

# Zambia: Non-Governmental Health Care Provision

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## List of Acronyms

AIDS	Acquired Immunodeficiency Syndrome
CMAZ	Church Missions Association of Zambia
DDM	Data for Decision Making
DHMT	District Health Management Team
FP	Family Planning
GDP	Gross Domestic Product
GNC	General Nursing Council
GRZ	Government of the Republic of Zambia
HIV	Human Immunodeficiency Virus
IEC	Information, Education and Communication
IPPF	International Planned Parenthood Federation
LOR	Line-of-rail
MCH	Maternal and Child Health
MCZ	Medical Council of Zambia
MET	Medical Education Trust
MMD	Movement for MultiParty Democracy
MOH	Ministry of Health
MSL	Medical Stores Limited
NCDP	National Commission for Development Planning
ODA	Overseas Development Administration
ORS	Oral Rehydration Salts
PMPB	Pharmacy, Medicines and Poisons Board
PPAZ	Planned Parenthood Association of Zambia
PS1	Priority Survey 1
PS2	Priority Survey 2
SADCC	Southern African Development Coordination Conference
SCC	Short course chemotherapy
SES	Socioeconomic status
TBA	Traditional birth attendant
USAID	US Agency for International Development



UTH	University Teaching Hospital
ZCCM	Zambia Consolidated Copper Mines
ZDHS	Zambia Demographic and Health Survey 1992
ZFDS	Zambia Flying Doctor Service

# ZAMBIA



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## Executive Summary

Zambia has experienced major economic difficulties for almost two decades. This has resulted in lowered incomes and a dilapidated social infrastructure. Despite some initial improvement in health status immediately after independence, progress has been limited and slow, and many indicators appear to have worsened in recent years. Even when its low income is taken into account, Zambia has one of the worst set of health indicators found in any country. The state took upon itself the major responsibility for providing health care to all Zambians, but has failed to do this in an effective or equitable manner. Resources are limited, and major reforms are under way to improve the whole structure and functioning of the publicly run health care system. In this context, there is renewed interest on the part of Zambian policy makers in private providers. There has been no previous comprehensive study of Zambia's private health care providers. Nevertheless, using primarily existing data this report describes in some detail the composition and activity of the private sector, and the various factors and government policies effecting providers. It concludes by providing policy options for increasing the contribution of private providers to national health goals.

There are numerous different types of private health care provider in Zambia. A simple typology would include the following major types: the missions, employer-owned clinics, private for-profit clinics and hospitals, pharmacies, shops and traditional providers. The mine facilities are another source of health care, which are run by the government-owned ZCCM, but which in practice are operated independently of the Ministry of Health (MOH). Each of these types distinctively differs in their commercial orientation, structure, activity and distribution in different parts of the country. Policy-makers must take this into account when assessing the potential role of private providers, and when implementing policies towards the sector.

The missions run a network of non-profit hospitals and clinics in the more peripheral, poorer rural areas away from the line-of-rail. With limited government funding, supplemented by donations and fees, they are an important source of basic, and apparently good quality health care in many deprived areas of the country. Because of their locations, their patients tend to be more likely to be poor than is the case with other formal providers. The mine facilities are the best funded in the country, but their services are restricted to only a small proportion of the population living in the Copperbelt. Employer-run and private for-profit clinics provide significant amounts of ambulatory care, but this is limited almost exclusively to urban centers along the line-of-rail, and their use is predominantly by the non-poor. Pharmacies

and shops are used by a wider cross-section of households, especially for certain types of provision such as contraceptives and treatment of common illnesses such as fever or diarrhea, but they are restricted to the urban areas of Zambia.

The missions reach considerable numbers of poor households in rural areas, but their long-term viability depends on sufficient funding continuing to come from the MOH. If satisfactory arrangements are found, then there is considerable potential for the missions improving their contributions in conjunction with government objectives. There is also scope for better integrating the missions into the MOH information and management structures. Traditional providers are the other major private provider in rural areas. Much of the continued reliance on traditional providers appears to be a direct consequence of poor access to modern sources of care, as well as low levels of education. There appears to be limited scope to increase the contribution of these providers, since most are outside the formal health care system.

The level of for-profit provision was never high, and was restricted further by government disapproval during the last two decades. Today, the political and economic environment is much more favorable, and there has been a significant increase in the level of private for-profit ambulatory care. However, there are major constraints both on the demand and supply sides preventing the emergence of a large for-profit sector. Firstly, incomes and population density are too low to support full-time private practice in rural areas. In urban areas, there is sufficient demand, but this is restricted to the higher income groups. A relatively high level of prices characterizes the urban private sector, and this is suppressing increased utilization of existing providers by the majority of low and middle-income urban dwellers. Only sustained economic growth will overcome the problem of low incomes. Expanded insurance coverage might increase the numbers of Zambians that can afford private provision, but the benefits are likely to be marginal since many are already covered by their employers, and since Zambia lacks the institutional and technical capacity to control insurance-induced escalation in medical costs and administrative inefficiencies. Expansion of insurance beyond the small formal sector is unlikely to be feasible. On the supply side the major constraint to expansion is the very low numbers of Zambian nationals trained as health professionals, and restrictions on part-time practice by MOH employees. These problems can only be dealt with by government intervention to increase the overall output of health personnel from training establishments, and relaxation of MOH rules.

In the long-term, expansion of private for-profit provision is likely to be associated with reinforcement of existing inequalities between regions and households in access to modern care. Private provision will tend to expand only in urban areas, and MOH personnel will be more reluctant to work in peripheral areas as the opportunities for supplementing incomes through private practice improve in urban areas. Options to deal with these problems include increased and enforced rural service requirements for newly graduated health personnel, increased compensation for rural

MOH employees, and a differential relaxation in private practice rules for MOH employees.

Private providers tend to under-provide preventative care and services of public health importance. Regulation is one option, but this is not recommended because of weak administrative capacity. The better alternatives in Zambia's case are provision of information to educate consumers, and better training of private providers. Within specific activities, it may also be possible to selectively increase the contribution of certain types of private providers. Examples include expanded and improved social marketing programs to increase informed demand for contraceptives and ORS, supply to private providers of standard treatment schedules and free drugs for TB, supply of EPI vaccines, and additional training for private pharmacists.

In general, the failure of private providers to supply cost-effective services of public health importance may not be that important, if it also allows MOH to divert resources away from existing inappropriate uses. By helping to meet the social demand for higher quality services in urban areas, the private sector may assist the MOH to divert additional resources to the more deprived rural areas. This process might be built into MOH allocation procedures by giving additional resources to those districts where private provision is limited. Judicious selection of policies should allow policy makers to both increase the level of private provision, and increase the availability of and equity in public provision.

## Introduction

At the time of independence from Britain in 1963, there was only a limited health infrastructure in Zambia and health indicators were generally poor. The post-independence government, pursuant to the fulfillment of her election manifesto and guided by a socialist ideology, embarked on a large social program. An important component of that program was a rapid improvement of access to modern health care facilities for all Zambians through an increase in state financing and provision of health care.

The realization of this goal was assisted by Zambia's small population and an expanding economy, fueled by large foreign exchange earnings from copper that allowed for large public sector allocations to the health budget. However, today the resource picture has changed. Adverse external terms of trade and deficiencies in macroeconomic management have in concert put the economy under considerable fiscal strain. Without donor support, the public sector would not be able to meet even its existing financial commitments. Under these circumstances, it is unreasonable to expect incrementally larger public allocations for health each year. Against this backdrop of a shrinking budget, a deteriorating health infrastructure, and the emergence of other new diseases and drug-resistant strains of old and almost contained diseases, the health sector can justifiably be said to be at a crossroads, searching for new directions.

The budgetary realities have caused the Ministry of Health to undertake a critical assessment of the health care needs of the country, and the potentials for resource mobilization and improvements in both allocative and technical efficiency. These realities have also created a policy environment in which the Ministry is exploring alternatives to its traditional methods of organizing and delivering care. The results of this search have been summarized in two important policy documents, National Health Policies and Strategies, 1991 and the National Strategic Health Plan 1995-1999. These two documents map out a vision for the health sector, and have laid the basis for major and far-reaching reforms of Zambia's health sector. Among the many components of that vision, is the enhancement of the role of private and non-governmental providers in the delivery of health care.

This represents an important policy shift. However, a new policy statement by itself is not a sufficient condition for a successful policy implementation, an important prerequisite of which is that it should be fully informed by all available evidence. In the case of the enhancement of the role of the private provision sector, it requires

that policy makers know who the private providers are, what they are doing, whom they serve, their distribution across the country, and their potential.

In Zambia, as in many other developing countries, this information is not readily available. This study, undertaken by the Data for Decision Making Project at Harvard University, addresses this problem. It was commissioned by the USAID/ARTS/HHRAA, and undertaken in Zambia at the invitation and with the assistance of the USAID/Lusaka and with the cooperation of the Zambian Ministry of Health. The findings of the study will serve as an input into USAID/ARTS/HHRAA's policy analysis for health in Africa. It will also provide baseline information to inform USAID/Lusaka's Child Health program and the private sector component of Zambia's Strategic Health Plan.

The structure of this Report is as follows. Section 1 provides general background information on Zambia; the state of the economy and general demographic and health indicators are summarized. An overview of nongovernment health care financing and provision in Zambia, with a typology of the different private providers, is presented in Section 2. Section 3 provides a profile of the users of private provision according to their characteristics, and assesses the contributions of private providers in specific disease areas and to various services on the public health agenda. Section 4 is a general discussion of the factors and government policies influencing the development of the private provision sector in Zambia. Section 5 concludes the report with a discussion of the broad policy options available to increase and improve the contribution of private providers to the health care sector as a whole, as well as suggesting specific interventions to increase the contributions of specific providers and in specific areas. Included in the annexes are Zambia's national health accounts estimated for the first time, as well as some survey findings about private providers.



# 1 Background

## Economic Situation

Adverse external terms of trade such as the oil price shocks of 1973-74 and 1979 and the decline in the international prices of the principal export commodity are not infrequently blamed for the decline in economic activities in several African countries. While this is in part true, deficiencies in macroeconomic management, human capital constraints and instability in the external political environment have also been contributory factors. Zambia is a good example of a country in which all these factors have in concert caused a sustained contraction in economic activities. The oil price shocks, the fall in copper prices in 1974 and the southern Africa situation are contributory factors to Zambia's economic decline which began in the late 1970s. Unfortunately, Zambia's state-dominated economy could not adjust quickly to these changes in the external economic environment.

For example, when declining copper prices reduced the amount of foreign exchange available for investment, the government rather than embark on needed economic reforms chose to continue to maintain an exchange rate regime that overvalued the domestic currency, retained controls on interest rates and ceilings on credit, discouraged exports by imposing high external trade taxes and elected to borrow from both the domestic and international capital markets. Available foreign exchange was rationed through the issuance of licenses and external trade was highly restricted. Hence, at the end of 1993, despite debt forgiveness, Zambia's external debt stood at slightly above US\$7 billion (NCDP, 1994) equivalent to a per capita debt burden of more than US\$800.

Alongside policies that restricted external trade, the Zambian government's policies also turned the domestic terms of trade against agriculture and the rural areas. An expensive food subsidy program in urban areas added impetus to migration pressures that had started with the advent of copper. Today, about half of Zambia's population can be found in the three urbanized provinces of Lusaka, Copperbelt and Central. This huge outmigration of able-bodied young people from the rural areas and misallocation of resources set back the country's prospects for sustained growth.

The cumulative consequence of these policies can be found in the anemic 1.2% growth rate of the economy since 1963. This average growth rate, it should be noted, is well below the intercensal population growth rate of 3.7% (see Table

1.1). Per capita GDP fell from a high of over US\$600 to a reported level of US\$307 in 1993 (Financial Times, 1994).

**Table 1.1**  
**Key Economic Indicators, Zambia (millions of constant 1977 Kwacha)**

	1965	1970	1975	1980	1985	1990	1991	1992	1993	Growth Rate % 1965-9
GDP	1,619	1,743	1,960	1,996	2,045	2,213	2,174	2,093	2,287	1
Total Consumption	1,183	1,389	1,411	1,635	1,697	1,654	1,603	1,654	1,675	1
Investment				439	261	339	588			
Per Capita GDP	437	419	404	353	302	272	270	252	266	2
Per Capita Consumption	319	334	291	289	251	204	199	199	195	2
Exports		959	868	1,608	911	1,342				
Imports		658	1,345	1,765	936	1,369				
Current Account Balance (US\$ millions)		107	-726	-538	-369	-402				
Debt Outstanding (US\$ millions)		623	1,143	2,141	3,141	4,858	4,954	7,042	6,867	
Per Capita Debt		149	235	379	465	622	615	847	801	
Number in Formal Sector Employment (000s)				466	473	493		510	507	
Population (000s)	3,700	4,159	4,836	5,647	6,753	7,803	8,049	8,307	8,573	3

Sources: CSO (various publications), NCDP (various publications), World Bank (1993), IMF

Note: 1992 and 1993 figures are preliminary estimates

Other indicators of economic performance are equally bad. Between 1965 and 1993, real per capita consumption fell on average by 2% per annum, the investment/GDP ratio by 1.2% and poverty has grown as formal sector employment has stagnated. About 67% of all Zambians have incomes below the poverty line. This contrasts with 34% in 1975 and 49% in 1980 (PS1, 1991). Indeed, there appears to be an equalization of income differences across all groups. Progressively, Zambians have become poorer and poorer as real incomes have steadily fallen.

High inflation, which has not only reduced real incomes but also introduced great deal of uncertainty in the economic environment, remains a problem. For example, the inflation rate rose from 100% in 1990 to 111% in 1991, 200% in 1992 and to 284% in 1993. Although it is now under control, the underlying pressures, largely expectations and excessive government borrowing, remain.

Attempts at introducing some reforms were started in 1985. The pace of reform was quickened with the election of a new government in 1991. The economy appears to have stabilized with some preliminary estimates suggesting that growth may even have renewed. The NCDP for example reported the economy as having grown by 4% in 1993. Even so, the prospects for the resumption of sustained growth in the near term remain dim. Current improvements in macroeconomic performance appear to be largely donor driven. The economy remains heavily dependent on copper (which accounts for only 7% of GDP and 93% of export earnings) and non-performing parastatals. As prospects for copper remain poor, the external debt burden is likely to remain high. Zambia's external debt, which now stands at about US\$7.0 billion is about 700% of exports and its per capita indebtedness is close to three times the per capita income. External debt service in 1994 is projected at US\$682 million, which is about 70% of export earnings. Hence, even if growth were to resume, it may not be at a rate faster than the population growth rate of 3.2%, unless most of the external debt is forgiven.

The economic realities of Zambia suggest that the prospects for increased budgetary allocations to the health sector are low in the near and medium term. Zambians may increasingly be responsible for their own health care. The National Health Policies 1991 put it rather succinctly: "all Zambians with an income must contribute to the maintenance of his/her health." It is difficult to foresee a reversal of that policy soon.

## Poverty Profile

Poverty in Zambia is extensive. 69% of all Zambians were living in households with expenditures insufficient to meet nutritional and other basic needs in 1991. However poverty is defined, the main characteristics of those who are poor remain the same. Poverty in Zambia is associated with low quality and quantity of human capital (education/health/nutrition), limited access to other productive assets, low return on assets and limited ability to adjust to changes. The poor's human capital is further worsened by high degrees of malnutrition, poor health status and low levels of education.

While poverty is widespread in all parts of Zambia, there are significant regional variations. At a national level, the line-of-rail provinces, i.e., Lusaka, Copperbelt and Central, have lower prevalences of poverty than off-line-of-rail provinces. Western province has the highest overall levels of poverty, with 78% of the population belonging to households with expenditures below the poverty line. Within provinc-

es, people living in a provincial capital are significantly better-off than the rest of the areas within the same province.

Rural poverty is more prevalent and more severe than urban poverty. Rural poverty is worse in the remote provinces, worse in remote districts within a province, and increases with distance to food markets and roads. Rural poverty is highly correlated with distance from the line-of-rail. Poverty indices are worst in Luapula, Western and Northwestern provinces, while the bulk of the rural core poor live in Eastern, Luapula and Northern provinces (Figure 1.1). In urban Zambia, the provinces with the highest prevalence of poverty are Luapula, Copperbelt and Southern provinces (Figure 1.2). Overall about half of the urban poor live in Copperbelt province, and 80% of the urban ultra poor live in Copperbelt (World Bank, 1994).

## Demographic and Health Situation

### Demography

The 1969, 1980 and 1990 censuses reported total populations of 4.0 million, 5.7 million and 7.8 million respectively, implying intercensal growth rates of 3.1 and 3.2 % per annum<sup>1</sup> (see Table 1.2). While fertility rates have remained high, they declined slightly over the past fifteen years from about 7.0 to 6.5 births per woman. The median age at first marriage has risen slightly also from 17 years or under among women in their 30s and 40s to 18 years and above among women in their 20s (ZDHS 1992).

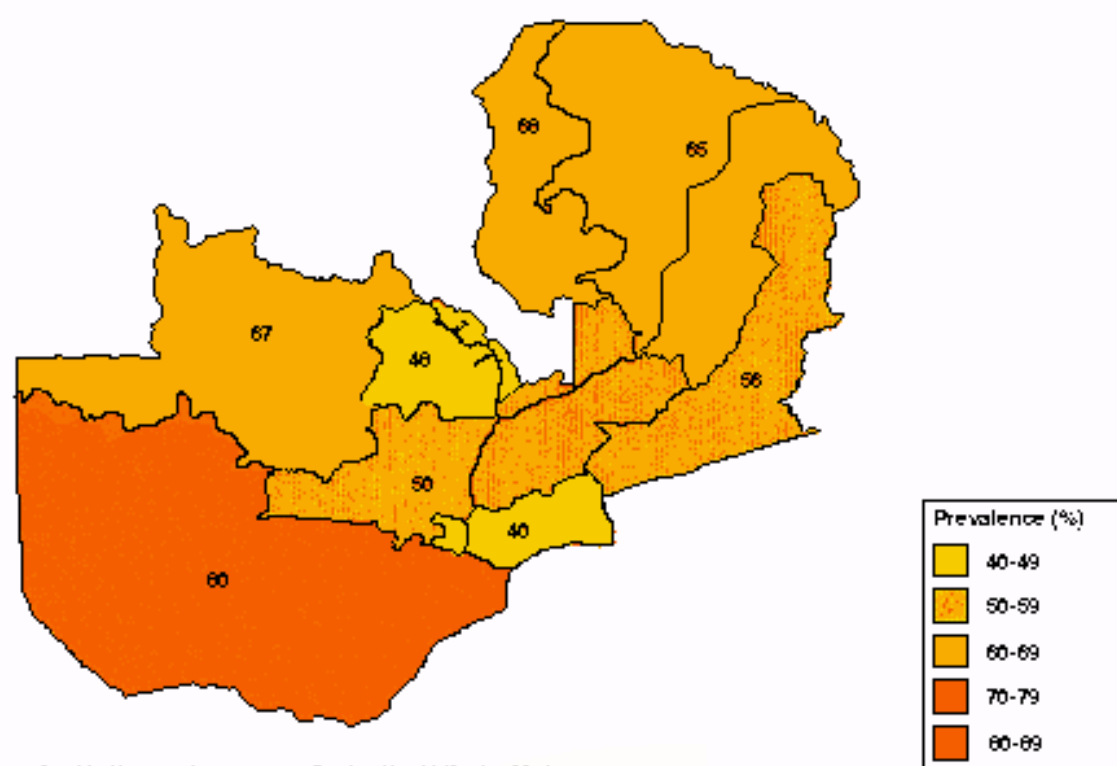
In spite of most Zambian families being in the prime of their reproductive cycles, contraceptive prevalence remains low. Even if the age at first marriage was to increase to 21, Zambia's population will continue to grow because of the age composition of the current population. It is estimated that 49% of the population are under 15 years old, 90% under 45 and only 2.4% of the population is 65 years old and above. This age structure gives Zambia a very high dependency ratio. Continued uncertainty in the macroeconomic environment and the observed increase in infant mortality rates are not likely to help bring the total fertility rate down any time soon.

Life expectancy at birth rose from 43 years in 1969 to 55 years in 1990. However, there does appear to have been a deterioration in mortality rates during the 1980s. The ZDHS indicates that under-five mortality rose from 152 deaths per 1000 births during 1977-81 to 191 deaths per 1000 births during 1987-91. The infant mortality rate also worsened, and was estimated at 107 deaths per 1000 births in 1992 (ZDHS 1993). Infant and child mortality rates are almost twice as high in rural areas as in urban areas. They are also higher in Luapula and Northern Provinces and lowest in Southern Province. There is a clear relationship between the prevalence of poverty in a province and its overall health status. Poorer provinces, such

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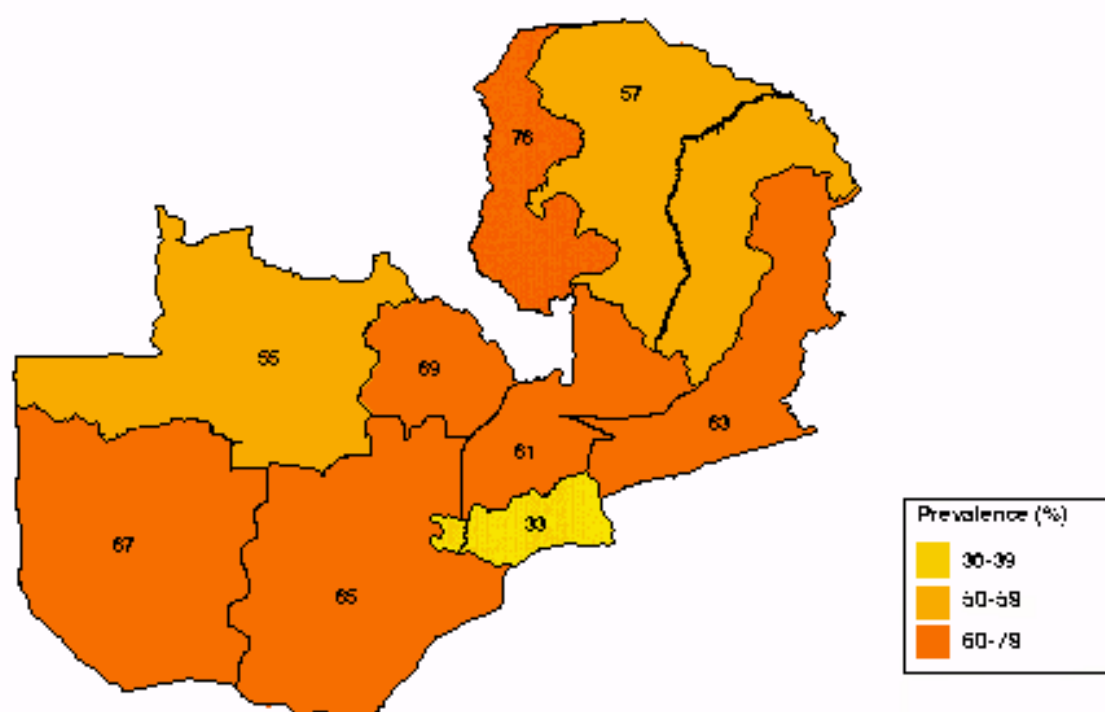
1/ Because of a potential undercount of 2-7% in the 1990 census, these growth rates may be underestimates.

**Figure 1.1 Prevalence of poor people in rural areas, Zambia 1991**



Source: Zambia Poverty Assessment Study, (World Bank 1994)  
 Note: Poor people <math>\leq 70\%</math> of mean expenditure. Data from PS1.

**Figure 1.2 Prevalence of poor people in urban area, Zambia 1991**



Source: Zambia Poverty Assessment Study, (World Bank, 1994)  
 Note: Poor people <math>\leq 70\%</math> of mean expenditure. Data from PS1.

**Table 1.2**  
**Demographic Indicators, Zambia**

<i>Indicator</i>	<i>1969</i>	<i>1980</i>	<i>1990</i>
Population (millions)	4.00	5.70	7.80
Percent Urban	29.40	39.90	42.00
Crude Birth Rate (per 1000)	47.70	50.00	49.50
Crude Death Rate (per 1000)	19.70	16.70	13.20
Total Fertility Rate	7.10	7.20	7.00
Life Expectancy at Birth			
Male	41.80	50.40	52.90
Female	45.00	52.50	55.00
Infant Mortality Rate	147.00	97.00	89.60

Source: CSO cited in ZDHS 1992

as Western, Northwestern, Luapula and Northern, tend to have the worst infant mortality rates (see Figure 1.3 and Figure 1.4).

A purely urban - rural dichotomy obscures demographic developments in Zambia's sprawling urban squatter camps, a consequence of Zambia's high rate of urbanization, where in most cases, living conditions are no better than in the rural areas. It is conceivable that when corrected for periurban IMR, the urban infant mortality rate may be higher than 78 reported in the ZDHS report. As with rural areas, high IMR in the squatter camps may owe largely to the limited availability of antenatal care and also to socio-economic differences in access to antenatal care, with the better off availing themselves of the services more than the poor.

Although sparsely populated (10.5 persons/sq. km), Zambia is the most urbanized country in Sub-Saharan Africa. The urban population has increased from 29% in 1969 to 42% in 1990, concentrated mostly in the Copperbelt, Lusaka, and Central provinces. In recent years, outmigration may have been caused by the severe drought of 1991-92.

### Health Status

It has been pointed out in the preceding section that Zambia's health indicators are worsening even though the crude death rate may have declined from 17.0 to 13.2 (MOH, forthcoming). Case fatality rates for most diseases including malaria (there

is a reported rise in cases of cerebral malaria) have gone up and financial constraints have limited the ability of the Ministry of Health to undertake disease control programs such as anti-mosquito spraying.

