugs. It should only be distributed to health facilities with, at minimum, a doctor, health technician, health agent, or a basic nurse. The kit is designed to provide drugs for 1,000 outpatient encounters. In contrast, kit B is designed to provide drugs for 500 outpatient consultations and can be distributed to health facilities staffed by an elementary nurse or a maternal child health nurse. Kit C is intended for facilities with either a community health worker (*agente polivalente elementar*) or *servente*, and designed to meet the demand of 250 outpatient consultations. Drug kits are shipped directly to Nacala, Quelimane, Maputo, and Beira and are distributed to provincial depots in accordance with plans prepared by the Pharmaceutical Department of the MOH. These plans are based on number of units of different classifications and forecasts of consultations.[38] Under normal circumstances kits are distributed to district depots every three months. Due to better storage facilities at the DDS level they are normally distributed to the health facilities on a monthly basis.

Specific drugs not included in the kits, or not provided in sufficient quantity (for example, drugs associated with inpatient care), are requisitioned by the DDS (via clássica). The allocation of via clássica drugs across districts and facilities within districts is the responsibility of the head of pharmacy at the provincial and district level, respectively. According to national guidelines, the allocation of drugs across districts should be based on a formula that includes the inpatient days, outpatient visits, and district population. Interviews with DPS representatives provided scant evidence that this formula was being applied in practice.

The criteria concerning the allocation and distribution of vaccines are based primarily on immunization target groups (for example, 3.9 percent of the population for child immunizations), although existing stocks are also taken into account. Again, the actual allocation rules mentioned in the DPS interviews were not always consistent with these national guidelines.

Overall, the DPS interviews suggest that the rules and criteria for the allocation and distribution of drugs and vaccines are not properly understood and implemented. In some cases, the subversion of existing rules may reflect their inappropriateness to the reality in the field, and may in that sense be desirable. However, it is more likely that a lack of clarity and transparency in this area results in inefficiencies, inequities, and possibly even irregularities.

Distribution of Drugs and Vaccines to District Directorates of Health

Turning to the issue of how drugs and vaccines were actually distributed across districts and facilities, we use information collected at the DDS level. It is considered more reliable in terms of the *actual* distribution of medicines.

Table 15. Source of Drug Supply for Key Drugs, DDS Data, 2001
(percent)

	Supply through vía clássica			
	Rural	*Urban (excluding Maputo City)*	*Maputo City*	*Total*
Aspirin	31.6	30.5	43.7	32.3
Chloroquine	36.9	34.5	35.6	36.2
Cotrimoxazole	26.8	24.6	28.6	26.3
Mebendazole	14.3	21.5	29.5	16.0
Metronidazole	33.8	26.3	33.8	31.8
Paracetamol	47.8	46.5	48.4	47.2

Source: ETSDS (2003).

Volume and Value of Drugs Distributed to the DDS

The total value of drug transfers to the DDSs in 2001 ranged from 108 to 16,245 million MT, with an average of 937 million MT.[39] This includes drugs received both through the essential drug program and the via clássica program. On average, 43 percent of all drugs (in terms of monetary value) are provided through the via clássica system, but the variation across districts in terms of the proportion of total drugs that come through the via clássica system ranges from 4 to 72 percent.

In the calculation of total value of drugs, via clássica drugs are priced at nonmarket prices. As a consequence, statements about the relative weight of kits and via clássica drugs in total drug supply have to be treated with great caution. We addressed this concern by looking at the actual volumes distributed of specific drugs. Data were collected about via clássica distribution for six key drugs: aspirin, chloroquine, Cotrimoxazole, Mebendazole, Metronidazole, and Paracetamol. As table 15 shows, a considerable proportion of drugs dispensed in primary facilities are distributed through the via clássica system (percentages calculated using information on the content of drug kits A, B, and C, as indicated in table 16). Overall, the percentage ranges from 16 percent for Mebendazole, to nearly 50 percent for Paracetamol. Notably, via clássica is an important source of drugs not only for urban districts, but also to an equal extent for rural districts. These findings will also be reflected in the facility data, which show that even health posts often receive steady supplies of via clássica drugs. As noted earlier, there is a lot of variation across districts in the importance of the via clássica supply. For example, the percentage received through via clássica for the six drugs ranges from 8 percent to over 60 percent in some districts.

When comparing districts, however, the total value or volume of drug distribution is of limited interest—the consumption of medicines are directly related to the level of activity. Table 17 presents estimates of drug distribution relative to service outputs for both kits and via clássica drugs. In fact, average drug spending per outpatient does not vary much either across urban-rural areas or between regions. If anything, rural districts receive more drugs per outpatient than urban districts. It should however be noted that this table only considers *basic* drugs. In fact, in terms of value, Maputo City receives slightly more per outpatient than other parts of the country, probably reflecting the higher qualifications of staff and greater complexity of interventions carried out at the primary level in Maputo City. However, again, we have be careful in interpreting estimates relating to the *value* of drugs distributed (table 18).

The data suggest that, on average, the volume of drugs being supplied to districts is reasonable.

Table 16. Reference Information on Kit Content

	Kit content (tablets)			
	A	*B*	*C*	*Units per tablet*
Aspirin	3,000	2,000	1,000	500 mg
Chloroquine	3,000	1,500	1000	250 mg
Cotrimoxazole	3,000	1,000	0	400 mg
Mebendazole	1,000	700	1,000	100 mg
Metronidazole	1,500	0	0	250 mg
Paracetamol	2,000	1,000	0	500 mg

Source: ETSDS (2003).

Table 17. Volume of Drug Distribution Per Outpatient by Area and Region, 2001

	Kit distribution per 1,000 outpatient			*Via clássica distribution per outpatient (tablets)*					
	A	*B*	*C*	*Aspirin*	*Chloroquine*	*Cotrimoxazole*	*Mebendazole*	*Metronidazole*	*Paracetamol*
Rural	0.57	0.64	0.83	5.7	5.7	3.3	2.2	1.3	3.4
Urban (excluding Maputo City)	0.65	0.21	0.06	3.8	3.7	3.0	1.1	1.3	2.9
Maputo City	0.56	0.24	0.00	3.9	3.2	2.7	1.0	1.3	2.7
Total	0.58	0.60	0.75	5.5	5.5	3.2	2.1	1.3	3.4

Source: ETSDS (2003).

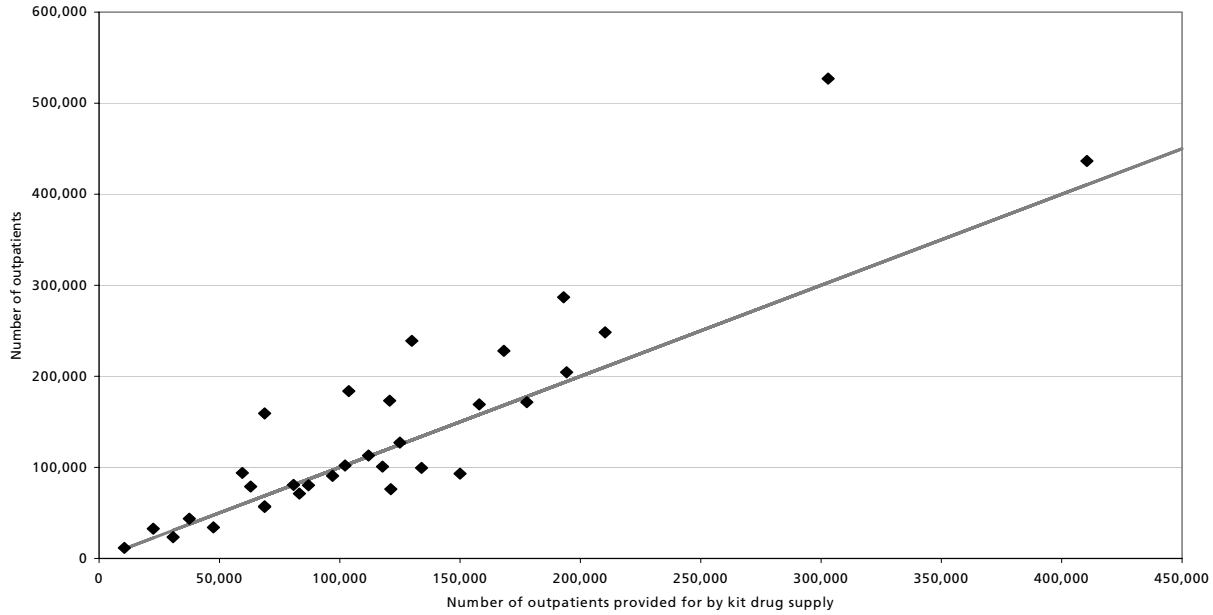
As noted, drug kits are designed to treat a certain number of outpatients and considering these norms and the number of kits actually provided, figure 14 graphs the number of actual outpatients in 2001 against the number of outpatients that the kit supply in 2001 provides for. Although actual outpatient numbers exceed what the drug kits provide for in some districts, the data present a picture of reasonably adequate drug supply, in particular considering the additional supply through via clássica.[40]

Although the picture so far is fairly positive there are also reasons for concern. In particular, the urban and rural averages mask important variation across districts. The total value of drug supply ranges from 2,316 to 14,128 MT per outpatient. This variation is difficult to explain by differences in epidemiological profiles or service mix alone, and point toward inequities in how drugs are allocated. Inequalities in drug supply appear to be correlated with inequalities in the allocation of other nondrug spending. Figure 15 shows how drug distribution per outpatient (both in terms of reported values and volumes) relates to other spending (OE and FCP) per outpatient. As can be seen, districts with low budgets per outpatient also tend to receive less drugs per outpatient.

Timeliness of Drug Supplies

The survey also collected data on the promptness of drug supply to the DDS. Specifically, it looked at how long it took for two drug shipments (last requisition in 2001 and first requisition in 2002) to reach the district from the point that the requisition had been made. The number of days required ranges from 0 to over 90. On average, it

Figure 14. The Adequacy of Drug Supply: Kit Quantities and Outpatient Numbers, 2001



Source: Data on drug kits received by DDS comes from DDS records.

Table 18. Value of Drug Distribution Per Outpatient by Area and Region, 2001

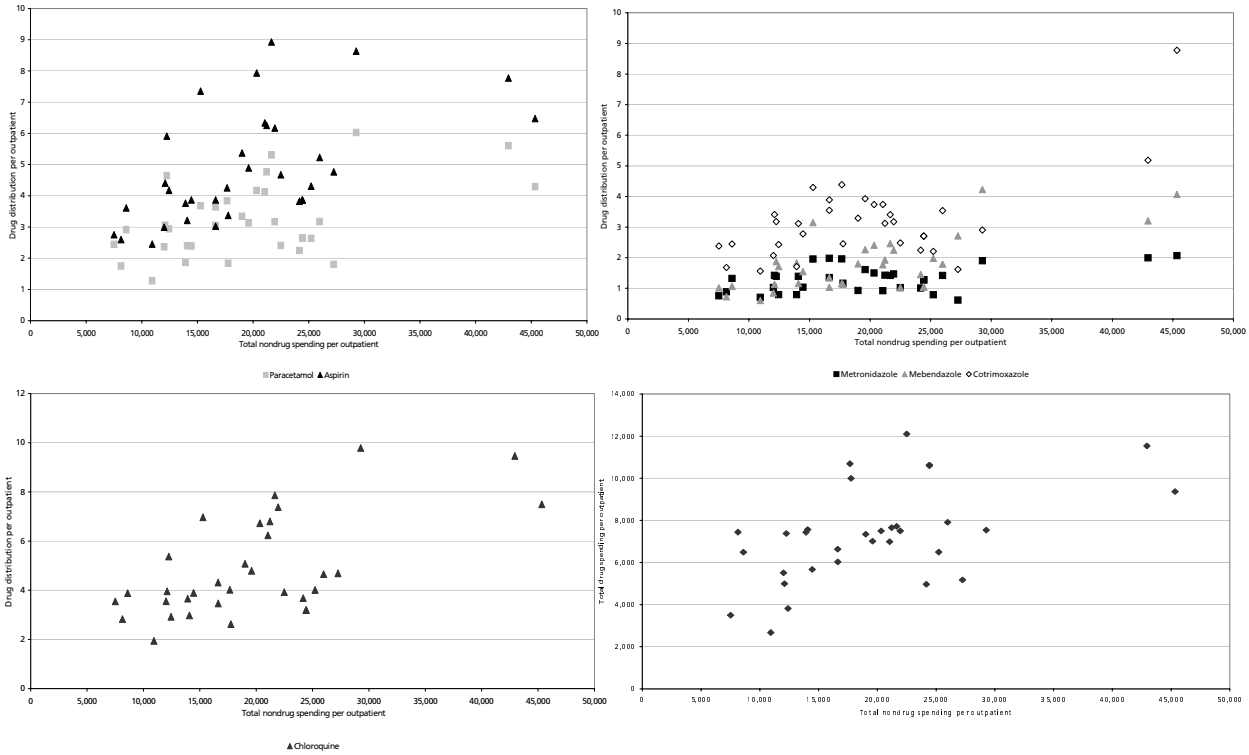
	Drug distribution per outpatient (MT)		
	Kits	*Via clássica*	*Total*
Rural	5,325	2,415	7,740
Urban (excluding Maputo City)	4,162	2,866	7,028
Maputo City	3,695	6,918	10,613
Total	5,192	2,547	7,738

Source: ETSDS (2003).

took 19 days for the last requisition in 2001 and 17 days for the first requisition in 2002, but this average is pulled up by a few districts that experienced very long waiting times. Most districts waited less than the average number of days.[41] Also focusing on the last requisition of 2001, the survey looked at how the actual supply of five types of drugs related to the amount requested and the amount in stock at the district level. In general, the need for drugs at the district level (as expressed in requisitions) is higher than what the DPS can satisfy. The DPS must therefore mediate competing needs by rationing the supply of drugs (rationing is the responsibility of the chief medical officer in the DPS—*médico* or *enfermeira chefe*). The data on requisitions and actual supply are incomplete (data are available for 28 districts), but still shed some light on how drugs are rationed. For the drugs under consideration, districts receive, on average, between 51 (Metronidazole) and 91 (chloroquine) percent of the requested amounts.

In the main district-level interview, the director of health was asked whether the district had experienced a stock-out of any essential drugs in the six months preceding the survey visit. In over one-half of the districts, directors reported stock-outs of one or more essential drug. In a couple of districts, directors complained of stock-outs of actual kits. In most cases, however, stock-outs referred to specific drugs, including aspirin and Paracetamol, antibiotics, and cholorquine. In most cases, more than one drug was mentioned. On average, these stock-outs reportedly lasted for 6-7 weeks although some

Figure 15. The Relationship Between Drug Distribution and Nondrug Budget Resources, 2001



Source: ETSDS (2003).

districts report stock-outs periods of over 20 weeks. In all cases, the DDS reports having made drug requisitions aimed at avoiding the stock-out, but according to the DDS, the stock-out still materialized because of delays by the DPS in responding to the requisition. Despite these problems, 60 percent of district directors feel that the via clássica system is working "well" or "very well."

Distribution and Availability of Drugs in Health Facilities

Drugs supplied to the DDS through the EDP and via clássica are meant to be distributed to health facilities within the district. Although established criteria exist for how drugs should be distributed across facilities, data on actual drug distribution is not routinely reported. This section presents evidence from district and facility records on the distribution of both kits and some specific drugs.

Volume of Drugs Distributed to Health Facilities

On the average, the number of drug kits supplied to facilities appears to be sufficient for the number of outpatients seen—slightly more outpatients are covered by the kits provided than are seen (table 19).

The volume of drugs per outpatient supplied through the kit system varies considerably across facilities. Although the via clássica primarily serves the higher levels of the NHS, the facility data reveal that 90 percent of facilities receive drugs this way. The via clássica system is merely meant to complement the kit system of primary health facilities—both by supplying key drugs that are not included in kits, and by providing extra supply in cases where the kit supply is insufficient (for example, a disease outbreak) or where the kit content is not well matched to the local epidemiological profile. Given its role, we would expect the role of the via clássica system to be limited. Moreover, if the via clássica system compensates for inadequate kit supply we would expect a negative relationship between kit supply and via clássica supply. The data reveal that neither of these expectations is met.

Table 20 shows that many facilities receive a substantial proportion of drugs through the via clássica system, including drugs that form part of kits. For five of the six drugs considered in the survey between 15 and 28 percent of all drugs received by the facilities in 2001 came through the via clássica system. For Metronidazole, which is not included in the B kit, the average percentage is over 50. Partly as a consequence of differential access to the via clássica system, the total volume of drugs per outpatient received by the facilities varies considerably. For example, for cholorquine the most "disadvantaged" facility receives 1.2 tablets per outpatient, while the most "advantaged" facility received nearly 13 tablets per outpatient. Clearly, there are good reasons for distribution to vary across facilities, but it is questionable whether the variation can be fully explained on these grounds.[42]

Second, contrary to expectations, the via clássica supply does not compensate for low kit supply (figure 16). If anything, the via clássica supply tends to be higher in facilities that also receive a relatively generous kit supply, thus reinforcing inequalities produced by the kit system.[43]

Availability of Drugs in Health Facilities

Information on the current availability and the supply of drugs to facilities was collected in the survey. During the six months preceding the survey, over one-half of facilities had been out of stock of one or more essential medicines, with an average stock-out time of six weeks (table 21). Facilities in rural areas and health posts were more likely to have been out of stock.

It is also informative to look at the proportion of facilities that currently have specific items in stock.

Table 19. Adequacy of Drug Kits Received and Use of Via Clássica Drugs

	Urban	*Rural*	*Health post*	*Health center*	*Total*
Mean ratio of outpatients supplied by kits to actual outpatients	1.02	1.02	1.09	0.93	1.02
Percent of facilities that receive drugs through via clássica	100.00	88.40	89.40	90.10	89.70

Source: ETSDS (2003).

Table 20. Volume and Source of Drug Supply to Primary Health Facilities

	Number of tablets per outpatient			*Percent of drugs received through via clássica*		
	Lowest facility	*Mean*	*Highest facility*	*Lowest facility*	*Mean*	*Highest facility*
Aspirin	1.1	4.6	16.8	0	23	85
Cloroquine	1.2	4.1	12.9	0	27	91
Cotrimoxazole	0.0	2.7	7.8	0	23	100
Mebendazole	0.5	1.6	6.2	0	15	85
Metronidazole	0.0	0.8	3.3	0	54	100
Paracetamol	0.0	2.6	7.8	0	28	100

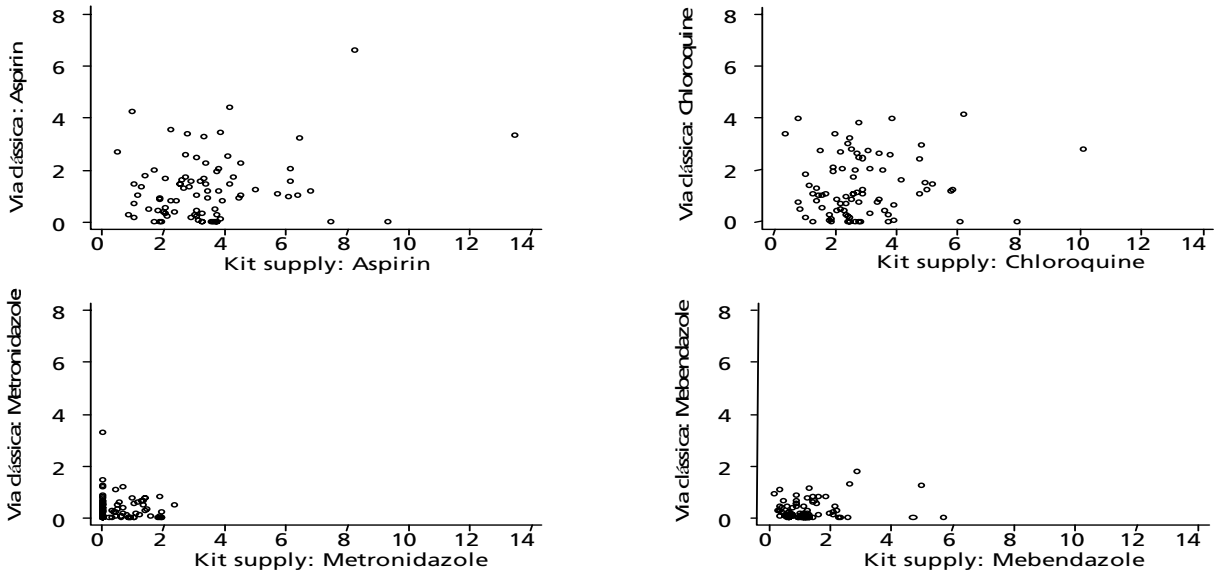
Source: ETSDS (2003).