In recent years there has been a significant deterioration in the health status of the population. Overall mortality rates have risen. This is largely the result of the general decline in the economic situation, coupled with the impact of economic dislocation on the health system. In addition, there has been an increasing toll from the spread of the HIV/AIDS epidemic in Zambia. The major health problems facing Zambia include diarrheal diseases, malaria, acute respiratory infections, HIV/AIDS, tuberculosis and malnutrition.

### *Malnutrition*

There is widespread malnutrition and malnourishment. The PS1 reports that 39% of children in Zambia are stunted, and 22% wasted.<sup>2</sup> Stunting is most prevalent among children at age 13 - 18 months and wasting at age 19-24 months. The problem of malnutrition is one which Zambia's health policy makers have had to contend with for a long time. The remark in the 1968 Annual Report of the Ministry of Health that "malnutrition continues to be a major cause...of illness and death and that.....until nutritional deficiencies [are] eradicated, morbidity and mortality from all diseases will continue to take their toll of the Zambian people" remains as relevant now as it was then.

### *Infectious Disease*

Immunization coverage rates have been falling and the incidence and case fatality rates for malaria have increased since 1982.<sup>3</sup> While malaria remains a leading cause of death in Zambia, case fatality rates (CFR) for other diseases are also on the increase. For example, between 1981 and 1992, hospital admissions for tuberculosis rose nearly three-fold (6,744 to 18,647) and reported deaths from TB rose from 680 to 3,561 (over fivefold). While the increase in CFR should be a cause for concern, it could plausibly be attributed to better reporting rates or better access to health facilities by the sick.

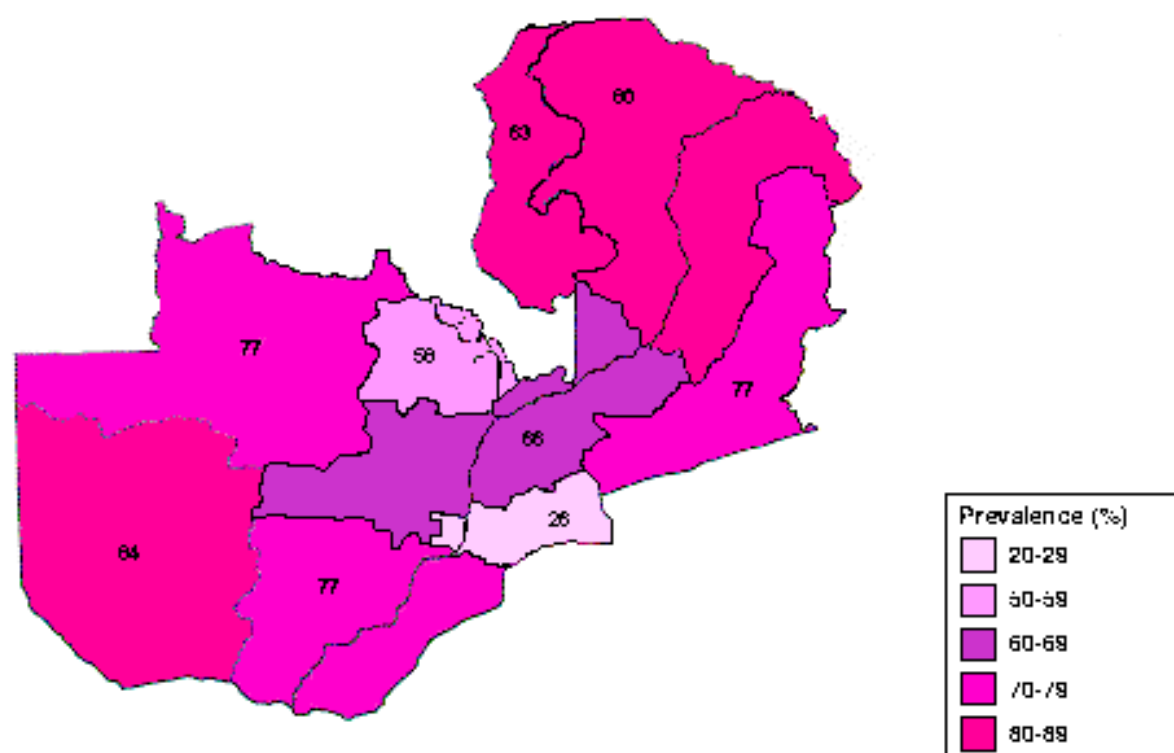
The increase in the prevalence of diseases and the emergence of new ones have increased the demand for drugs and other medical services. For example, the composition of the essential drugs kit is constantly being revised because it no longer reflects the pattern of diseases. This has added to the cost of providing drugs to the great majority of the Zambian people.<sup>4</sup>

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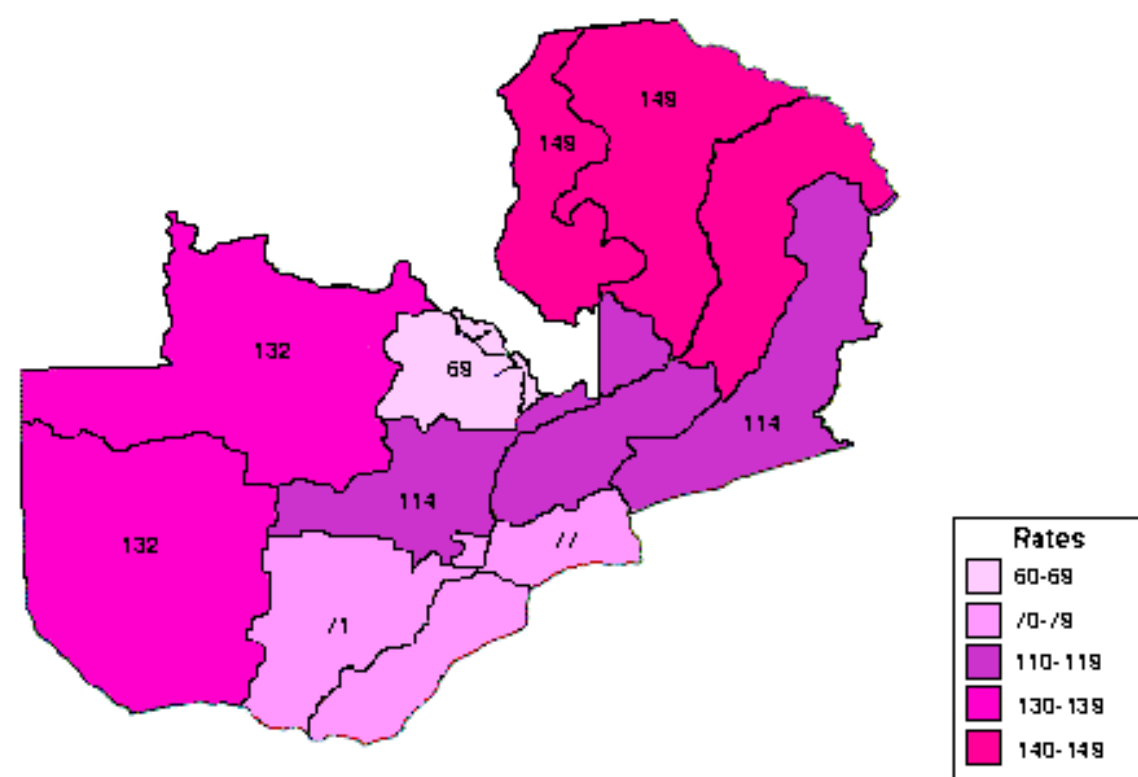
2/ There are also locational and gender differences. Rural areas record higher incidences of stunting and malnutrition, 46% and 25% respectively against 35 and 20% for urban areas. Male children are also much more likely to be stunted (41%), wasted (24%) and malnourished (8%) than females (36%, 19% and 5% respectively).

3/ Zambia Bulletin of Health Statistics 1992. Forthcoming, Ministry of Health, Statistical Unit.

**Figure 1.3 Prevalence of poverty by province, Zambia 1991**



**Figure 1.4 Infant mortality rates by province, Zambia 1992**





## 2 Overview of Private Health Care Provision in Zambia

The numbers of private providers in Zambia are generally lower than in most other African countries. Table 2.1 presents some data on the numbers of private physicians and hospital beds in Zambia and in some other African countries. The level of private for-profit hospital beds is extremely low, but when other private beds (i.e., missions) are taken into account the level of private participation at the hospital level in Zambia does not seem so low. The number of private physicians is low both in absolute terms and also as a proportion of total physicians, when compared with other countries such as Kenya or Malawi. The following section describes in some detail what is known about the levels of private provision in Zambia.

**Table 2.1**  
**Comparative Levels of Private Provision in Selected African Countries**

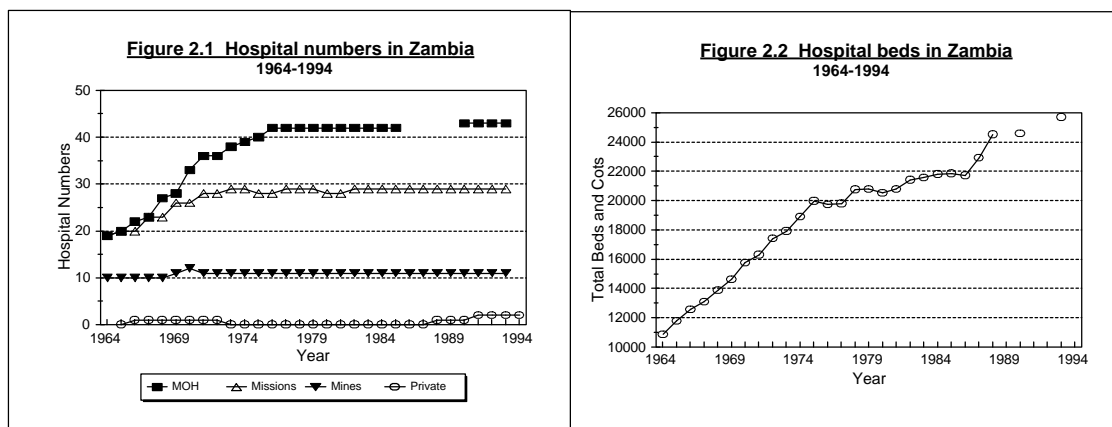
<i>Country</i>	<i>Levels (per 100,000 population)</i>			<i>Composition (as percentage of total)</i>		
	<i>Private Physicians</i>	<i>Private For-Profit Beds</i>	<i>Total Private Beds</i>	<i>Private Physicians</i>	<i>Private For-Profit Beds</i>	<i>Total Private Beds</i>
Burundi	2	-	-	7	-	-
C.A.R.	-	-	194	-	-	14
Kenya	125	184	496	81	13	36
Madagascar	4	64	64	-	-	-
Malawi	4	337	337	25	0	41
South Africa	167	702	702	56	29	29
Tanzania	-	516	516	-	0	49
<b>Zambia</b>	<b>13</b>	<b>8</b>	<b>792</b>	<b>13</b>	<b>0.2</b>	<b>25</b>
Zimbabwe	104	661	661	-	-	56

## The Health Sector: Development, Composition, and Distribution

### Development

#### *Facilities*

The modern health sector in Zambia was relatively limited at independence in 1964. From the late 1960s onwards the sector saw rapid expansion, as GRZ vigorously increased its expenditures on the health sector. As can be seen in Figures 2.1 and 2.2, there was a dramatic expansion in the number of hospitals and health centers from 1964 till about the mid-1970s, when fiscal constraints became significant. Since then there has only been a gradual expansion in the size of the physical infrastructure, and the emphasis of construction has been mostly on new health centers. Much of the growth was accounted for by MOH-owned facilities, but there was also a significant increase in the level of mission facilities.



In retrospect, it is clear that the expansion in facilities was greater than the availability of resources to maintain them. This became clear from 1975 onwards following the impact of falling copper prices on government revenues. The resulting short fall in budgetary resources has been the major reason for subsequent deterioration in the quality of MOH services.

#### *Human resources*

The major types of health personnel in Zambia include physicians, nurses, clinical officers and health assistants. At the time of Independence there were limited facilities to train health personnel and no medical school. To meet the demands of

the rapidly expanding health system, a medical school was set up at UNZA in 1966, and the first batch graduated in 1973. However, overall output from this school has remained very low, rising from an initial 26 to about 40 per annum.<sup>5</sup> This has always been clearly inadequate for the requirements of Zambia's health system, and so in addition to a very low level of physicians nationally, there has been continued reliance on expatriates on contract to fill most physician posts.

For certain other types of health personnel, such as pharmacists, Zambia continues to lack training facilities, and remains dependent on overseas training. For other levels of health personnel, training has been more adequate, and there is less of a shortage. Shortages of nurses and health assistants are not a serious problem at a national level, although many areas of the country remain understaffed because of significant imbalances in the distribution of all types of personnel. Overall more than two-thirds of the health personnel, including both nurses and doctors, are located in Lusaka and Copperbelt Provinces.

## Organization and Composition of the Health Sector

This section discusses the composition and organization of Zambia's national or public health system. By the public health system is meant those services which are either financed by the government or nominally supervised by the MOH. They include MOH facilities, the missions and industry (mostly mines). This public system for the most part is not coordinated with the services of private-for-profit providers and traditional healers.

### *Zambia's public health system*

The public system is organized nationally on the basis of a pyramidal referral structure, consisting of central, provincial and district hospitals and health centers. Zambia has 58 districts and 9 provinces. In each province there is one general hospital, and in most (36) districts there is one district hospital. Doctors are officially located in the general and district hospitals. Below the district hospitals are the health centers, which are the lowest level of health facility. In theory, health centers are staffed by clinical officers, nurses and other ancillary staff. They are designed to be the primary referral points for patients and to provide basic preventive and primary care. While MOH provides overall leadership, the ownership of facilities is mixed. An arrangement exists whereby mine and mission hospitals serve as district hospitals in those districts where MOH does not have a hospital.

The total number of facilities is high, and includes 5 specialist hospitals, 3 central hospitals, 9 provincial hospitals and 36 district hospitals.<sup>6</sup> There are also 19 other mission hospitals, 4 other government hospitals and 8 mine hospitals. In addition, there are 1,037 health centers. The distribution of these facilities across

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5/ To put this into perspective, the numbers of doctors in training and the number of doctors who are Zambian nationals are much lower than comparable figures for Cambodia, whose social sector is widely recognized by donors as suffering from such a shortage of health personnel that it has been the recipient of major flows of emergency aid designed to increase its national training capacity (World Bank, 1992).

provinces and ownership types is given in Tables 2.2 and 2.3. Together these facilities provide Zambia with a total of 25,707 beds and cots, which is equivalent to approximately 3.2 beds per thousand population.<sup>7</sup> Unlike in many developing countries, the distribution of beds is not particularly skewed across the various provinces. However, considerable differences remain between rural and urban areas in terms of access to hospital facilities, although 75% of Zambians are within 12

**Table 2.2****Distribution of Health Facilities by Province, Zambia 1993**

<i>Province</i>	<i>Population</i>	<i>Hospitals</i>			<i>Health Centers</i>		
		<i>MOH</i>	<i>Mission</i>	<i>Industrial</i>	<i>MOH</i>	<i>Mission</i>	<i>Industrial</i>
Central	778,044	5	0	1	71	5	10
Copperbelt	1,654,911	5	2	10	104	5	97
Eastern	972,172	4	5	0	99	4	0
Luapula	526,435	2	4	0	82	4	4
Lusaka	1,203,994	2	1	0	32	8	2
Northern	867,232	8	1	0	103	9	7
Northwestern	382,928	4	6	0	97	16	1
Southern	945,204	7	4	0	117	13	15
Western	607,190	6	4	0	90	5	0
ZAMBIA	7,938,111	43	29	11	795	69	136

Source: Health Information Unit, MOH (1994)

kilometers of a health facility.

Historically, the public health system has been highly centralized in its administration. Following the installation of the new Movement for Multiparty Democracy (MMD) government in November 1991, a major reform of the health sector was launched. The key feature of this is the decentralization of health care management to the districts. Local district authorities under new District Health Management Teams (DHMT) will become responsible for planning, budgeting and management. They will receive their own budgets and will have the power to purchase services from providers in their respective areas. The thrust of the reforms is to improve the running of the existing facilities, and so construction of many new facilities is not envisaged in the near future. This may well have a major impact on the different types of providers, but it is still too early to come to definite conclusions about the consequences.

6/ The discussion in this section is based on a variety of official records and maps. However, it should be noted that there are several inconsistencies between the various sources, and none of the numbers given are definitive. For example, there are several mission hospitals in Zambia which are not shown in Figures 2.3 and 2.5, because of lack of sufficient information.

**Table 2.3**  
**Distribution of Beds by Province, Zambia 1993**

<i>Province</i>	<i>Population</i>	<i>Total Bed Numbers</i>			<i>Beds per 100,000 Population</i>		
		<i>MOH</i>	<i>Mission</i>	<i>Industrial</i>	<i>MOH</i>	<i>Mission</i>	<i>Industrial</i>
Central	778,044	1,802	45	113	232	6	15
Copperbelt	1,654,911	2,623	511	2,581	158	31	156
Eastern	972,172	1,662	1,178	0	171	121	0
Luapula	526,435	982	694	40	187	132	8
Lusaka	1,203,994	2,580	241	19	214	20	2
Northern	867,232	2,107	630	16	243	73	2
Northwester	382,928	1,312	1,113	1	343	291	0
Southern	945,204	2,003	1,288	13	212	136	1
Western	607,190	1,495	658	0	246	108	0
<b>ZAMBIA</b>	<b>7,938,111</b>	<b>16,566</b>	<b>6,358</b>	<b>2,783</b>	<b>209</b>	<b>80</b>	<b>35</b>

Source: Health Information Unit, MOH (1994)

Note: Population estimated for each province using 1991 Census data

### *Condition of the health sector*

The expansion of the physical infrastructure was rewarded in the 1970s and 1980s with some improvements in the health of Zambians. Nevertheless, against the backdrop of decreased availability of resources, it does appear, with hindsight, that the government over extended itself. With increased fiscal difficulties, it finds itself unable to maintain service delivery at existing levels.

There are shortages and sometimes non-availability of drugs particularly in the urban facilities (rural health centers receive drug kits from SIDA and the Netherlands). Provision of surgical gloves, ambulances, vaccines and other things that make for a satisfactory and efficient health system is inadequate. The implementation of health programs, such as antenatal outpatient care, immunizations and outreach programs in schools, is constrained by lack of transport. At least 40-45% of the rural health centers do not have regular access to drugs (Seshamani et al., 1993). The lack of drugs is probably a contributory factor to the virtual breakdown of the referral system as many rural Zambians self-refer to the tertiary institutions, in the belief whether correct or incorrect, that the drugs situation is better. As a result, bed occupancy rates in the rural and mission facilities are low, while overcrowding has been reported in the hospitals in the major urban centers.

These difficulties combined with poor working conditions have demoralized staff in many GRZ facilities and led to an exodus of doctors from the public sector either to the private sector or for greener pastures overseas. In the first five months alone of

7/ For the purpose of this analysis cots are considered identical to beds, and so the bed numbers given include the totals for beds and cots.

1994, 12 doctors resigned from government service to set up their own practice.<sup>8</sup>

### *Distribution of health facilities in Zambia*

The different types of health care provider are distinctly concentrated in different parts of urban and rural Zambia. MOH facilities are found throughout Zambia, but in general are concentrated in urban centers, with most of its personnel and expenditures located along the line of rail. Mine hospitals and clinics are almost exclusively located in the Copperbelt. Missions are located mostly in rural areas of the more peripheral and poorer districts of the country. For-profit facilities are limited to the urban centers, with private clinics located almost exclusively along the line-of-rail, and pharmacies only moderately more dispersed. It is important for policy makers to understand the differences, since it has implications both from an analytical perspective as well as from policy-formulation and implementation perspectives. The distribution of the various provider types is described below. Figure 2.3 illustrates the relative distribution of hospitals across province by ownership type.

#### **MOH facilities**

MOH facilities are dispersed throughout all provinces (see Figure 2.4), with only some moderate variation between individual provinces in the nominal levels of provision, when adjusted for population. Bed numbers appear to be lowest in Copperbelt, Eastern and Luapula Provinces, while there is an above level of provision in Central and Lusaka Provinces. MOH hospitals are located predominantly in urban areas, so access is easier for urban residents. It should also be noted that the bulk of MOH personnel<sup>9</sup> is located in the four line-of-rail provinces, so the actual bias in favor of these areas is much greater than suggested by the bed numbers alone.

#### **Missions**

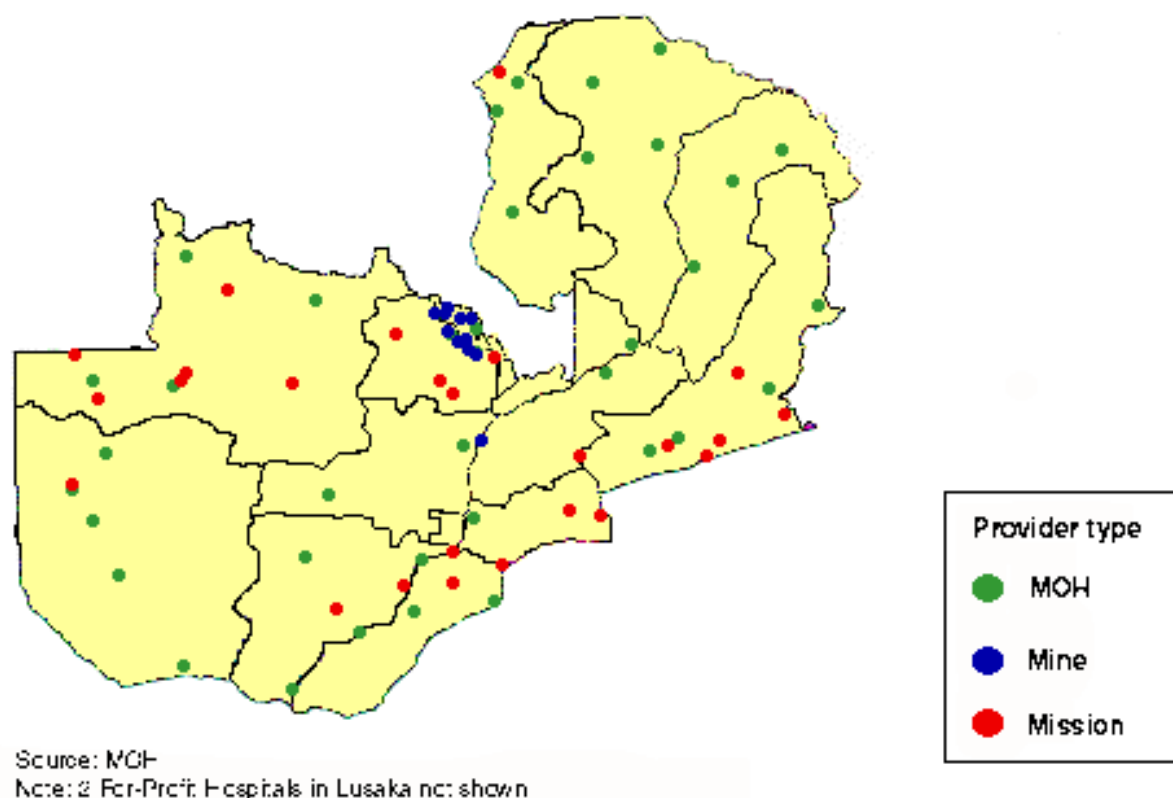
Mission facilities are more widely distributed in the peripheral and poorer areas of the country than MOH facilities (see Figure 2.5 and Tables 2.2 and 2.3). Their actual distribution tends to reflect the histories of the various missionary organizations that have been active in Zambia. In general, individual denominations tend to take responsibilities for different regions of the country. Unlike MOH facilities they are predominantly located in rural areas, and so in relative terms are less skewed in terms of access to rural residents. While at a provincial level there is a positive correlation between mission bed numbers and MOH bed numbers, mission facilities are generally located outside the provinces along the line of rail. Only 12.5% of all mission beds are located in the three LOR provinces, which account for 46% of the country's population. The missions have a significant presence in Eastern, Luapula, Northwestern and Southern Provinces. To this extent their distribution tends to favor the provinces least served by MOH facilities. This effect is accentuated by the

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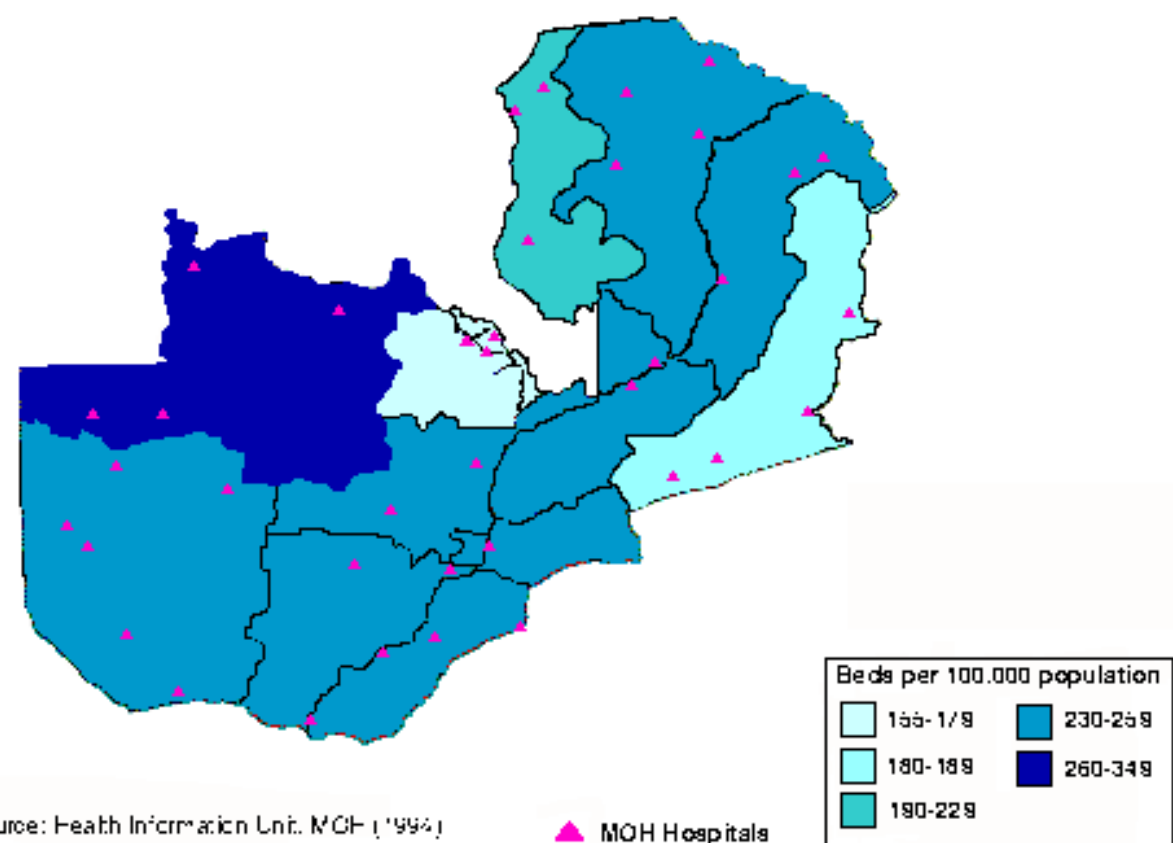
8/ I. Mwansa, Inspector, Medical Council of Zambia.