At the time of the survey most facilities had most of the items listed in stock although a small fraction were out of some of the most basic drugs (table 22). Health centers are more likely to have the item in stock than health posts; while this may sometimes reflect different norms, it is true even for many of the basic drugs. The extensive use of the via clássica system and the reoccurrence of stock-outs despite this could be the result either of the content of the kits being inadequate for the disease profile of the population served or of poor prescribing practices.

A significant number of facilities do not have EPI vaccines in stock. Between 66 and 76 percent of all facilities had these vaccines in stock, depending on the type of vaccine. Only 60 percent of all facilities had all the EPI vaccines in stock, with health posts least likely to have them. In practice, not all facilities offer child vaccination services (see section 8). However, less than three-quarters of the facilities that said that they offered child vaccination services had all the EPI vaccines in stock at the time of the survey (table 23).

The facility data suggest that the drug and vaccine supply systems are not ensuring a continuous supply to facilities. However, in the case of drugs it appears that, on average, supplies should match requirements if the contents of the kits are appropriate.

Figure 16. Relationship Between the Average Number of Drugs per Outpatient Supplied through Kit and Via Clássica Systems



Source: ETSDS (2003).

Table 21. Stock–Out of Essential Drugs at Health Facilities

Measure	*Urban*	*Rural*	*Health post*	*Health center*	*Total*
Percent of facilities reporting stock-out of any essential drug in the previous six months	45.8	60.1	64.1	51.6	58.5
Mean time out of stock (weeks)	5.8	6.0	6.6	5.2	6.0

Source: ETSDS (2003).

Drug Use: Evidence from the Exit Poll

In addition to collecting district and facility data on drug distribution, the enumerators also asked respondents about what medicines they had received, and also asked to see the prescription. As table 24 shows, almost all outpatients received a prescription. In most cases, clearly legible instructions had been provided to the respondent. On average, the prescription contained 2.2 items. The majority of clients received aspirin or Paracetamol, but chloroquine with or without antibiotics was also frequently prescribed.

Almost all clients received all their drugs at the facility (94 and 76 percent in rural and urban areas, respectively). Sixteen percent of clients that received a prescription were prescribed one item. The majority, however, received two or three items (51 and 32 percent, respectively), and a small proportion (2 percent) received four or five items. In urban areas, many patients reported that they would purchase some or all of their drugs from a private pharmacy or at the market. In both urban and rural areas some of the respondents claimed that they would not purchase the prescribed medicines.

Data Discrepancies and Drug Leakage

In public expenditure terms, drugs comprise one of the most important inputs in the delivery of health services. This section reviews the evidence on financial and administrative control in the distribution of drugs.

Discrepancies between the DPS and the DDS

Most provinces were unable to provide information on the number of drug kits that had been

Table 22. Essential Drug Availability at Health Facilities
(percent of facilities with each drug in stock at the time of the survey)

Drug	*Urban*	*Rural*	*Health post*	*Health center*	*Total*
Ácido nalidíxico	44.1	33.8	22.5	50.1	35.0
Amoxicilina	65.5	39.1	24.7	63.1	42.1
Aspirina	97.1	91.0	90.4	93.2	91.7
Cetrimide e Clorexidina	100.0	100.0	100.0	100.0	100.0
Cloroquina	97.1	96.8	96.8	96.9	96.8
Cotrimoxazole	94.1	82.6	78.1	91.0	83.9
Diazepam	58.8	61.3	42.9	83.0	61.0
Doxicilina	88.2	87.7	83.7	92.6	87.8
Eritromicina	90.8	81.5	80.4	85.2	82.6
Fansidar	49.2	29.1	28.6	34.7	31.4
Fenoximetilpenicilina	69.3	50.2	42.7	64.1	52.4
Kanamicina	92.4	87.2	83.3	93.2	87.8
Mebendazole	97.1	95.3	94.3	96.9	95.5
Metronidazole	82.8	64.9	55.3	81.1	66.9
Paracetamol	97.1	85.2	80.1	94.3	86.5
Penicilina Procaína	90.3	89.2	84.8	95.0	89.3
Preservativo	97.1	91.5	88.2	96.9	92.1
Sal Ferroso	97.1	93.9	92.1	96.9	94.3
ORS (oral rehydration salts)	88.2	98.4	95.0	100.0	97.2
Tetraciclina ou CAF oftálmico	97.1	82.0	84.4	82.8	83.7
Violeta de Genciana	97.1	98.4	96.8	100.0	98.2

Source: ETSDS (2003).

Table 23. Availability of Vaccines at Health Facilities
(percent of facilities with each vaccine in stock at the time of the survey)

Type of facility and vaccine	*Urban*	*Rural*	*Health post*	*Health center*	*Total*
All facilities					
BCG[a]	70.7	68.6	62.2	76.8	68.8
DTP (with or without Hepatitis B)[b]	70.7	74.8	64.8	85.8	74.4
Polio	70.7	65.9	64.8	68.4	66.5
Measles	70.7	76.7	67.9	85.8	76.0
Tetanus	70.7	69.0	57.9	82.7	69.2
All EPI vaccines	70.7	59.3	56.1	65.9	60.5
Facilities stating that they offer child vaccination services					
BCG[a]	93.6	83.5	86.9	82.2	84.6
DTP (with or without Hepatitis B)[b]	93.6	92.0	90.9	93.5	92.2
Polio	93.6	79.8	90.9	71.8	81.4
Measles	93.6	94.5	95.4	93.5	94.4
Tetanus	93.6	84.0	80.6	89.6	85.1
All EPI vaccines	93.6	70.7	77.9	68.6	73.3

a. BCG (Bacillus Calmette–Guercin) vaccine is to protect against tuberculosis.
b. DTP (diptheria, tetanus, and pertussis).
Source: ETSDS (2003).

allocated (intended rather than actual distribution) to the districts in the sample. In the cases where allocation plans were available (approximately one-half of the districts), the actual distribution of kits was broadly consistent with the allocation plan. Departures from the plan often entailed an increase relative to the original allocation in the annual plan. Reductions relative to the annual plan were, according to the respective DPS, due to delays or shortfalls in the planned supply from the center.

Data on the actual distribution of medicines were collected from both the DPS and the DDS. Although this data collection effort does not represent an audit, comparison of these data provide an indication of leakage. As table 25 shows, the number of kits received by the DDS did not correspond with the number of kits distributed by the DPS in 25 to 30 percent of the districts. The tendency for districts to receive fewer kits than distributed is clearly a cause for concern. The districts receiving a

Table 24. Prescriptions for Medicines and Injections

	Received prescription (percent)	*Number of items prescribed (mean)*	*Instructions available (percent)*	*Instructions clear/ legible (percent)*	*Percent of patient receiving*			
					Aspirin or Paracetamol	*Chloroquine*	*Antiobiotic*[a]	*Received injection*
Area								
Rural	96.0	2.1	96.5	88.3	71.9	36.0	27.8	18.8
Urban	97.3	2.5	98.3	95.9	73.7	41.6	37.5	14.5
Region								
North	92.5	2.3	98.0	99.1	76.1	42.3	27.8	18.1
Central	95.7	2.2	99.7	89.1	77.2	40.9	30.5	13.1
Zambezia	98.0	1.9	93.4	86.4	69.6	27.8	28.0	23.3
South	97.1	2.4	98.9	86.8	71.4	47.6	30.8	10.6
Maputo City	100.0	2.6	98.1	94.7	66.0	31.9	44.8	21.8
Total	96.4	2.2	97.0	90.4	72.4	37.5	30.4	17.7

a. Information about the prescription of antibiotic is based on information on a prespecified list of drugs (Mebendazole, Amoxicillin, Kanamicin, Etromicin, Tetracycline, Cotrimoxazole, Doxicillin, Metronidazole). These include the most commonly available antibiotics in primary–level health facilities. However, insofar as other antibiotics are provided, this underestimates the percentage of clients that received antibiotics.
Source: ETSDS (2003).

Table 25. Inconsistencies in DPS and DDS Drug Kits Distributed in 2001

	Number of districts that receive kits	*Number of districts where number received is less than number distributed by the DPS*	*Number of districts where number of kits received is greater than number distributed by the DPS*	*Proportion of distributed kits that the DDS reports receiving*
Kit A	35	6	3	0.75–1.13
Kit B	34	5	4	0.78–1.34
Kit C	24	5	2	0.50–1.35

Source: ETSDS (2003).

larger number of kits than reportedly distributed by the DPS seems to suggest poor record-keeping. Indeed, inferences in this area clearly have to be treated with caution. It is possible that discrepancies in this area reflect administrative errors rather than actual leakage.

The more notable discrepancies appear in the distribution of via clássica drugs. Comparable DPS and DDS data were available for 31 out of 35 districts. In 20 of these districts (65 percent), the total value of drugs that the DPS reports having distributed to the respective DDSs in 2001 is different from the value the DDSs report receiving, and in 18 out of 20, the amount received is lower than the amount actually distributed. For these 18 districts, the value of drugs actually received is between 10 and 90 percent of the amount reportedly distributed (average of approximately 35 percent), which clearly raises serious concerns about the level of control in the allocation of drugs. Again, however, it is possible that these discrepancies are driven by poor record-keeping rather than irregularities. On the other hand if simple mistakes were the sole cause behind this finding one would not expect the systematic pattern of discrepancies observed in the data. To provide some check on these findings data were also collected on the distribution of six specific drugs (aspirin, Paracetamol, chloroquine, Cotrimoxazole, Mebendazole, and Metronidazole). These data also provide evidence of considerable discrepancies although the pattern is less systematic than is the case for the monetary value of total drug distribution. Specifically, for most drugs, inconsistencies appear in approximately 15 of the 32 districts for which comparable data are available. However, in almost one-half of the cases the number of units reportedly received by the DDS is higher than the amounts the DPS report distributing, thus presenting a picture of random errors. This would suggest that poor administrative routines for calculating and recording the monetary value of drug shipments are part of the explanation of observed discrepancies. Although the inconsistencies between DPS and DDS records raises concerns, it's not possible for us to draw any firm conclusions about the source and extent of the problems.

In the case of vaccine distribution, discrepancies between DPS and DDS records are both less common and less significant. In the 32 districts for which comparable data are available, the data confirm inconsistencies in approximately 10 districts. In all cases the discrepancies are small.

Facility Comparisons at the District Level

Considerable discrepancies appear between drug records at the DDS and the facilities. In cases

Table 26. Consistency of Facility and DDS Drug Kit and Via Clássica Data, 2001
(percent)

	Urban	*Rural*	*Health post*	*Health center*	*Total*
Facilities where facility and DDS records agree on number of kits received	70.0	83.0	85.6	76.6	81.5
Via clássica					
Receiving facilities that could give a value from the guias de remessa	91.6	79.9	75.7	88.1	81.4
Facilities where the DDS could give a value from the guias de remessa	92.9	83.9	78.4	92.9	85.0
Facilities where DDS and facility values agree	89.2	70.6	85.5	60.2	73.1

Source: ETSDS (2003).

Table 27. Consistency between DDS and Facility Information on the Volume of Selected Drugs Received Via Clássica, 2001

Item	*Percent of records concordant*	*Mean net discrepancy per facility (tablets)*
Aspirin	72.7	–190.7
Chloroquine	75.1	– 402.2
Cotrimoxazole	79.6	–19.5
Mebendazole	79.6	20.3
Metronidazole	79.5	–357.5
Paracetamol	76.5	–230.9

Source: ETSDS (2003).

where both held records (the majority), the records agreed only in 81 percent of cases (table 26). However, the average net discrepancy between DDS and facility records showed that facilities received slightly more kits than the DDS reported sent. This suggests poor record-keeping rather than leakage. Some 90 percent of facilities said that kits were complete when received. Those that said they were not usually identified a lack of Kanamicin.

Some 81 percent of facilities that received drugs via clássica in 2001 could give a value for them based on the *guias de remessa* (table 26). The DDS could give a value for 85 percent of these facilities, and the two values agreed in 75 percent of cases. Where values did not agree the mean net difference again showed facilities recording, on average, the receipt of slightly higher values than recorded as sent by the DDS (an average difference of 141,000 MT).

When information on the volume of the same six drugs is compared, some 70 to 80 percent of records between the DDS and the facilities are consistent, depending on the particular drug examined (table 27). In this case, the average difference between records suggests that facilities received less than was recorded as sent by the DDS for all items except Mebendazole. This raises a concern about possible leakage, although given that other differences have usually been in the opposite direction, it should be considered a concern rather than hard evidence.

Notes

38. The allocation of kits should be based on reports submitted through the EDP reporting system. Data reported include (a) number of consultations for reporting month (all registered visits to the outpatient department of facility, with the exception of vaccination visits and mother/child visits); and (b) data on number of kits received and information on stocks of individual drug items. Reporting forms are forwarded to the provincial level. On the basis of these forms three-month averages of patient encounters are calculated at the provincial level and forwarded to central EDP office, which uses this information to plan future distributions.

39. This sum is calculated in the basis of information on the total value of via clássica requisitions and the volume of kits transferred to the district. The values of via clássica requisitions are based on the MOH price list, which do not necessarily reflect costs. The findings should therefore be considered indicative. The pricing of kits is based on information from the recent Health Sector Expenditure Review: kit A is USD270, kit B is USD112, and kit C is USD39 (1USD=20,608MT).

40. This conclusion ignores the important possibility that the outpatient numbers are in line with drug supply because people stop attending facilities when no drugs are available.

41. These estimates are based on the 28 out of 35 districts for which comparable data were available.

42. Eleven of the 85 facilities used in the analysis of drug distribution provide inpatient services. These inpatient facilities could be expected to use more drugs than outpatient facilities. However, the facilities with the highest drug use in the sample do not provide inpatient services, and the facility averages are not substantially different between the two categories of facilities (with the possible exception of Cotrimoxazole and Metronidazole, for which average drug use is slightly higher in the inpatient facilities).

43. The graphs and tables on drug supply to facilities is based on a sample of 82 facilities. Six facilities were dropped from the analysis on account of missing values for the relevant variables. Two additional facilities with very high values for drug distribution per outpatient were also excluded from the analysis.

Human Resources

6

Key Findings and Conclusions

- DPS records concerning district-level staff were surprisingly poor, making rational planning and adequate control difficult. The DDS had better, although somewhat incomplete, information on staff at facilities. The differences between records at each level did not provide any evidence of "ghost workers."
- Only 81 percent of facility staff were actually present on the day of the survey, suggesting poor management of human resources; the possibility that some of these staff members were ghost workers cannot be excluded.
- There is substantial variation between districts in population per district health employee, ranging from 400 persons per staff member to over 4,000 (average 1,925). The proportion of staff working in administration varies widely, from 5 to 20 percent.
- Around 80 percent of district health staff are on-establishment. The district directors identified budget restrictions as the main constraint on recruitment, but also complain of bureaucratic barriers.
- Some 65 percent of district staff are at the elementary level or below. While 62 percent of all primary facilities have one or more clinical staff member above the elementary level, only 43 percent of health posts do.
- Urban areas have more qualified staff than rural areas and rural districts are relatively underserved by the primary system, with each staff serving more of the local population.
- Rural areas also have a much higher turnover of staff. Lack of access to services and training were identified as particular problems by rural staff members.
- Around one-quarter of staff members have attended promotion courses. However, the criteria for selecting staff for these opportunities are unclear.
- A significant proportion of staff members complained that salaries were late or were less than should have been received.

Human Resource System and Staffing Patterns

Human resources form the backbone of the NHS. There is a broad range of staff working in the health system. The first important distinction is between staff on- and off-establishment (*pessoal do quadro* or *nomeado* and *pessoal não nomeado*). Off-establishment staff includes auxiliaries, health workers awaiting formal hiring, and staff contracted by and paid for by outside agencies. The off-establishment staff also include different categories of community health workers (*agents polivalentes, activistas, socorristas, parteiras tradicionais*).Their importance in the health sector will be discussed further below. The on-establishment classification and terms of employment for staff are governed by the Mozambican civil service system. In the health sector it is customary to classify staff along two dimensions: (a) their career (*carreira*), which refers to the area in which the health worker is trained; and, (b) their level (*nível*), which refers to their type of qualification.[44] Table 28 summarizes the careers and levels of health workers at the primary level of the NHS. There is also a general support category (*apoio geral)*, which includes carpenters, drivers, mechanics, guards, kitchen and laundry personnel, and other auxiliary staff.

Rules and procedures for appointing staff are cumbersome and time-consuming. Any recruitment (whatever the level of staff) requires the involvement of the Administrative Court, Provincial Government, Ministry of Planning and Finance, and the Ministry of Health or DPS.[45] In principle, the Human Resource Department of the MOH is responsible for the allocation of basic, medium, and superior levels, while the provincial level allocates the elementary and auxiliary staff. In many provinces, however, the approval of lower-level staff has been delegated to the provincial governor. Other efforts to speed up the recruitment process include capacity building in the Human Resource Department, increased validity of Administrative Court documentation, and a move to begin the preparation of recruitment documentation before completion of training.

After recruitment, the system of staff appraisal and performance management is quite weak. The DPS is required to do annual performance evaluations based on a Ministry of State Administration (MAE) form. The MAE sheet registers disciplinary

Table 28. Careers and Levels of Health Workers

	Level				
Career	*Superior*	*Middle with specialization*	*Middle*	*Basic*	*Elementary*
Doctor	All doctors	n.a.	n.a.	n.a.	n.a.
Medicine	n.a.	Téc. de cirurgia Téc. med. esp.	Técnico de medicina	Agente de medicina	n.a.
Preventive medicine and public health	n.a.	Técnico de med. prev. esp.	Técnico de medicina esp.	Agente de medicina esp.	n.a.
Nursing	Técnico enf. A Técnico enf. B	Enfermeira geral esp.	Enfermeira geral	Enfermeiro	Enfermeiro elementar
Laboratory	Técnico lab. A Técnico lab. B	Técnico de laboratório esp.	Técnico de laboratório C	Técnico de laboratório D	Microscopista
Pharmacy	Farmacêutico A	Técnico de farmácia esp.	Técnico de farmácia	Agente de farmácia	Auxiliar de farmácia
Obstetrics		n.a. Enf. SMI C	Enf.-partereiras SMI	Enfermeira elementar	Parteira
Public administration		n.a.	Técnicos profissionais	Assistentes técnicos	Auxiliares administrativos
Planning and statistics	Técnicos A		Técnicos C	Técnicos D	Auxiliares

n.a. Not applicable.
Source: ETSDS (2003).

Table 29. Information Held by DDS on Facility Staff
(percent)

Information held by DDS	*Urban*	*Rural*	*Health post*	*Health center*	*Total*
Complete information	36.9	49.7	42.2	47.0	45.5
Partial information	62.1	44.6	48.5	51.2	50.4
Did not list as a staff member	1.1	5.6	9.2	1.8	4.1
Total	100.0	100.0	100.0	100.0	100.0

Source: ETSDS (2003).

processes and inappropriate staff behavior, and is not suitable for doing performance appraisals or performance-based promotions. Decisions about career promotions are the responsibility of the head of the Human Resource Department.

Data Inconsistencies and Record-Keeping

The survey collected detailed data on the number and composition of district health staff. To avoid gaps and mistakes in the information on staffing, and to assess the consistency of records at the different levels, data were collected from both DPS and DDS sources.

The data collection exercise raised two important issues: data gaps and data inconsistencies. Since the relatively small number of health workers in the districts all require regular payment, the survey team had expected to find complete and reliable data on staffing in the DPS offices. However, both the piloting work and the survey proper revealed that this was rarely the case. The enumerators consistently found it difficult or impossible to collect complete district-level staffing information from the DPS. Many of the gaps in the data concerned off-establishment staff. For example, most provincial directorates were not able to provide information on the number of community health workers and the number of staff paid with user fees in the sampled districts. Problems were also encountered for on-establishment staff in the form of inconsistencies between DPS and DDS data. Inconsistencies—where data on the number of district staff collected at the DPS did not correspond with the information collected from the DDS—were the rule rather than the exception. At least DPS staffing numbers were not consistently higher than DDS data, which would have raised concerns about ghost workers. Nonetheless, the discrepancies are a sign of serious weaknesses in the human resource management system, which undoubtedly hampers efficiency and equity in the deployment of staff. Although the comparison of DPS and DDS data do not provide any consistent evidence of manipulation, the seeming lack of control does not provide sufficient incentives against fraud or manipulation.

The survey also collected information from the DDS about staff at the sampled facilities, which was then cross-checked at the facility. The DDS supplied some information—at least the names—for 96 percent of staff at the facilities (table 29). However, the DDS was not able to provide all of the information requested for these staff, such as sex, specialty, level, employment status, salary, and other allowances. An additional 4 percent of facility staff were identified only at the time of the visit. Most of these were *APE/activistas* or general assistants (*apoio geral)* and were off-establishment staff.

The DDS was also asked about the number of on-establishment and off-establishment staff at each facility in the district before the survey. A comparison

Table 30. Consistency of Records Between DDS and Facility Data on Number of Staff Members

Measure	*Health post*	*Health center*	*Total*
Percent of facilities where DDS and unit data on total staff members is consistent	71.0	64.9	68.2
Percent of facilities where data on number of on-establishment/off-establishment staff members is consistent	63.6	54.0	59.3
Mean net difference in staff numbers between DDS and facility data	–0.44	–0.32	–0.39

Source: ETSDS (2003).