9/ 80% of all physicians work in the four line-of-rail provinces.

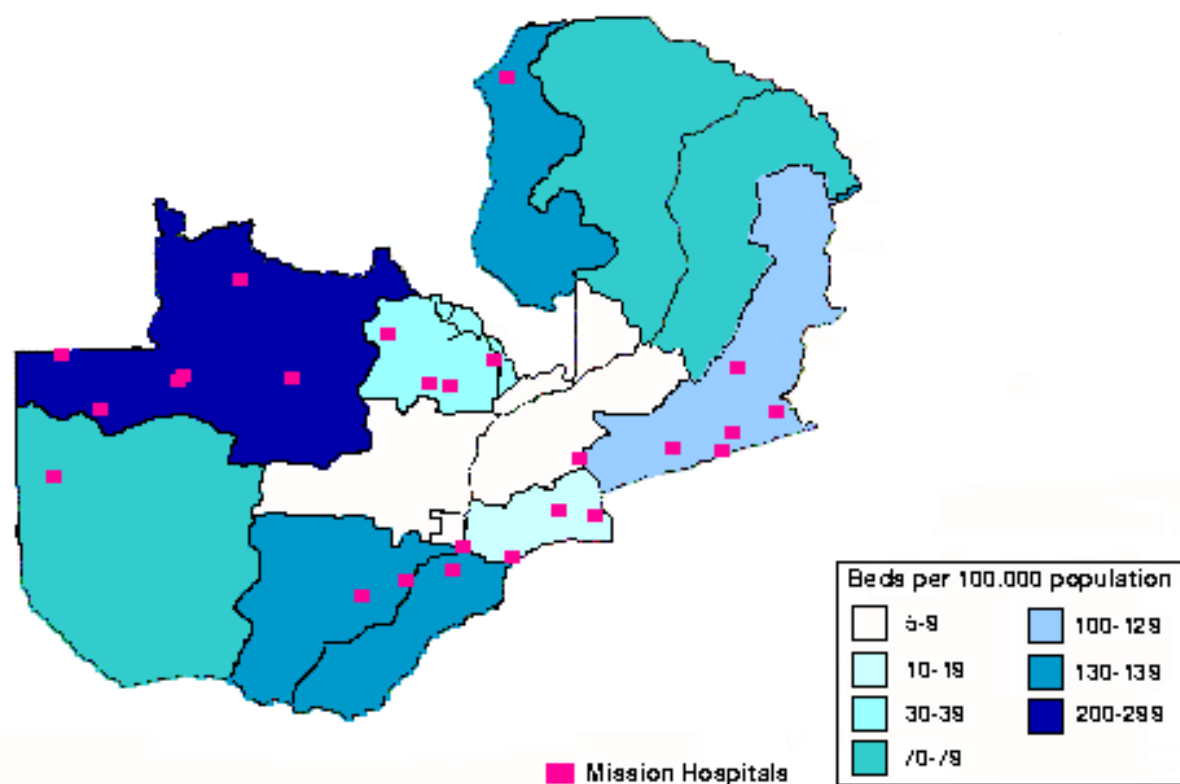
**Figure 2.3 Distribution of hospitals by provider type, Zambia 1993**



**Figure 2.4 Distribution of MOH beds by province, Zambia 1993**

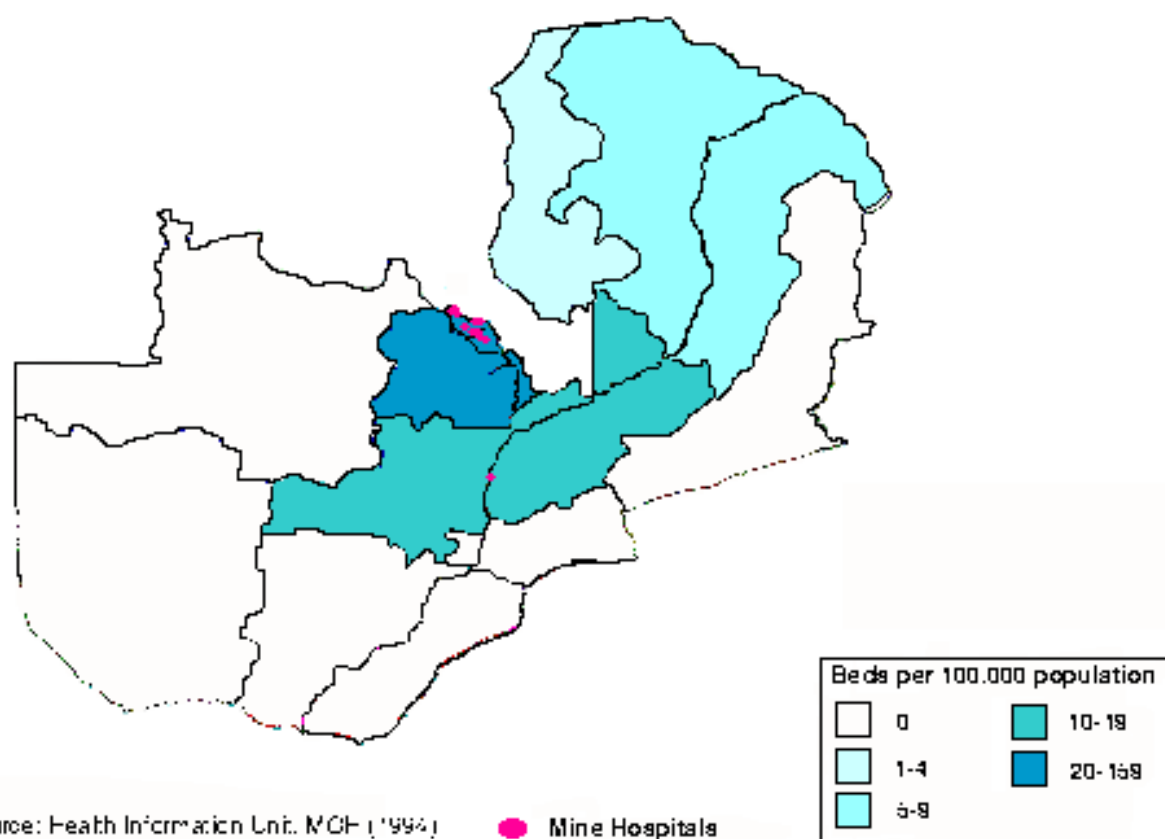


**Figure 2.5 Distribution of mission beds by province, Zambia 1993**



Source: Health Information Unit, MOH (1994)

**Figure 2.6 Distribution of mine beds by province, Zambia 1993**



Source: Health Information Unit, MOH (1994)



fact that staffing ratios in mission facilities do not tend to be skewed in favor of more central and urban facilities as is the case in MOH facilities.

### **Mine hospitals and industry facilities**

Mine facilities are all essentially located in Copperbelt Province, except for some outlying facilities in Central and Lusaka Provinces (see Figure 2.6 and Table 2.2). Companies other than ZCCM do provide health facilities, but these are all ambulatory in nature, and tend to be concentrated in the larger urban centers of Lusaka and Copperbelt Provinces. They are virtually all located along the line of rail itself (Figure 2.7 shows the distribution of the approximately 130 clinics run by industrial employers other than ZCCM<sup>10</sup>). With the exception of some ZCCM facilities, industrial facilities are only provided to their own employees, and are not available to the local populations.

### **Private hospitals and private clinics**

During the 1970s, private fee-taking for-profit hospitals were banned in Zambia. They are now allowed, and two private hospitals have opened in recent years. They are both located in Lusaka. We did not come across any evidence to suggest that any new private hospitals will open in Zambia in the next two years or so. There has been discussion of converting some of the mine hospitals to for-profit private hospitals, but the commercial potential for this is uncertain.

Private clinics have always been allowed, although not necessarily officially encouraged. There were approximately 150 private clinics in Zambia as of April 1994. They are all located in urban areas, and tend to be concentrated along the line of rail (see Figure 2.8 for the distribution of private clinics). While this mostly reflects demand factors - the higher cash incomes and population densities in urban areas - the distribution of private clinics closely parallels the distribution of MOH doctors. Most clinics are staffed by a mix of full-time private physicians and part-time assistants, who hold full-time jobs elsewhere in MOH facilities. The supply of private clinics therefore is closely related to the supply of doctors in the public sector.

An analysis of the clinic records available at MCZ was carried out (see Annex C). This indicates that there has been an increased rate of expansion in the number of private clinics since 1992, which will presumably continue for the foreseeable future.

### **Traditional Healers**

Nothing can be said definitively about the distribution of this group of providers. Although there are two organizations of traditional healers in the country (The Traditional Healers Association of Zambia and the National Council of Ng'angas) and the Ministry of Health keeps a register of them, there are no firm estimates of the actual numbers of traditional providers in Zambia. The Ministry of Health

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<sup>10/</sup> The data on location and numbers of private and industrial clinics is derived from an analysis of the list of registered clinics compiled by MCZ in April 1994, which was made available by the clinic inspector, Mr. Mwanza.

estimates that there are 20,000 registered traditional healers in Zambia (Mwanza et al., 1994). Others put this number at about 30,000 (Freund, 1989). Besides, because many of them are itinerant, moving from place to place in search of profitable markets, it is difficult to talk about their distribution. However, the general consensus is that traditional healers are widely available in rural areas, and are often the most accessible source of health care for the rural population. They are also widely available in urban areas, although there are reports that TBAs have become more difficult to find in urban areas in recent years.

### Pharmacies and Drug Stores

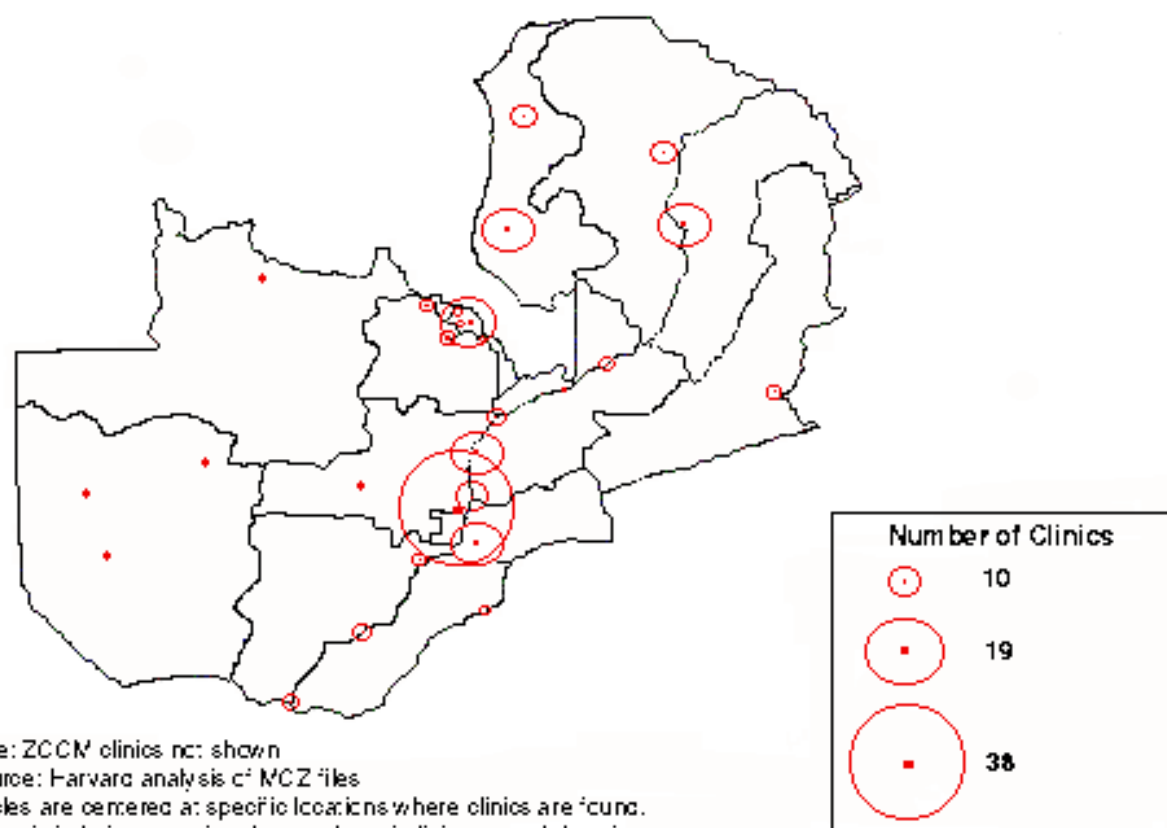
Pharmacies and drug stores are an important source of care. Preliminary data from the 1993-94 Household Budget Survey indicate that 73% of household expenditures on health care in Zambia are for medicines. Unfortunately we were unable to establish the precise number of pharmacies and drug stores in the country. Some reports have suggested that there are 139 pharmacies in the country. They are virtually all located in urban centers and along the line of rail. All pharmacies are currently being registered, but as of May 1, 1994, only 47 had done so. By late 1995, this process should be largely complete and good information should be available on the total numbers and distribution of pharmacies in Zambia. Drug stores sell other products than medicines, and are more widely dispersed than pharmacies.

### *Policy Coordination and Relations with Non-Government Providers*

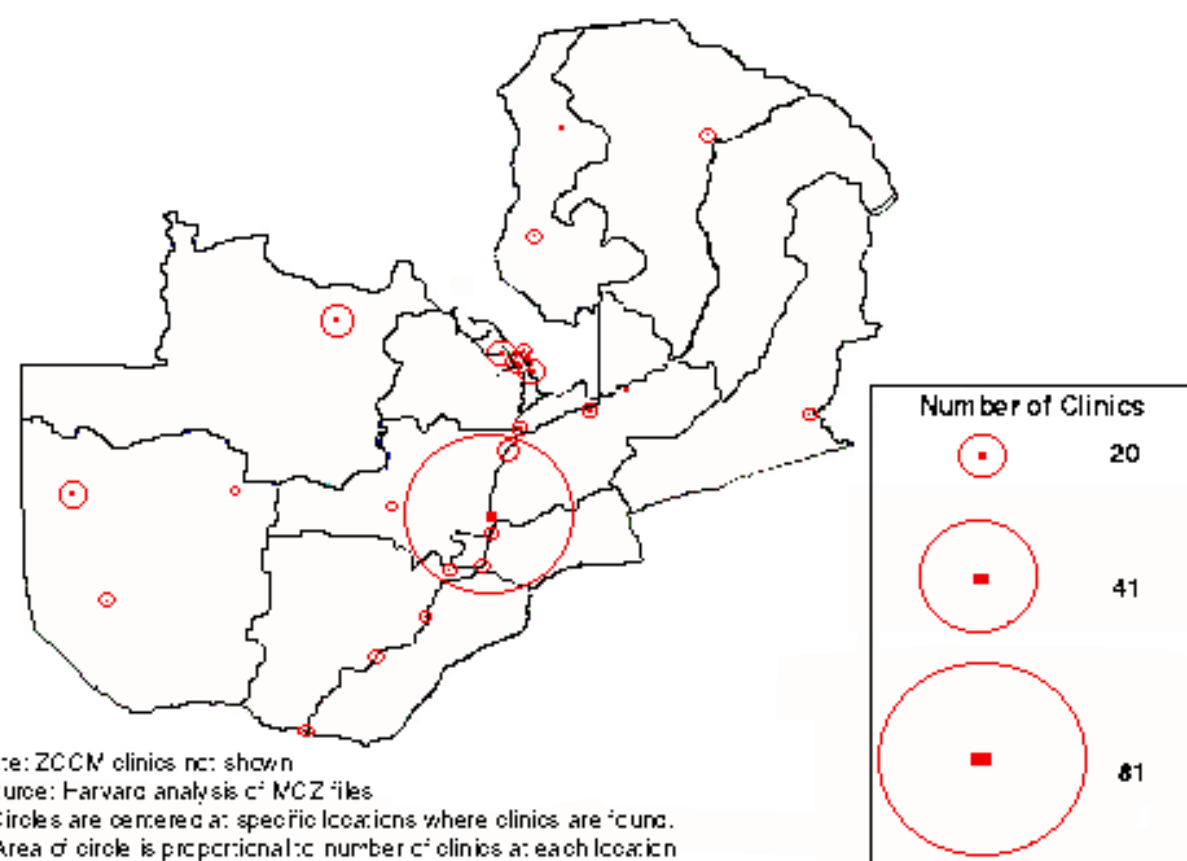
MOH is in theory responsible for the health sector as a whole, but its ability to coordinate non-MOH providers has been limited. The missions are the most integrated in the sense that they are largely MOH financed, and must observe general MOH regulations. However, information flows have been limited, and most missions do not regularly report health and managerial information to MOH. To some extent this has reflected the missions' concern to remain autonomous, as well as a fear that if the MOH was better informed this might lead to negative financial and other consequences. CMAZ has acted as the main channel of communication between the missions and MOH, but the mechanisms for consultation are often not used by MOH. Decentralization may change this situation in that district authorities, who are in much closer proximity to individual missions, will become much more important players. However, it is not necessarily the case that this will result in a more difficult relationship with the missions, since the new district health boards are elected bodies, and in many cases now include representatives of the local churches and mission health services.

The mines are majority government-owned, but they have in practice operated largely beyond the influence of MOH. Their financial self-sufficiency has made the mine hospitals completely autonomous. Their much greater resources and privileged access to foreign exchange have also allowed them to operate their own logistical

**Figure 2.7 Distribution of Industrial clinics, Zambia 1994**



**Figure 2.8 Distribution of private clinics, Zambia 1994**



and managerial systems, and this has further reduced any necessity for them to consult with MOH. However, actions by the mine hospitals do have implications for MOH. For example, the Zambianization policy that the mines are currently pursuing has significant implications for MOH personnel planning, but it would seem that MOH was not consulted.

There are few for a for organized representation and communication of the interests of for-profit providers to government. PSZ does do this to some extent on behalf of the pharmacists, but there are no equivalent organizations for private clinics, hospitals and doctors. The MCZ does to some extent fulfill the role of representing medical doctors, but clearly this is not appropriate for an organization whose primary purpose is to regulate the medical profession and private providers; the possibilities for regulatory capture are great. Some providers and members of the medical profession do have access to policy makers, but this is more at an individual and social level. These providers tend to be more senior medical specialists and those working in tertiary medical facilities, such as UTH. This dominance by those at the upper levels of the public sector and profession can only reinforce the excessive emphasis in the Zambian health care system on high cost, high quality (but low quantity) tertiary care. What is lacking is any organization to give further prominence to the interests of private ambulatory and non-specialist providers. Corresponding to the weakness of for-profit representation is the poor capacity for analysis and regulation of the private sector in MOH. This only decreases the ability to effectively coordinate policy with the for-profit sector.

## Financing of Health Care

The major source of health care financing in Zambia is GRZ, which accounts for approximately 65-75% of total national health expenditures (NHE). The bulk of these public expenditures is accounted for by MOH, but various parastatals, principally ZCCM, and other ministries also finance health services for their employees. Private expenditures are limited.

For the purpose of this assessment, a set of National Health Accounts for Zambia were estimated for Zambia for the year 1990. Details of how these were derived are given in Annex A, and a summary of the figures in Table 2.4 and Figures 2.9 and 2.10. In brief, MOH expenditures (45% of total) are used to finance provision of services by MOH and the missions. ZCCM financing (24%) is used solely for financing mine facilities, while private expenditures (22%) are used mostly for paying private providers. Total national health expenditures were estimated to be 3.0% of GDP, equivalent to K480 per capita.

Table 2.4

Health Expenditure Flows in Zambia, 1990 (as percentage of total health expenditures)

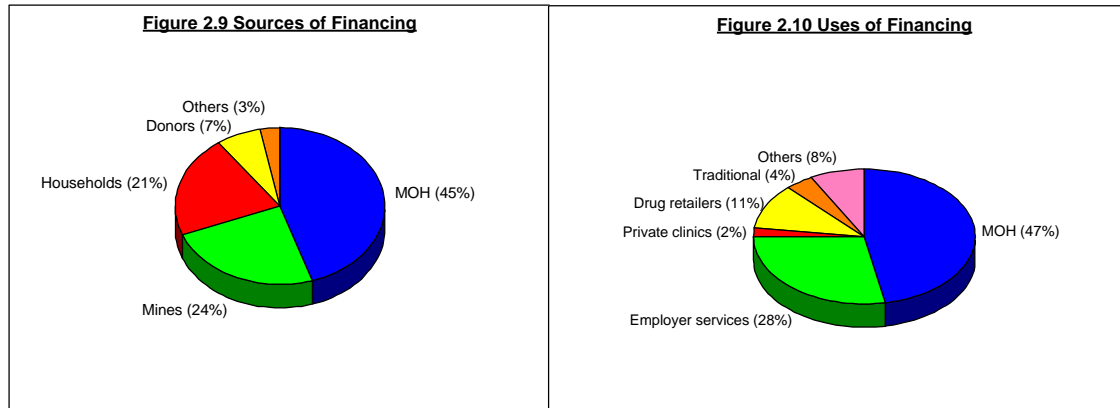
	SOURCES					Total
	GRZ		Private		Foreign Donors	
	MOH	Parastatals	Households	Firms		
MOH	40	-	3	-	4	47
ZCCM	-	24	1	-	-	26
Other Employer Services		2	-	1	-	2
Missions	3	-	-	-	2	5
Other NGOs	2	-	-	-	-	2
Private Clinics/Hospitals	-	-	2	-	-	2
Drug Retailers	-	-	10	-	-	11
Traditional Healers	-	-	4	-	-	4
<b>TOTAL</b>	<b>45</b>	<b>26</b>	<b>21</b>	<b>1</b>	<b>7</b>	<b>100%</b>

Note: Total national health expenditures were estimated at K3,743 millions nominal kwacha, equivalent to 3.0% of GDP. All numbers given are of varying reliability. Only numbers greater than 0.5% are given. See Annex A for further details.

## GRZ Health Expenditures

### Ministry of Health

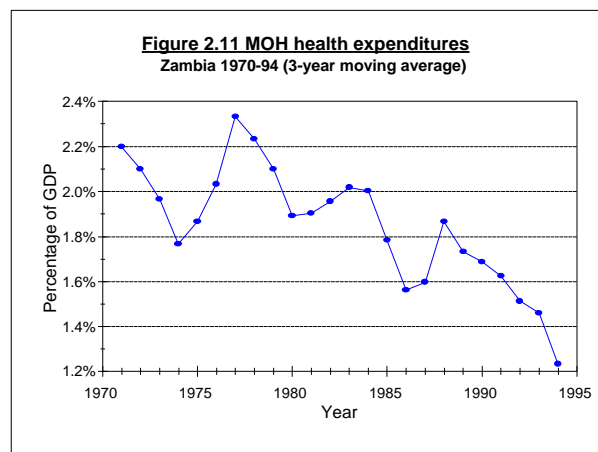
The deterioration in the economy and in government finances since the mid-1970s resulted in a squeeze in public expenditures and revenues. Total government spending on all sectors fell both as a proportion of GDP, as well as in real per capita terms. In this context MOH expenditures also fell in real terms and as a percentage of the declining GDP (Figure 2.11). However, while the social sectors as a whole bore more than their proportionate share of the decline in government spending, health spending was relatively protected in that it maintained its relative share of government spending (see Annex Table A.3). GRZ has promised to protect spending on the social sectors, and to increase the allocation of total spending to health. But given the overall macroeconomic situation, and high levels of debt repayment, it is clear that significant increases in health spending and its overall allocation in the national budget will be difficult to achieve in the next few years.