Table 31. District Staffing Patterns by Area, Region 1

	Total staff	Inhabitants per health worker	Consultations per health worker	Composition of district staff (percent)					
				Superior	Middle	Basic	Elementary	General support	Activists and others
Rural	60.1	1,982.0	1,196.6	0.5	7.7	25.5	22.5	33.0	10.7
Urban (excluding Maputo City)	140.4	1,581.4	1,762.2	1.5	12.5	30.9	21.8	31.6	1.7
Maputo City	375.3	904.9	1,359.3	5.3	13.3	33.2	4.8	43.5	0.0
Total	73.6	1,925.2	1,248.0	0.7	8.2	26.1	22.0	33.1	9.7

Source: ETSDS (2003).

of these figures with the number of staff found at the facility can be used to detect "ghost workers." DDS records agree with the total number of staff found at the facility in only 68 percent of cases, falling to 59 percent when the comparison is made separately for on-establishment and off-establishment staff (table 30). In most cases the discrepancies are small. On average, slightly more staff members are found at the facilities than were stated by the DDS—the opposite of what would have been expected if there were an appreciable number of ghost workers.[46] The facility data provide no evidence for an appreciable number of ghost workers, although absenteeism could be disguising this problem to some extent.

While records were often incomplete, they do suggest that the DDS usually has reasonably accurate information on the distribution of staff members across facilities. This is in contrast to the lack of information at the provincial level about the distribution of district staff.

Staffing Patterns at the District Level

In most cases, the DDS data were considered the most reliable source of information on district staff, which is the basis for a number of observations on districts staffing patterns. The total number of district staff ranges from 28 to 455 in the sampled districts, with an estimated mean of 73.6 for the country as a whole. Staff totals are of limited interest. From both an efficiency and equity perspective we are primarily interested in staff distribution relative to the population served. In this regard, rural areas have substantially more population per health worker, twice as high as Maputo City, although the average for other urban districts is not very much lower than rural districts. Again, however, the averages mask considerable differences in staffing adequacy across districts. While, on average, there is one (district-level) health worker per 1,925 inhabitants, the staff-population ratio varies from 400 to over 4,000 in the sampled

Table 32. District Staffing Patterns by Area, Region 2

	Staff on establishment (percent)	Types of off-establishment staff (percent)					Nature of work (percent)		Location of district health workers (percent)	
		APEs/ activists	User fee	NGO donor, church	INAS/ DPAS[a]	Other[b]	Admin	Health	"Sede"	Periph. HC/HP[c]
Rural	78.5	31.3	18.3	13.0	6.5	30.8	12.6	87.4	61.0	39.0
Urban (excluding Maputo City)	90.4	11.7	37.5	5.8	15.9	29.2	17.0	83.0	43.3	56.7
Maputo City	88.8	0.0	45.0	10.3	2.1	42.6	7.6	92.4	66.0	34.0
Total	79.7	28.8	20.7	12.3	7.3	30.9	12.8	87.2	59.6	40.3

a. INAS is the National Institute of Social action; DPAS is the Provincial Directorate of Social Action.
b. "Other" includes staff paid by the DPS outside the establishment. The sources of funds vary, but may include an overlap with the user fee category.
c. Peripheral health center/health post.
Source: ETSDS (2003).

districts. There are, moreover, important differences in the composition of staff both between urban-rural areas and between regions. Urban areas, in particular Maputo City, have, on average, considerably more qualified staff, even without considering staff in central and provincial hospitals.

For the country as a whole, approximately 80 percent of health sector staff in the districts are on-establishment. Tables 31 and 32 show that off-establishment staff include community health workers and activists; staff financed from user fees; staff financed by NGOs, churches, or donors; representatives from the Social Action Institute; or other off-establishment staff financed by the DPS. Staff financed from user fees are particularly important in urban areas.

Approximately 13 percent of district staff have primarily administrative functions. In one-fifth of districts it is less than 5 percent of staff, while at the other end of the spectrum, another one-fifth of districts have over 20 percent administrative personnel. The variation across districts raises questions about efficiency. There is also notable cross-district variation in the assignment of health workers. On average, 40 percent of district staff work in peripheral facilities, while 60 percent work in the DDS or the rural hospital or health center in the district capital. However, the percentage of staff in peripheral facilities ranges from 18 to 93 percent in the sampled districts. While some variation in local conditions is to be expected, this issue merits further attention.

On average, districts lost 7 percent of their staff in 2001. The most important reasons (in order of magnitude) were transfers (46 percent of all staff losses), death (28 percent), and retirement (9 percent), but this was balanced by an inflow of new staff into the districts, such that, on average, the total number of staff in the districts remained the same. Most of the new staff were deployed by the DPS, but 9 of the 35 districts in the sample also received or contracted one or more health workers with NGO or donor financing.

The survey also collected data on the background and qualifications of the DDS management team. The core management team typically consists of the district director, the chief administrator, the chief medical officer, the head of planning and statistics, and the head of the pharmaceutical section. Most district directors and chief medical officers are either doctors or general nurses. In almost all cases, the chief administrator has professional (health sector) training in administration. Many of the heads of planning and statistics have training in public health, with a number of exceptions. The majority of heads of the pharmaceutical area also have the appropriate technical background in pharmacy, although there are also some administrators or general nurses in these positions. Table 33 shows that management staff have an average of 10 to 15 years experience in the health sector. In general management staff in urban areas, in particular Maputo City, have higher qualifications than their rural counterparts.

DDS and DPS Perceptions about Constraints in Recruitment

In the district questionnaire the district directors of health were asked to identify and rank the three most important constraints to increasing the number of health workers in the district.[47] Figure 17 reports the findings. Over 75 percent of districts mention the lack of budgetary resources as an important problem, and 50 percent rank it as the most important constraint. Other problems include bureaucratic barriers (seen as most important constraint in 25 percent of districts) and a shortage of qualified staff to recruit from (seen as most important constraint in 17 percent of districts). Low salaries and a preference for living in cities are both mentioned by one-quarter of the districts, but is rarely seen as the most important problem. Not surprisingly the issue of urban preference is mentioned as an issue more frequently in rural districts (40 percent of the districts). A number of rural districts mention related factors including problems of accommodation, services, and access in rural areas.

The issue of constraints on increasing the number of staff was also raised in the interview with the provincial director. From the perspective of the DPS, the issue most frequently considered the main problem in recruitment was bureaucratic barriers (considered most important in 5 provinces, and mentioned in 7). The shortage of qualified staff and the lack of budgetary resources were considered the most serious issue in two provinces, respectively. Notably, six provinces mention the preference of health staff for urban posts as an important

Table 33. Characteristics of DDS Management Teams

	Years in the health sector	Years in the district	Professional level (percent)		
			Elementary	Basic	Middle or higher
District director					
Rural	14.2	2.4	0.0	20.2	79.8
Urban (excluding Maputo City)	18.0	5.2	0.0	8.3	91.7
Maputo City	10.3	1.7	0.0	0.0	100.0
Total	14.4	2.6	0.0	18.8	81.2
Administrator					
Rural	11.0	4.2	3.0	59.0	38.0
Urban (excluding Maputo City)	13.8	2.8	0.0	66.7	33.3
Maputo City	11.5	1.5	0.0	0.0	100.0
Total	11.3	4.1	2.7	58.4	38.9
Chief medical officer					
Rural	14.7	7.3	5.9	40.3	53.7
Urban (excluding Maputo City)	12.3	4.8	0.0	16.7	83.3
Maputo City	14.7	2.3	0.0	0.0	100.0
Total	14.5	7.0	5.3	37.5	57.2
Head of planning and statistics					
Rural	17.4	5.9	9.2	59.5	31.3
Urban (excluding Maputo City)	20.5	5.2	8.3	33.3	58.3
Maputo City	19.5	10.5	0.0	0.0	100.0
Total	17.7	5.9	8.9	56.0	35.1
Head of pharmaceutical area					
Rural	12.3	6.1	33.2	50.8	16.0
Urban (excluding Maputo City)	14.5	2.3	0.0	41.7	58.3
Maputo City	15.3	9.0	0.0	0.0	100.0
Total	12.5	5.8	29.7	48.9	21.4

Source: ETSDS (2003).

constraint to increasing the number of staff in the districts.

Facility Staffing Patterns

The survey collected information on the staff employed at the sample of primary facilities. These facilities have an average of 5.2 staff members, although it is three times this number in urban areas. The total is around 5,544 workers at primary facilities nationwide—only around 34 percent of the total public sector health staff.[48] Urban areas have 33 percent of primary staff and 22 percent of the national population (overserved).[49] Rural areas have 67 percent of primary staff and 78 percent of the national population (underserved). Staff at higher-level facilities are even more concentrated in urban areas.

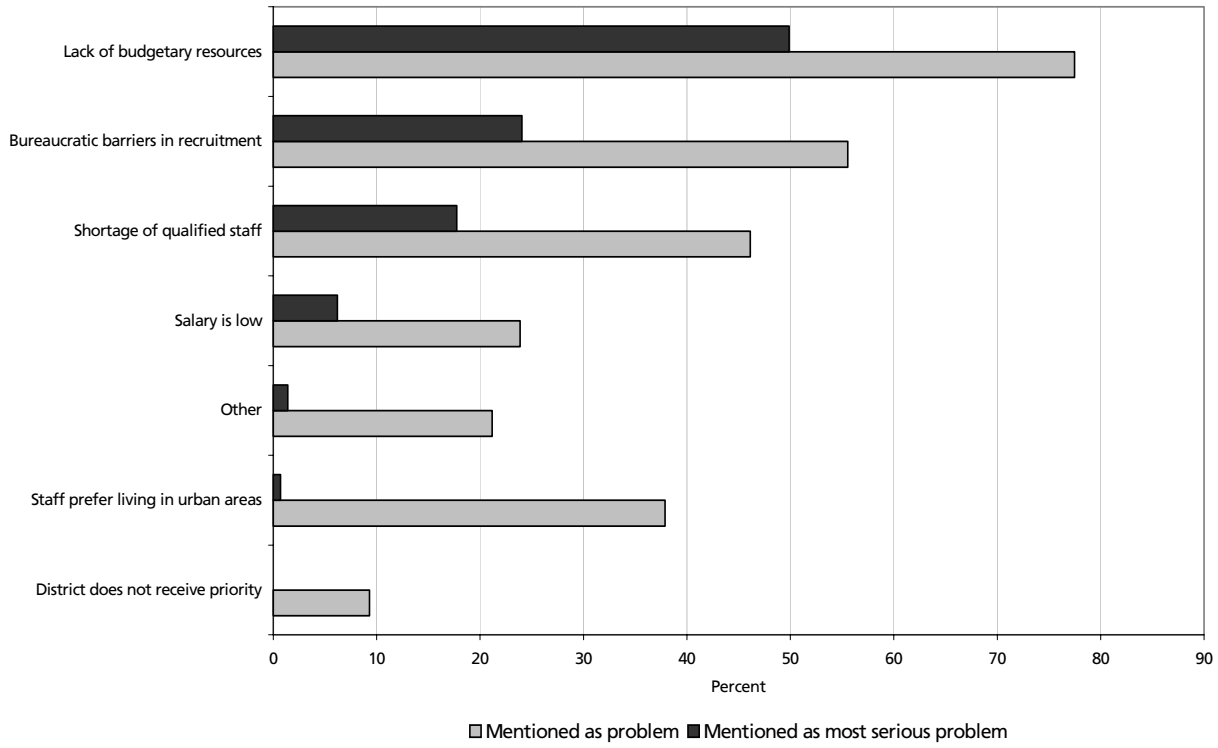
Overall, 80 percent of staff at the facilities are on-establishment, similar to the district staff as a whole (table 34). Most of those not paid by the DPS are off-establishment staff (6 percent of all facility staff) or are paid by the community or not paid (also 6 percent). The

Table 34. Facility Staff by Number, Employment Status and Presence, Facility Data

Measure	*Urban*	*Rural*	*Health post*	*Health center*	*Total*
Mean number of staff (all types)	15.3	3.9	2.9	7.9	5.2
Median number of staff (all types)	6	3	3	4	3
Percent of staff on-establishment	93.9	73.0	70.1	84.2	79.8
Percent of staff present on day of survey	80.7	81.3	74.5	84.0	81.1

Source: ETSDS (2003).

Figure 17. DDS Perceptions of Constraints in Recruitment



Source: ETSDS (2003).

proportion of staff on-establishment is strongly related to level: 70 percent are elementary level staff, rising to over 90 percent for basic and higher-level staff.

Almost one-fifth of facility staff members were absent at the time of the survey (table 34).[50] Most of these were said to be absent with authorization. Nevertheless this means that a substantial fraction of the facilities' employees are absent at any one point. Elementary-level staff were most likely to be present (90 percent), with lower- and higher-level staff less likely (figure 18).

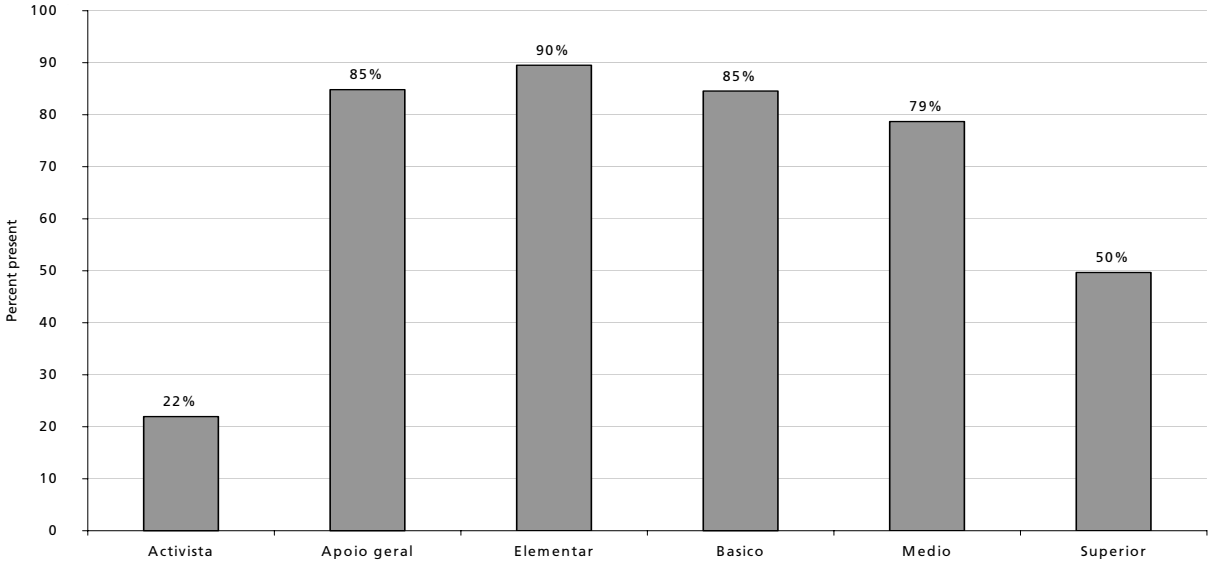
Around one-third of staff at primary facilities are community workers (*APE/socrrista/activistas)* or general assistants (*apoio geral)* (table 35). Staffing norms suggest that even the most basic facilities should ideally have an *agente de medicina* with a basic-level education.[51] However, they allow for staffing by elementary-level staff due to current shortages. Presently, some 62 percent of all facilities have a clinical staff member above elementary level. Only 43 percent of health posts do. As might be expected, small facilities have the highest concentration of staff at the elementary level and below.

Table 35. Facility Staff by Level, Facility Data

Percent of staff by level	*Urban*	*Rural*	*Health post*	*Health center*	*Total*
Activist/Polivalent health agent	1.5	8.9	11.6	4.2	6.5
General support staff	25.3	25.9	28.0	24.7	25.7
Elementary	16.5	32.6	33.3	24.7	27.3
Basic	41.1	25.7	23.2	34.1	30.8
Middle	13.8	6.5	3.2	11.4	8.9
Superior	1.8	0.3	0.7	0.9	0.8
Percent of facilities with clinical staff above elementary	77.7	60.5	43.1	86.5	62.4

Note: The superior staff member at the health post is due to one case that reports a doctor.
Source: ETSDS (2003).

Figure 18. Presence of Staff at Facilities on the Day of Interview



Note: Only 11 cases for superior.
Source: ETSDS (2003).

Perspectives from the Survey of Health Workers

The survey included a limited number of interviews with health workers in the sampled facilities. Up to three staff members, including the facility director, were interviewed.[52] The resultant sample comprises 172 staff members.

On the basis of the staff sample, over 60 percent of the technical staff in primary-level health facilities are women. Interestingly, there is an almost even

Table 36. Health Worker Characteristics by Area and Region
(percent)

	Rural	*Urban (excluding Maputo City)*	*Maputo City*	*Total*
Sex of health worker (percent)				
Male	48.0	19.8	12.9	38.3
Female	52.0	80.2	87.1	61.7
Age of health worker (percent)				
16–30	36.2	8.1	2.1	26.7
31–45	51.0	54.3	75.3	53.6
46–60	9.4	36.5	22.7	17.1
>60	3.4	1.1	0.0	2.6
Born in district (percent)	25.1	18.4	61.8	26.2
Majority of family lives in district (percent)	29.5	53.8	72.2	38.8
Number of years in health sector				
Mean	12.7	19.1	18.0	14.7
25th percentile	5.0	13.0	13.0	6.0
Median	14.0	19.0	19.0	16.0
75th percentile	19.0	27.0	24.0	20.0
Number of years in facility				
Mean	2.7	5.9	5.5	3.7
25th percentile	0.0	2.0	1.0	1.0
Median	1.0	5.0	3.0	2.0
75th percentile	3.0	6.0	7.0	5.0

Source: ETSDS (2003).

gender split in rural areas, while women dominate in urban facilities, in particular in Maputo City (table 36). The difference in gender split may reflect the unwillingness of women, typically with the primary responsibility for child-rearing, to move to rural areas where social services, such as schooling, are often inadequate. Alternatively, the gender bias may result from the unwillingness or inability of the woman to move to rural areas for reasons relating to the economic opportunities for her spouse. There is also a notable difference between urban and rural areas in the age structure of the workforce. On the whole, over one-half of primary-level health workers are between 31 and 45 years of age. An overwhelming majority of the younger (aged 16-30) workers (26.7 percent of all primary-level workers) work in rural areas, which probably reflects the lack of influence over posting. Even from basic indicators, it is clear that rural postings often come at high personal cost. For example, only 25 percent of staff in rural areas were born in the district they work in compared to 62 percent in Maputo City. More important, perhaps, is the fact that a rural posting entails separation from family for 70 percent of workers. Partly for these reasons, the turnover of staff is greater in rural areas. On average, rural staff have spent 2.7 years in the facility, compared to nearly 6 years for staff in urban facilities. One-half of all rural staff have spent only a year or less in the facility.