Between the early 1970s and 1990 real per capita health expenditures declined by approximately two-thirds. Total MOH spending is now in the region of 1.0-1.8% of GDP. This has been the major cause of the deterioration in MOH-run health infrastructure over the past twenty years. However, other contributory factors include an excessive concentration of public health expenditures on tertiary facilities in Lusaka, as well as an inappropriate allocation of spending and major inefficiencies in the operation of services. It is possible that the recent health care reforms, which seek to decentralize budgeting and allocation of resources, will do much to address these problems, but there will be many obstacles.

*ZCCM expenditures*

The mines finance their health facilities from their own resources. These expenditures are completely beyond the oversight of the MOH. It would appear that they have always accounted for a large proportion of national health expenditures (approximately 24% in 1990, and perhaps 20% in the early 1970s). While MOH spending has been directly subject to the pressures on the national budget, ZCCM



has been relatively insulated from such changes. In addition, while other sectors of the Zambian economy had limited and rationed access to foreign exchange, ZCCM always had access to its own foreign currency. This has allowed it to maintain the level of its facilities at a relatively high level, and to continue to afford expatriate personnel and imported supplies.

## Private Expenditures

Private expenditures consist mostly of household out-of-pocket spending. Various surveys over a number of years have reported expenditures equivalent to 0.8-1.5% of total household consumption. Most of this is used to pay private providers. Although MOH and mission facilities have introduced user fees since 1990, there is no evidence yet that these account for a major proportion of total household health expenditures. As in many low-income developing countries, private expenditures are used mainly for purchasing medicines and paying traditional healers. Since public user fees are not yet large, and since there are few private hospitals in Zambia, it can be concluded that the bulk of private spending (more than 80%) finances primary and ambulatory care, while little is used to pay for hospitalization or inpatient care. This is almost the reverse pattern to public spending.

Third party financing has not been a major source of financing until now. Before 1975, there were a number of private medical insurance schemes covering the formal sector, but these were outlawed by legislation introduced at that time.<sup>11</sup> This legislation has now been repealed, but there are still no private insurers in Zambia. They are restricted exclusively to individuals working in the formal sector. Most large formal sector employers already finance health services for their employees, but this has typically involved direct provision or contracting with individual providers. It is likely that further growth in the formal sector will be associated with growth in insurance schemes, as enterprises seek to reduce the administrative costs of running their own schemes.

## Typology of Private Providers

Health care in Zambia is provided by both the Ministry of Health (MOH) and other providers. The emphasis of this assessment is on the non-MOH providers or more specifically the non-governmental providers. These non-governmental providers are not homogenous, and the relevance of different policy options will vary from provider to provider (Berman and Rannan-Eliya, 1993). It is therefore necessary to construct a typology of different private providers, which reflects the key differences between different types of providers.

The following typology is the one used in this assessment. It distinguishes three broad groups of providers on the bases of commercial orientation and ownership: (i) employer-provided services, (ii) non-governmental organizations and (iii) for-profit

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11/ The Medical Aid Societies and Nursing Homes (Dissolution and Prohibition) Act of 1975 dissolved the two insurance schemes existing at that time: the Commercial and Industrial Medical Aid Society Limited and the Zambia Medical Aid Society Limited.

providers. Within these three groups, a larger number of distinct types of providers can be identified, as illustrated in Table 2.5. Following the table is a brief profile of the various types of non-governmental providers found in Zambia.

## Employer-Provided Services

Employer-provided services are an important source of health care for many in Zambia's formal sector. The tradition of formal sector employers taking responsibility for providing health care for their employees is decades-old, and predates the establishment of the MOH. They continue to exist and have expanded in recent years because of the perceived unsatisfactory level of services provided by the MOH. By far the most significant employer-provided services are those run by the mines. In addition to these a number of other employers also provide services.

The mine facilities and other health services provided by other government parastatals are included in this typology of private providers, even though they are technically all government owned and run. This is because, while they are a large part of

**Table 2.5**  
**Typology of Private Providers in Zambia**

<i><b>Employer-Provided</b></i>	<i><b>Non-Governmental Organizations</b></i>	<i><b>For-Profit</b></i>
Mines	Missions	Modern Formal
Other Employers	Islamic Organizations	· Private Clinics
	ZFDS	· Private Hospitals
	Other NGOs	Pharmaceutical Retailers
	· Local NGOs	· Pharmacies
	· Foreign NGOs	· Drug Stores
		· Market Vendors
		Traditional
		· Herbalists / Mang'anga
		· Spiritualists
		· TBAs

the formal health system in Zambia, they are not in practice under the control or influence of the chief government agency concerned with health - MOH. They are run essentially autonomously of MOH influence. Most of them, including ZCCM



facilities, predate nationalization and were once in the private sector. In addition, the future ownership status of ZCCM (and other parastatals) is not fixed, since there is considerable pressure on Zambian policy makers to privatize the mines sector.

### *Mines*

Large scale copper mining began in Zambia in the 1920s. At that time, the Copperbelt was an undeveloped area with no infrastructure or basic services. In order to attract and maintain the necessary labor the private mine companies established a comprehensive system of health facilities for their employees. These facilities were owned by the companies, and financed directly by them. The mines were nationalized in August 1969, and then in 1982 Zambia Consolidated Copper Mines Ltd (ZCCM) was formed from the merger of Nchanga Consolidated Copper Mines Ltd and Roan Consolidated Mines Ltd.

ZCCM currently runs 12 hospitals and 66 plant and MCH clinics at an estimated annual cost of US\$25-35 million. This accounts for about 20-25% of total health expenditures in Zambia. These are all located in the Copperbelt, except for one hospital in Kabwe in Central Province and another smaller unit in Lusaka. Services are provided at almost no cost to employees and eligible dependents, who number approximately 467,000 in the Copperbelt, i.e., about 5% of the national population. During the colonial period, separate hospitals and wards were maintained for Europeans and Asians on one side and Africans on the other. Although this distinction no longer remains, services are still split into "high-cost" and "low-cost". High-cost facilities are used by managerial staff who pay a nominal amount each month, while low-cost facilities are available free to general employees. ZCCM facilities are of high quality, and do not operate under any serious financial or human resource constraints.

From 1989 to 1992, the mine health facilities were placed under a separate subsidiary — Medical Education Trust (MET). Historically, ZCCM health services were reserved to mine employees only,<sup>12</sup> but MET made the facilities available to other companies and their employees, who were willing to pay. However, this was never significant, and non-miners accounted for only 10-20% of the out-patient and in-patient load during 1990/91, and covered only 8% of the operational costs (World Bank, 1993j). For various reasons, including allegations of incompetence and fraud, MET was liquidated in March 1992, and the facilities returned to ZCCM. Many of the mines are near the end of their economic lives and the rest are likely to be privatized. The future status and association of these health facilities with a privatized mines industry are unclear, and is currently a major policy dilemma for GRZ policy makers.

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12/ An exception is Konkola Mine Hospital in Chililabomwe which is the only hospital in its district. Non-mine patients have traditionally been treated free of charge, but from 1992 non-mine users have been charged fees. In the case of patients referred from government facilities, the Provincial Health authorities are invoiced directly.

### *Other employer-provided services*

Other employers also provide health services to their employees. Many are parastatals, such as ZESCO, Bank of Zambia and ZIMCO. Their contribution to health services provision is however limited by the size of their workforce and their relatively small contributions to national output. These services are typically restricted to on-site direct provision of clinic services and financing of other private providers. The majority of the clinics, which are classified as industrial clinics in Zambia, are located in urban areas, although some are on plantations in rural areas. The phase of nationalization after 1968 led to most of Zambia's formal sector becoming publicly owned, and so most industrial clinics remain in the public sector. However, poor working conditions in the public sector and private sector expansion are leading to an increase in the number of private industrial clinics.

## Non-Governmental Organizations

### *Religious organizations*

#### **Church missions**

Foreign missionary organizations were amongst the first to establish modern health services in Zambia. Various Christian denominations are active in the health sector, with each tending to take responsibility for a specific area within the country. While each remains independent private entities, their activities are coordinated by a registered body, the Churches Medical Association of Zambia (CMAZ). CMAZ was established in 1970, and is the de facto successor to the Government and Mission Central Health Committee. CMAZ acts as a channel of communication between GRZ and the missions, and is occasionally consulted by the MOH on some policy issues and matters of mutual concern.

The missions run 29 hospitals and 53 health centers, with a total bed capacity of over 6,250 in 1990, which accounts for approximately 25% of the total bed capacity in the country. These are widely dispersed and are mostly located in rural areas. In those districts where the GRZ does not have a district hospital, mission hospitals typically function as the designated district hospitals. In some other districts they complement a GRZ district hospital. It should be noted that many mission health centers also have large bed capacities, function as hospitals, but choose not to be classified as hospitals.

#### **Islamic organizations**

Several Islamic groups provide health care services in Zambia. The extent of their involvement in health services provision was not assessed, but seems to be restricted to ambulatory care only.

## *Other non-governmental providers*

### **Flying doctor service**

A number of airborne medical services were originally established in Zambia to provide medical services in inaccessible rural areas. They were run by the government, missions and other NGOs. Funding was by donations and by government subsidies (Jackman, 1972). These were all eventually subsumed into a statutory body the Zambia Flying Doctor Service (ZFDS). ZFDS functions as a non-profit making NGO, with most of its funding coming as grants from the government.

There are several other NGOs which are active in the health sector, such as the Zambia Red Cross. However, until recently they have not been significant providers of health care. However, with increasing donor funds flowing into the sector the number of active NGOs and the scope of their activities are increasing.

### **For-Profit Providers**

Privately provided curative health services are generally available to Zambians from two major sources: a) modern for-profit private providers and b) traditional healers.

#### *Modern Private-For-Profit Providers*

There are two main groups of for-profit private providers in Zambia: private clinics and traditional providers.

#### **Private clinics**

Private clinics have never been banned in Zambia. They provide modern ambulatory care on a fee-for-service basis. A few are financed on the basis of long-term contracts with formal sector employers. They are regulated by the Medical Council of Zambia, and in theory are staffed by fully-qualified medical doctors. Private clinics number approximately 150, and are concentrated in urban areas and along the line of rail.

The survey by Mwanza et al. (1994) sampled 21 of these clinics located in Lusaka and Copperbelt during the first quarter of 1994. Since the sample was randomly taken from the MCZ registration lists, which are relatively complete, and since the vast majority of these clinics are located in Lusaka and the Copperbelt, it can be assumed that the sample was fairly representative of all private clinics in Zambia. The following table summarizes the main findings regarding their general characteristics.

Private clinics in general are owner-operated ambulatory care facilities. They provide limited laboratory and treatment facilities, and do not provide in-patient care.

The typical clinic is staffed by one to two full-time doctors, supplemented by one or two part-time doctors and clinical officers. They are assisted by an average of two nurses and four other staff. These doctors are in some cases full-time private practitioners, and in others part-time practitioners, who hold a first job elsewhere, in most cases in GRZ or parastatal facilities. In practice, some are often only staffed by clinical officers and nurses.

The average fee charged for a consultation is K1,157 (= US\$1.65). This does not usually include the cost of drugs and treatment prescribed. Average drug costs for an illness episode appear to vary in a range of K1,000 - K4,000. The average number of patient visits per year is approximately 10,000. Given the average 37.8 hours per week worked per doctor, this suggests a throughput of approximately 2.5 patients per hour for the average clinic doctor.

### Private hospitals

Until recently, for-profit private hospitals providing health services on a fee-for-service basis were banned in Zambia. Historically, there were only a small number of these facilities - probably only two by 1970, but legislation in 1972 effectively made fee-charging by hospitals illegal, and all such facilities were closed down. Two private hospitals currently exist, both in Lusaka, and date from 1988 onwards.

### *Traditional providers*

These are the oldest type of health care providers in Zambia. They practice various forms of indigenous medicine, and fall into the following main types: herbalists, faith healers, spiritualists and traditional birth attendants.

There are two government-recognized associations of traditional providers the Traditional Healers Association of Zambia and the National Council of Ng'angas. There are a total of 20,000 registered traditional healers, but many more do not belong to these organizations, and estimates of total numbers range from 20,000 to 50,000 (Freund, 1989, Mwanza, 1994). In general, the various traditional providers are unregulated, with little contact with the official health services.

### Herbalists or Mang'anga

Herbalists or mang'anga<sup>13</sup> are the most organized types of traditional providers, and are found throughout Zambia. They charge for their medicines and advice, accepting payment in both cash and in kind. Many are part-time practitioners, while others are full-time. Some practice from home, others are itinerant, while others practice from fixed places of business. These can range from street-side or market stalls through simple sheds to specially built premises. Virtually all provide only ambulatory care combined with home visits. A few of the more successful practitioners do have beds where they will keep patients overnight. While most are

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13/ Mang'anga is the plural for ng'anga.

**Table 2.6**  
**Characteristics of Private Practitioner Clinics**

	<i>Mean</i>	<i>Minimum</i>	<i>Maximum</i>
Number of Doctors	2.0	1	4
Average Hours Worked/Week/Doctor	37.8	6.5	48
Number of Nurses	2.0	1	4
Number of Other Staff	3.7	0	11
Inpatients/Year	0	0	0
Outpatients/Year	8,450	NA	NA
Consultation Fee	K 1,157	K 500	K 2,000

Source: Calculated from data gathered by Mwanza et al. (1994).

Note: Numbers reported are for both permanent and part-time staff. Reported incomes are not given as they were judged to be not reliable. The total expenditures are based on summing on all staffing, supplies, facility and other expenses reported.

in formal, it should be noted that some are highly professional, adopting modern clinical uniforms as well as advertising through television commercials (Anonymous, 1994).

### Spiritualists and faith healers

Spiritualist or diviners diagnose through divination by seeking help from spirits or through dreams. They treat using both prayers and herbal medicines. They charge for their services. Spiritualists are reported not to believe in notions of the organic causes of disease, but instead in a social causation theory of disease.

Faith healers rely on spiritual methods for both diagnosis and treatment. They generally charge fees for their services. Many have formal practices, and are linked to various grass-roots churches. They are reported to treat mainly psychosomatic and mental illnesses, such as insanity, epilepsy and spiritual possession (Twumasi and Warren, 1986).

### Traditional birth attendants

Traditional birth attendants (TBAs) are an important source of medical care, especially in rural areas, where they assist in 13% of all deliveries. Many charge for their services; payment may be in cash or in kind. In some cases, services are performed free, but this must be seen in a context of embedded and interlocking social obligations. TBAs are more integrated into the formal sector than other providers, as they often make referrals to modern facilities, and in many areas are supervised by staff in rural health centers. TBAs are also frequent recipients of training and supplies from the MOH and other donor programs. It is reported that

TBAs are increasingly difficult to locate in urban areas (Kachikoti, 1994).

### *Pharmaceutical retailers*

Medical Stores Limited (MSL) is a GRZ parastatal, which previously had a monopoly on the import of all drugs. This monopoly no longer exists, but MSL remains the major importer of drugs in Zambia. Drugs and medical supplies are now available from a number of different importers other than MSL.

### **Pharmacies**

These are mostly private for-profit retailers, except for some which are owned by government parastatals. They number approximately 150, and are concentrated in urban areas and along the line of rail. In theory they are staffed by qualified pharmacists, but this is often not the case. Under the law only pharmacists are licensed to dispense prescription-only pharmaceuticals. They are not allowed to prescribe although there is anecdotal evidence that they do.

### **Drug stores**

Drug stores differ from pharmacies, in that they are allowed to sell over the counter medications and other nonprescription drugs, in addition to selling other goods. They are not staffed by pharmacists. More widely dispersed across the country than pharmacies, their exact numbers are unknown.

### **Market vendors**

These are informal vendors, who typically operate in market-places. They are unregulated, and their exact numbers are unknown.

## 3 The Role of Private Providers

### Characteristics of the Users of Private Providers

With the exception of employer-provided facilities, all health services in Zambia are nominally available to the whole population. However, the use of private providers is not uniform across the whole population. There are variations between different population groups, and between different provider types themselves. Using available survey data, the following section describes in some detail the utilization of different providers by different groups.

#### Age and Sex

There appear to be no major differences in the overall utilization of different private providers by sex. Age differences also appear to be minimal, except in the case of traditional healers. PS2 indicates a general increase in utilization of traditional healers by age, with the highest levels of utilization in those aged 50 years and above (see Figure 3.1). This may reflect a cultural change over time, with younger Zambians, who have been exposed to widely available modern services for a longer proportion of their lives, having a lower preference for traditional healers.

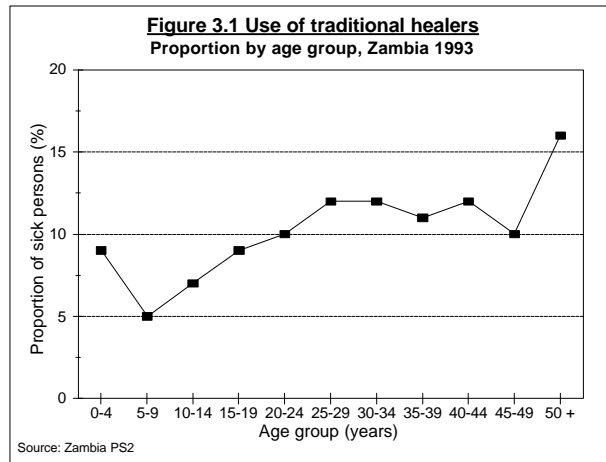
#### Place of Residence

There are major differences in the utilization of private providers between urban and rural residents (Table 3.1). Utilization of mission services is minimal in urban areas as might be expected from the distribution of mission services. Similarly use of industrial or employer-provided facilities is virtually zero in rural areas. PS2 does not differentiate between different types of other private providers, which in the main include private clinics, pharmacies and shops.<sup>14</sup> There is some use of other private sources in both urban and rural areas, but this is greater in urban areas.

Variations across the provinces are much greater (Table 3.2). Traditional providers seem to be widely used in rural areas of all provinces (11-16%), except Lusaka (2%), while urban utilization levels are uniformly lower (4-9%), except in Western Province. In all rural areas, utilization of mission services is in the range of 7-19% of all visits, except Northwestern Province where it is much higher at 29% and Central Province where it is lower at 4%. This seems consistent with the distribu-

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14/ The data in this section are mostly derived from analysis from the Priority Survey conducted in 1993. The questions on utilization of different providers were asked of those respondents who admitted to having been ill in the past three months and having visited a provider of any kind. The questionnaire used only allowed one provider to be given as an answer, and so excluded the possibility of individuals visiting more than one provider. The data must therefore be interpreted with caution.



tion of mission services, which are least in Central Province and greatest in North-western Province. As might be expected use of industrial facilities is high in both urban and rural areas of Copperbelt and in urban Central Province. PS2 reports that use of industrial facilities is high also in urban Southern Province, where mines facilities are not present. This may be related to the significant number of non-mines employer clinics located in the province (see Figure 2.7).

### Socioeconomic Status

No data are available on differences in the utilization of private providers by income level. However, PS2 did categorize households on the basis of two simple categorizations, which roughly correspond to relative income levels in urban and rural areas: small and medium scale farmers in rural areas, and low, medium and high cost housing locations in urban areas. When utilization is examined using this categorization, it indicates a clear decline in the utilization of traditional healers with higher socioeconomic status (SES) in both urban and rural areas (Figures 3.2 and 3.3). Also to be noted is an increase in use of public provision with higher SES in rural areas, but the reverse in urban areas. This might be explained by better access to public facilities by higher income households in rural areas owing to their ability to afford travel costs more. In urban areas, differences in access may be less significant, but there is a greater choice of modern alternatives to public provision.

### Private Provision and the Public Health Agenda

The Zambian health information system is inadequate for assessing the role of private providers. Available health systems data are only for MOH services, and there are deficiencies in the completeness, reliability and availability of these data, in addition to the fact that MOH services only meet part of the demand for health



care services. This makes it difficult to assess the actual contributions and potential of private providers in providing specific health services. Nevertheless some data are available from various sources, as outlined below in a review of major areas of health care provision.

## Reproductive Health Services

### *Family Planning*

**Table 3.1**  
**Proportion of Population Visiting Health Providers**  
**by Rural/Urban Location, Zambia 1993**

	<i>Rural (%)</i>	<i>Urban (%)</i>
Government	71	67
Mission	14	1
Industrial	1	17
Traditional	12	6
Other Private	3	9

Source: PS2

Population growth continues to be rapid. The population increased from 3.5 million in 1963 to 7.8 million in 1990. The growth rate is 3.2%, and results from a high total fertility rate (TFR) of 6.5 and a declining death rate. While knowledge of modern contraceptive methods is nearly universal in Zambia (>93% of married women according to the 1992 ZDHS), only 15% are using contraception, and of these only 9% are using modern methods, while 6% use traditional methods. This is despite 63% of married women wanting to delay or stop pregnancies (ZDHS, 1992).

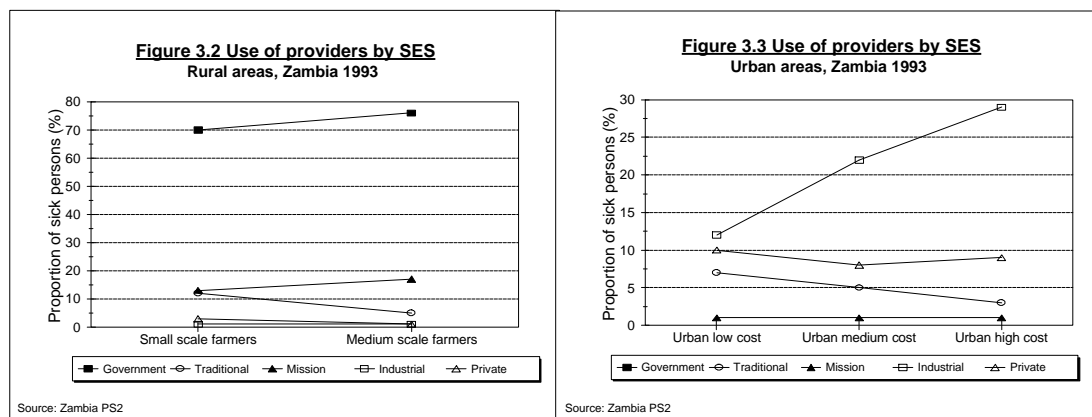
Several reasons for the gap between potential demand for and use of family planning services have been identified. On the GRZ-supply side these include charges for Family Planning cards which are prohibitive for some clients, inappropriate staff attitudes and procedures, lack of training for health personnel in providing family planning services, and unpleasant and discouraging behavior on the part of some staff. These are compounded by the general inaccessibility of GRZ services in many rural areas, and logistical problems in delivering contraceptives to all service delivery points (World Bank, 1993e). On the demand side factors include negative attitudes on the part of husbands, lack of information on potential sources and low levels of general education.

**Table 3.2**  
**Proportion of Population Visiting Health Providers by Province, Zambia 1993**

	<b>Government (%)</b>	<b>Traditional (%)</b>	<b>Mission (%)</b>	<b>Industrial (%)</b>	<b>Private (%)</b>
<i>RURAL</i>					
Central	80	13	4	1	3
Copperbelt	57	11	19	8	4
Eastern	69	13	15	1	2
Luapula	73	14	7	4	3
Lusaka	82	2	13	0	4
Northern	76	13	7	1	3
Northwestern	56	13	29	0	2
Southern	69	8	19	1	4
Western	64	16	18	1	1
<b>ZAMBIA</b>	<b>71</b>	<b>12</b>	<b>14</b>	<b>1</b>	<b>3</b>
<i>URBAN</i>					
Central	67	6	0	19	8
Copperbelt	53	6	1	33	8
Eastern	69	9	1	0	21
Luapula	90	7	1	0	1
Lusaka	70	4	1	6	18
Northern	92	5	1	1	1
Northwestern	92	5	2	0	1
Southern	73	5	1	20	1
Western	82	15	3	0	0
<b>ZAMBIA</b>	<b>67</b>	<b>6</b>	<b>1</b>	<b>17</b>	<b>9</b>

Source: PS2

Private providers make a major contribution in the supply of family planning services in Zambia. The 1992 ZDHS showed that private providers meet a large proportion (43%) of the met demand for modern family planning methods (see Table 3.3). This is a very substantial role, and is probably a consequence of their ability to deal more effectively with some of the problems which effect the GRZ program through: (i) more conducive and more appropriate attitudes to clients, and (ii) greater ability to overcome the logistical difficulties in supplying sufficient contraceptives to users. The retail network also offers a far more dispersed supply system than can GRZ facilities.



The missions deliver a moderate amount of family planning services. In general most use the integrated MCH/FP approach, and deliver family planning services alongside their other services. Because of religious reasons, many Catholic organizations emphasize natural family planning, and others still insist on written permission from husbands. Provision of FP to unmarried people is reported to remain a gray area (World Bank, 1993e).

Several NGOs, other than the missions, make special efforts in the family planning area. The most important one is Planned Parenthood Association of Zambia (PPAZ), which is funded by donors, principally the International Planned Parenthood Federation (IPPF). It devotes most of its resources on IEC, but also directly provides FP services through its own and GRZ clinics. Several other NGOs provide FP services and information, and also mostly with outside donor support.

Private providers, in particular retail outlets, supply 56% of all condom users. This is particularly important, because condoms also play a key role in the reduction of HIV transmission. The wide range of sources probably reflects the success of various donor programs, such as a USAID-funded program which cooperates with the Pharmaceutical Society of Zambia in the private marketing of condoms through 400 pharmacies and other retail outlets throughout Zambia. It is anticipated that the types of sources supplied will be increased under this program and the stocks of condoms supplied increased during the next few years. At present it would appear that lack of a sufficient and continuous supply of condoms is the major constraint. In future if this is dealt with, more determined IEC methods may become more important in increasing the social demand for condoms.