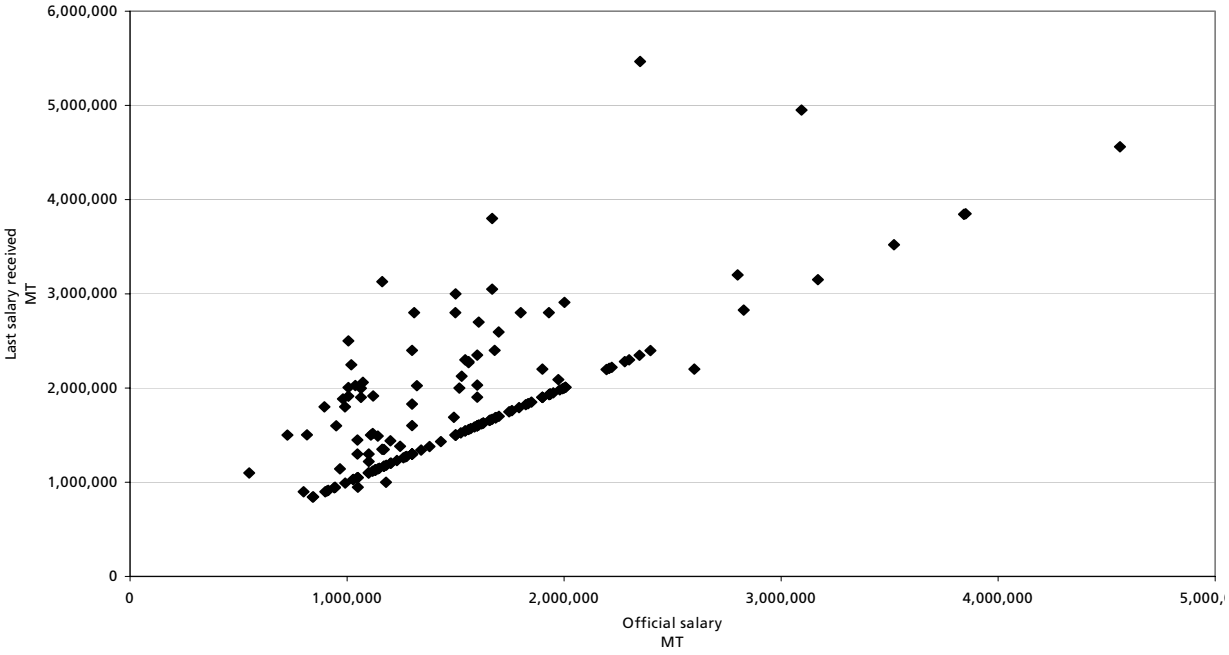
Most of the health workers at the primary level have completed secondary school (53 percent) (table 37). However, only 61 percent of the workers received some form of technical training before coming to work in the health sector (only 37 percent in Maputo City). For a considerable proportion of staff (40 percent), this training lasted for less than six months. However, overall, nearly 50 percent of staff received more than one-and-one-half years of training before their first job. A disproportionate percentage of the staff with high qualifications are working

Table 37. Education and Training

	Rural	*Urban (excluding Maputo City)*	*Maputo City*	*Total*
Highest grade of education, not including technical training (percent)				
Grades 1-5	14.3	2.0	22.7	12.0
Grades 6-7	38.8	26.3	24.4	34.6
Secondary School	47.0	71.7	52.9	53.4
Formal training prior to first employment (percent)	65.0	58.8	37.3	61.4
Length of training prior to first employment N=99				
Less than 6 months	43.9	33.5	11.7	39.9
7 months to a year	14.0	11.3	3.4	12.9
18 months or 2 years	23.6	20.3	3.4	21.9
30 months or 3 years	18.5	19.6	49.0	20.2
More than 3 years	0.0	15.3	32.4	5.2
Months after training before employment (mean) N=99	2.9	1.5	3.1	2.6
On establishment when started in the sector (percent)	12.1	31.3	11.3	16.8
Months to get on-establishment (N=109)	18.9	26.4	25.7	21.0
Currently on-establishment (percent)	85.3	100.0	100.0	90.1
Attended promotion course (percent)	25.4	28.4	4.4	24.5
Current level (percent)				
Activista/socorrista	0.3	0.0	0.0	0.2
Apoio geral (servente, etc.)	6.3	4.4	0.0	5.4
Elementar	55.9	26.2	16.3	45.8
Basico	34.2	51.5	44.6	39.2
Medio	3.3	18.0	23.3	8.3
Superior	0.0	0.0	15.7	1.0
Attended short-term training course (percent)	65.9	63.4	73.5	65.8
Number of times attended in last 12 months (mean) N=120	2.0	1.4	2.4	1.9

Source: ETSDS (2003).

Figure 19. Relationship Between Official Salary and Last Salary Received



Source: ETSDS (2003).

in Maputo City. Most of the health workers report that they started working soon after training (44 percent started immediately after training; 2.6 months waiting on average). However, only 17 percent of staff were on-establishment when they started working in the sector, and although most staff in the sector eventually make it to on-establishment, it took, on average, almost two years for current staff. One-quarter of staff report having attended a promotion course at some point in their career. Twenty-four percent claim that they have applied for a promotion course in the past, but were not admitted. Some people refer to a lack of qualifications for not being admitted, but many of the respondents also do not know why they were not admitted. The majority of staff (65 percent) have attended at least one short-term course (often more than one) in the last 12 months. Typically, these courses were run by the MOH.

Table 38 shows the salary level for different categories of staff in primary-level health facilities. The reported salary includes automatic allowances and deductions. As can be seen, there is a considerable salary range for staff at the same level, largely reflecting experience.

Aside from the salary level, there are a couple of issues with staff payments. First, for many health

Table 38. Salary Level for Different Categories of Staff

	Monthly salary (Salário liquido)[a]				*Median*
Level	*Minimum*	*Median*	*Mean*	*Max*	*(USD)*
Activista/socorrista/APE	549,000	549,000	549,000	549,000	23
Apoio geral (serventes, etc.)	800,000	941,000	1,255,241	3,170,000	40
Elementar	725,000	1,130,000	1,213,153	2,000,000	48
Basico	1,118,000	1,606,929	1,664,220	3,520,000	68
Medio	1,119,000	2,350,000	2,414,342	4,561,000	99
Superior	9,871,471	9,871,471	10,200,000	12,400,000	417

a. Monthly salary is gross salary plus extra allowances (subsídio de risco (10 percent) and subsídio de turno (15 percent)) and minus contributions (9 percent of gross salary).
Source: ETSDS (2003).

Table 39. Staff Housing and Benefits
(percent)

	Rural	*Urban (excluding Maputo City)*	*Maputo City*	*Total*
Live in housing owned by the facility	54.5	6.6	0.0	38.4
Benefits: health services				
Free	23.4	3.8	59.3	21.2
Reduced price	29.2	70.0	15.2	38.3
No special arrangement	47.4	26.2	25.5	40.5
Benefits: medicines				
Free	16.1	3.6	0.0	11.7
Reduced price	35.1	76.9	75.3	48.6
No special arrangement	48.9	19.6	24.7	39.7
Benefits: food				
Free	4.7	2.9	0.0	3.9
Reduced price	3.6	10.7	0.0	5.1
No special arrangement	91.7	86.4	100.0	91.0

Source: ETSDS (2003).

workers, the last salary received was considerably higher than the official salary level. In most cases, these extra payments are due to overtime or retroactive payments for late or incomplete salaries in previous months (figure 19). Specifically, 7 percent of staff, both urban and rural districts report receiving a travel allowance (*subsídio de deslocaçao*) associated with courses, workshops, and in some cases outreach work. For the individuals that received these subsidies (both urban and rural staff), the amounts were often considerable (mean 949,000 MT; median 450,000 MT).

A second issue, related to the previous point, is that many staff members report problems in the actual payment of salaries (figure 20). Thirty percent of staff claim that salaries are always or almost always late. These problems appear to be particularly severe in rural areas and Maputo City. A notable proportion of staff (15 percent) also report that salaries are almost always or sometimes incomplete, which contradicts the evidence presented above. It is possible that these problems are particularly prominent at particular parts of the year, or that other payments are disguising a shortfall in the salaries paid.

Many staff receive some form of nonsalary benefit (table 39). A large proportion of health workers in rural areas live for free in housing owned by the health center or health post, a benefit frequently unavailable in urban areas. Many staff also report receiving free or subsidized health care and medicines. Interestingly, there does not appear to be a clear nationwide policy in this regard, and there are notable differences between urban and rural areas, and between Maputo City and the rest of the country. A smaller proportion of staff (9 percent overall), only in districts outside Maputo City, report receiving free or subsidized food as a work benefit.

The interviewed staff members were asked about how content they were in their current work

Table 40. Staff Satisfaction

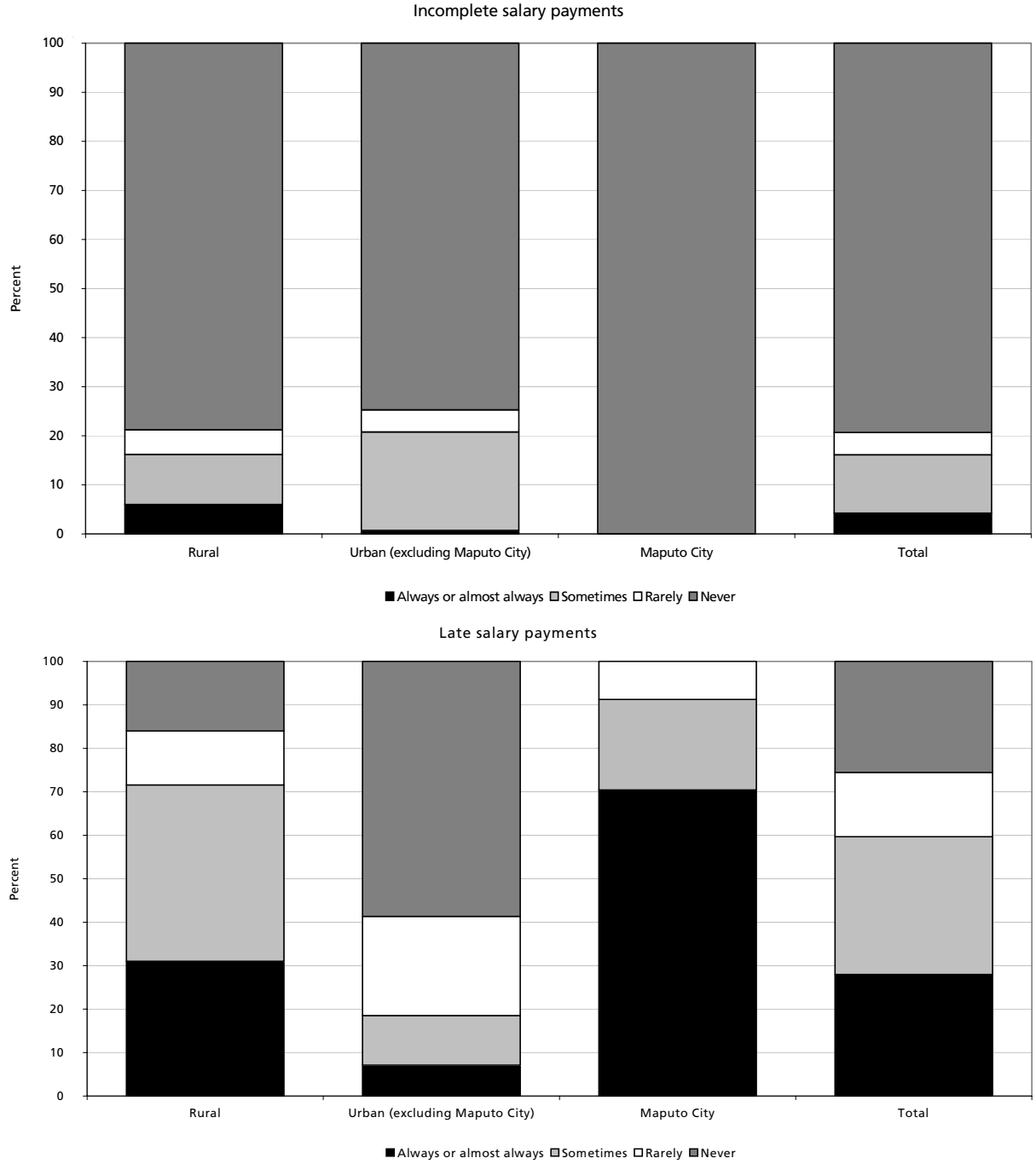
	Rural	*Urban (excluding Maputo City)*	*Maputo City*	*Total*
Very happy	9.4	6.6	19.9	9.5
Happy	54.1	57.7	75.0	56.6
Neither happy nor unhappy	18.9	22.7	5.2	18.8
Unhappy	16.1	3.8	0.0	11.8
Very unhappy	1.6	9.1	0.0	3.3
Wants to transfer to another facility	74.9	36.6	10.0	60.4

Source: ETSDS (2003).

situation (table 40). Two-thirds claim to be either happy or very happy working in the facility where they are currently posted. Nearly all staff in Maputo City are happy in their current situation. In contrast, a minority of staff in facilities outside Maputo City claim that they are unhappy or very unhappy. But nearly 60 percent of all staff in primary-level facilities say that they would like to transfer to another facility if given the opportunity. Of these most are staff in the rural facilities (74.9 percent), but also to some extent in urban areas outside Maputo City.

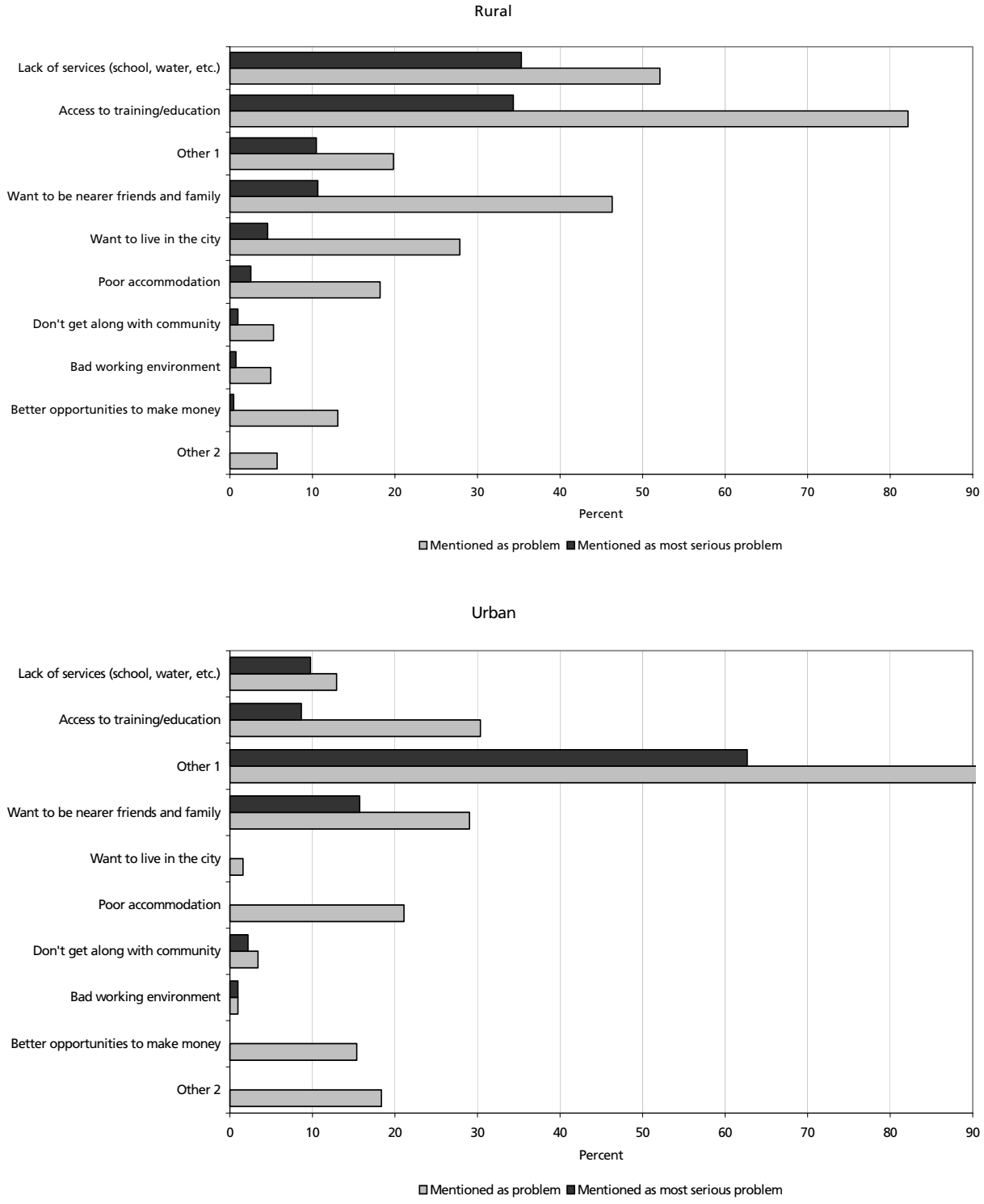
The staff that expressed a desire to transfer were asked to identify and rank the three most important

Figure 20. Problems with Salary Payments



Source: ETSDS (2003).

Figure 21. Ranking of Reasons for Wanting to Transfer to Another Facility



Note: For rural areas N=76, for urban areas N=20.
Source: ETSDS (2003).

reasons for wanting to move (figure 21).[53] The reasons for wanting to transfer to a different facility varies considerably between urban and rural areas. In rural areas, the lack of services (for example, schooling and water) and limited access to training/education are mentioned most often. Proximity to friends and family were also important. In contrast, services and access to training were less important for staff in urban districts. In these districts "other" (not pre-coded) reasons were considered more important. In this eclectic set of concerns, the most important issues related to (a) problems of transport and long commutes; and (b) the need to gain new experiences.

Notes

44. The Ministry of State Administration recently introduced a new career structure. However, for the purpose of the survey the old structure was used as this was more familiar to respondents.
45. Staff are contracted through the "modelo E" documentation, which requires approval by the Administrative Court.
46. If the comparison is limited only to on-establishment staff, there is a small mean difference in the opposite direction (+0.19 per facility). This is likely to be due to errors in the records of employment status rather than the presence of ghosts.
47. The respondents were presented with six predefined constraints. They were also given the opportunity to introduce problems or constraints not mentioned in the questionnaire (coded as "other").
48. Based on a total of 16,248 staff given in the Health Sector Expenditure Review (Ministério de Saúde and Ministério do Plano e Finanças 2002).
49. Based on population data supplied by the National Institute of Statistics.
50. Most facilities were advised in advance that the survey team would visit, which may have resulted in an underestimation of absenteeism.
51. Staffing and equipment norms are based on the Ministerial Diploma "Caracterização técnica, enunciado de funções específicas, critérios e mecanismos para a classificação das instituições do SNS, de Nível Primário."
52. Facility staff that are not directly involved in the delivery of health services were not considered. For this reason, the profile of these staff members is different from the information on all staff members presented in previous sections.
53. The respondents were presented with eight predefined constraints. They were also given the opportunity to introduce problems or constraints not mentioned in the questionnaire. These responses were coded as "other."

Infrastructure, Equipment, Nondrug Supply, and Facility Supervision

7

Key Findings and Conclusions

- Districts have an average of 14 primary-level facilities, where 7 are health centers and health posts and the remainder are community posts. The number of community posts varies across districts, with some districts having large numbers and many districts having none. The survey total of 1,067 level-I facilities nationwide is consistent with other sources of information.
- Facility infrastructure is often limited: while most have a private area for patient examination, only 69 percent had a place for staff to wash their hands and only a minority had any means of communication (telephone or radio). Many lack basic equipment such as a blood pressure gauge or weighing scales.
- Most DDSs have some means of transport, but many in rural areas lack communication and office equipment. There is also evidence of maintenance problems, with broken vehicles or office equipment in many districts.
- Nondrug supplies provided in-kind to the DDS comprise between 7 and 35 percent of total recurrent spending (excluding drugs and other in-kind resources). The items supplied from the DPS to the DDS vary from province to province. The criteria used to allocate the materials to districts are often unclear, leading to problems in assessing equity and efficiency.
- Many DDSs reported problems in the supply of nondrug materials and equipment. More than 60 percent reported a stock-out in the previous six months. The effects are seen at the facilities, where 10 to 25 percent are missing basic items such as cleaning materials. Around 60 percent of facilities had disposable syringes and needles.
- Nearly all facilities have regular contact with the DDS and most report having had at least an annual supervision visit. Most also report meeting with a range of community representatives on health matters.

District and DDS Infrastructure and Equipment

Districts have an average of seven health centers or health posts, and six community health posts. Some rural districts have a considerable number of community health posts, but they are largely nonexistent in urban (and a few rural) areas. There is a hospital (central, provincial, general, or rural) in over one-third of districts. In contrast, private facilities (for-profit, NGO, and company clinics) are rare outside the urban areas (table 41).[54]

In drawing the sample for the survey, a list of districts with an estimated number of primary facilities in each one was developed. This list tried to reconcile two separate lists held by the MOH. The total number of primary facilities in the original sample frame—and the best initial estimate of the number in the country—was 1,204. In the districts sampled, 84 percent of the expected number of facilities were found (unweighted). The results suggest a revised national number of primary facilities of 1,067.

Most districts report having some means of transportation (table 42). However, four out of the 35 districts reported that their vehicle (a 4x4 or light vehicle) was broken. Rural districts are, in general, less well-equipped for communication. Many districts, in particular in rural areas, have neither a communication radio or a telephone. They rely on other government agencies for communication. The inadequate equipment may explain the paltry communication between the DPS and the DDS. While almost all urban districts and approximately 40 percent of rural districts report having daily contact with the DPS—by phone, radio, or in person—20 percent of rural districts report not having spoken to the DPS by phone or radio in the past three months.[55] Other office equipment such as photocopying machine and computers are similarly rare. Notably, four out of the seven districts with a photocopying machine claim that it is currently broken.

Table 41. Health Facility Infrastructure in Districts

	Number of facilities in district			*Availability in district (percent)*			
	Health centers	*Health posts*	*Community posts*	*Hospital*	*NGO facility*	*Private for-profit facility*	*Company facility*
Rural	4.0	3.5	7.1	31.8	12.3	9.4	4.2
Urban (excluding Maputo City)	4.1	3.9	0.4	75.0	33.3	50.0	33.3
Maputo City	5.0	3.0	0.0	100.0	33.3	66.7	66.7
Total	4.0	3.5	6.3	36.9	14.6	14.1	8.0

Source: ETSDS (2003).

Facility Infrastructure and Equipment

The facility survey collected information on the basic infrastructure present at the sampled facilities. One-fifth had inpatient beds and almost three-quarters had maternity beds (table 43). Both types

Table 42. Equipment and Means of Transport in the Districts
(percent)

	Rural	*Urban (excluding Maputo City)*	*Maputo City*	*Total*
Truck	3.0	8.3	0.0	3.4
4x4 vehicle	97.0	75.0	66.7	94.5
Light vehicle	5.9	66.7	66.7	12.4
Motorcycle	100.0	91.7	100.0	99.3
Bicycle	55.8	66.7	0.0	55.5
Radio (for communication)	32.2	16.7	66.7	31.6
Telephone	36.1	100.0	100.0	42.8
Fax machine	12.4	25.0	66.7	14.6
Photocopier	18.1	33.3	66.7	20.4
Computer	32.5	83.3	100.0	38.3

Source: ETSDS (2003).

Table 43. Basic Infrastructure at the Facilities
(percent)

Infrastructure	*Urban*	*Rural*	*Health post*	*Health center*	*Total*
Inpatient beds	4.6	24.2	9.2	37.5	22.0
Maternity beds	39.5	77.9	63.0	86.4	73.6
Access to water	80.7	69.4	68.9	72.8	70.7
Electricity (any source)	73.1	32.7	29.2	46.9	37.2
Functioning telephone	34.0	1.3	3.7	6.4	4.9
Functioning communication radio	8.0	17.3	15.9	16.7	16.2
Covered waiting area for patients	87.8	86.8	79.9	95.3	86.9
Toilet for patients	73.1	77.5	71.4	83.9	77.0
Private examination areas	100.0	98.1	100.0	96.3	98.4
Place for staff to wash their hands	74.8	68.5	58.3	82.5	69.2

Source: ETSDS (2003).

of bed were more common in rural areas, presumably reflecting the lack of alternative services. Only 71 percent of facilities had access to water and only 37 percent had any source of electricity. Less than 70 percent of facilities had a place where staff could wash their hands. Fewer still had either a telephone or a communication radio.

Respondents were also asked about the presence of equipment. Many of the items are supposed to be present in all types of facilities (table 44). Few

Table 44. Equipment Present at Facilities
(percent of facilities reporting at least one functional item)

		By area		*By type of facility*		
Item	*Norm*	*Urban*	*Rural*	*Health post*	*Health center*	*Total*
Adult weighing scales	B	73.5	69.8	63.4	78.4	70.2
Autoclave	B	42.9	52.6	42.7	62.1	51.5
Basin for washing hands	B	65.1	59.0	54.2	66.3	59.6
Blood pressure gauge	B	80.7	79.7	72.8	88.4	79.8
Box or kit for births	N/A	34.5	65.3	54.4	71.1	61.9
Child weighing scales	C	77.7	78.4	77.7	79.1	78.3
Clock	B	31.5	28.6	24.7	34.1	28.9
Either an autoclave or pressure sterilizer	B	72.3	71.6	69.6	74.2	71.7
Either electricity or a lamp of any type	C	87.8	79.1	81.0	79.0	80.1
Generator	N/A	0.0	1.7	0.0	3.3	1.5
Height measure	N/A	49.6	27.6	33.6	25.7	30.0
Infant weighing scales	B	79.8	75.0	69.2	83.3	75.6
Kerosene lamp	C	32.4	59.8	52.3	62.1	56.8
Lamp "petromax" or "aladdin"	N/A	3.8	11.2	10.2	10.6	10.4
Microscope	C	34.9	10.6	2.7	26.2	13.3
Portable cold box (for mobile teams)	B	60.1	60.5	54.6	67.6	60.5
Pressure sterilizer	B	56.3	51.8	54.7	49.3	52.3
Refrigerator	C	68.1	75.5	71.2	78.9	74.7
Scissors	B	100.0	98.1	97.0	100.0	98.4
Solar battery for light	N/A	0.0	18.1	14.9	17.4	16.1
Solar battery for refrigerator	N/A	0.0	16.6	12.5	17.4	14.7
Stethoscope	B	86.6	92.5	85.3	99.7	91.8
Stirrups and seat for gynecological examination	C	76.1	69.6	66.6	74.9	70.4
Thermometer	B	100.0	92.8	94.0	93.2	93.6
Vacuum pump	B	25.2	34.2	32.7	33.7	33.2

Note: The column headed "norm" indicates which equipment should be held by type of facility, according to facility norms, using the following key: C = Health Center only; B = both health post and health center; N/A = not applicable or not defined in the norms. Equipment norms are based on "Catálogo de Carga Tipo Para Postos de Saúde" (MOH 1994) and "Catálogo de Carga Tipo Para Centros de Saúde" (MOH 1994).
Source: ETSDS (2003).

had access to a generator or solar batteries to compensate for a potential lack of electric service. Many lack basic items of equipment such as a blood pressure gauge or scales for weighing adults or children. Some 28 percent had neither an autoclave nor a pressure sterilizer. Three-quarters have a refrigerator. Health centers tend to be better equipped than health posts, although the differences are small.

Nondrug Supplies

Some nondrug supplies are procured by the DDS using either the state budget or the FCP. Due to the lack of banking facilities in most districts, and limited markets for some of the goods and services required, many of the DDS procure inputs in the provincial capital. In addition to locally procured supplies, a number of material inputs are supplied through a centrally operated supply management system (*aprovisionamento*). The range of products supplied through the system varies across provinces and districts, but may include food and kitchen products, cleaning and office material, and fuel. Furthermore, some medical supplies—health information system forms (HIS), protective clothing, bedding, and medical equipment and consumables—are provided to the districts through a separate system (*abastecimento*). These material inputs are used directly by the DDS, and are also requisitioned on a monthly basis by the facilities in the districts. If the need arises, facilities can also requisition additional supplies during the month.

On the basis of the DPS questionnaires, it is clear that all provinces supply HIS forms, clothes, and beddings to the districts. But many provinces also provide a wider range of supplies. For example, four provinces reportedly supply districts with office material. Four provinces also provide cleaning material, while three provinces report sending kitchen equipment and food to district directorates. It is not clear what criteria are used for allocating these supplies between facilities in the respective districts. In general, most of the DPS report facing problems in the area of supply management. The respondents expressed concerns both about general shortages and about poor planning and distribution systems resulting in frequent stock-outs. Indeed, nine provinces claim to have had problems satisfying the needs of the DDSs in 2001. In most cases, these problems were due to delays or shortfalls in the supply from the central level.

The interviews with the DDS directors also revealed problems in the supply of medical material and other consumables. Over 60 percent of districts reportedly suffered stock-outs of essential medical material or equipment in the past six months. Frequently, more than one item was mentioned, including syringes, needles, blood pressure meter, autoclaves, tweezers, and gloves. Twenty-seven percent of district directors report feeling that the system of supplying medical equipment and consumables works poorly, compared to 37 percent who feel it works well, and 34 percent who think it is neither good nor bad.

Nine out of eleven provinces provided information on the value of total distributions of nondrug supplies in 2001. The amounts range from 3,000 to almost 18,000 million MT. For these provinces, these amounts are between 7 and 35 percent of total provincial spending from the state budget and the FCP.

Table 45. Presence of Clinical and Cleaning Materials at Facilities
(percent of facilities)

	By area		*By type of facility*		
Item	*Urban*	*Rural*	*Health post*	*Health center*	*Total*
Antiseptic	97.9	98.4	100.0	96.3	98.4
Sterile gloves	89.5	79.3	77.0	84.6	80.4
Bandages	100.0	98.1	97.0	100.0	98.4
Spatula	81.1	65.2	69.2	64.2	66.9
Disposable needles	68.9	58.7	59.7	60.0	59.8
Disposable syringes	76.1	60.5	60.0	64.9	62.2
Cat gut	86.1	85.3	79.7	92.3	85.4
Cleaning material	82.4	74.9	81.9	68.2	75.8

Source: ETSDS (2003).

Table 46. Supervision and Planning at Facilities
(percent)

Measure	By area		By type of facility		Total
	Urban	Rural	Health post	Health center	
Visited by DDS at least once in past 2 months	72.3	81.1	82.1	77.8	80.1
Visited the DDS at least once in past 2 months	92.0	93.9	92.8	94.7	93.6
Either visited by DDS or visited it	92.0	96.4	97.0	94.7	96.0
Had planning meeting with DDS in past 12 months	68.9	67.5	62.5	73.9	67.7
Had supervision visit by DDS in past 12 months	87.4	81.4	79.4	85.3	82.1
Had supervision visit by DPS in past 12 months	50.0	35.8	21.8	57.1	37.4
Reporting meeting with community/local administration	58.0	88.1	83.5	86.2	84.7

Source: ETSDS (2003).

Nearly all facilities had some form of antiseptic and bandages in stock at the time of the survey (table 45). However, an appreciable proportion of facilities were out of stock of other basic materials. Only 60 percent of facilities had disposable needles and disposable syringes in stock. Only three-quarters had cleaning material in stock. Health centers were as likely as health posts to be out of stock of these items, although urban facilities are somewhat better supplied than the rural facilities.

Facility Supervision

Most facilities have reasonable levels of contact with the DDS. Over 95 percent had had contact with the DDS in the previous two months—for most, a staff member had visited the DDS, but 80 percent reported that they had been visited by a representative of the DDS in the previous two months (table 46). Over the course of the previous year, 82 percent had received a supervision visit by the DDS, but only two-thirds had undertaken a planning exercise with it in the same period. As might be expected, supervision by the DPS is less frequent—only 22 percent of health posts received supervision by the DPS in the previous year.

Most facilities reported that they meet with local community representatives or the local administration to discuss health and activities of the health facility. This included, particularly, meeting representatives of the locality administration and other members of the community. It also included representatives of the church and traditional chiefs. Meetings with NGOs were reported by only 10 percent of facilities. This suggests, superficially at least, a high level of community engagement by the facility staff.

Notes

54. In the eight districts where NGO facilities operate, most DDSs provide no staff, nondrug material inputs, or financial support to these facilities. However, all districts except one report providing drugs to the facility, most on a regular basis. One-half of the districts report that they supervise and monitor the activities of the NGO facilities, arrange regular joint planning meetings, and receive revenues from the NGO facilities on a regular or occasional basis. In contrast, in the districts with private for-profit providers, the DDSs have fewer links with the facilities. Supervision of private facilities is cursory, with only four DDSs reporting that they monitor the facilities on an occasional basis. The DDSs receive no revenues from private for-profit facilities.

55. This is partly overcome by personal visits. Many rural districts report having been to the DPS between two to four times in the past three months. These visits can, however, be disruptive.

Service Output and Quality

8

Key Findings and Conclusions

- Districts delivered an average of 2,209 service delivery units per 1,000 inhabitants in 2001, with outpatient consultations comprising between one-third and one-half of the total. Maputo has the highest level of output, although other urban areas have an average similar to rural areas.
- Service output per capita varies across districts. For example, service delivery units (SDUs) per capita range from 1,000 to over 4,000 in the sampled districts. Differences in staffing patterns and facility infrastructure can explain most of these differences, but there are also other factors at play.
- Another factor affecting the SDU per capita is variations in output per district health worker, which can range from 1,000 SDUs per worker to more than 8,000. These variations may partly reflect the difficulties of serving sparsely populated areas, but substantial variations in productivity are also observed at more normal population densities.
- Another source of variation is output per staff member between facilities, which ranges from 100 to 1,000 SDUs per staff member per month. It is unclear what causes these variations at the facility level, but high-output facilities do not seem to be particularly likely to be situated in high-output districts, or vice versa.
- Outpatient consultations are the most common facility activity, followed by growth monitoring consultations and child vaccinations. Outreach and environmental sanitation activities are rare.
- Lack of staff, transport, and equipment were the most commonly identified constraints to improving the quality of health services.
- On average, users traveled for 48 minutes and waited for 45 minutes for a consultation of about 4 minutes. Most were satisfied with the health worker they saw.

Overview of District-Level Service Outputs

The majority of health services in Mozambique are provided by the primary level of the NHS.[56] Table 47 reports the district-level outputs and activities for 2001 (excluding outputs by provincial and central hospitals). It considers the seven categories of service outputs, as well as a composite service indicator—service delivery units (SDU).[57] Districts delivered, on average, 2,209 SDUs per 1,000 inhabitants in 2001. Outpatient consultations comprise between one-half and one-third of this total, with an average of almost 850 outpatient consultations per 1,000 inhabitants.[58] There are some notable urban-rural and regional differences in service outputs. Service outputs in urban districts are only slightly higher than rural districts, on average, but quite a lot higher in Maputo City. This picture would change considerably if the services provided by hospitals were included.[59]

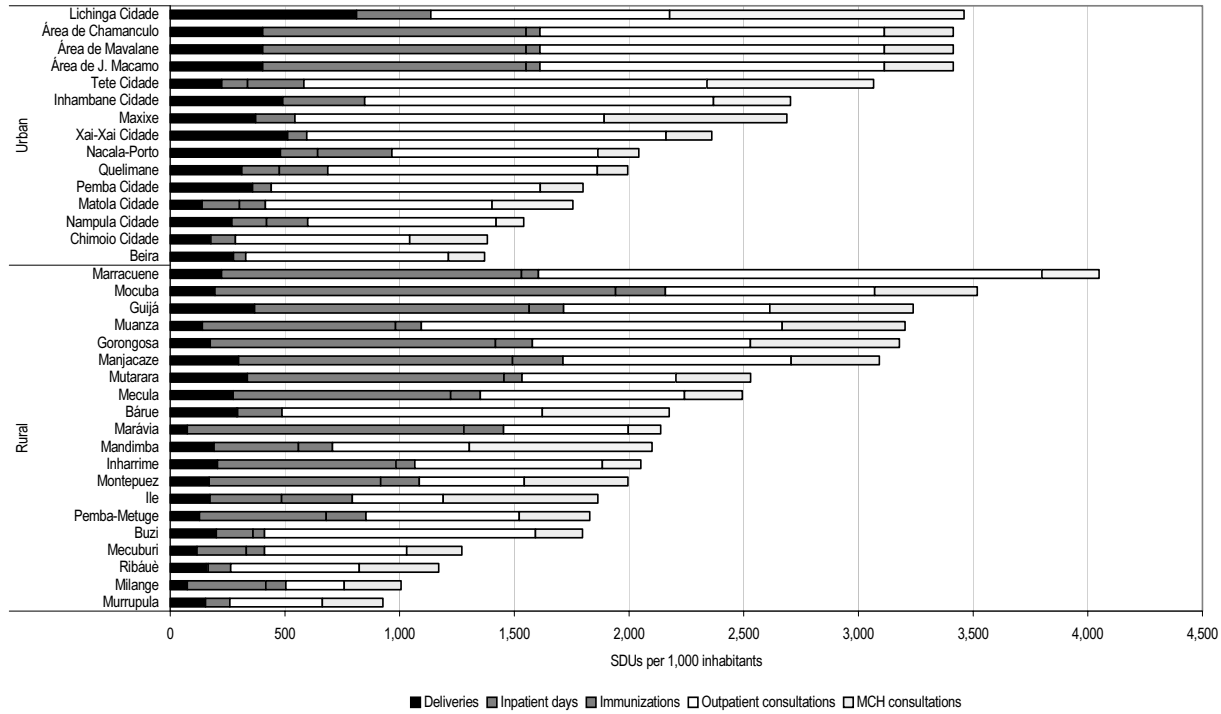
The level of service output varies across districts. Figure 22 shows the total volume of SDUs per 1,000

Table 47. District Activities, 2001

	Service outputs per 1,000 inhabitants							
	External consultations	*MCH consultations*	*Child immunization*	*Deliveries*	*Inpatient days*	*SDUs*	*Prenatal immunization*	*Lab tests*
Rural	795	374	282	15	77	2,183	120	217
Urban (excluding Maputo City)	1,161	401	375	31	31	2,180	179	317
Maputo City	1,502	300	119	34	N/A	3,413	336	90
Total	841	374	286	17	42	2,209	130	223

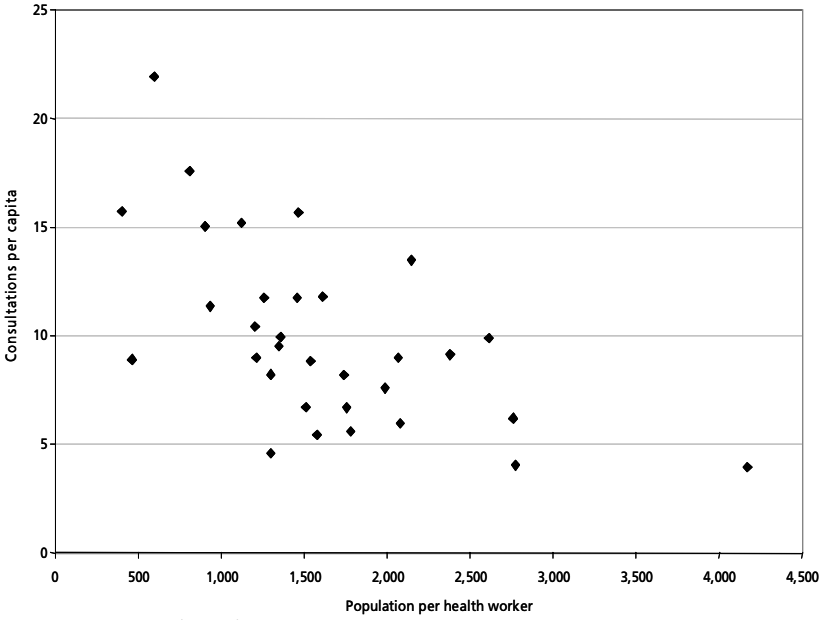
Note: The estimates only consider activities for which the DDS is responsible, and hence do not include services delivered in provincial or central hospitals in the respective areas. Primary-level facilities do not provide inpatient services in Maputo City.
Source: ETSDS (2003).

Figure 22. Variation across Districts in SDUs per 1,000 Inhabitants, 2001



Note: Contributions to total SDU from different services are weighted in accordance with the formula indicated above.
Source: ETSDS (2003).

Figure 23. Relationship between SDUs Delivered Per Capita and Population per Health Worker, District Data



Source: ETSDS (2003).

inhabitants in 2001 by district, with a breakdown into contributing components. Two issues are particularly noteworthy. First, the figure clearly shows that inpatient days and outpatient consultations are the most important contributors to the overall volume of SDUs. Second, variation in these two types of service outputs, in particular inpatient days, explains most of the variation across districts in per capita SDUs. Although it is not obvious from the figure, there is only a weak correlation between the volumes of different service outputs. In other words, a district that performs a large number of outpatient consultations per capita does not necessarily also perform a lot of deliveries or immunizations.

The variation in service delivery per capita reflects differences in staff and infrastructure between districts, and the SDUs delivered per capita shows quite a strong relationship with the number of health workers per capita (figure 23). The considerable variation in output per staff member between districts ranges from 1,115 to 8,374 SDUs per health worker per year.[60]

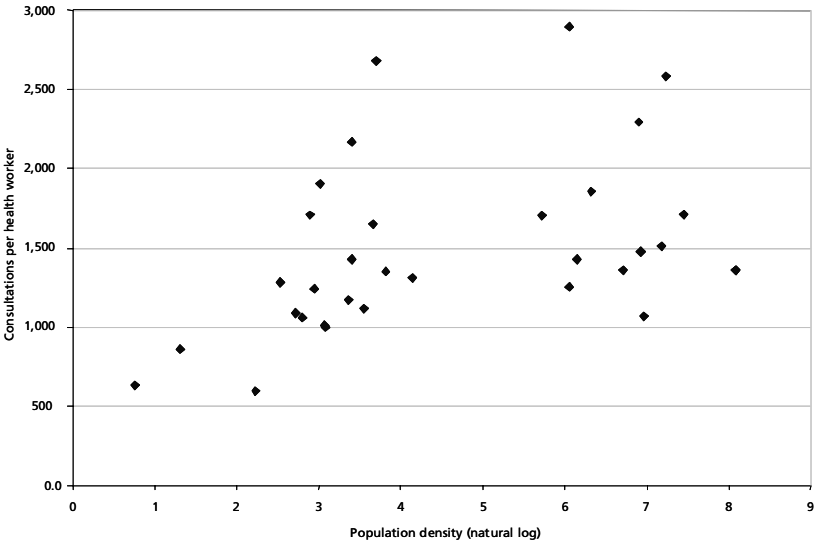
Low productivity may be a cost of extending services to sparsely populated areas in the interests of equity. There is some evidence that this is true at the lowest output per health worker, although there is large variation in productivity measures, in this case outpatient consultation per capita, for districts with similar population densities (figure 24).

Service Delivery and Service Quality

Facilities were asked about opening hours and services provided. Some 85 percent of facilities provide 24-hour service—either by being open, or by calling a staff member out of hours (table 48). Rural facilities were more likely than urban facilities to offer this service, and it presumably reflects the lack of alternative services.