Only a small proportion of pills are supplied by pharmacies and shops. This is partially the consequence of legal restrictions on the supply of oral contraceptives without a prescription and through non-pharmacies. There is also evidence that women from lower socio-economic groups are less aware of commercial sources, and that this reduces actual demand (World Bank, 1993e). Moves to relax regulations may be resisted by medical professionals, but in several other countries, such

restrictions do not exist and the costs in terms of undesired side effects can be outweighed by the benefits of unwanted pregnancies and unnecessary maternal deaths averted. Given current conditions in Zambia, there is a reasonable argument that the benefits of a move to relax restrictions and to better publicize the commercial availability of oral contraceptives would far outweigh any negative consequences from potential clinical side-effects from their use.

Only a limited number of women use the IUD. A constraint to increasing its use is the lack of trained staff. Although many nurses are trained to insert IUDs, many apparently do not because of lack of confidence in doing so without medical supervision (World Bank, 1993e). Most are therefore delivered by GRZ and private hospitals. Additional training of nursing staff and improved supplies of IUDs would be one way of increasing the supply of IUDs by private providers, as IUDs are quite suitable for provision by trained ambulatory providers. Revision of the Nurses Act to permit trained nurses to act independently of physicians in family planning activities is desirable. Given that much of the contraceptive supply in Zambia is donor funded and the great externalities from improved family planning, there are

**Table 3.3**  
**Sources of Supply of Modern Contraceptive Methods, Zambia 1992**

<i>Source of Supply</i>	<i>Pill (%)</i>	<i>IUD (%)</i>	<i>Condom (%)</i>	<i>Female Sterilization (%)</i>	<i>Total (%)</i>
Missions	2.6	0.0	3.3	17.2	5.6
Private Hospital/Clinic	17.7	28.0	5.5	36.3	20.0
Private Doctor	1.3	8.0	0.0	0.0	1.8
Pharmacy	4.4	0.0	24.4	0.0	7.6
Shop	4.4	0.0	16.3	0.0	5.5
Other Private	2.4	0.0	6.5	0.0	2.7
<b>Private Total</b>	<b>32.9</b>	<b>36.0</b>	<b>55.9</b>	<b>53.5</b>	<b>43.2</b>
<b>Public Total</b>	<b>67.2</b>	<b>64.0</b>	<b>41.9</b>	<b>45.1</b>	<b>56.1</b>

Source: DHS 1992, 46

Note: IUD figures are not reliable due to small sample size (27). Figures may not sum to 100% because of don't knows.

also strong arguments in favor of making IUDs available (with training) at zero or low cost to private providers. On the demand side, revision of the Drugs and Poisons Act to permit advertisement of contraceptives available on prescription might help to increase utilization of already commercially available contraceptives.

It should be noted that although there is great potential to expand the delivery of

contraceptive services using private providers and other retail outlets, there are also limitations owing to the lack of private retailers in many rural areas. It has been estimated that even a successful expanded contraceptive social marketing program would still fail to reach 20% of the rural population, who are either outside the cash economy or live too far from retail outlets of any kind.

### *Maternal and perinatal services*

Maternal and perinatal mortality remains high in Zambia, as elsewhere in Sub-Saharan Africa, where maternal and perinatal conditions account for an estimated 10% of the total disease burden (World Bank, 1993h).

Data on sources of antenatal care and delivery assistance are available from the 1992 ZDHS survey (Tables 3.4 and 3.5).

More than 93% of Zambian women receive some sort of antenatal care, but only 51% deliver in a health facility. Delivery of births at home is much more common in rural areas (73%) and in Northern Province (81%) than in urban areas (21%) and Copperbelt and Lusaka Provinces (<25%). The high rate of home delivery is related to poor accessibility to modern services in rural areas, and the level of education amongst mothers; the proportion of births delivered in a facility increases from 22% among women with no education to 96% among women with higher than secondary education.

The data indicate that mission facilities provide a significant share of antenatal care and assistance with delivery in Zambia. This is especially so in rural areas. The proportion of all births taking place in mission facilities is 5.4%, and most of these are in rural areas. Within a national figure of 5.4%, there is considerable provincial variation. In the line of rail provinces and Northern Province the role of missions is minimal, but elsewhere it is significant ranging from 6 to 25% of all births (Figure 3.4). It is difficult to assess the quality of care provided by mission facilities, but all the indications are that they pay greater attention to maintaining the quality of their MCH services, and that actual quality is higher than in GRZ facilities. Given that the major constraint to reducing the incidence of home deliveries in rural areas is the great distance that mothers in labor must travel, there is little that can be done in the short term through increasing the number and dispersion of rural facilities. On the other hand, increasing the level of education among women would have an impact in the medium and long term.

The contribution of TBAs in deliveries is significant at 9.4%, and higher in rural areas. This reflects the comparatively greater immediate access that women have to TBAs in rural areas compared with other formal facilities. This emphasizes the importance of continuing training for TBAs to improve the quality of their care, and the level and appropriateness of referrals of complicated cases.

### Abortion services

In Zambia, abortion with medical approval is legal, but few Zambians are aware of this. This has led to a situation where there is a considerable potential demand for legal abortion which is not met by GRZ facilities. This is compounded by lack of trained staff and facilities, as well as strong resistance on the part of health personnel. Studies at UTH, which acts as the main referral center, indicate that most legal abortions are provided to older women with secondary education or above. Excess presented demand results in referrals of many cases to the private sector, where costs in 1992 were reported as K1,000 upwards (World Bank, 1993e). Since this would be prohibitive for many women, access to both publicly and privately funded legal abortion appears to be greatly skewed to those of higher socioeconomic status.

High levels of unmet demand have also led to a considerable number of both illegal and legal abortions being done outside MOH facilities. Illegal abortions are numerous, but difficult to quantify. A 1986 survey of 65 women presenting with complications after illegal abortion showed that most were teenage, unmarried schoolgirls. Half had used traditional methods (insertion of cassava roots, ingestion of prescribed herbs), a quarter had used commercially available modern medicines (e.g.,

**Table 3.4**  
**Sources of Antenatal Care for Births in Preceding Five Years, Zambia 1992**

	<i>Antenatal Care Provider (%)</i>			
	<i>Doctor</i>	<i>Trained Nurse / Midwife</i>	<i>TBA</i>	<i>No One</i>
Rural	2.6	84.8	2.2	10.2
Urban	6.9	91.1	0.0	1.8
<b>Total</b>	<b>4.6</b>	<b>87.8</b>	<b>1.2</b>	<b>6.3</b>

Source: DHS 1992, 89

Note: Figures may not sum to 100% because of missing records.

chloroquine), and a quarter had seen modern "private doctors". The burden from complications of abortion is great, and often presents to GRZ facilities. UTH is reported to handle five serious complications a month of illegal abortion (World Bank, 1993e).

Given that GRZ facilities are limited, and the serious social consequences of unsupervised or illegal abortions, there appears to be a strong case for greater publicization of the actual circumstances under which Zambian law does permit legal abortion, and for some program to improve the quality and quantity of services provided by formal private providers. In addition, given the extreme socioeconomic bias

**Table 3.5**

**Place of Delivery for Births in Preceding Five Years by Place of Residence, Zambia 1992**

<i>Place of Delivery</i>	<i>Rural (%)</i>	<i>Urban (%)</i>	<i>Total (%)</i>
Mission	7.9	2.2	5.4
Private Hospital / Clinic	1.0	13.0	6.3
<b>Private Total</b>	<b>8.9</b>	<b>15.2</b>	<b>11.7</b>
<b>Public Total</b>	<b>18.2</b>	<b>64.1</b>	<b>38.1</b>
Home / Other	73.0	20.7	50.2

Source: Analysis of DHS 1992 dataset by Harvard/DDM

Note: Figures may not sum to 100% because of don't knows and missing records.

inherent in the present system, it would be desirable to explore ways in which the cost-sharing burden can be shifted much more to better off patients by increased referral to private facilities, and the cost to poorer patients can be reduced through better access to public or subsidized private services. Because of the very skewed socioeconomic profile of current users, the potential negative equity impact of user charges for these services at UTH would also appear to be extremely limited.

## Communicable Disease

### *Immunization*

Zambia has had considerable success in reducing the prevalence of the five EPI diseases pertussis, polio, diphtheria, measles and tetanus, which account for an estimated 10% of the total disease burden in Sub-Saharan Africa (World Bank, 1993h). However, once high immunization rates have dropped significantly in recent years, due to logistical problems in supplying vaccines and delivering these to the target population. 1993 data available to MOH suggest that the rate of full immunization among children aged 12-23 months had fallen from 80% in 1990 to 33% in 1993 (Seshamani et al., 1993). Deterioration in GRZ facilities has affected immunization rates particularly, because of the dominant role that MOH facilities play in providing immunizations (Table 3.6).<sup>15</sup>

The rates of full-immunization coverage are a reasonable proxy for the overall effectiveness of MOH-supervised public health services. These show that the levels of immunization are highest in the LOR provinces, and tend to be lowest in the more peripheral provinces (Figure 3.5). The pattern of immunization coverage in fact

15/ No data were able to assess the private provision of the full range of immunizations, but data on the sources of measles immunization given here are a reasonable proxy.

closely corresponds to the distribution of poverty in Zambia (Figure 1.3), with poorer provinces showing lower levels of vaccination coverage. Since immunizations are chiefly provided by publicly organized providers, this again demonstrates the failure of public provision to address inequalities within Zambia.

In 1991 private providers (who are mostly missions) provided only a small proportion of immunizations. Increased donor support will be necessary in the medium term to increase immunization rates by improving the GRZ logistical system. Socio-cultural factors, in particular low literacy rates, have contributed to high drop out rates. The evidence from other countries suggests that private providers can and will provide immunizations if sufficient social demand exists. Increased levels of general education and more intensive IEC would help to increase social demand for immunization. If this was coupled with a demand-driven logistical system which included most private providers, including private clinics, it would reduce the burden on GRZ in providing some of the most cost-effective health interventions available.

### *Care of the sick child*

Only a limited amount of information is available to assess the role of private providers in treating sick children, chiefly from ZDHS 1992. ZDHS 1992 asked about providers used in the treatment of diarrhea, fever and cough. Aggregating this data gives a reasonable overview of how sick children are treated. Children appear to be mostly treated in public health facilities in both urban and rural areas.

Within rural areas, missions are the major private provider, but this shows considerable variation across provinces (Figure 3.6). In urban areas, pharmacies, shops and private doctors are the major private providers. Shops appear to be used more than pharmacies, and the distribution in their use across provinces, while similar to pharmacies, is more dispersed (Figures 3.7 and 3.8). This is consistent with expected differences in their distribution. Both pharmacies and shops will only be found where there is sufficient retail demand for their products, but pharmacies with their more specialized and more costly product range will need a higher level of demand to survive, and so will be more concentrated in their spatial distribution. Presumably, with positive economic growth Zambia's retail sector should expand, and first shops and then pharmacies will become more widespread private sources of health care. Private doctors and private clinics provide only a small proportion of overall care, and this is restricted essentially to Lusaka and Copperbelt provinces only (Figure 3.9), which corresponds to the known distribution of their facilities. Traditional healers are used more in rural areas than in urban areas, but in general they are used less in cases of sick children than in cases of adult illnesses.<sup>16</sup> This is consistent with the findings from the late 1970s (Leeson and Frankenberg, 1977), which showed that sick children are much less likely to be taken to traditional healers than other age groups.

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16/ This is based on a comparison of the ZDHS 1992 data with that from PS2.



**Table 3.6**  
**Sites Where Measles Vaccinations Were Given, Zambia 1991**

<b>Source</b>	<b>Rural (% of all known sources)</b>	<b>Urban (% of all known sources)</b>
Private Hospitals	9.0	7.7
Private Health Centers	7.4	9.7
<b>Total Private</b>	<b>16.5</b>	<b>17.3</b>
Government Hospitals	28.2	16.3
Government Health Centers	37.2	64.3
Outreach	18.1	2.0
<b>Total Public</b>	<b>83.5</b>	<b>82.7</b>

Source: MOH (1991)

## Diarrhea

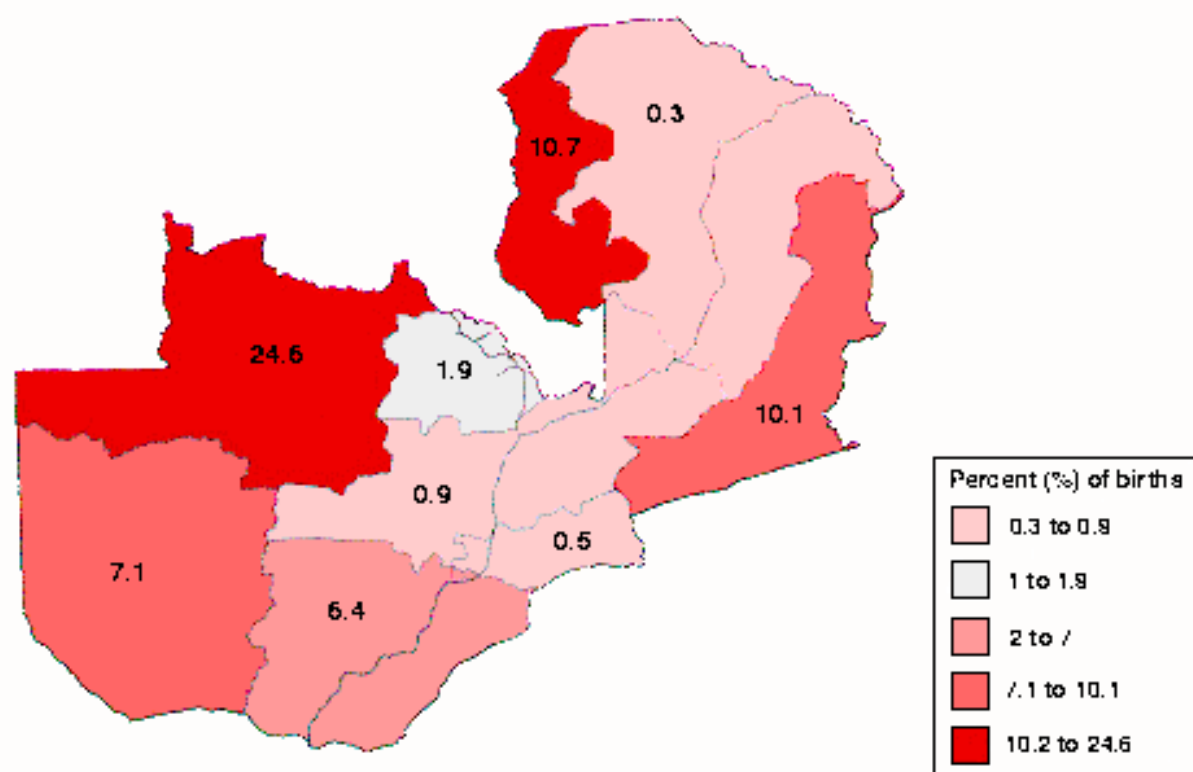
Diarrheal disease is a significant cause of morbidity and mortality among young children. Environmental and social factors play a major role in its etiology, but the key place for health care interventions is in ensuring recognition of the condition by parents, and then that appropriate treatment is provided, i.e., ORS (oral rehydration salts). Zambia started its national control of diarrheal diseases (CDD) program in 1986.<sup>17</sup>

Two 1992 surveys indicate that the two-week prevalence of diarrhea in children is about 23-29%, with a slightly higher level in rural areas. The prevalence of diarrhea in any 24 hours is approximately 8-11% (ZDHS 1992; MOH 1992). As a result of successful social marketing, virtually all mothers know about ORS (94.8%), and the ORS usage rate is high (63-80%). When diarrhea occurs, a high percentage of care-takers (ZDHS 1992: 62% - urban and 49% - rural) will seek treatment from a health facility or provider. The types of providers visited are given in Table 3.7.

Nationally, over one-fifth of all diarrhea cases in children are taken to private providers. In rural areas, private provision of treatment in cases of diarrhea is essentially by missions and traditional healers, while in urban areas mine facilities, private doctors, pharmacies and shops are the main private providers. When the users of private providers are categorized according to the mother's educational level, clear socioeconomic gradients emerge (see Figures 3.10 and 3.11). The use of government hospitals increases with level of education, but the use of mission hospitals is restricted mostly to those with no schooling or primary schooling only. While these differences can be partly explained by the lower level of education in rural areas where mission facilities tend to be located, they also suggest that mission facilities

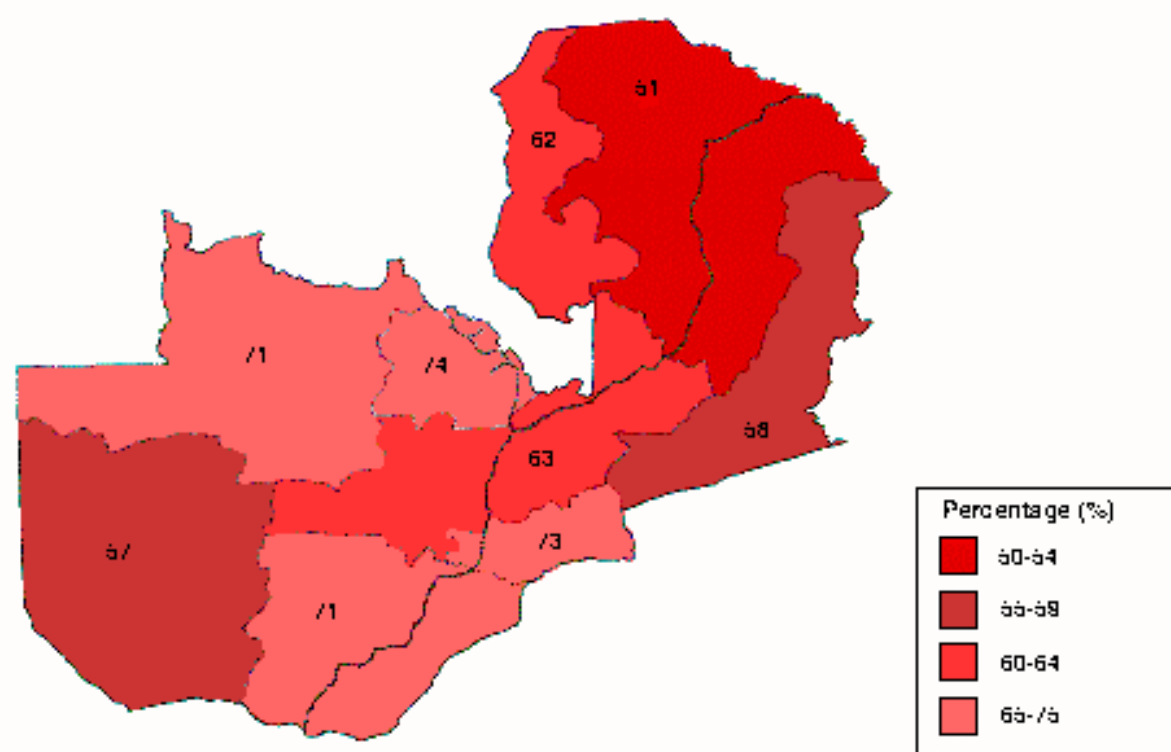
17/ This received USAID support from the very beginning in the form of a PRITECH project, which has provided assistance in increasing the supply and distribution of ORS and the promotion of ORT. PRITECH has also assisted local manufacturers to commence production of ORS and in marketing (Freund, 1993).

Figure 3.4 Births in mission facilities by province, Zambia 1992



Source: ZDHS, 1992

Figure 3.5 Children 12-23 months fully vaccinated by province, Zambia 1992



Source: ZDHS 1992

Analysis: Harvard/CDM

Note: Based on health cards and mothers' reports.

are relatively more successful in reaching the poorer households.<sup>18</sup> Traditional healers show a very marked negative gradient in use with educational level, which corresponds with other survey data about the use of traditional healers in general.

Private providers treat a larger proportion (24%) of diarrhea cases in urban areas. Pharmacies and shops are important in that they are potential outlets for commercially marketed ORS products. A well-run ORS social marketing program should seek to exploit this and expand the supply of ORS from these retail outlets, as well as increasing the usage of home-prepared ORS. The benefits of this for the MOH are great in that it compensates for any logistical problems in supplying GRZ facilities, and since it spares scarce health personnel for other types of care, where qualified medical attention is more critical. The recent decline in the incidence of diarrheal disease reported by health institutions is believed by MOH to be due to an increase in home management.

However, a high proportion of cases are given drugs of various kinds (34% in urban areas and 19% in rural areas). While the rate of usage of antidiarrheals and antibiotics is very low in rural areas (<4%), it is rather high in urban areas (antibiotics - 13%; antidiarrheals - 6%). Antidiarrheals were removed from the National Formulary in 1986, but are still available in the retail sector and from private providers. Their higher usage in urban areas reflects the greater access to alternative private sources of care in urban areas, and inappropriate treatment practices by many private providers. While this may be linked to lack of awareness of ORT, there must also be some incentive for pharmacies and doctors to stock and prescribe anti-diarrheal drugs with their higher profit margins in preference to ORS. Traditional healers treat a much larger proportion of diarrhea cases, especially in poorer households, but it can be assumed that very few actually provide an appropriate treatment.

The problem of irrational drug use could be approached in three ways. First, social marketing should be persevered with to ensure that mothers know and expect the correct treatment. Second, education in rational drug use should be targeted at all retailers, pharmacists and medical staff in both the private and public sectors. Reaching the public sector is important in that most full-time private providers will initially work in the public sector, and since many GRZ staff work part-time in the private sector. Third, attention should be given to increasing the low ORS correct preparation rate that has been reported (MOH, 1992), if increased reliance on home management is to be more effective.

## Malaria

Excluding perinatal causes, malaria is the most important cause of hospitalization, accounting for over 25% of all admissions. It is difficult to assess the contribution of private providers in treating malaria. Evidence of increasing disease virulence and rising chloroquine, fansidar, and halofantrine resistance suggests that inappro-

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18/ The ZDHS did not categorize households by income or expenditure level, so education is used as the best available proxy for relative socioeconomic status.

**Table 3.7****Providers of Treatment for Children with Diarrhea, Zambia 1992**

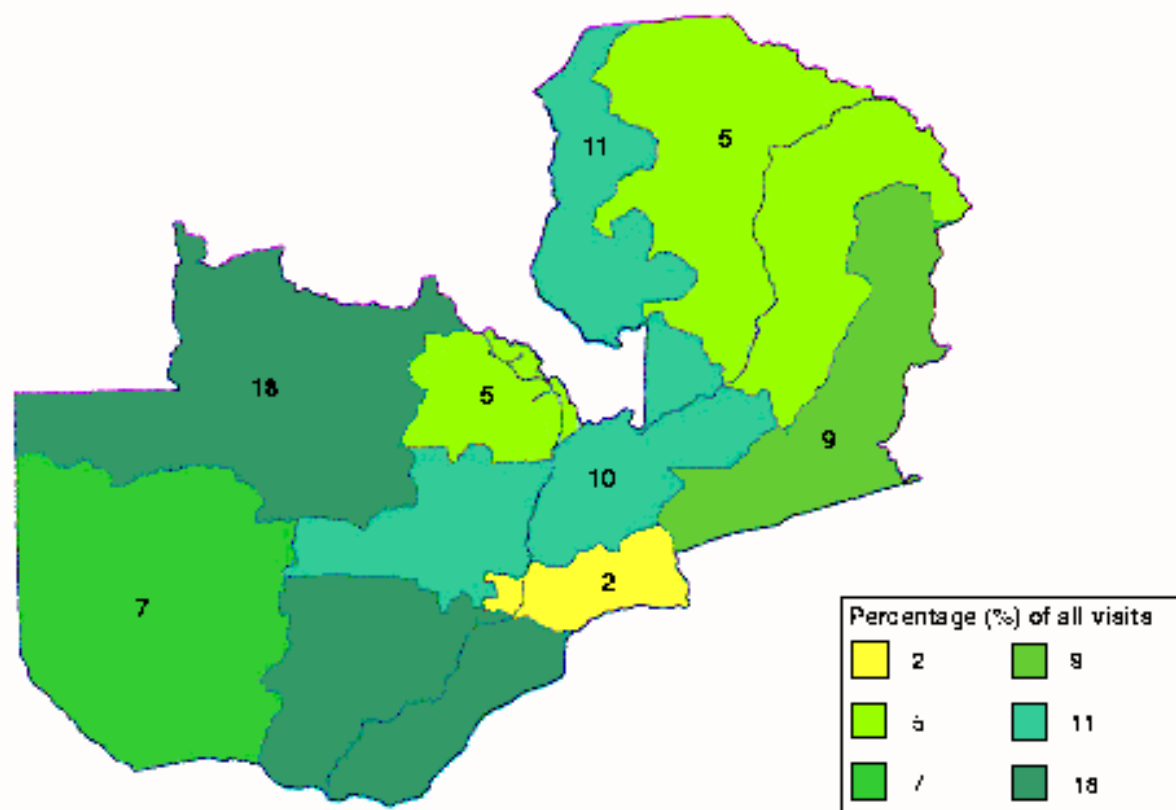
	<i>Rural (%)</i>	<i>Urban (%)</i>	<i>Total (%)</i>
Missions	8	1	5
Private Hospitals/Clinics	3	9	5
Private Doctor	1	3	1
Pharmacy	1	5	2
Shop	1	5	2
Traditional Healer	10	4	8
<b>Total Private</b>	<b>22</b>	<b>24</b>	<b>23</b>
<b>Total Public</b>	<b>64</b>	<b>68</b>	<b>66</b>

Source: Analysis of DHS 1992 dataset by Harvard/DDMNote: Figures are for the percentage of all treated cases, may not sum to 100% because of utilization of more than one provider in some cases, don't knows and missing records. Private hospitals/clinics include mines facilities.

private and incomplete treatment regimens are a significant problem. Whether this is particularly due to prescribing practices by private providers and pharmacies is unclear. The 1992 ZDHS survey does provide data on the sources of treatment in cases of children with fever and cough (Table 3.8). The presence of fever is a reasonable proxy for cases of malaria, and this indicates that approximately 60% of such children are taken to a provider, and almost a third of these are taken to a private provider. This is a larger proportion than in cases of diarrhea. About half are given antimalarials, much of which is obtained from private sources. Similar socioeconomic gradients in use of different providers are also seen as in cases of diarrhea (Figures 3.12 and 3.13).

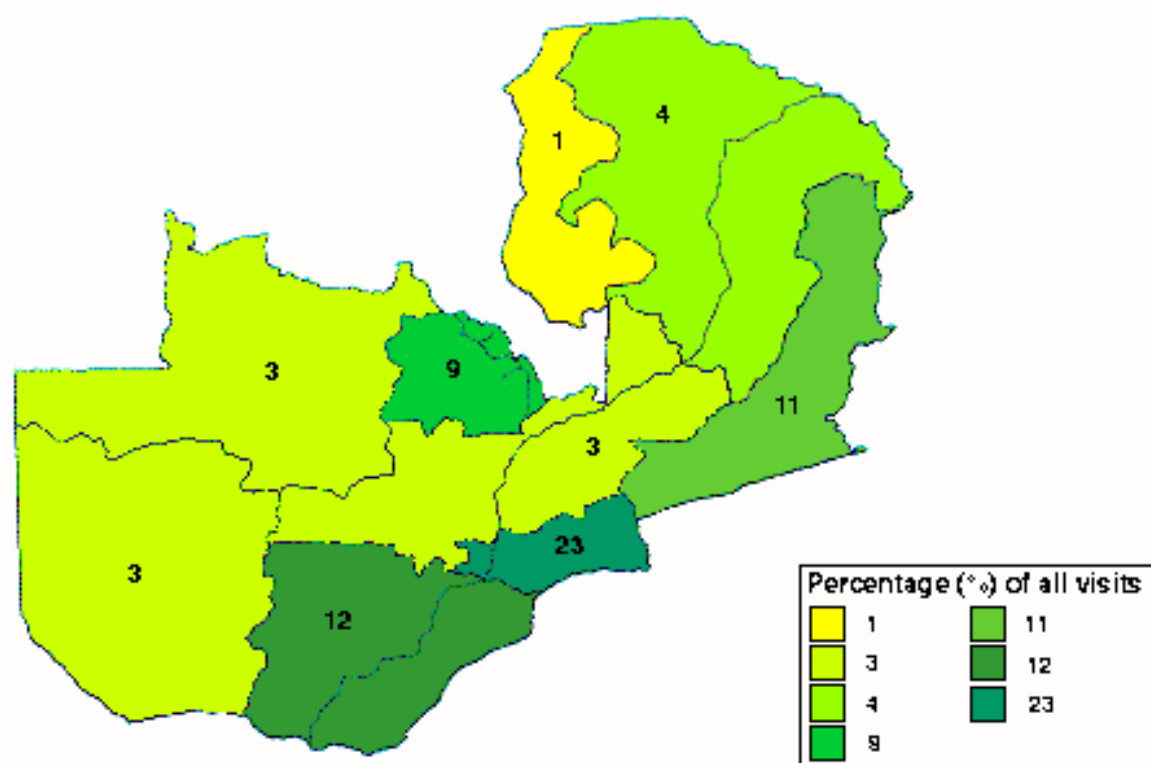
More effective treatment and management of malaria by households themselves would help to reduce this enormous burden on the country's health services. This will require much more intensive health education efforts than currently exist, retraining of pharmacists and other private providers, and improved availability of anti-malarials in the retail system. Although there has been a National Malaria program since the 1970s, this has not been very effective due to the systemic financial and logistical problems that afflict the GRZ system. A notable failing has been in the provision of a true public good - regular anti-mosquito spraying. Measures to reactivate regular spraying by the GRZ would be of great benefit, since households are too poor to support such activities or pay for mosquito nets and other forms of anti-mosquito protection. The weaknesses in the program have not led to significant GRZ or donor support, but Japan may begin support for malaria control activities in 1994 (Donaldson et al., 1993).

Figure 3.6 Treatment of fever, cough and diarrhea by missions, Zambia 1993



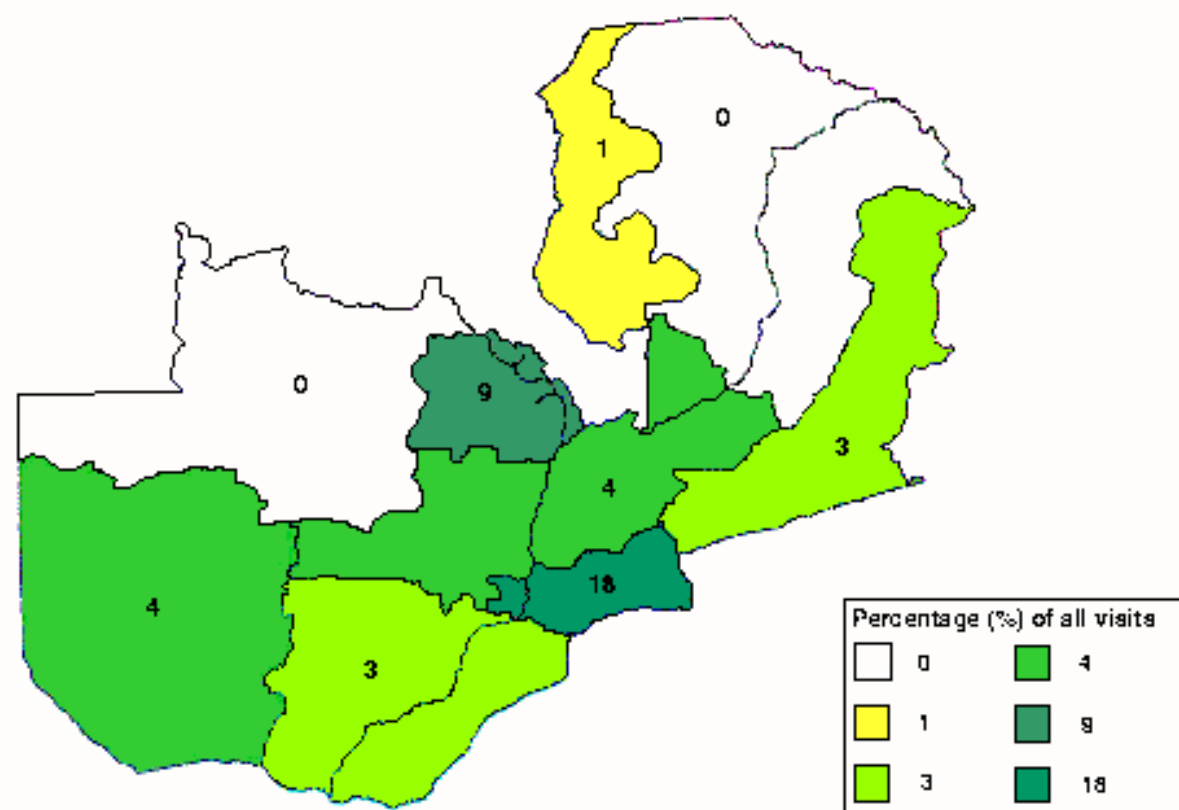
Source: ZDF-S, 1992  
Analysis: Harvard/CDM

Figure 3.7 Treatment of fever, cough, and diarrhea by shops, Zambia 1992



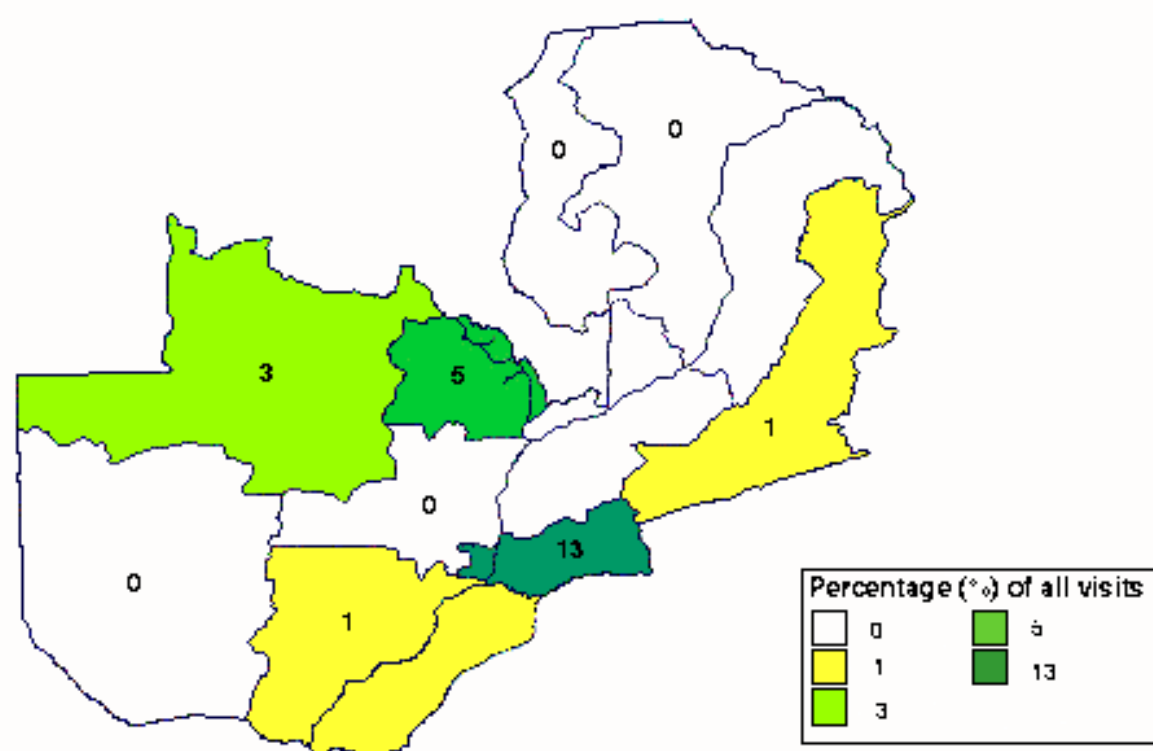
Source: ZDF-S, 1992  
Analysis: Harvard/CDM

Figure 3.8 Treatment of fever, cough and diarrhea by pharmacies, Zambia 1993

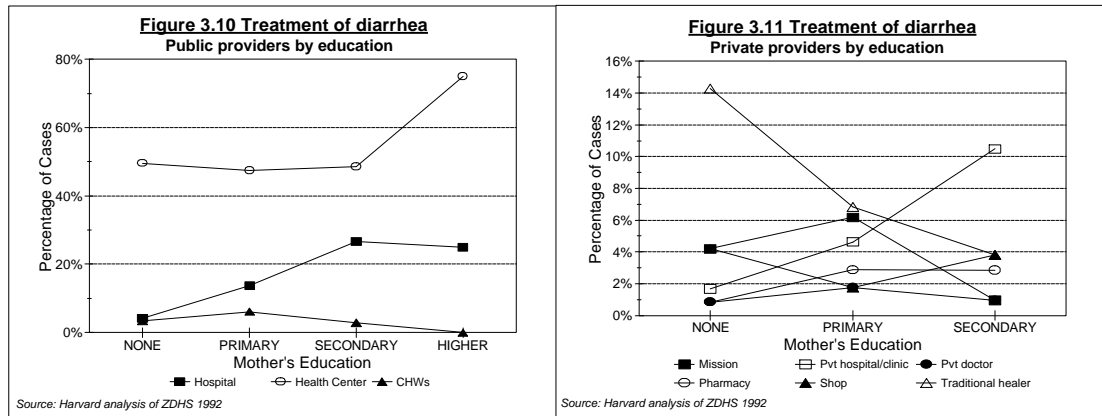


Source: ZDF-S, 1992  
Analysis: Harvard/CDM

Figure 3.9 Treatment of fever, cough and diarrhea by private doctors, Zambia 1992



Source: ZDF-S, 1992  
Analysis: Harvard/CDM



### Tuberculosis

TB is without doubt an enormous public health problem. The annual TB incidence rate for Zambia was estimated by WHO at 345 per 100,000 for 1990, which is the second highest in the continent, and more than 50% higher than the average for Africa as a whole (World Bank, 1993h). The incidence rate now in Zambia must be much higher because of the impact of HIV infection, and so it would be reasonable to assume that TB now accounts for much more than 6% of the total disease burden in Zambia, and that this will increase in future years as the full impact of the AIDS epidemic becomes evident.<sup>19</sup>

It is not possible to directly assess the role of private providers in treating TB, which is most effectively dealt with appropriate regimens of short course chemotherapy (SCC). SCC is extremely expensive for an individual course of treatment, and so it is highly unlikely that many Zambians will be able to afford to pay for their own TB treatment. This is something which can only be entrusted in the main to the publicly-financed health services, and reliance on private financing will not be successful in the Zambian situation, as it has not been in China, where disposable incomes are much higher (World Bank, 1993h, 58). Despite this, the existing national program (which is now merged with AIDS and STD control programs) is clearly ineffective, with reported treatment compliance rates and eventual cure rates for smear-positive TB less than 50%. Reasons include poor supervision at all levels, minimal logistical capabilities and lack of uniform guidelines for PHC staff. It is reported that most MOH staff, including those working in chest clinics, are unaware of even the symptoms of pulmonary TB, indicating a major deficiency in the quality of public services (Seshamani et al., 1993, 81). Although it is not possible to show this, it is likely that these problems are less prevalent in the missions and so TB case-finding and treatment is more effectively carried out by them. However, any significant contribution by private providers in future will presuppose a radical improvement in the effectiveness of the existing GRZ national program, and its ability to coordinate national TB efforts.

19/ The actual impact on the formal health services is probably much greater via its effect of an increased demand for hospitalization.

## HIV/AIDS

HIV/AIDS is emerging as one of the most important health problems in Zambia. Quantifying the contribution of private providers is difficult. There are three broad areas in which they might potentially contribute: (i) IEC designed to induce behavior change, (ii) distribution of condoms, and (iii) care of AIDS patients. Available evidence indicates that private providers, in particular NGOs, may be particularly suited to contribute in each of these separate areas, and already do so.

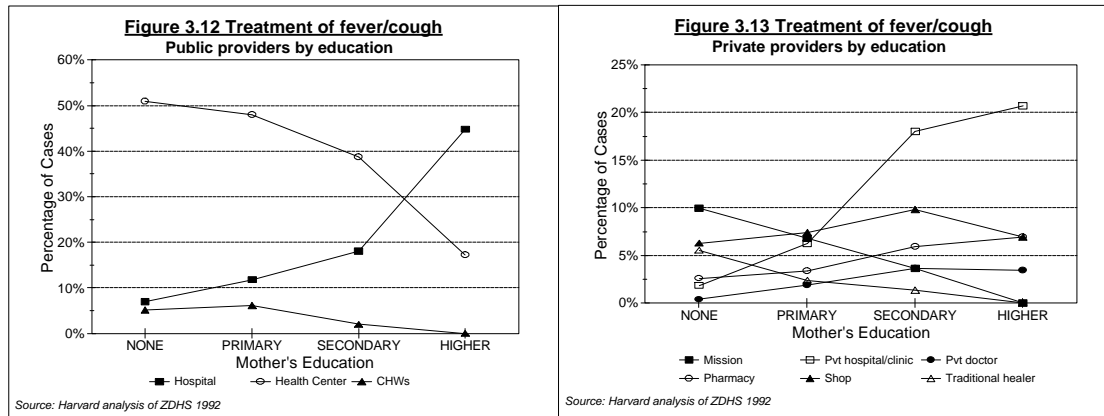
**Table 3.8**

**Providers of Treatment for Children with Fever or Cough, Zambia 1992**

	<i>Rural (%)</i>	<i>Urban (%)</i>	<i>Total (%)</i>
Missions	11	1	7
Private Hospitals/Clinics	2	17	8
Private Doctor	1	4	2
Pharmacy	1	7	4
Shop	6	9	8
Traditional Healer	4	1	3
<b>Total Private</b>	<b>24</b>	<b>38</b>	<b>30</b>
<b>Total Public</b>	<b>65</b>	<b>61</b>	<b>64</b>

Behavioral change requires methods which are relevant to the local socio-cultural conditions and which are community based. This is especially the case in Zambia where access to the mass media is limited (ZNBC, 1993) and overall educational levels are low. The potential role for local NGOs is great, and has been recognized by foreign donors who are increasingly channeling assistance directly to NGOs. Any successful social marketing campaign will depend on using private retailers in distributing condoms. It is in the care of AIDS patients that NGOs will be of most value. Currently, the impact of the AIDS epidemic has been to flood an already overburdened hospital system with more inpatients. Given that cure is not feasible, the greatest need is to shift some of the responsibility for caring of AIDS patients back into the community and households. This will also have to be coupled with efforts to provide counseling for people with AIDS. In these areas a number of NGOs are already active, and in the case of counseling have taken the lead. CMAZ is the most important, and has specialized in counseling in rural areas over the past seven years. Its program appears to be well managed and considerable efforts have been made to train staff. Other NGOs are also active in providing counseling, but these tend to be dependent on donor funding. A national umbrella organization has





been formed to coordinate the various NGOs, the *Zambian AIDS NGO Network Coordinating Committee (ZANCC)*. The *NACP* is in theory receptive towards funding NGOs for HIV/AIDS work through ZANCC. However, in practice this has not yet been very successful, with even its official target of allocating 15% of budgetary funds per annum to NGOs not being reached (World Bank, 1993f). Increased expansion of NGO activity will depend on increased funding from international donors, since the potential for private Zambian funding is very limited.

### Overview of the Private Provision Contribution

Private providers provide a significant proportion of health services in Zambia, many of which are publicly-desireable. Table 3.9 summarizes the relative contribution of the different private provider types to overall health services, giving some estimates based on the data reviewed in this section. However, many of their services are not cost-effective or high on the public health agenda, but this should not necessarily be of great concern. The major problem in Zambia is not the lack of cost-effectiveness in private services, but the ineffectiveness of public ones. Publicly-provided health services suffer from considerable misallocation, from both efficiency and equity perspectives. This is recognized by policy makers, but there may be considerable political difficulties in addressing these issues. Limited budgets imply that improving the allocation of resources must involve withdrawing spending from some currently provided health interventions and from some beneficiaries, i.e., the urban and non-poor populations. Such reductions are desirable, but may be unpopular with current recipients. However, there is scope for switching provision of services with low cost-effectiveness but high social demand from the public to the private sectors. A major advantage of private provision is that it allows those who wish to, in particular the non-poor, to continue to receive many of the services which they demand, without utilizing scarce public funds.

## 4 Factors and Public Policies Affecting the Development of the Private Provision Sector

Development of the private provision sector is a function of demand-side and supply-side factors affecting the growth and survival of private providers. These factors make up the environment in which private providers must operate. Government policies can themselves influence this environment by modifying these factors and their impact. Each factor has quite different impacts on each of the main provider types, because of differences in their motivations and the way each is financed, organized and regulated. This section reviews the main supply and demand factors and relevant government policies, and where appropriate the specific effects by provider type.

### Supply-Side Factors

The major supply side determinants of the level of private health care provision are the supply of labor, capital and technology.

#### Human Resources

##### *Limited physician numbers*

In Zambia, where skilled human resources are extremely scarce, the supply of skilled labor is the most important constraint to further development of private health care provision. There are three categories of personnel of critical importance: doctors/clinical officers, nurses and pharmacists.

The supply of doctors is the most important, in that it is only they who are allowed to operate private clinics (or at least supervise their operation), either full-time or part-time in the case of moon-lighting MOH personnel. The potential total supply of clinics is thus constrained by the total number of available doctors, which has always been extremely low in Zambia (Table 4.1). The other types of trained personnel are also scarce, but shortages are not so critical, with the exception of pharmacists.

**Table 3.9****Private Providers' Contribution to Health Services and Health Care**

<i>Service/Treatment</i>	<i>Contribution as a Proportion of Total Services Delivered</i>				
	<i>Missions (%)</i>	<i>Industrial (%)</i>	<i>Modern For-Profit (%)</i>	<i>Traditional (%)</i>	<i>Total Private (%)</i>
Population Services	6	12	25	0	43
Antenatal Care	10	10	2	1	24
Assistance with Births	9	9	1	16	35
Immunization	12	4	0	0	17
Malaria	8	6	16	3	32
Diarrhea	6	4	7	9	26
Ambulatory Care	8	9	6	9	31
Hospitalization	20	7	0	0	27

Note: Rough estimates based on available data. Figures should not be interpreted to indicate availability of reliable data. Modern for-profit includes private hospitals and clinics, and pharmacies and shops.  
Source: See report text

Zambia only started training its own doctors at UNZA in the early 1970s, and output of new graduates since then has been very low, reaching only 40 per annum by 1993. Its health system has thus always significantly been staffed by importation of expatriates on contract or as volunteers through the missions. This strategy, which many other small commodity exporting countries have pursued, made sense initially when there was no medical school in Zambia, and when the government had access to large and easily realizable revenues from commodity export taxes. However, this has not been the case since 1974, and Zambia's ability to purchase medical manpower in the international market has gradually decreased. This has led to a declining doctor to population ratio since the 1970s. Unfortunately, medi-

cal wages in the GRZ sector for Zambian nationals have also deteriorated. This has led to continuing exodus of Zambian doctors from the MOH. Many have emigrated to other countries, especially those in Southern Africa. This can be expected to increase in the medium term since several of the other economies in the SADCC region have buoyant economies, and since it is likely that South Africa will import additional doctors to support social reconstruction.

Within the country it is quite clear that those Zambian doctors, who stayed in the country, have shifted into the mines and the private sector, where incomes are at least two to three fold higher. Zambian doctors in MOH service earn a monthly wage in the range of K50,000 - 75,000, which compares with the meal allowance for UNZA students of K56,000.<sup>20</sup> The overwhelming majority of doctors in full-time private practice and the mines are now Zambians, compared with less than 5% in 1971, while MOH remains dependent on expatriates, who are usually paid much higher wages on contract or who are donor supported. While the missions have not been in a position to raise wages, they have been able to rely on volunteer expatriates or other foreign assistance, so more than 90% of their doctors are foreign.

Although many expatriates work in the private sector, most do so on contract or are MOH specialists who work part-time in private practice. An increase in the supply of full-time private general practitioners will thus tend to be limited by the number of Zambian doctors in the country. Of the 12 private clinics started in the first five months of 1994, all involve Zambian nationals or long-established permanent residents from India, who are leaving GRZ service (see Annex C). This resembles very much the situation in Papua New Guinea, where an increase in the number of private general practitioners has been linked to an increase in the number of PNG nationals who are doctors (Berman and Rannan-Eliya, 1993). GRZ revenues as a share of GDP have fallen much more than levels of private consumption and are not likely to regain their former levels. Thus it can be expected that income differentials between the public and private sector will remain high, leading more doctors to leave GRZ service for private practice. MOH wages are so low, that a significant increase may not have much impact. In Zimbabwe, doctors' wages were raised three to four fold without any discernible effect on the same problem.

### **Private practice by government physicians**

Current employment rules in the MOH also restrict the supply of medical personnel to the private sector. Only senior doctors are allowed to do part-time private practice, although many junior doctors do moonlight illegally. These rules date from the colonial era and are based on British public sector regulations. However, it is not appropriate for a developing country where skilled human resources are scarce, and public budgets limited. Many developing countries, including several in the Commonwealth, have relaxed rules on private practice by junior doctors in order to increase the attractiveness of public sector employment. In some, where it is coupled with mandatory rural service for junior doctors, it has also helped to

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20/ This allowance is in addition to subsidies for accommodation. It is higher than the median income for employed university graduates, and is probably more of an indictment of the excessively high costs of Zambia's tertiary education system, than of low wages in MOH service.

**Table 4.1**  
**Number and Distribution of Doctors in Zambia for Selected Years during**  
**1964-1991**

<b>Sector</b>	<b>1964</b>	<b>1969</b>	<b>1971</b>	<b>1977</b>	<b>1988</b>	<b>1991</b>
MOH/GRZ	77	190	333		503	523
Missions	27	38	37			113
Mines	47	64	63	69		120
Private/Other		70	94	50		109
<b>Total</b>		<b>362</b>	<b>527</b>	<b>643</b>		<b>850</b>
Doctor per 100,000 Population	8.7	8.9	12.1	12.4		10.7
Doctors graduating from UNZA	0	0	0	23	30	40

Source: Various MOH documents

Note: Numbers not available for all sectors for all years.

improve the distribution of doctors to rural areas (Abeykoon, 1990). In Zambia, the supply of part-time personnel is critical for the private sector, as demand is still too low to support many doctors in full-time private practice, and most private and industrial clinics depend on off-duty MOH staff. In Zambia, where the private sector can be characterized as being still at a undeveloped stage, allowing doctors to work part-time in the private sector also reduces the risks for them in eventually entering full-time private practice.

## Capital

Capital is an important input for any health care system. It is required for the financing of new facilities or equipment, or for financing the initial operating costs of new private facilities. In the case of the relatively small formal private provision sector in Zambia, it may be essential if it is to expand. All formal private providers in Zambia operate from their own premises - private provision from MOH facilities is not significant, and so expansion will have to involve expansion of facility numbers.