Most facilities offer many of the basic primary health care services that would be expected. However,

Figure 24. Relationship between Outpatient Consultations per Health Worker and Population Density



Source: ETSDS (2003).

Table 48. Facility Opening Hours and Services Offered
(percent)

Service	Norm	By area		By type of facility		Total
		Urban	Rural	Health post	Health center	
Open 6 or 7 days per week		58.7	58.7	62.4	54.3	58.7
Offering 24-hr service		39.9	90.3	81.2	88.9	85.3
Services offered						
Attendance at births		33.2	82.5	69.6	86.0	77.0
Child vaccination		76.5	72.8	67.2	80.5	73.2
Condoms		100.0	96.8	94.7	100.0	97.1
Contraceptive pills		82.8	81.7	74.5	90.6	81.8
Environmental health services		34.9	40.6	37.6	42.9	40.0
First aid		73.5	98.4	95.1	96.3	95.6
Health education		100.0	95.5	97.4	94.4	96.0
Inpatient services (routinely)		6.7	26.6	10.9	40.8	24.4
Mobile teams *(using staff from the facility)*		43.7	45.7	31.8	62.2	45.5
Other forms of family planning		82.8	78.1	66.2	93.8	78.6
Oral health		65.1	39.0	37.8	46.9	41.9
Outpatient consultations for adults		100.0	98.4	97.4	100.0	98.6
Outpatient consultations for children		95.8	100.0	99.1	100.0	99.5
Pre- and postnatal consultations		77.3	84.7	76.2	93.2	83.8
Services for sexually transmitted diseases		95.0	92.0	88.7	96.8	92.4
Malaria tests						
Malaria tests on site		37.8	10.6	2.1	27.6	13.6
Not on site, but refer for malaria tests regularly		43.3	61.9	62.2	57.0	59.8

Source: ETSDS (2003).

according to service delivery norms, even the most basic facilities should offer most of the services covered in the table (excluding inpatient services, oral health, and possible mobile teams); it is clear that this has not been achieved in practice. Only two-thirds of health posts offer child vaccination, for example, and only 40 percent of all facilities reported that they undertook environmental health activities. It appears that a substantial number of facilities remain unable to undertake all that is expected of them.

One-quarter of primary facilities offer inpatient services, more commonly in rural areas. Only 14 percent of facilities offered malaria tests on site. Another 60 percent said that patients were regularly referred for tests. The remainder—one-quarter of primary facilities—neither conduct the tests nor say that they refer patients. Other common tests showed a similar pattern.

The monthly output from primary facilities, averaged across all facilities, is shown in table 49. It is based on facility records. General outpatient consultations predominate, averaging almost 850 per month. Child nutritional consultations are the second most numerous activity, driven by high levels reported in urban areas (particularly in Maputo). With the exception of HIV education talks, few activities external to the facility are undertaken—mobile teams, school visits and hygiene inspections are rare.

These services translate into an average of 2,065 service delivery units per facility per month. The number of SDUs delivered per facility varies between urban and rural facilities and between health centers and health posts. However, much of the difference in these means is due to the number of staff employed. The average number of SDUs per staff member, including all staff in the denominator, is less variable across these groups. It averages 464 SDUs across primary facilities as a whole and is slightly higher than average in rural areas and health posts.

The variation between individual facilities in the number of SDUs per staff member is considerable. The measure ranges from 100 to over 1,000. One-quarter of facilities produced less than 246 SDUs per staff member, while the top quartile all produced over 597 SDUs per staff member. The mean output

Table 49. Services Provided by Facilities per Month

Measure	Norm	By area		By type of facility		Total
		Urban	Rural	Health post	Health center	
Services: mean number provided						
Outpatient consultations		2,627.5	617.6	567.6	1,172.3	846.8
Prenatal consultations		383.7	145.1	126.8	229.7	172.7
Postnatal consultations		106.9	30.7	25.6	56.8	39.5
Child nutritional consultations		1174.2	288.4	251.2	564.2	390.9
Family planning consultations		246.5	29.1	28.8	81.8	51.9
Assisted births		19.8	15.9	12.7	20.8	16.4
Infant vaccinations		616.9	264.1	187.8	444.5	304.2
Tetanus toxoid vaccinations		465.9	128.5	99.4	243.8	166.2
Laboratory tests		736.2	12.4	11.7	206.3	97.0
Inpatient days		0.0	30.3	2.0	57.6	26.9
Days of mobile teams working		0.5	0.9	0.2	1.7	0.8
School visits		1.1	0.4	0.2	0.8	0.4
Hygiene inspections		0.5	0.0	0.0	0.2	0.1
HIV education talks		5.4	5.6	6.7	4.2	5.6
Mean number of SDUs per month, per facility		4,742.0	1,725.0	1,255.0	3,078.0	2,065.0
Mean number of SDUs per month, per staff member		372.6	475.7	473.8	451.1	463.9
Median number of SDUs per month, per staff member		312.3	422.1	437.8	408.3	414.3

Source: ETSDS (2003).

per staff member represents not more than three hours spent on clinical consultations per working day, suggesting possibilities for improved productivity in less active facilities (table 50).[61]

Although it has not been possible to investigate what drives the variation at the facility level, perhaps surprisingly it does not show any strong relationship with variations in the same measure at the district level (figure 25), [62] which suggests that it is not driven by district-level factors but by factors specific to the facility and its environment.

Grossing up the average number of SDUs per facility to the national level suggests primary facilities produce 26.45 million SDUs per year, around 40 percent of the total production of the public health system, with 34 percent of its staff. Removing nonclinical and nontechnical staff from the calculation, the average annual number of SDUs produced per clinical and technical staff member at the primary facility level is around 8,063. This is close to the top of the provincial range cited in the Health Expenditure Review.

The facility in-charge was asked to identify the main constraints that prevented improvements in the quality of services at the facility. The most commonly identified problems, both in urban and rural areas, were lack of transport and lack of staff, followed by lack of medical materials and inadequate water supply (figure 26). Respondents were most likely to identify lack of staff, lack of transport, and lack of medical materials as the most serious problems.

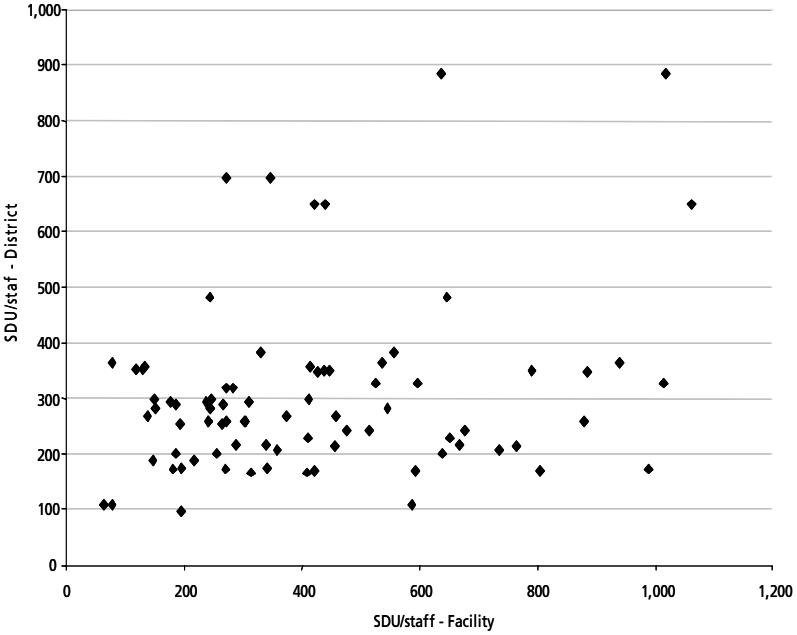
Similarly, in the main district questionnaire, the district director of health was asked to identify the main constraints to improving the quality of services in the district. They were asked to identify and rank the three most important of 12 different predefined constraints.[63] As figure 27 shows, most districts ranked the lack of medical equipment and a lack of staff as the main constraints to improving quality (almost 30 percent in both cases). Problems with transport, kit supply, and staff accommodation also feature high on the list. The graph also shows the percentage of districts that mentioned the respective problem as one of the three most important

Table 50. Approximate Workload Implied by Various Levels of Output per Health Worker

SDU per staff member per month	*Time spent on clinical work/ minutes per month*	*Time spent on clinical work/ hours per working day*
150	1,200	0.9
246	1,968	1.5
464	3,712	2.8
597	4,776	3.6
1,000	8,000	6.1

Source: ETSDS (2003).

Figure 25. Service Delivery Units per Staff Member, DDS and Facility Levels



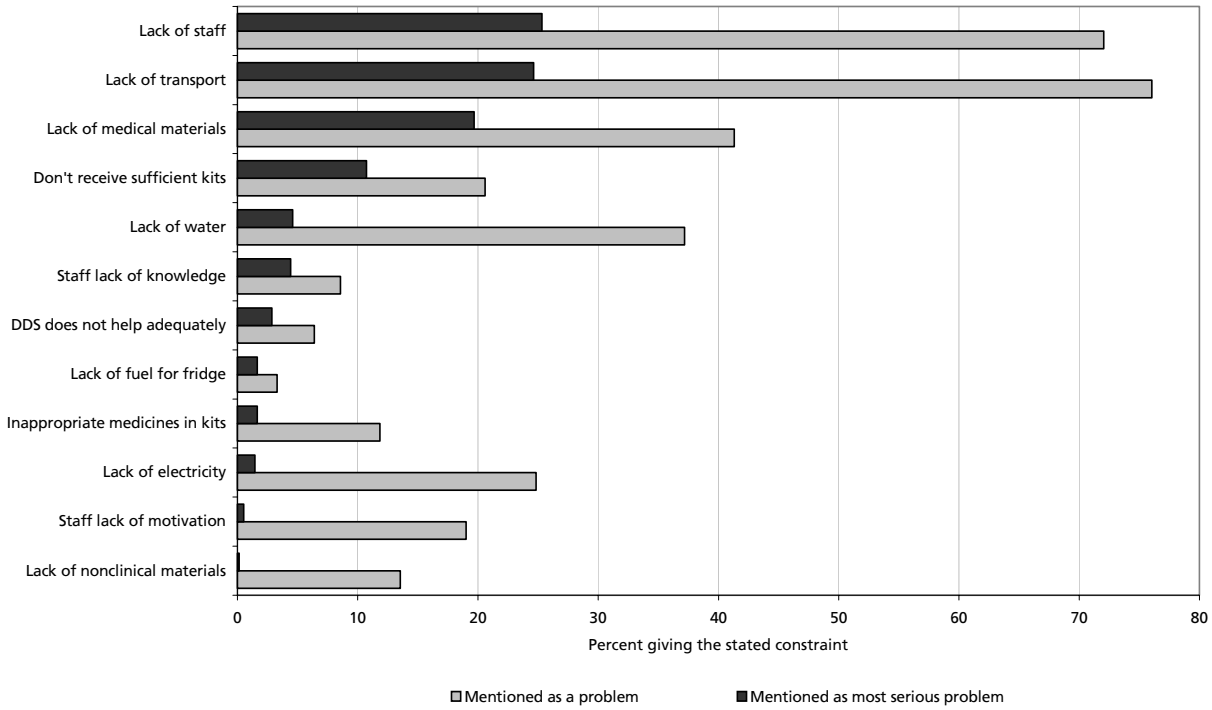
Source: ETSDS (2003).

constraints. The lack of medical equipment and, in particular, the lack of staff, are mentioned as a problem by a majority of districts. Accommodation for staff, and the lack of water and electricity are mentioned by a number of districts, although few consider it the main problem. Looking at urban and rural districts separately, a few issues stand out. Most important, none of the urban districts mention the lack of staff as a main problem, whereas nearly 50 percent rank lack of medical equipment as the primary problem. Moreover, a greater proportion of urban districts mention staff motivation as a problem, and a few also consider the kit composition inappropriate—an issue that is not mentioned by rural DDSs. Finally, 25 percent of urban districts consider an "other" problem the main constraint, and mentioned prominently among them are poor infrastructure, followed by lack of budgetary funds, and irregularity of kit supply.

Evidence from the Exit Poll

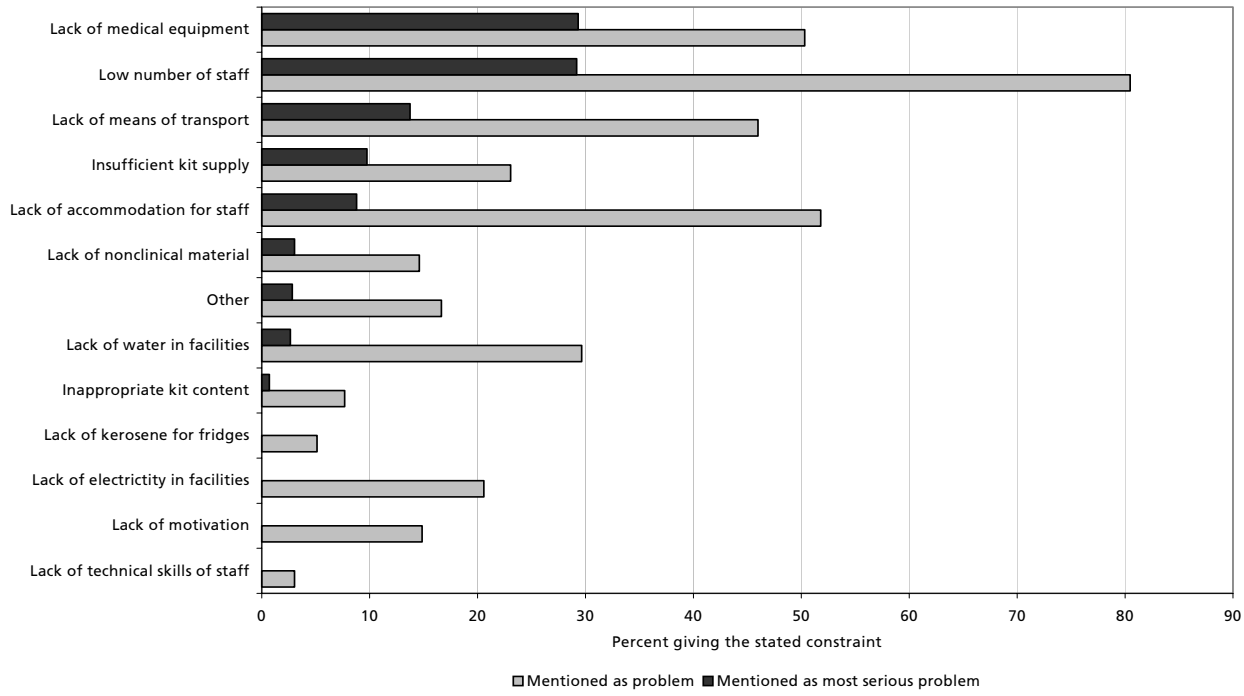
The perspective of patients is important for understanding problems of low quality and efficiency in

Figure 26. Constraints to the Improvement of Service Quality Identified by the Facility In-Charge



Source: ETSDS (2003).

Figure 27. DDS Perceptions of Constraints to Better Service Quality



Source: ETSDS (2003).

service delivery. This section presents evidence on service delivery from the exit poll.

Characteristics of Outpatients

At each of the sampled facilities, approximately eight outpatients were interviewed (if the outpatient was a child, the person that accompanied the child was interviewed). The questionnaire covered four areas: (a) characteristics of the client and the reason for visiting the facility; (b) access to the facility and other health care providers; (c) the characteristics of the consultation and prescribed drugs; and (c) user payments.

The overwhelming majority of clients came to the facility in response to an illness episode (table 51). Indeed, over 90 percent of the respondents were either sick themselves, or were accompanying a sick child.

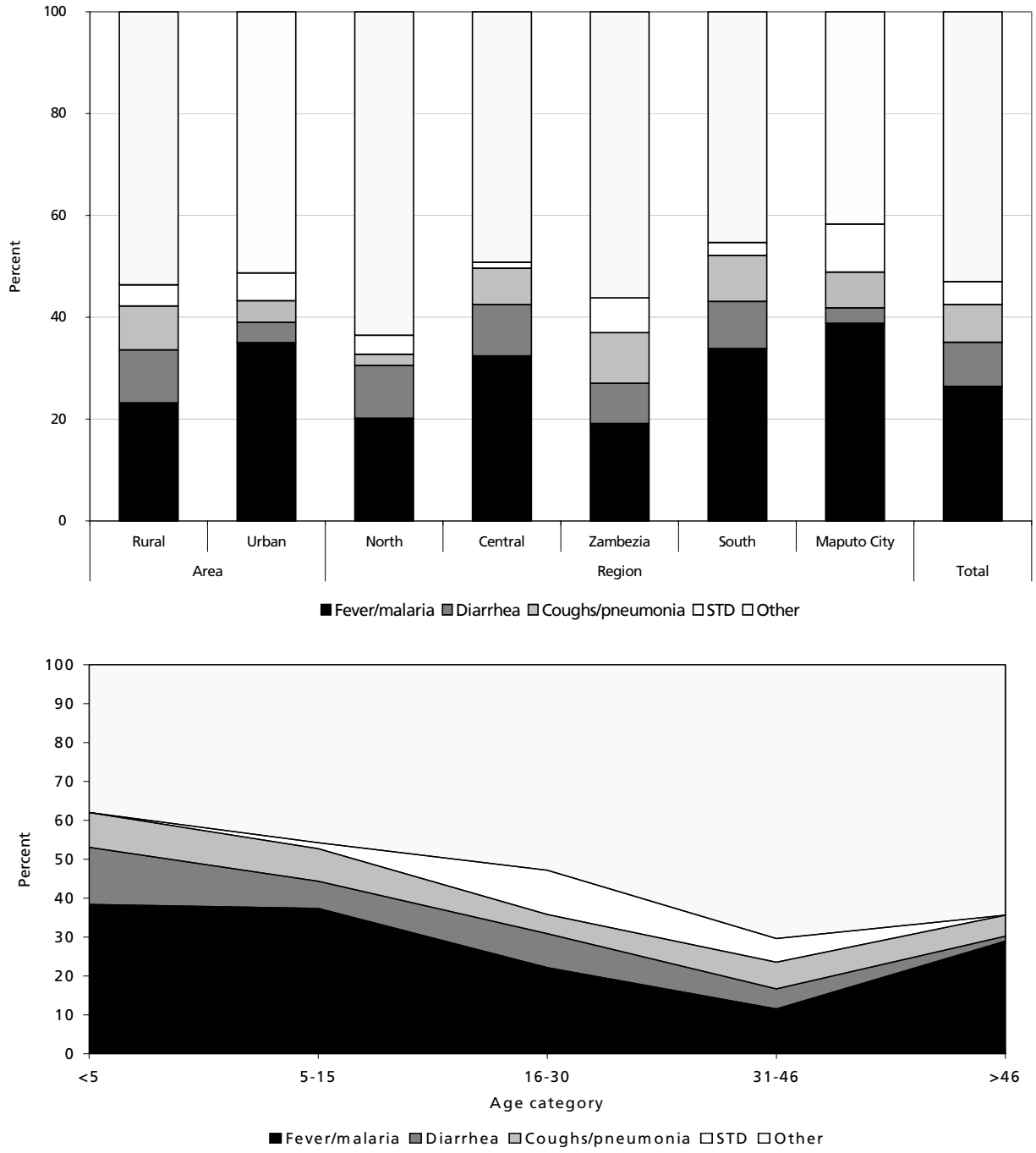
For the sick clients, the most common reported specific (precoded) symptom is fever/malaria (26.4 percent), followed by diarrhea (8.7 percent), cough/pneumonia (7.4 percent), and sexually transmitted diseases (STDs) (4.5 percent) (figure 28). The "other" group (53 percent) includes some pre-coded problems of low frequency (eyes, skin, teeth, or ear/nose/throat), but the majority in this group reported a problem that did not match pre-coded categories. These included mixed symptoms, general pains, stomach or heart pains, asthma, and heart or blood pressure problems. The patterns of reported symptoms vary across urban and rural areas, and across regions, and also across demographic groups. For

Table 51. Reason for Visiting the Facility

	Rural	*Urban*	*North*	*Central*	*Zambezia*	*South*	*Maputo City*	*Total*
Illness	56.9	64.6	53.6	50.9	56.6	69.9	73.9	58.9
Accompany sick child	32.5	29.1	32.1	35.1	34.2	28.2	20.7	31.6
Injury	5.6	0.9	6.7	7.3	4.1	0.1	2.6	4.4
Accompany injured child	2.3	5.0	0.0	6.6	4.2	1.1	2.9	3.0
Other	2.8	0.5	7.6	0.2	1.0	0.7	0.0	2.2
N	499	180	150	123	218	134	54	679

Source: ETSDS (2003).