Under the existing macroeconomic situation in Zambia, there is more demand for credit than can be supplied, and liquidity is low. It is reported that most microenterprises in the informal sector (which the GRZ defines as including private enterprises with five or fewer workers) have limited access to supplies of formal credit (Hyman et al., 1991). Credit may be more important for private clinics and pharmacies than for many other small enterprises, since the standard of premises and equipment required for new clinics to register and the value of new drug stocks for a new pharmacy are relatively expensive. The analysis of records at the Medical

Council suggest that most of the clinics established during the early and mid-1980s were industrial clinics. This is suggestive that access to credit was a problem for potential private providers, since large formal sector employers would have a comparative advantage in obtaining credit to establish a clinic. However, the survey of private clinics and pharmacies conducted by Mwanza et al., (1994) indicates that most of these providers did not think that initial credit was a major constraint. It is difficult to assess the significance of this, since we do not know where these providers obtained their initial credit from, or how many providers fail to enter the market because of lack of credit. It is possible that many of the new private clinic operators are financing themselves from savings or by borrowing from friends and family, and that this does not present difficulties for medical professionals who are already in formal employment.

In the case of organizationally more complex providers such as larger clinics or hospitals, capital will be much more important. There has been at least one attempt to establish a modern purpose-built private hospital, which failed because it was not possible to secure funding. Finance was sought from several large companies, who might have been potential future clients, but this was not forthcoming because the initial cost was far too high. It is reported that the two recently established private hospitals in Lusaka have faced difficulties in obtaining capital (Bush, 1994). One was not able to afford to build a new facility, so converted an old house. Both also appear to be pursuing a strategy of expanding capacity gradually over time, which suggests that they are having to depend on internal cash flow to fund expansion. In reality this process, whereby new hospitals are established through conversion of existing residential premises, and expansion is funded through internal cash flow is not unique to Zambia, and is historically the process by which much larger private hospital sectors in other countries established themselves.

In the case of the mission sector, capital for expansion has traditionally come from foreign sources or GRZ. Local NGOs lack the funds to act as a major source of capital, and utilization of borrowed funds is not an option for non-profit making missions. Both sources are limited, and so expansion of the mission sector is likely to be constrained. One new mission hospital is being constructed, the 350-bed Bishop Milingo Catholic Hospital near Lusaka, and construction of this has been very slow, as it has depended on availability of incoming funds (World Bank, 1993c).

## Technology

Technology has not been found to be an important determinant of the supply of private health care in developing countries, especially low-income ones (Berman and Rannan-Eliya, 1993). There is no evidence to suggest that it is a significant factor in the development of private health services in Zambia.

The rate of diffusion of technology in the health sector can be critically determined by the structure and dynamics of the private sector. However, we not able to gather sufficient information to allow any assessment of the situation to be made. Nevertheless, it should be noted that in the for-profit private sector in Zambia, the level of technology utilized is not high, and there is no evidence that this is currently changing.

## Demand-Side Factors

Demand for private providers is related to the total demand for all health services, and to the various factors which determine the choice of provider type. The major factors are reviewed below.

### Income

Income is the major determinant of overall health care expenditures in most countries. In Zambia's case, the major determinant of expenditures on private health care provision is the level of private consumption, since private expenditures other than that by households are not significant, if the mines are excluded. Data on levels of household expenditures in Zambia are very limited, and are only available from household budget surveys conducted to construct price indexes (1965, 1975, 1977, 1993 and 1994), and from the two Priority Surveys conducted in 1991 and 1992. All these indicate that average household expenditures on health have been in the range of 0.8 - 1.2% of total household expenditures throughout the past thirty years, and that expenditures are slightly income elastic. During this time there have been major changes in the structure of household expenditures, with an increasing proportion going on food during the 1980s as living standards worsened. Thus, an increasing proportion of non-food household expenditures have been devoted to health during the 1980s. However, this has been more than compensated for by the dramatic fall in real incomes, so real private expenditures fell also. This underlines the reality that growth in level of demand for private provision is closely related to overall changes in the macroeconomic situation. In the final analysis, expansion in private health care provision is fundamentally dependent on the pursuit of macroeconomic policies which are designed to produce sustainable growth in the economy and in disposable incomes, just as much as rehabilitation of the public health system is.

Since a large part of household income is actually own consumption by subsistence households, the actual income available for purchase of formal sector private services has been lower. While traditional healers may accept payment in kind, most formal sector providers will not. If sustainable income growth does occur in Zambia in future, it will probably come from growth in market- and export-oriented agricultural production and continuing low levels of government consumption (World Bank,

1993i). If this does occur, it would imply that the size of the cash economy will increase as well as the level of private consumption. Thus, sustained growth in the economy should provide the base for a significant expansion in demand for private provision.

## Prices

Demand for medical care is influenced by the prices of such care. The higher the price faced by consumers, the lower the demand and level of utilization. There is some evidence that overall price levels in Zambia's private sector are relatively high. The International Comparison Price Project (ICP) gathered data on comparative price levels in a number of countries in 1975. Although the data are fragmented, dated and somewhat unreliable, they do indicate that prices for physicians services in Zambia were high in comparison to other regions of the other world (Table 4.2). Data gathered by Mwanza et al. (1994) indicate that the average price in 1994 of an outpatient consultation in a private practitioner's office is US\$1.65 at current exchange rates, equivalent to approximately 150% - 200% of daily per capita GDP, which seems relatively high for a country at Zambia's income level.

Health status is low, and the need for medical attention is presumably high. However, the levels of utilization of private clinic doctors are low, with an average of less than 5,000 outpatient visits per full-time private general practitioner per year. This compares with figures of 6,000-9,000 for comparable doctors in Europe and USA, and even higher numbers in countries such as Japan, Hong Kong or Sri Lanka.<sup>21</sup> The average number of hours worked is also low at about 38, which compares with a level of 40-55 hours in most OECD economies and in other countries such as Sri Lanka or Thailand. What this seems to suggest is that the relatively high price levels in Zambia's private sector are both deterring many potential patients, as well as being associated with a relatively low intensity of work by private practitioners.

If the real cost to consumers of government services rises, this will lead to a reduction in utilization of such services and an increase in utilization of private providers (Gertler et al., 1990). Although the MOH has attempted to raise revenue through increased use of user fees in public facilities, this seems to have been most effective in rural areas. While urban facilities, such as UTH, have raised near zero amounts through cost recovery, missions, which are mostly located in rural areas, have achieved the highest rates of cost recovery.<sup>22</sup> This has led to some dramatic falls in utilization, for example in Western Province in 1989. However, where cost recovery has been most significant is also where modern private providers are most scarce. Thus, if there has been increased utilization of private providers, it has been mostly of traditional healers. Significant increases in user fees at GRZ facilities are likely to affect formal private providers only in urban areas. However, given the reality that MOH will not aim to raise prices to any level approaching even marginal costs (MOH, 1993c), it is unlikely that increased user fees at GRZ facilities will have a great impact on demand for private services.

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21/ Japan, Hong Kong and Sri Lanka are pertinent comparisons since they lie at the opposite end of the range to Zambia, when health status is compared controlling for income.

22/ Some of the work on cost recovery through user fees in Zambia reviewed during the course of this study deserves critical contemplation. For example, in one proposal (Arhin, 1992) a cost-recovery scheme is proposed under which most of the additional resources raised would actually be from users of health centers and rural district hospitals.



## Quality

In those areas of Zambia, where there is a choice of providers, the major reason for the existence of an independent fee-paying private sector alongside free GRZ services has been quality differences between public and private providers. Quality can be defined in two senses: (i) quality in a technical sense and as judged by informed observers, and (ii) quality as perceived by clients.

GRZ health spending has fallen in real terms over the years. This has been manifested in falling wages and reduced staffing ratios, lack of qualified staff, decreased and disrupted provision of drugs and other supplies, continued lack of access to facilities because of distance, and reduction in outreach activities. This has led to a significant decline in quality as technically defined. In addition, falling wages and worsening conditions of service must be the major reason behind the reported problems of absenteeism, alcoholism, cursory, rude and hostile attitudes to clients and poor motivation in GRZ facilities. In general, a perceived poor level of quality is more of a critical problem in urban areas, where 41% of people not using health facilities cite poor quality as being the reason, compared with 8% in rural areas (World Bank, 1994).<sup>23</sup>

A 1992 survey using exit polls at health facilities found that patients at mission and private facilities reported much higher levels of satisfaction than those at GRZ facilities (Table 4.3). This same survey (World Bank, 1993g) used community-based focus group discussions (FGDs) to understand people's views of the quality of health providers. Major causes of dissatisfaction included: (i) drugs, (ii) personnel, (iii) management, (iv) supplies and equipment and (v) structural aspects.

The lack of a continuous supply of appropriate drugs and the provision of incomplete medication was the main source of dissatisfaction reported by 74% of FGDs. There were marked differences in the availability of drugs at different providers (Table 4.4). Private facilities are perceived to be of better quality because they are able to ensure a more reliable supply of drugs. This is a function of their greater managerial autonomy, ability to purchase from private retailers, and less budget constraints.

Other evidence of inadequate or incomplete medication in GRZ facilities were reports of incomplete courses of chloroquine being supplied, and overuse of paracetamol as a placebo. Drug shortages are and were perceived to be less of a problem in rural areas, which are the recipients of essential drug kits. But even these kits are erratically supplied, and a fundamental problem of working drug kit systems in general is that supply is not demand driven and the composition of individual components cannot be matched to actual demand. Urban clinics do not receive drug kits, but the problem is different in that private retailers do exist and can act as alternative suppliers for payment.

Quality problems with personnel differ between rural and urban areas. In rural

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The amount raised from Central Hospitals, such as UTH, would be less than 10%. Given that repeated analyses have shown that MOH spending per urban resident is at least 10 times that per rural resident, it seems strange that rural residents and those who have access only to a health center should be asked to finance a disproportionate share of what little health resources come their way.

23/ In rural areas distance is the major reason deterring use of health facilities (55% of those asked).

**Table 4.2**

**Direct Price Comparisons (adjusted for purchasing power differences), 1975**

<b>Country</b>	<b>Physician Services (U.S. = 100)</b>	<b>Dentist Services (U.S. = 100)</b>
India	6	9
Thailand	12	16
Sri Lanka	14	22
Malawi	15	46
Japan	18	49
<b>Zambia</b>	<b>38</b>	<b>90</b>
U.S.A.	100	100

Source: Kravis, Heston and Summers, 1982

areas, lack of qualified personnel is the major problem. However, since the skewed distribution of qualified staff affects private providers as well, this is not likely to favor the private sector. In urban areas, poor staff attitudes were reported to be the key problem, in addition to a lack of doctors in urban clinics. Private providers have greater external incentives to be courteous and considerate to patients, while mission providers may also have significant internal motivations. This is clearly a major factor leading to demand for private provision. In addition, private clinics offer personal care by qualified doctors or clinical officers, which most urban clinics don't. Given the resource constraints that GRZ will face in the medium term, it will not be possible or equitable for it to provide significant amounts of primary or ambulatory health care in urban areas using doctors. However, there is sufficient demand for such services, and this is clearly a major factor behind the expansion in private clinics.

Management issues were also a concern for the FGDs. Lack of cleanliness, congestion, and provision of food were apparently problems in GRZ facilities. For each of these issues, private providers have greater ability to respond positively. In addition, in urban areas there is a clear desire for evening and night services, which is not met by GRZ facilities. Again, private clinics are better able to respond to this demand. If MOH wanted to provide such services, this would be costly since personnel would presumably have to be paid extra money, which GRZ does not have. Many private clinics can afford to employ off-duty MOH staff in the evening and this is fully cost recovering. This would suggest that actually encouraging the private sector to provide such after-hours services is a reasonable policy for MOH.

## Insurance and Employer Financed Services

Insurance and company health services account for most non-MOH expenditures on health. The largest share is accounted for by ZCCM's health services. However, virtually all large formal sector employers, which includes government parastatals and government ministries, provide employees with health services or reimburse them for medical expenses. It is difficult to determine what proportion of the income of independently operating private facilities comes from reimbursement schemes. However, disposable incomes in Zambia are low, and it is likely that such schemes create significant additional demand, as well as providing many facilities with a secure and stable source of funding.

Medical expenses account for approximately 30% of the total benefits package that the average ZCCM employee receives (World Bank, 1993j). Although ZCCM is not representative, it is possible that a large proportion of total personal compensation in other companies is accounted for by medical expenses. MOH has proposed that large formal sector companies be mandated to provide medical insurance for all their employees (MOH, 1993), but it is likely that most of these already provide such benefits. If most formal sector employers are already providing some sort of insurance, it is unclear what potential additional demand can be created in this way. The formal sector in Zambia accounts for less than 6% of the total population (World Bank, 1993i). Experience from other developing countries indicates that

**Table 4.3**

**Exit Poll Data Showing Comparative Patient Satisfaction with Treatment at GRZ, CMAZ and Private Clinics**

<i>Provider</i>	<i>Satisfied (%)</i>	<i>Dissatisfied (%)</i>	<i>Sample Size</i>
Public	77	23	681
Mission	96	4	27
Private Clinic	91	9	34
Non Responses			20

Source: Adapted from World Bank (1993g), 40

scope for extending insurance to the informal sector or other parts of the population is likely to be limited (Berman and Rannan-Eliya, 1993). Actuarial problems with voluntary schemes are also likely to be compounded in Zambia's case by the impact of the HIV/AIDS epidemic.

The expansion of insurance will be associated with increased problems of moral hazard. Since current financial control of existing schemes is weak, the potential for fraud through invoicing for services not given is great. During May 1994 alone,

**Table 4.4****Exit Poll Data Showing Percentages of Patients Receiving all Medicines Prescribed at Different Out-Patient Facilities**

<i>Provider</i>	<i>Received All Medicine (%)</i>	<i>Received Some Medicine Only (%)</i>	<i>Did Not Receive Any Medicine (%)</i>	<i>Sample Size</i>
Public	59	23	18	677
Mission	92	0	8	26
Private Clinic	77	10	13	31

Source: Adapted from World Bank (1993g), 42

two major medical scheme frauds were reported in the local press, accounting for at least K50 millions. These involved issuing of fictitious receipts by numerous pharmacies, dispensaries and private clinics in the Lusaka area. This type of occurrence is very difficult to control in most developing countries where skilled auditing capacity does not exist, and is likely to lead to significant inefficiencies in the running of such schemes. Much of the additional resources mobilized through insurance mechanisms in Zambia are likely to be dissipated through increased administrative costs and other inefficiencies. Policy issues in the insurance sector If insurance and medical aid schemes become major factors on the demand-side, then the structure of the fee-reimbursement schedules will become important. In Zambia, fee levels are officially set according to a statutory instrument, although they are not observed in practice. Currently, levels of reimbursement are set by overall cash limits per employee, or by reference to customary fee levels. However, it would appear that the market level of fees in Zambia is high in comparison with other developing countries (see section on prices). While this may be a consequence of the scarcity of medical personnel and the previous high differential between formal and informal sector incomes, it is likely to be reinforced by the impact of insurance, which will serve to underpin prices. There is also likely to be a tendency for consultation rates to be set in reference to what some medical specialists charge, and this may be encouraged since medical specialists probably have disproportionate influence on policy making with respect to the private sector.<sup>24</sup>

If regulation of insurance reimbursement is to be attempted and enforced, then it would be preferable to impose a fee structure, which is designed to create incentives for a private sector that provides the type of services that will have the greatest social benefit. The realities of Zambia's health system are that there are few doctors, and those that do exist are heavily skewed in their distribution in the more prosperous areas along the line of rail. Most of the Zambian doctors who do not work in ZCCM are located in specialist teaching hospitals, where they are inaccessible to most of Zambia's population. When and if these personnel work in the

24/ In South Africa, where the private hospital sector is more developed, the medical aid schemes encourage an emphasis on elective and semi-elective surgical and acute medical care, and hospital over ambulatory care (Berman and Rannan-Eliya, 1993). If insurance for private hospitalization becomes significant in Zambia, then this is also quite likely to happen, since senior doctors and UTH specialists have greater influence over MOH policy-makers than small private clinic operators. This is likely to lead to perverse incentives in the private provision sector in favor of high-price hospitalization and specialist care, instead of low-price, ambulatory care.

private sector, their services tend to be utilized at a low volume only by a small and wealthier clientele. Although most of the population does spend on its health care, for most of the rural population the only private providers available are traditional healers. It should not be in the social interest to encourage the formal private sector to reinforce this differential access to modern medical services. Instead the objective should be to create a private sector which provides high volume and low cost ambulatory services of a non-specialist nature to as wide a range of people as possible. It is proposed that if the fee schedules of providers and reimbursement schemes are to be regulated that fee levels should be set so as to make private general practice more profitable than hospital or specialist care, and to set prices as low as possible so that a low-price high volume market can be encouraged. This is essentially the strategy that Japan pursued in the early part of this century when it faced the same types of problems that characterize the Zambian health system today (Berman and Rannan-Eliya, 1993). The existing distinction whereby specialist fees were set officially 50-60% higher than those for general practitioners for consultations and visits should not be continued.

## Education

All available survey evidence suggests that more educated Zambians are more likely to use private services of all kinds, except traditional healers. While this is partly related to the positive correlation between education and incomes,<sup>25</sup> it is also related to the effect that education has on health seeking behavior and on demand for quality. A rise in educational levels of the Zambian population should thus lead to a greater concern for quality and enhanced consumer awareness. This may result in increased demand for private services, if there is no corresponding increase in the quality of GRZ services.

## Population Distribution

Population density in Zambia is extremely low. This is the most significant demand-side constraint to development of full-time formal for-profit private services in most rural areas, since there is unlikely to be sufficient demand in most areas to support even one provider. In these situations, only private providers who have other sources of income will be able to exist, such as drug stores which sell other products, or GRZ medical personnel who also have a government salary. Even within urban areas, population density is rather low, probably lower than rural areas in many densely populated countries, such as Indonesia or Sri Lanka. In urban areas this is compounded by the poor state of the transport infrastructure, which makes traveling more difficult. Improvements in the availability of public and private transport services should thus increase the demand for individual private providers.

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25/ In fact, in rural areas the impact of primary education on incomes is quite small, so differences in health care utilization between those who have no education and those who have primary education are due primarily to the effect of education (ZDHS, 1992).

## Public Policies

A number of factors influence the development of private provision in Zambia. These can be classified as demand-side and supply-side factors, and have been discussed above. Government policies are important determinants themselves in the development of private services. Their effects are mediated via effects on these same demand or supply-side factors, and they can be either direct or indirect in their impact. There are five broad areas where government policies can have direct effects on private provision: (i) public production or provision, (ii) economic incentives or disincentives, (iii) regulation and licensing, (iv) interventions in factor markets, and (v) public information. The following section reviews the various areas where GRZ policy has an impact on private provision.

### Public Production and Provision

#### *Direct public provision*

The quantity, quality, distribution and composition of public services themselves in Zambia have clearly influenced the level and composition of private services through their effect on demand (see Sections 2 and 3). In urban areas where GRZ resources have been predominantly devoted to providing tertiary and secondary level services, the provision of primary-level services has been insufficient to meet demand — insufficient in terms of both quantity and quality. This has encouraged the development of significant private provision in the ambulatory sector in urban areas in the line-of-rail provinces. On the other hand, the existence of relatively well-funded hospital services in Lusaka and the Copperbelt has probably discouraged the development of private for-profit hospital services in these areas.

However, it is important to note that it is not the case that private services simply flourish here public provision is deficient. There is a clear correlation between the availability of formal for-profit private services and the actual location of MOH staff, in particular doctors (see Figure 2.8). The bulk of providers in private clinics appear to be currently-employed MOH doctors or those who formerly worked for MOH. The non-availability of modern private services in many areas, in particular away from the line-of-rail, is due to the failure on the part of MOH to ensure a more equitable staffing of its own facilities. If staff were more widely available in peripheral facilities, then there would be a greater supply of part-time labor for private provision. In addition, there would also be a greater supply of full-time private providers in these areas. The experience in most countries is that full-time private clinic doctors tend to set up practice close to where they trained or worked previously, when in government service.

### *Cost-sharing in the public sector*

MOH services were nominally free from the mid-1970s until the early 1990s. The recent introduction of user fees in many facilities can be expected to reduce demand in the long-term for MOH services, although this effect may be reduced to the extent that there are quality improvements in the same facilities. In the short-term it has also led to a dramatic reduction in utilization of MOH services, but this seems to have been a temporary and initial effect (see above). This reduction in demand for MOH services will lead both to an increase in self-care as well as in demand for private providers. In rural areas there is some evidence that this may have led to an increase in the utilization of traditional providers. If user-fees are raised significantly in urban areas, where there is already significant numbers of formal private providers, then this may be expected to lead to much greater demand for such private providers.

## Taxes and Subsidies

### *Taxes and subsidies to consumers*

There are no specific public subsidies for users of private health care that we could determine. However, there are a number of taxes which are levied on inputs into the health sector, the most important of which are taxes on the importation of drugs and medical supplies. We were not able to assess the relative importance of these taxes, which bear most heavily on pharmacies and other for-profit providers. The missions typically receive much of their drugs and medical supplies directly from MOH and other donors; if they receive any direct imports they are usually able to obtain waivers of the relevant taxes.

In many countries, subsidies are provided to consumers of private health care in the form of tax deductions for private health insurance. There has been discussion of this in Zambia during the current reform process (MOH, 1993b). However, this type of intervention is not desirable for several reasons (Berman and Rannan-Eliya, 1993; Birdsall, 1994). Firstly, it is highly inequitable since it will only benefit the higher income group who happen to pay taxes or who work for formal sector employers. Tax exemptions for this group only serves to marginally increase access for those who are already have better than average access, at the cost of reducing tax revenues, which can be used for increasing access for the majority who are deprived. Secondly, it increases the tendency for cost escalation associated with insurance financing, since it further reduces the cost faced by consumers. It is sometimes argued that such tax exemptions should be given to encourage the initial growth of a private insurance sector. However, there are great dangers to this type of policy since it is politically very difficult to remove such exemptions once they have become established, as is the experience in the United States.

## *Taxes and subsidies to providers*

### **Mission grants**

Historically, mission facilities were set up as non-profit services. Some revenue was derived from provision of services, from ownership of real estate and farms, but most operating costs were met by direct support from their founding overseas church organizations. However, as government increased its role in the provision of social services, a system of direct government subsidies was established in the form of bed and staff grants, and seconded personnel. These eventually came to be the dominant source of financing for these hospitals after GRZ abolished fees-levying in all hospitals in 1972. Aware of the role of church-run health facilities as important providers of health care, particularly in rural areas, the government increased its support (subsidies, secondment of staff etc.) for their activities, contributing about 70% of the recurrent expenditures and providing other support such as secondment of staff, capital grants and donation of drugs. Any shortfalls were offset by contributions and donations from overseas.

However, direct support from overseas churches declined during the 1970s and 1980s, although this has been offset somewhat by increased support from foreign governments and non-religious NGOs (Banda, 1994). Donated personnel tend to be usually foreign volunteers, and so their actual economic value is difficult to assess, but it should be noted that more than 90% of mission doctors are foreign.

In the late 1980s, largely due to decreasing resources and the rising cost of health services provision the GRZ amended the laws pertaining to the charging of fees in hospitals. Mission hospitals were permitted in late 1989 to begin to charge fees under the euphemism "contributions" and fees were introduced in January, 1990. The hope was that revenues from fees would offset the shortfall in grants from the GRZ and donations from abroad. However, revenues from these fees appear to currently cover less than 10% of operating costs, and the missions remain largely GRZ funded. (Banda, 1994).

Relationships between the MOH and the CMAZ have been frayed in recent times. The Ministry of Health has reduced the amount of subsidies made available to the CMAZ, partly as a result of the GRZ's poor fiscal position, but also as a means of controlling overcapacity in the system. While previously the grant used to cover about 70% of the recurrent expenditures of these facilities, it now accounts for about 50%. Appeals from the CMAZ for increased funding have been complicated by CMAZ's unwillingness to disclose to the MOH its real financial position and suspicions on the part of the MOH that the CMAZ may be exaggerating the financial predicament of church-run institutions. It should be noted that while mission facilities may be relatively underfunded, they are relatively better off than the MOH system as a whole in terms of numbers of doctors and overall drug supplies, because of additional donor support.



Under newly introduced reforms, DHMTs will receive grants in future on the basis of a formula which takes into account district populations. The grants for mission facilities will no longer be disbursed by the MOH centrally, and responsibility will be transferred to the districts. They will be able to use this money to purchase services from any providers that they choose, and on any arrangement they wish. In practice, because the supply of providers in most areas is limited to the existing MOH and mission facilities, this will not lead to dramatic changes in the composition of publicly-financed provision. However, in the longer term it may increase the possibility of alternative private providers contracting with DHMTs, especially for non-hospital services, where the barriers to market entry are much less. In the case of the missions, the long-term implications of the reforms will probably be that the allocation of funding to individual facilities will no longer be based on previous historical budgets, but on more transparent rules. This may serve to reduce the tension inherent in the current GRZ-CMAZ relationship.

### **Subsidies and transfers to the mines facilities**

It can be argued that the mines facilities already receive excessive government subsidies, since ZCCM is itself is loss-making and the recipient of GRZ subsidies. However, it should be noted that the amount of financing involved (approximately US\$30 millions per year) is small in relation to the overall losses of ZCCM, which were running at an annualized level of more than US\$300 - 400 millions in the first half of 1994. While the amounts in question are large in relation to the resources at the disposal of the MOH, this is not an argument for reducing them on the grounds of unjustified subsidies. Miners in Zambia have always enjoyed better health facilities than the rest of the population, since before nationalization. Provision of such facilities was originally made by for-profit companies engaged in their normal commercial activities. From that perspective, attempts to reduce expenditures on ZCCM health facilities or to spin them off from the mines may represent a form of government intervention inappropriate for a government that is committed to reducing the role of the state in the commercial and productive sectors. Any such decisions should be left to the management or any new private owners of the mines.