Figure 28. Reported Symptoms by Location and Age Category

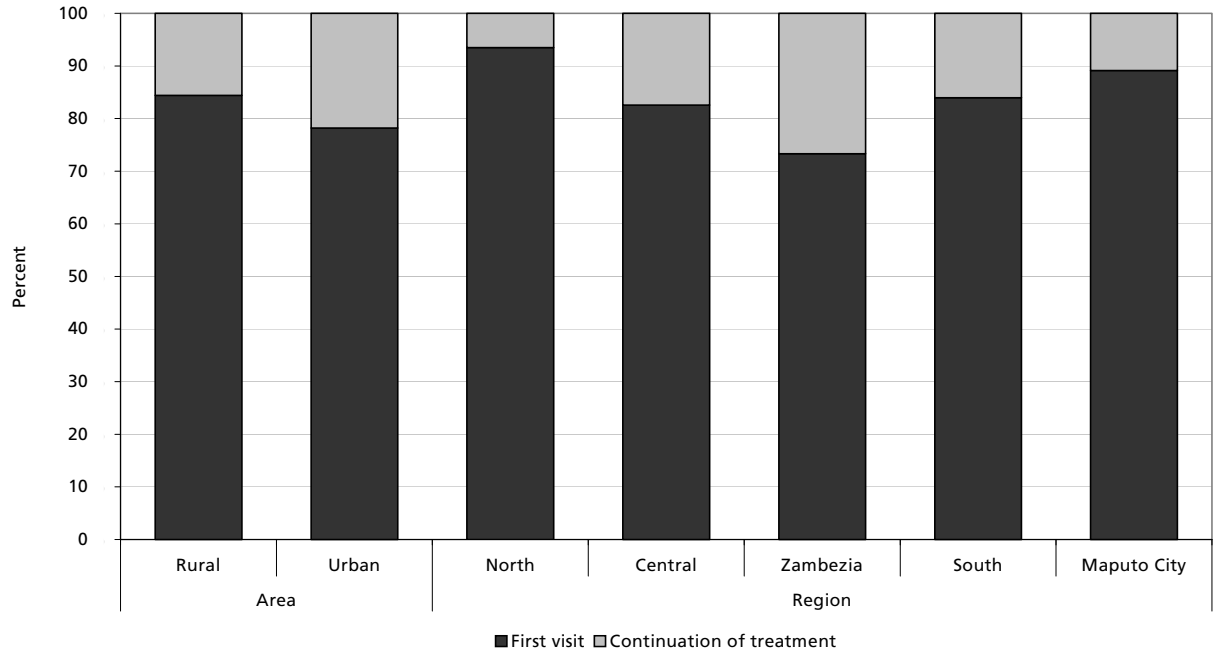


Note: Subsample of sick clients, N=615.
Source: ETSDS (2003).

example, malaria and diarrhea are more frequently reported for children, whereas "other" symptoms are relatively less common. Conversely, clients aged 16-45 (almost 50 percent of outpatients) are more likely to report STDs (nearly 10 percent of the sick clients in this age category).[64] Most of the patients report having had the problem for only a few days (median 4 days).

In just over 80 percent of cases—with some urban-rural and regional variation—the person was visiting the facility for the first time with the current problem (figure 29). Many of the returning patients

Figure 29. Proportion of New and Returning Patients



Source: ETSDS (2003).

report having visited the facility more than once before with the current problem.

Accessing the Facility and Alternative Sources of Health Care

On average, outpatients traveled for almost 50 minutes to reach the facility (table 52). This average is, however, partly driven by a small number of patients coming from very far away. Indeed, one-half of the clients travelled less than one-half hour. As expected, travel times are longer in rural than urban areas, and there are also some notable regional differences.

Table 52. Travel Time to the Facility for Outpatients

	Mean	*25th percentile*	*Median*	*75th percentile*
Rural	53.8	15.0	40.0	60.0
Urban	32.6	10.0	20.0	30.0
North	51.6	15.0	40.0	60.0
Central	57.6	10.0	30.0	80.0
Zambezia	51.7	15.0	40.0	70.0
South	35.9	15.0	20.0	60.0
Maputo City	32.9	10.0	20.0	30.0
Total	48.2	15.0	30.0	60.0

Note: N = 672.
Source: ETSDS (2003).

The majority of clients (81 percent in rural areas; 86 percent in urban areas) traveled to the facility by foot. In urban areas, the remainder reached the facility by public transport (13 percent), whereas the bicycle was the favored means of transport in the rural areas (14 percent). A majority (93 percent) of clients went specifically for the purpose of a medical visit and not to do other things in neighborhood of the health center, whereas 4 percent report also coming for the market.

While the survey focused on primary-level health care facilities operated by the NHS, the exit poll also inquired about access to and the use of alternative sources of care.[65] Eleven percent of clients report the facility is the only source of care that they can access, while 19 percent claim that a traditional medicine practitioner (TMP) is the only available alternative. Yet, as can be seen from table 53, a considerable proportion of clients report having access to other forms of health care. Aside from TMPs, the most important alternatives in terms of access are other NHS health centers or posts, hospitals, religious organizations or NGOs, and pharmacies. There are however important urban-rural and regional differences in the accessibility of alternative health care providers. Not surprisingly,

Table 53. Percentage of Users Reporting Access to Alternative Health Care Providers

	Area		Region						Percent with access who went with current problem
	Rural	Urban	North	Central	Zambezia	South	Maputo City	Total	
Community health post	3.3	1.9	1.5	2.7	2.6	6.4	0.0	2.9	67.1
Hospital	18.6	70.5	34.2	11.1	25.1	40.4	84.6	32.3	17.8
Market (that sells medicine)	5.0	12.2	4.0	1.4	13.5	1.4	14.3	6.9	8.8
Nurse or doctor working from home	0.8	2.9	1.0	0.0	0.3	4.7	1.6	1.4	0.0
Other health center or post	34.7	67.7	62.2	23.4	25.1	56.7	77.5	43.4	30.1
Outside services from facility staff	0.0	1.7	0.0	0.0	1.0	0.7	0.0	0.5	0.0
Pharmacy outside facility	0.3	38.5	3.9	14.9	4.6	7.7	48.5	10.4	20.3
Private for-profit clinic	0.4	10.4	0.2	0.2	0.7	2.9	26.9	3.0	51.9
Religious organization or NGO	20.0	14.5	1.2	22.5	30.1	12.1	26.3	18.5	31.0
Traditional medical practitioner	76.4	51.2	77.9	92.3	77.8	48.0	18.4	69.8	27.7
N	448.0	229.0	181.0	126.0	144.0	172.0	54.0	677.0	

Source: ETSDS (2003).

other NHS facilities are more readily available in urban districts. Private pharmacies or clinics are important in Maputo City, but rare in other parts of the country. In contrast, religious organizations and NGOs appear to be fairly evenly spread around the country.

For each alternative clients reported having access to they were asked whether they had visited that particular health care provider with the current problem. Sixteen percent report that they have visited one or more alternative providers with the current problem. The percentage was higher for clients for whom the facility was not the closest alternative (28 percent, compared to 8 percent where the facility was the closest provider). Notably, of the people with access to a private clinic, 52 percent report having also sought care from the clinic with the current problem.

For the 38 percent of clients visiting the facility despite it not being the closest alternative, most cite access to medicines as the reason. Other users refer to the low costs or the need to experiment with different alternatives. For many of these users, a TMP is the closest alternative. In these cases, users explain the visit to the facility with reference to religious considerations or the inability of the TMP to treat the respondent's problem.

Waiting Times and the Consultation

On average, clients waited for approximately 45 minutes before being seen. Average waiting times are considerably longer in urban areas (76 versus 33 minutes in rural areas). There are also some notable regional differences. Consultations are, in general, very short—50 percent of clients spend 4 minutes or less with the health worker, and very few spend more than 5 minutes. Although users' estimates of the time spent with the health worker might be inaccurate, these

Table 54. Waiting Time and Duration of Consultation

	Waiting time at health center (minutes)					Length of consultation (minutes)				
	Mean	25th percentile	Median	75th percentile	N	Mean	25th percentile	Median	75th percentile	N
Rural	33.3	10.0	20.0	45.0	445	4.1	3.0	4.0	5.0	416
Urban	75.9	15.0	45.0	120.0	230	4.5	3.0	5.0	5.0	207
North	43.9	10.0	20.0	45.0	179	4.3	3.0	5.0	5.0	168
Central	56.0	15.0	40.0	70.0	126	3.5	2.0	3.0	5.0	110
Zambezia	36.9	10.0	30.0	45.0	143	3.9	2.0	3.0	5.0	142
South	41.6	7.0	15.0	60.0	173	4.9	3.0	5.0	5.0	153
Maputo City	58.5	15.0	30.0	90.0	54	5.3	4.0	5.0	5.0	50
Total	44.6	10.0	30.0	60.0	675	4.2	3.0	4.0	5.0	623

Source: ETSDS (2003).

figures suggest that consultations are rather cursory.

Reflecting the urban-rural gender pattern of staff, the majority of patients in rural districts were attended to by male health workers (82 percent). In urban areas, the majority (62 percent) was seen by female health workers. When asked whether they would have preferred a health worker of the opposite sex than the one they had, nearly 90 percent claim to either prefer it as it was (19 percent) or be indifferent (67 percent). Seventeen percent of women who were seen by a man report that they would have preferred or much preferred to have been seen by a woman.

When asked about the attitude of the health worker, nearly 90 percent of both rural and urban patients report that the worker's attitude was either good or reasonably good. Less than 10 percent of clients complained of a bad or apathetic attitude on the part of the worker. Similarly, an overwhelming majority of patients in both rural and urban areas thought that the health worker's explanation of their problem and treatment was very good or reasonably good. These findings are encouraging, but it should be remembered that perception questions are always relative to the respondents expectations or norms and do not offer an objective assessment of health worker behavior or attitude.

Approximately 44 percent of all outpatients were asked to return for a follow-up visit, in most cases within five to seven days. Only a very small percentage of patients (1 and 3 percent in rural and urban districts, respectively) were referred to another health care provider.

Notes

56. This is evident from both household and administrative data. For example, as reported in the recent Health Sector Expenditure Review, nearly 80 percent of health services (SDUs) are delivered at levels I and II of the NHS (rural and general hospitals, health centers, and health posts) (Government of Mozambique 2002).

57. SDU defined in note 23.

58. The information on outpatient consultations in this section is based on first consultations for each patient.

59. The district questionnaires also provide information on outreach and communication campaigns in the sampled districts, although these data are not complete. With the exception of a very small number of districts, all DDSs report having realized information and communication campaigns in the areas of family planning, HIV/AIDS, immunizations, infant nutrition, maternal health, and STDs in 2001.

60. This excludes one district with a figure of over 10,000, which may be an outlier.

61. Productivity is calculated by multiplying the number of SDUs per month by six minutes per outpatient consultation (somewhat above the reported duration), with an adjustment to allow for nonclinical staff. High-output facilities do not perform any more poorly on user-reported measures of quality than do lower-output facilities, suggesting that their higher productivity is not at the expense of quality of care.

62. Demand-side factors may be very important at the facility level, including the size and nature of the population served and the alternative services available. Unfortunately the information on facility catchment population was not accurately reported. The mix of services provided also varies according to the level of SDU per staff member, suggesting that variations may partly be an artifact of—or at least sensitive to—the weights given to the different types of service.

63. District directors were also given the opportunity to introduce problems or constraints not mentioned in the questionnaire; these were coded as "other."

64. Given the possibility of reporting biases, these estimates have to be treated with some caution. For example, individuals with more education are less likely to report "other" symptoms. This may be because the morbidity profile is different for this group, or because they are more informed about health issues and therefore more likely to report specific symptoms.

65. Access does not have a specific definition in this context. Rather, for a list of possible providers, respondents were asked whether they were familiar with any provider of that type in the area that they could potentially use if they wanted to or had the means. In other words, access does not necessarily mean that the respondent uses or would consider using the particular provider.

Synthesis and Conclusions

9

The Expenditure Tracking and Service Delivery Survey was designed to provide an assessment of service delivery at the primary level of the National Health Service in Mozambique. The primary level consists of over 1,000 health centers and health posts spread around the country. The main focus of the survey was on the resources and activities of these facilities from the perspective of the staff and the users. The network of health centers and health posts form the front lines of a complex administrative hierarchy. This hierarchy is responsible for channeling resources to the facilities, as well as for providing other forms of support and supervision. For this reason, the survey also collected detailed data from administrative units at the district and provincial level. The analysis has highlighted five key areas; discussion of these is followed by an outline of work following on from the study.

Information Systems and the Control of Public Resources

An important objective of the survey was to assess whether resources allocated to primary health care actually reach their intended destination. For both conceptual and practical reasons, this is a difficult question to answer. At a conceptual level, assessing leakage entails the tracking of resources from one point to another and comparing the amount received at the end point with the amount allocated at the starting point. In the health sector in Mozambique this task is complicated by the considerable discretion in the allocation of resources at the province and district level. Indeed, for many types of resources there are no explicit allocations to districts and facilities. For example, drugs are distributed to districts and facilities without reference to explicit allocations. Hence, even with detailed information about the amount of drugs distributed to a particular facility, we are unable to say anything about how this amount relates to the intended allocation.

Despite this complication, it is possible to assess leakage in a more narrow sense, namely by comparing the volume of resources distributed by one administrative unit with the volume of resources that a lower-level administrative unit reports actually receiving. This narrower concept of leakage simply refers to inconsistencies between recorded distributions and recorded receipts and does not make reference to an intended allocation.

Leakage in this sense of the word was addressed by collecting comparable data from different levels—both on the flow of resources from the provinces (DPS) to the districts (DDS), and from the districts (DDS) to the facilities. The data revealed widespread discrepancies. Financial records at the provincial level, for both the state budget and the FCP, were incomplete for nearly one-half of the sampled districts. Moreover, the allocation and execution data available at the provincial level were often inconsistent with district-level data. Similar

discrepancies between DPS and DDS records and between DDS and facility records were found for drugs and human resources.

While the discrepancy between records opens the possibility of leakage, in most instances these differences appeared to be largely random, pointing to problems of record-keeping rather than the diversion of resources. In other words, there were many cases where the receiving unit reported having received more than the source unit reported having distributed. This is essentially the opposite of leakage, and can only arise as a consequence of inconsistent record-keeping. By the same token, recorded receipts that are less than the recorded distribution could also represent administrative errors, making assessments of leakage tenuous. In this context, we can only raise suspicions of leakage of resources if lower-level administrative units *systematically* receive less than higher-level units report distributing.

Although the survey offers little conclusive evidence for leakage, there were some grounds for concern. First, there is evidence of leakage in the distribution of drugs from the provincial to the district level. Second, although different in nature, the data indicate that, contrary to the rules, staff members at many facilities withhold some of the fees paid by users. Third, a number of staff members complained about receiving less pay than they were supposed to. Finally, the survey revealed absenteeism rates of 20 percent at facility level. Of course, absenteeism can have many reasons. Yet, these are relatively high rates, which, at least in part, probably reflect a form of leakage.

Most important, the paucity and poor quality of administrative records hamper both financial and administrative control and strategic resource allocation. The current lack of transparency makes manipulation and fraud difficult or impossible to detect, and hence requires urgent attention. On the positive side most of the systems for data collection are in place and fail mainly from a lack of compliance. The lack of compliance reflects both capacity problems and the current lack of demand for such information from the top.

Financial, Supply, and Management Systems

A necessary, though not sufficient, condition for effective and efficient service delivery at the facility level is the steady and predictable flow of appropriate resources. Since these resources cannot be procured directly by the individual facilities, they must be distributed in-kind by higher-level administrative units. Accordingly, primary health care facilities in Mozambique receive all inputs—equipment, drugs, vaccines, and materials—from the District Directorates of Health.[66] The survey provided rich information on the functioning of these support systems.

First, the findings point to two primary difficulties in the budget execution process at district level: (a) delays in the first annual budget transfer, and (b) slow processing of accounts during the year. The districts use the nonwage recurrent budgets to procure nondrug material inputs. Delays and shortfalls force districts and facilities to adopt coping strategies that are likely to result in inefficiencies and that may have adverse consequences for service delivery. Indeed, many districts execute considerably less than 100 percent of their nonwage recurrent budget, effectively resulting in a reallocation of resources away from districts that have these problems.

Capacity weaknesses—in the Provincial Directorate of Planning and Finance (DPPF) and DPS, and in particular the DDS—are further aggravated by a lack of clarity about rules and norms. The DDSs are in a very weak position relative to the DPS and DPPF and typically do not know what is normal or acceptable budgetary practice or where to turn for support in their relationship with these agencies. Simple and clear guidelines about the roles and responsibilities of the respective administrative units combined with an explicit route to redress have the potential to improve performance. To establish these guidelines and make the requisite institutional changes, the MOH and MPF need to initiate a purposeful dialogue that involves both the province and district level to identify and address existing bottlenecks in the budget execution system.

While some nondrug resources are procured directly by the District Directorates of Health, drugs and vaccines are received in-kind from Provincial Directorates. Most drugs for primary health care facilities are meant to be provided in the form of kits through the Essential Drug Program, with a requisition based system (via clássica) making up for shortages. However, the survey shows clearly that

the system is not working as conceived, and a large proportion of drugs at the primary level are actually supplied through the via clássica system, even for drugs included in the kits.

Considering the overall supply of basic drugs (both kit and via clássica), the total volume of drugs supplied to facilities seems to be more than adequate, at least on average. Despite this, basic essential drugs were out of stock at some facilities at the time of the survey and many districts and facilities experienced stock-outs in the six months preceding the survey. Stock-outs may be due to delays in the supply system or overprescribing, and the problem may need to be addressed partly through improving drug-prescribing practices.

There were more substantial problems with the supply of nondrug materials and equipment. Many facilities lack basic equipment such as weighing scales, blood pressure gauges, or sterilizing equipment. Some 10 to 25 percent of facilities lack basics such as cleaning materials. Problems in planning and distribution together with shortfalls in supplies from the central level were blamed for this.

Overall, the management and supply systems are failing to ensure an equitable and steady supply of drugs, other materials, and equipment to facilities. Although the Mozambican health system suffers from chronic and severe resource shortages, these shortages are exacerbated by management problems. This has potentially serious implications for both the quality and efficiency of service delivery.

Equity in the Allocation of Resources and the Delivery of Services

Equity is one of the guiding principles in the Mozambican health sector. However, current policy documents do not define operationally useful targets and norms for assessing whether equity objectives are met, either in terms of health outcomes, outputs, or allocation of resources.

In terms of outputs, the volume of services delivered per capita vary substantially between districts, with some districts receiving over four times the level received by others. These differences will partly reflect variations in geography, education, social and cultural norms, and economic conditions between districts. However, they will also be driven by differences in inputs which affect the availability and uptake of services—particularly facility infrastructure and staffing patterns, which themselves tend to drive the allocation of other recurrent resources.

The analysis of equity is hampered by a fragmented and uncoordinated system for allocating and distributing resources to provinces, districts, and facilities. At no point in the budget process is information on the true monetary value of resources consolidated for provinces, districts, or facilities, in part because these values simply are not available for many resources. For example, medical equipment and material is distributed to districts and facilities without well-defined allocation criteria and the total value of equipment and material distributed to different units is not explicitly recorded. Inaccurate and unconsolidated information on the volume and composition of resources allocated to districts and facilities severely limits the extent to which equity can be analyzed and monitored.

Despite these weaknesses, it is possible to glean insights into differentials in inputs by looking at how the volume of specific resources relates to population and to service outputs. Substantial variation in the amount of resources per capita exists for all recurrent resources across districts for drugs, equipment, material, and other inputs. There are also imbalances in the allocation of staff. For example, rural areas are particularly likely to have poorly qualified staff, and have a higher staff-population ratio. The volume of resources per capita is partly related to the level of health service utilization by the inhabitants of different districts, but even controlling for the volume of service outputs, there are notable differences across districts in recurrent resources. This can be seen, for example, in the variation in the volume of drugs per outpatient across districts and facilities.

Imbalances in human resources are also related to the incentives and career preferences of health workers. The latter point is reflected in high turnover rates and low levels of satisfaction among staff in rural districts. Health workers gravitate toward urban areas for a variety of reasons, including family considerations, living conditions, access to public services, and access to training and career advancements. This tendency is likely to grow stronger in coming years as the private sector expands and economic opportunities in the form of a second job

become a more important consideration for health workers.

If the government's objective of making primary health care broadly available is to be achieved, these concerns need to be addressed in a coherent and comprehensive manner. Salary incentives for staff in remote areas are likely to play a part in such a strategy, as will the need to address broader concerns of health workers. It will also require a more general clarification of the strategy for delivering primary health services in rural areas, including the role and responsibilities of community health workers. Although the current health sector strategy has made inroads into this issue, further development is required. This will entail defining reachable targets for coverage and staffing norms in peripheral facilities based on a realistic view of health worker incentives and career paths.

Addressing inequity will require careful work to define operational tools and criteria for resource allocation for all of the key inputs in the sector, as well as the definition of clear indicators for monitoring. Given the centrality of equity as an objective in the government's health sector strategic plan, this merits immediate attention.

User Payments and Cost Recovery

The survey shed light on the considerable confusion that governs consultation and drug charging practices in primary health care facilities. The current heterogeneity across provinces, districts, and facilities in all aspects of charging policy—consultation fees, drug charges, exemption rules, special service charges, and the management and utilization of user fee revenues—is largely driven by outdated, incomplete, and sometimes contradictory and poorly understood legal and policy frameworks. In this environment, provinces, districts, and facilities have proceeded to design and implement policies on the basis of their needs and understanding of official policy. The upshot is a lack of transparency and control, as well as the inequitable impact on users facing arbitrary differences in charging practices—clearly an unsatisfactory state of affairs.

The survey highlights some disadvantages and limitations to charging user fees at the primary level. These include the difficulties that users report in finding the money, the scope it provides for illegal charging, and the small contribution made to district revenues. A review of the policy might be appropriate. Whatever the policy, it is essential that the government define clear guidelines, supported by a legal framework where necessary, for all aspects of user charges. A phased approach to policy change may be considered to permit rigorous evaluation of any changes.

Service Delivery and Productivity

Districts delivered an average of 2,209 service delivery units per 1,000 inhabitants in 2001, with outpatient consultations comprising between one-third and one-half of the total. The lack of consolidated information on the inputs highlighted above together with the complex set of factors that affect output reduce the scope for a rigorous analysis of efficiency. However, the survey showed substantial variation across districts and facilities in service output per staff member, varying by a factor of ten in the case of the latter. While low productivity may be an inevitable cost of delivering services in scarcely populated areas, it was shown that, outside these areas, there is still wide variation in output per staff member for any given population density. In addition, rural facilities have a higher average output per staff member than urban facilities. An analysis of the workload implied by these figures suggests that there should be scope to increase output at the facilities where it is lowest.

The large variation in the volume of medicines consumed per outpatient raises efficiency as well as equity considerations, since it seems unlikely that such variations reflect only different disease profiles. It also raises questions about the quality of care, in so far as it reflects overprescription. The user survey also showed that many users were prescribed large numbers of medicines—one-third received three or more items. Consultation times were often short; and there was no evidence that they were shorter at high-output facilities. There appears to be substantial scope for improving the quality of care provided.

Looking Ahead

Over the past decades, the Mozambican health system has demonstrated a remarkable ability to

deliver services despite limited resources. The study has identified a number of important problems and weaknesses in the operation of the National Health Service at the primary level. Some recommendations for change are identified here. However, the detailed recommendations to address the problems can only be developed by individuals working in the sector. The MOH will lead this process using the findings of the study as an opportunity to further develop recommendations with provincial and district level staff.

The survey has also comprised a building block in broader efforts to monitor progress under the Health Sector Strategic Plan (PESS) and the Poverty Reduction Strategy Plan (PARPA). It has measured the conditions for service delivery at the primary level, together with the functioning of the management and support systems that determine them. In this way, it complements household surveys aimed at assessing health status and the uptake of health services in the population. Moreover, many of the problems outlined here were identified as priorities in the PESS, and the survey provides a baseline against which improvements under the PESS can be assessed. In the longer term, it is hoped that routine information systems will be sufficiently strengthened and that facility surveys will become less necessary. In the meantime, the MOH should consider repeating a similar survey, possibly visiting the same districts and facilities, as a means of assessing progress.

Notes

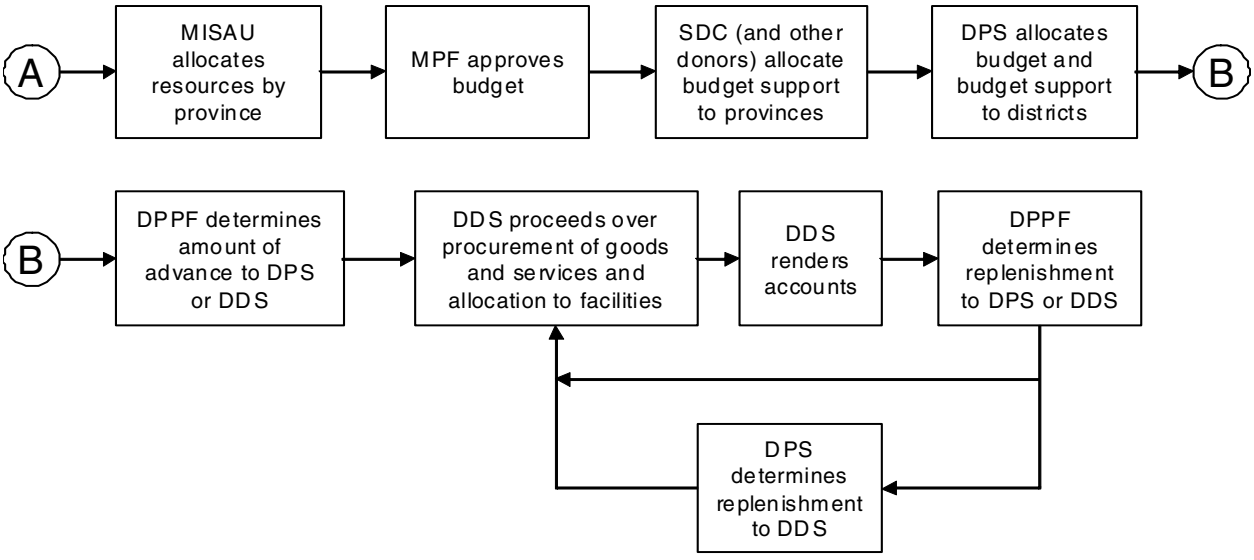
66. The only financial transfer to the facilities are staff salaries.

Appendix A. Description of Budget Formulation and Execution

The budget formulation process begins in May each year, when the MPF communicates indicative budget limits to the respective sectors. The MOH sets budget limits for each of the 11 provinces, based on criteria relating to needs (population and the number of poor), capacity (beds), provision (health units) and local conditions (population density), and then the provinces submit proposals consistent with these limits. The sector proposal forms the basis for negotiations between the MOH and the MPF, and the final limits are set by September 15 each year.[67] By law, the budget must be approved by parliament by December 31, and, in theory, budget implementation begins on January 1.

After approval of the budget by parliament, the MPF communicates the budget limits to central-level institutions and to the respective provinces.[68] For the health sector limits are established for each province in accordance with the economic classification of expenditures. On the basis of these allocations, the DPS proceeds with the intraprovincial allocation of health sector resources. In general, budgets are prepared for each district, for rural and provincial hospitals, and for the DPS itself. Allocations are meant to be based on needs, which are worked out using an integrated planning methodology. The exercise considers not only funds from the state budget, but also the FCP. In some provinces, SDC provide technical support in the resource allocation process.

The introduction of the *Lei Orçamental* in 1998 had important implications for the budget formulation process and for the relationship between the DPPF and the DPS. In particular, before



the introduction of the Budget Framework, each of the subordinate institutions to the DPS had their own institutional classification. Currently, the allocation to the health sector is centralized under the DPS.

Interprovincial Allocation of Nonwage Recurrent Resources

In recent years, the MOH has tried to establish clear criteria for the interprovincial budget allocations for nonwage recurrent resources (*Orçamento de Fun-cionamento*). These criteria are based on two principles: (a) no province should receive less than it did the year before; and (b) increases should be allocated on the basis of a number of need and equity-related indicators. Hence, the following indicators and weights are used:

Indicator	*Weight (percent)*
SDUs (activity level)	35
Beds (infrastructure)	25
Population (needs)	25
Poverty (local conditions)	10
Density (access problems)	5

Currently, the formula considers only the state budget (not the considerable amounts of external financing). Moreover, beyond the interprovincial allocation, there is no clarity about the criteria for the allocation of resources within the province—both in terms of the proportion of total resources allocated to districts, the provincial hospital, and administration, and in terms of the allocation between districts.

Budget Execution

Procedures for budget execution differ between the state budget and the FCP, and between salary expenditures, and nonsalary recurrent expenditures. Also, there are differences between provinces, and, in some cases, within provinces in budget execution procedures. In part, these differences relate to the fact that due to geographical proximity to central institutions, Maputo City and Maputo Province do not have their own provincial treasuries. However, differences also arise from the lack of clear guidelines or a legal framework for the relationship between the DPPF, the DPS, and the DDSs in the process of budget execution.

In general, the process of budget execution begins each year with an advance from the Treasury (central or provincial).[69] The amount of the advance is calculated by the DPPF on the basis of the disaggregated budget (and the associated *tabelas de despesas* for each district), and is consonant with the *duodécimo* system.[70] Depending on the province, this advance may be paid out to the DPS (which subsequently makes payments to the respective DDSs), or directly to the DDSs. The implementing agency (DPS or DDS) presents the payment warrant (*título*) at the State Bank (*Caixa do Estado*) or a designated representative, which, subject to availability of liquidity, effects a transfer to a specific account for goods and services of the institution in question.[71]

After the account has been credited, the DDS proceeds to implement activities. In principle, all payments are made by direct transfer or check, with exceptions for cases established by article 15 of Decree 7/98.[72] By the 10th of each month, the DDS is required to render accounts for the previous month (*processo de prestação de contas*) to the DPPF or the DPS, depending on the province. The agency accounts must be accompanied by supporting documentation as established by the National Directorate of Public Accounting (DNCP), including budget control, balances of accounts, and bank reconciliation. In the case where the DDSs render accounts to the DPS, the DPS verifies and consolidates accounts before passing the process on to the DPPF. The DPPF verifies execution against budget lines and is responsible for the analysis of accounts rendered in terms of compliance with financial regulation and the principles of economy, efficiency, and effectiveness.[73] In the case of irregularities, the process is returned to the respective DPS or DDS for correction. After the accounts have been approved by the DPPF, the DPS (or DDS) account is replenished (*reposição*) for approved expenditures within prescribed allocations.[74] Formerly, additional advances were authorized to agencies that fail to submit accounts, a practice that has been stopped.

The same process is repeated each month of the year. During the year, each executing agency

can request up to three budget alterations, which relate to price adjustments; entry of new allocation(s); reinforcement of allocation(s); redistribution of allocations; decentralization of financial execution; and annulment of allocation(s).[75] The fiscal year closes on December 31, and is followed by a complementary period (*período complementar*) of two months during which commitments from the previous fiscal year are regularized.[76] During this period no new financial commitments may be assumed against the budget allocation from the previous year. All accounts relating to the process of budget implementation of the previous fiscal year must be closed by March 31, and any remaining funds revert to the Treasury account. In contrast with the procedures for execution of the state budget, funds from the FCP are transferred biennially to the DPPF, and quarterly to the DPS and DDSs. Any balance at the end of the year is transferred to the following year, and hence remains in the account.

Procedures for execution of the salary component of the state budget operate differently. Specifically, the MAE and the MOH jointly approve a personnel list each year. The DPS issues a payment order (*título*) that is approved by the DPPF. DPPF renders accounts to the DNCP. The salary bill is paid by DNCP to each spending institution according to programmed salary expenditures on the basis of *folhas de salários*. The list contains information on all individuals that receive payments, including retired staff. Also, there are staff members working in NHS facilities that are part of the *Rede communitária*, who do not receive payment from the state. In the case of provincial salary expenditure, payments are made directly to provincial level Department of Administration and Finance of the DPS (DAF) via the DPPFs. Accounts are usually held in commercial banks. In some provinces and districts salaries are now primarily paid by cheque to minimize the risk of theft. However, in many districts this is not feasible, and money for all district staff has to be withdrawn in the provincial capital and transported to the district.

Notes

67. As noted, many provinces also receive budget support. The procedures for establishing the provincial limits vary between donors. In the case of the "Common Fund," the interprovincial allocation of resources is based on the allocation of the state budget (provisional or finalized), equity objectives (total financing per capita, per bed, and per service unit), and implementation capacity.

68. In exceptional circumstances, such as the election year 2000, where approval has not been secured by this date, budget execution is based on the budget of the previous year.

69. The advances are based on a release request (proposta de fundos permanente) to the DNT or Treasury Department of the DPPF, and take the form of "treasury operations" (operações de tesouraria), and hence comprise credit from the treasury system.

70. According to the duodecimo system, two out of twelve annual allocations (minus a reserve (cativo obrigatório) withheld by the DPPF) are paid out in the first month. Thereafter, monthly replenishments are based on realized and approved expenditures as reported in the monthly process of rendering accounts.

71. In the case where payment warrants are issued to the DPS rather than the DDS, funds are subsequently transferred from the DPS account to accounts of the respective DDSs.

72. This refers, in particular, to cash funds (fundo de maneio) for petty expenditures.

73. It is noteworthy that disaggregated budgets for individual DDSs do not have a legal basis and do not appear in any budget or state account documents at the central level. The practical consequence of this is that some DPPFs are reported to verify district execution only against the provincial budget allocation, effectively leading to a first-come-first-served system of budget execution.

74. The reimbursement is based on approved expenditures from the previous month and may therefore be less than 1/12. Moreover, Article 8 of Decree 7/98 establishes that the reimbursement may be less than approved expenditures in cases where budget funds are not available.

75. Decentralization of financial execution must be requested by March 31 each year, while requests for other alterations must be submitted before October 31.

76. For central-level institutions the complementary period is three months.

Appendix B. The Legal Framework for User Fees and Drug Charges

The following list of laws and regulations is not comprehensive, but rather lists and reviews the those identified as most important and relevant.

The 1975 Mozambican Constitution

Establishes the obligation of the Popular Republic of Mozambique to organize a health system that benefits the whole population.

Despacho de 30 de Julho de 1975

Establishes that all (nationalized) health facilities shall be supplied with medicines, laboratory material, and so forth, by the *Central de Medicamentos* or *Depositos Provinciais,* with requisitions and distribution supervised by the chief medical officer at provincial level.

Decreto-lei n.º 5/75 de 17 de Agosto

Nationalizes all private facilities with the aim of meeting the constitutional obligation of making medical services available without discrimination to the entire population. The law placed all health establishments, including equipment and material, under MOH control. Staff in these establishments will be integrated in the NHS according to MOH conditions. Finally, the law establishes fines for private practice of health care, or the support and facilitation of private practice.

Lei n.º 2/77 de 27 de Setembro

Creates a system of fees in NHS health units (in- and outpatient fees), and seeks to harmonize charging criteria across different NHS facilities. The law establishes that all preventive care is free (the exact meaning of preventive care is defined in subsequent legislation). The law also establishes that all inpatient care is free of charge. Outpatient fees are set to 7$50 (7 escudos and 50 centavos) (the law provides for lower prices in certain districts or localities, subject to proposals by the provincial governor and approval by the MOH). The fee should include all diagnostic tests and treatments required in the course of the particular visit. According to the law, care may not be withheld for failure to pay in urgent cases. All revenues from user fees should be submitted on a monthly basis to the MPF. The law establishes that all *basic* drugs are free for outpatients, and the list of basic drugs is established by subsequent legislation. Prices for drugs on the national formulary that are not included in this list should be established by *Portaria* by the MPF and MOH. The law establishes the referral system, whereby all patients, with the exception of emergencies, should initially attend the health post or health center in the area where they reside.

Despacho de 12 de Outubro de 1977

Establishes the range of preventive care to be provided free of charge. These include all immunizations; administration of chemo-prophylactics;

medical exams of children in schools, crèches, and other child institutions; second consultations and treatment of patients with tuberculosis, leprosy, or trypanosomiasis; and, prenatal and pediatric consultations (0-2 years).

Portaria n.º 381/77 de 20 de Outubro

Establishes, in accordance with *Lei n.º 2/77*, the list of basic drugs provided free of charge to outpatients. The law further establishes that drugs on the National Formulary but not on this list should be charged at official prices established *on an annual basis* by the MOH. However, the law provides for reduced drug prices (between 50 and 95 percent), depending on household or individual income (the law does not specify how income should be measured or verified). Finally, the law establishes that all revenue from the sale of medicines should revert to the *Central de Medicamentos e Artigos Medicos*.

Diploma Ministerial n.º 24/85 de 3 de Julho

Review of drug charges established in *Portaria n.º 381/77 de 20 de Outubro*. Establishes that all drugs provided by Polyvalent Health Agents (APEs) are free of charge. The *Diploma* expands the list of basic drugs provided free of charge. Other drug prices (for outpatients) are to be determined annually by the Pharmaceutical Department of the MOH, in accordance with a formula set out in the law. However, a fixed price of 20.00 MT for prescriptions (not individual drugs) in primary facilities in rural areas is established. It falls on the National Director of Health, subject to proposals from Provincial Directors of Health, to determine which facilities should be considered primary facilities in rural areas.

Lei n.º 4/87 de 19 de Janeiro

Introduces a series of changes to *Lei n.º 2/77*. Specifically, the law establishes fees for inpatient care in hospitals and introduces a mechanism for updating fees. (The law covers central, provincial, and *some* general and rural hospitals. Note that it is not clear what fees are supposed to apply for inpatient care in lower level units.) The law establishes that hospital fees should be set by a joint diploma of the MOH and the Ministry of Plan and Finance. The fee covers all required diagnostic tests and treatments (except prostheses and eye glasses). The law provides for a range of exceptions to inpatient charges: pensioners and the disabled; combatants from the war of independence; blood donors; individuals under 18 years old; women in relation to child delivery; domestic servants; the unemployed; individuals without means of subsistence (as established by the appropriate administrative authority). The law also provides for the exemption of specific disease categories, as established by *Despacho*. Furthermore, a joint diploma of MPF and MOH should also define the fees for outpatient consultations and update them whenever necessary. The law provides for localized variation of this fee, subject to proposal by the provincial governor and approval by the MOH. The law establishes that all revenues should directly support the operating costs of health facilities. Finally, the law establishes the responsibility, under certain conditions, of employers to pay for the health care of employees. Note that Law 2/77 was not repealed but only amended by Law 4/87 and is still in force.

Diploma Ministerial n.º 38/87 de 4 de Marco

Sets the daily fee for in- and outpatient care in accordance with *Lei n.º 4/87*. Inpatient fees are set at 500.00 MT and outpatient fees at 100.00 MT. Preventive care, as defined in *Despacho de 12 de Outubro de 1977*, is exempt from payment. Patients in the categories established in *Lei n.º 4/8*7 are also exempt from payment, subject to presentation of appropriate documentation (this includes the established disease categories). The law also establishes the modalities of payment and control. Finally, the law establishes the procedures for submitting and claiming monthly revenues from in- and outpatient fees from the MPF.

Despacho de 4 de Marco de 1987

Establishes that inpatient fees should be applied in all central, provincial, and general hospitals, as well as in the rural hospitals in Chókwe, Songo, and Mocuba. The *Despacho* further establishes that inpatient care in relation to pulmonary tuberculosis, leprosy, trypanosomiasis, and chronic psychological

disorders. The *Despacho* further discusses modalities for collecting and managing user fee revenues.

Despacho de 17 de Abril de 1989

Announces approval by the MOH of *Manual de Normas e Procedimentos para Distribuição e Cobrança de Medicamentos*, which must be followed by all NHS facilities.

The 1990 Mozambican Constitution

Establishes the right of every citizen to health care under the terms of the law, and the duty of the government to promote and defend health. According to the Constitution, the state is responsible for organizing the National Health System (NHS) to guarantee citizens' rights. This responsibility is fulfilled by the state through the MOH. The Constitution further emphasizes that the state should promote citizens' participation in the improvement of community health.

Lei n.º 25/91 de 31 de Dezembro

Following the constitutional right to health care, the law establishes the NHS with four level of facilities. The NHS also includes centers for hygiene and sanitation, training institutions, specialized laboratories, and other institutions that may be created in the future. The law defines a "health area" as a territorial unit served by a facility, with a population ranging from 20,000 to 100,000 people. It also reaffirms the referral system, whereby care should initially be sought at the lowest level of the NHS. The law assigns supervisory and control responsibilities to NHS institutions for facilities at lower levels, both public and private.

Lei n.º 26/91 de 31 de Dezembro

Legalizes the operation of private health care provision, and sets out rules for starting up an operation. Any operation has to be authorized by the MOH (higher-level facilities) or the Provincial Governor (lower-level facilities). The law also establishes penalties for violations of the terms set out in the law. Private practice is further regulated in Diploma Ministerial n.º 78/92 de 10 de Junho and Diploma Ministerial n.º 79/92 de 10 de Junho.

Resoluçao n.º 4/95 de 11 de Julho

National health policy for period 1995–99. The law foresees the periodic review of fees to ensure adequate cost recovery. It also foresees the reduction of fees, or the introduction of exemptions, for poor and vulnerable groups.

Diploma Ministerial n.º 10/96 de 7 de Fevereiro

Updates the fees set by Ministerial Diploma 38/87. The inpatient fee became 10,000.00 MT and the fee for medical consultations for outpatients became 1,000.00 MT in urban areas and 500.00 MT in rural areas.

Lei n.º 4/98 de 14 de Janeiro

General pharmaceutical law. Establishes that prices for medicines are set by the Conselho de Ministros

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