In the future, MOH may want to contract with the mines hospitals to provide health services to the non-mining population of the Copperbelt. Pressure for this may be greater if the mines hospitals are spun off from the mines, since that will place them under pressure to find additional sources of financing. While there is much that can be gained from exploiting the excess capacity of the mines hospitals, there are also considerable dangers for MOH arising from the relatively high unit costs of ZCCM facilities. It may make more sense for the MOH to develop its own cheaper facilities in the Copperbelt than to purchase services from ZCCM facilities priced at their relatively high unit cost. Alternatively, MOH may be able to purchase services at a lower price closer to the marginal costs. This may seem technically efficient, but it may not make sense if it leads to a large proportion of the local MOH resources being used to purchase ZCCM hospital services at the expense of more appropriate

interventions. In a study of contracting arrangements between MOH and Wankie Colliery hospital in Zimbabwe, McPake and Hongoro (1992) found that prices charged by the mine hospital were lower than the unit costs in the equivalent public hospital. However, while the mine hospital was very popular, it served only a small population and accounted for 70% of provincial non-salary costs. Potential allocative inefficiencies such as these should lead MOH to be cautious about any contracting arrangements with the mines hospitals, especially those which set no overall budget cap and which are based on a fee-for-service arrangement.

### **Other subsidies**

MOH currently provides subsidies to other providers in the form of supplies of essential drugs, and occasionally direct grants. However, these are not particularly significant in the case of any type of provider, except the ZFDS.

### **Regulation**

Health care providers exist and function within the context of a regulatory environment. This effects four key areas: market entry and exit, competitive practices, market organization and structure, and payment (Moran and Wood, 1993). The regulatory environment consists of the basic legal framework which governs activities in the health sector, the regulatory apparatus which administers the relevant rules, and the social, economic and administrative factors which influence the implementation of such rules. The regulatory structures in Zambia's health sector resemble that found in many other Commonwealth countries, and are essentially modeled on the British system, while the broader social, economic and administrative context resembles that of many other developing countries.

### *Legal and regulatory framework*

In Zambia, four main organizations are responsible for regulating health care providers: MOH, the Medical Council of Zambia (MCZ), the General Nursing Council (GNC), and the Pharmacy, Medicines and Poisons Board (PMPB). The last three are statutory bodies appointed by GRZ. Members are appointed by the Minister for Health, some in consultation with the relevant professional associations, when they exist.

MCZ was established in 1965 under the Medical and Allied Professions Act with its powers and duties defined under that act, and as subsequently amended in the Medical and Allied Professions Act of 1977. MCZ has oversight in all four areas of market entry, competitive practices, market organization and payment. GNC was established by the Nurses and Midwives Act of 1970. The PMPB was established by the Pharmacy and Poisons Act.

## Regulation of market entry

### Physicians

MCZ licenses all physicians, dental surgeons, pharmacists and members of other recognized paramedical professions wanting to practice in Zambia. For the purpose of licensing physicians, it maintains three registration lists, one for full registration, the second for temporary registration, and the third for provisional registration. New medical graduates are placed on the provisional register, and have up to two years to complete the requirements for transfer to the full register. They must complete a minimum of a one year internship in an approved institution, which at present is drawn from a list of four MOH hospitals and two mine hospitals, all of which are located in Lusaka and the Copperbelt. Foreign qualified physicians, who have completed their internship and are fully registered elsewhere, do not have to do an internship. They are placed on the temporary register, and must work under supervision for one year, after which they can be transferred to the full register. At present there are no requirements for renewal of licenses. However, MCZ is preparing legal amendments which would require all doctors below the rank of registrar or lecturer to renew their licenses every year, for which they would have to engage in a minimum amount of post-graduate education the preceding year.<sup>26</sup> Other than these minimal regulations, there are few effective regulatory barriers to entering medical practice.

MOH is the largest employer of doctors in Zambia. Under current MOH regulations, junior doctors below the level of senior registrar and lecturer are not permitted to engage in private practice. However, this regulation appears to be observed in the breach, and most junior doctors "moonlight", working part-time in private clinics, where they are a major source of labor. MCZ is currently considering amending the law to make private practice by junior GRZ doctors illegal under the law.

### Private clinics

All private clinics and employer-run clinics, called consulting rooms, are required to register annually with MCZ. Private clinics can only be registered in the name of a fully registered physician, and their premises must be equipped to a minimum level in order to be licensed (the guidelines used by the MCZ inspector of clinics are given in Annex D). In addition, a full-time medical doctor must be available at each clinic. These requirements would not appear to be great, but it is reported that they are too costly for many clinic operators (Mwansa, 1994). Until recently, enforcement of the regulations affecting private clinics was minimal, largely due to administrative weaknesses at MCZ, and lack of financial and logistical resources. Since 1993, MCZ has been able to employ a full-time inspector of consulting rooms, and the licensing regulations appear to have been enforced (see Annex C). New penalties for on-registration have been introduced - including fines of K500,000, and several clinics have been closed down in the past two years for failure to meet

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<sup>26/</sup> This appears to be similar to the scheme operated in Britain for continuing post-graduate education. Lectures and courses are to be organized and be made available, attendance at which would accrue lecture points. A minimum of ten lecture points will be required for license renewal.

minimum standards. However, while registration of clinics now appears to be enforced, the staffing requirements are not, and many clinics appear to be staffed by part-time staff or by clinical officers.

### Private hospitals

The establishment and operation of private hospitals was banned by the Medical Aid Societies and Nursing Homes (Dissolution and Prohibition) Act of 1975. However, with the moves to permit greater market activity in the late 1980s, this act was amended in 1990 to permit the operation of licensed private hospitals.<sup>27</sup> Operators of private hospitals must be individuals or organizations majority-owned by Zambians. In order to be approved, all private hospitals must provide a minimum level of facilities, which includes: emergency and casualty services, operating theater facilities, laundry facilities, kitchen and catering facilities, ambulance service, laboratory and blood bank services, mortuary and incinerator services, and pharmacy. These requirements are rather high in Zambia's context, and probably act as a significant barrier to market entry. Foreign investors might find it easier to finance these requirements, but they will tend to be deterred by the insistence on majority-Zambian ownership.

### Pharmacies

The Pharmacy and Poisons Act stipulates the requirements for the practice of pharmacy and trade in drugs and poisons in Zambia. It permits only qualified, registered pharmacists to dispense drugs, including part 1 and part 2 drugs, but it does not allow them to prescribe or diagnose illness. The act was amended in 1993. Statutory Instrument No. 46 of 1993 provides the schedule of fees payable to the Pharmacy and Poisons Board, while Statutory Instrument No. 47 regulates the importation, manufacture and sale of pharmaceutical products in Zambia. This law does not apply to traditional medicines and herbs.

All retail pharmacies are supposed to be registered and have a minimum standard of facilities, but as in the case of medical clinics this has not been enforced until recently (PMPB, 1994). PMPB is currently engaged in an attempt to register all pharmacies in the country, and it is hoped that in future registration records will be kept upto date.

### Nurses, clinical officers and other paramedical providers

Nurses and clinical officers are not permitted to practice privately, except when employed as staff by doctors. However, this does not appear to prevent many from practicing privately, especially during their off-duty hours.<sup>28</sup>

## **Regulation of competition and medical practice**

Regulation of licensed medical practice appears to be minimal. As with similar

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27/ Medical Aid Societies and Nursing Homes (Exemption, Establishment and Operation) Regulations, 1990.

28/ In fact, PS1 reports that 11% of Zambians visiting a health facility saw a nurse, paying an average of K43 per visit.

bodies in most countries, the MCZ is responsible for disciplinary matters pertaining to doctors. It has powers to instigate proceedings against doctors for professional misconduct, but this essentially involves matters of criminal or immoral conduct, or serious professional negligence. The actual quality of medical practice is not a matter which is subject to regulation. The actual number of cases brought before the disciplinary committee of MCZ is very few, as is the number of complaints made to it. This is not surprising given the relative ignorance of consumers, and the probable difficulty in pursuing complaints against doctors in a country such as Zambia, where the medical community is small and close-knit.

Competition between medical doctors is regulated only to the extent that advertising by doctors is not permitted. Trade in pharmaceutical products, including restrictions on importation, is regulated through the Pharmacy and Poisons Act and the Food and Drugs Act, and advertising is not permitted.

### Regulation of market organization and structure

Market structure is only regulated to the extent that laws control licensing of providers. MOH regulations restricting private practice by MOH employees have some effect on the staffing of private providers, but this is largely muted due to non-enforcement of rules. The regulatory framework has no impact on the geographical distribution of providers.

### Regulation of remuneration and payment

Only fees charged by registered providers for performance of their professional services are legally enforceable. There was little regulation of payments during the 1970s and 1980s, since fee-taking by hospitals and insurance reimbursement of medical fees was banned in 1975, and other private activity was generally discouraged. The Medical Services Act of 1985 provided for the charging of fees in government facilities. It was later amended in 1988 to allow and regulate the charging of fees by private providers.<sup>29</sup> A fee schedule was imposed, which set the maximum rates that providers could charge. This schedule set rates for bed-days in hospitals, and allowed registered specialists and more senior hospital staff to charge higher rates than general practitioners and junior hospital staff for the same services. Many of the fees appear to have been set in relation to the putative expense and time cost of providing services. However, the schedule has had little impact on the level of fees charged by private providers, since high levels of inflation rapidly rendered the fee levels set unrealistically low. There has been no attempt to enforce the schedule in recent years.

### *Regulatory capacity*

Human resources for drafting and preparation of legislation are limited. Enacting

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29/ Medical Practitioners and Dental Surgeons (Fees) Rules, 1988.

the current legal reforms required considerable outside technical assistance. Even publication of laws is deficient. Historically, all new legislation was published and freely available from the Government Printer in Lusaka. But during the 1980s, funds were so limited that a minimum number of copies of each new law was printed, sufficient only to meet the internal needs of GRZ. It was not therefore possible to publicly purchase copies of new legislation.

The capacity of regulatory institutions in Zambia to carry out the law is poor. This may have partly been due to lack of interest or commitment. The recent changes in leadership at MCZ have been associated with an improvement in its functioning, which suggests that the existence of interested individuals can make a difference. The previous disregard of any positive contribution that the private sector might make may also have precluded any possibility of determined regulation designed to improve private sector performance. However, the major factor affecting performance has been lack of sufficient resources. For example, MCZ lacked suitable premises and access to working phone lines for much of the 1980s, and it was unable even to get its own accounts audited and approved, by the official Auditor-General as legally required (MCZ, n.d.). The 1977 Medical and Allied Professions Act required all private clinics to register, but it took several years for MCZ to define the necessary procedures. While MCZ represents a form of direct state regulation of the medical profession, GRZ clearly lacked the ability or resources to ensure that this body performed its functions.

To formulate and implement effective regulatory policies requires information on those who are being regulated. This has been a major weakness, with no attempt to systematically collect information on private providers. Better policy making towards the private sector will require that the MOH health information systems routinely collect information on the sector. Better regulation also requires that regulators have a better appreciation of the forces driving the private sector, and the relative market power of different providers, as well as their own capacity to enforce regulations. Regulatory interventions are more likely to be effective if they are market augmenting rather than market repressing. The price schedule introduced in 1988 was doomed to irrelevance by the rapid change in price levels in Zambia. Similarly, the current restrictions on private practice by junior MOH doctors are unlikely to be adhered to when there are large differences between official and market wages.

Other than ensuring that basic legal requirements for licensing are adhered to, it would seem unlikely that Zambian regulatory institutions will have the administrative capacity to enforce detailed regulatory laws in the medium term future. It will therefore be better to rely on other policy levers to ensure control of private providers.

## Interventions in Factor Markets

### *Labor market*

GRZ policy is the major determinant of the total supply of health personnel in Zambia, and the availability of personnel for the private sector, as discussed above. The most critical areas are in the supply of doctors and pharmacists.

### **Training**

The problem of few doctors being trained in Zambia is closely related to the problems of the higher education sector as a whole. In brief, the unit cost of training graduates is too high, owing to excessive and inappropriate subsidies, high administrative costs, and too few numbers overall (World Bank, 1994). This in conjunction with budgetary constraints have made it more difficult to raise output from Zambia's tertiary education facilities. In the health sector, this has been compounded by a tendency to sacrifice quantity in favor of maintaining quality and standards at international levels. The eventual output from UNZA has thus been far too low to meet the demands of the MOH, missions, mines and the private sector.

### **MOH wage policy**

Within the overall numbers available in Zambia as a whole, low wage levels in the public sector have played the major role in persuading many doctors to leave GRZ employment and enter private practice. While fiscal constraints prevent GRZ from paying market wages to its doctors, it has had a policy of keeping pay differentials between doctors and other GRZ personnel low. This has contributed to the exit of doctors in recent years, and the decision of many to work part-time in the private sector.

### **Private practice by MOH doctors**

Although private practice is not permitted for junior MOH staff, these rules are not enforced, and so have not acted as a real constraint on the supply of labor to the formal modern private sector.

### *Capital market issues*

GRZ has had a major impact on the availability of credit in Zambia through its general macroeconomics policies in recent years. However, these policies are determined with reference to much higher level policy imperatives, so there is little possibility of the health sector's needs being taken into account. In some countries, there are specific programs to provide credit to private providers. In Zambia there do not appear to be any such programs, but there is no evidence to suggest that

this has acted as a major constraint to the development of the private sector.

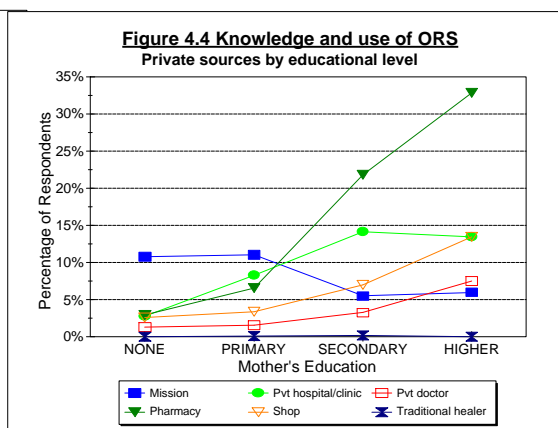
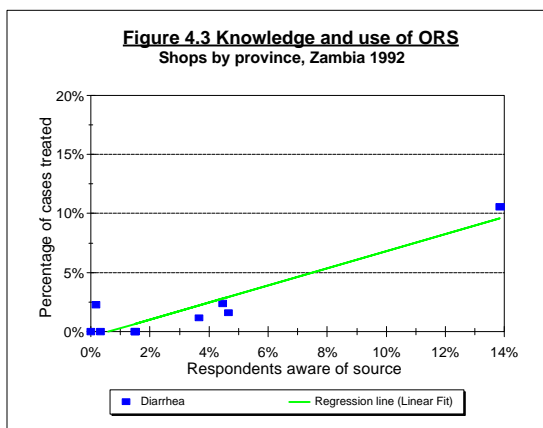
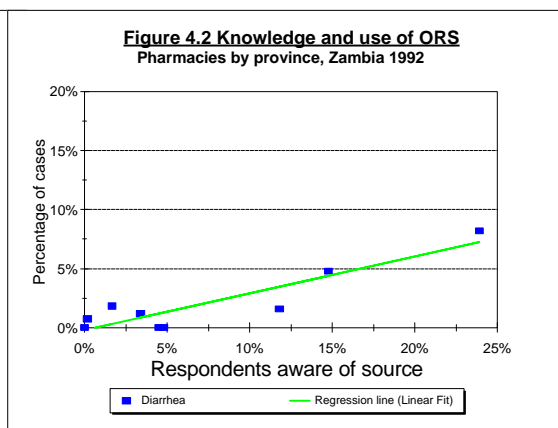
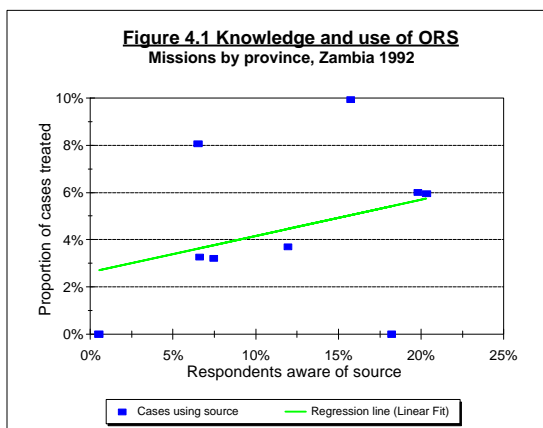
## Public Information

By providing consumers with information, their health-seeking behavior and thus their demand patterns can be changed. This is typically a largely overlooked area for public policy in most countries, and Zambia is no different.

Health education has potentially an important role in maintaining the technical quality of private providers. If consumers know what the appropriate and inappropriate treatments are for common conditions, then they are more likely to receive the correct treatment from private providers. If the market for private health care is reasonably competitive then this can have a big impact on quality of private providers. For example, in Sri Lanka where health consumers are relatively sophisticated, private practitioners are actually more likely to provide immunizations than over-worked MOH doctors. This type of competitive pressure is more likely to be effective than detailed regulatory measures, which a country such as Zambia does not have the administrative capacity to implement. This suggests that concerns for quality in the private sector should be addressed by increased MOH efforts to provide health education and increase competition in the health sector.

One area in which there is an active effort to change people's knowledge is the social marketing program for ORS. This is one intervention, where private providers are already accepted as making a contribution. Pharmacies, drug stores and shops, as well as private clinics, are all potential suppliers of ORS. However, while knowledge of ORS amongst mothers is very high at 94.8%, knowledge that private providers can supply ORS is much lower. Data from the ZDHS1992 indicates that only 30% of mothers were able to cite a private supplier of ORS. Nationally, private providers are only utilized in 23% of cases of childhood diarrhea (urban 24%; rural 22%). There appears to be a strong relationship between the level of awareness that private providers supply ORS and the actual level of utilization of private providers across provinces. Figures 4.1 to 4.4 illustrate the relationship between awareness and utilization rates for pharmacies, shops and missions (best fit regression lines are superimposed). There is also a clear gradient by education of awareness of different types of private providers of ORS. This evidence is only tentative since there are also large variations in the actual supply of ORS by private providers, but it does suggest that the current social marketing programs for ORS in Zambia are having only limited effectiveness in encouraging purchase of ORS from private sources, and that they are tending to reach only the better-off households.





## 5 Strategies for Developing Public/Private Linkages to Support National Health Goals

### Findings

#### Policy Framework

Since independence, GRZ emphasized universal access to health care in its policy statements. Initially, there was a huge increase in budgetary expenditures on health, made possible through large revenues from copper exports. This facilitated a large expansion in the number and distribution of facilities throughout the country. When copper prices collapsed in the mid-1970s, stringent fiscal constraints became the reality, and health spending declined (Figure 2.9). While health spending has fallen, it is not low relative to other countries. But when living standards fell in the late 1980s, the health system was not able to prevent a deterioration in health indicators. While government health expenditures in Zambia are close to the level that one would expect, actual health outcomes are much worse. Zambia is an extreme outlier in cross-national analyses, with life expectancy 7 years lower than countries with comparable income and education.

Major structural impediments have led to a situation where the Zambian health system is relatively high cost, and yet fails to provide widespread access to basic services. The overall capacity of the system is low, especially when the level of human resources is compared with other poor countries. The basic physical infrastructure is over-expanded in relation to the ability of the MOH to support peripheral facilities. Human resources and other inputs are poorly distributed, with an excessive concentration in tertiary and urban facilities and along the line-of-rail. The decision making process has been over-centralized, and unable to respond effectively to the needs of the poor and the periphery. Instead it has been especially susceptible to professional demands, which has led to bias in the central facilities towards new and expensive technologies, and the maintenance of a training system which produces high quality medical graduates at high cost, but in low numbers (World Bank, 1994).

## The Role of Private Providers in the Zambian Health System

Within the health system MOH facilities are dominant. They provide more than two-thirds of all medical care in the country. Non-MOH providers consist of the missions, mines, for-profit providers and traditional providers.

Private providers are not homogenous in structure, composition, output or location. There are major differences between urban and rural areas, and between the line-of-rail provinces and the other provinces. Their relationship to MOH differs, with varying potential for government leverage. Table 5.1 provides a brief overview of each provider and their relative roles. Table 3.9 in Section 3 summarized what is known about each provider type with respect to specific interventions and health services.

**Table 5.5**

### Recommendations for Increasing the Contributions of Private Providers in Zambia in Major Disease Areas

Area	Estimated Disease Burden (share of total)	Availability of Cost-Effective Interventions	Key Private Providers	Current Contribution of Private Providers	Potential Contribution of Private Providers	Recommendations
Maternal/ Perinatal Conditions	10%	Yes	Missions Clinics TBAs	Moderate Low Moderate	High Moderate Moderate	<ul style="list-style-type: none"> <li>Incorporate providers into referral system</li> <li>Better training of TBAs</li> </ul>
EPI Diseases	10%	Yes	Missions Clinics	Moderate Low	High Moderate	<ul style="list-style-type: none"> <li>Health education to increase demand</li> <li>Distribute low-cost vaccines to providers</li> </ul>
Tuberculosis	10%	Yes	Missions	Low	Moderate	<ul style="list-style-type: none"> <li>Reorganize GRZ program as high priority</li> <li>Uniform guidelines for all providers</li> <li>Distribute free TB drugs to providers</li> </ul>
Malaria	0.1	Yes	Pharmacies Clinics	Moderate Moderate	High High	<ul style="list-style-type: none"> <li>Health education</li> <li>Train providers in rational drug use</li> <li>Resume public vector control</li> </ul>
Diarrhea	10%	Yes	Pharmacies Clinics	Moderate Moderate	High Moderate	<ul style="list-style-type: none"> <li>Intensive social marketing program</li> <li>Train providers in rational drug use</li> </ul>
HIV/AIDS	12%	Yes	Pharmacies Missions NGOs	Moderate Moderate Low	High High High	<ul style="list-style-type: none"> <li>Intensive social marketing and IEC</li> <li>Strengthen coordination with NGOs</li> <li>Increase public funding of NGOs and missions</li> </ul>
<b>TOTAL</b>	<b>62%</b>					

Note: Proportions of disease burden estimated by adjusting figures for Sub-Saharan Africa in World Bank (1993h) for Zambian situation. Availability of interventions refers to whether highly cost-effective (i.e., less than \$100 per DALY saved) interventions exist. Pharmacies refers to all drug retailers, including drug stores and shops.

In rural areas, missions are the dominant private provider of modern care. They are predominantly located in the more peripheral and poorer districts. The bulk of their financing comes from MOH grants, but they are able to supplement this through

overseas support, cost recovery and donations. The missions appear to provide a relatively good standard of care, and are receptive to implementation of broader public health goals, as well as being integrated into the MOH-run health system. Traditional providers are the only other major source of private provision in rural areas, and their use is higher away from the line-of-rail. They appear to substitute for modern forms of care, and are particularly used by those who are far from modern facilities, and those who are less educated and poorer. Traditional healers are unregulated, and are essentially outside the formal health care system.

In urban areas, there is a much greater diversity of providers, but no significant mission presence. In the Copperbelt, the mines run a high quality health care system that is only available to the mining population. In other provinces, there is no other significant non-MOH hospital provision. Private clinics, pharmacies and shops make up the bulk of the remaining private provision. Private clinics are either owner-operated for-profit facilities or employer-financed clinics. Their use tends to

**Table 5.1**

**Overview of the Main Provider Types in Zambia**

	<i>MOH</i>	<i>Missions</i>	<i>Employers</i>	<i>For-Profit</i>	<i>Traditional</i>
Health Care Delivered (% of total)	65-70	6-8	8	7-15	6-8
Expenditures (% of total)	45-49	5-7	25-28	12-15	2-5
Quality of Care Delivered	Moderate	Moderate	High	Mixed	Low
Unit Cost of Services	Moderate	Moderate	High	Moderate	Low
Bed Capacity (% of total)	65	25	11	0	0
Doctors (% of total)	62	13	14	10	0
Geographical Distribution	Bias to LOR	Off LOR	Copperbelt	LOR only	
Rural/Urban Distribution	Urban bias	Rural	Urban only	Urban only	Rural bias
Utilization by Socioeconomic Status (SES)	Increases with higher SES level	Mostly poor	Mining households only	Mostly non-poor	Mostly lower SES groups

Note: Percentage of health care delivered is a composite index derived from overall utilization rates and data on contributions to individual activities. The other figures given are the best estimates or judgments possible based on the data available. For-profit includes both pharmacies and private clinics.

be greater with increasing income, and extremely limited among poorer people.

Differentials in use are related to low household incomes, and relatively high prices. Pharmacies and shops are more widely distributed than private clinics, and are used by a wider cross-section of the urban population. They are a significant source of

medicines and self care. The quality of services provided by modern private providers in urban areas is mixed. Traditional healers are less important in urban settings than rural areas, and their use is greatest among older and poorer people.

## Health Care Reforms

Zambian policy-makers should have four broad objectives in reforming the health system.

- (i) To increase efficiency in resource use - both technical and allocative efficiency
- (ii) To increase equity of access - both geographical and socioeconomic
- (iii) To increase overall availability and effectiveness of health services
- (iv) To increase resources available to the health sector

Recognizing the impediments in the current system, GRZ has launched extensive and far-reaching reforms to its health system, which emphasize the delivery of good quality basic health services. The thrust of the reforms is directed at MOH services. They aim to decentralize management of health services to the district level, with the aim of providing all Zambians with "equity of access to cost-effective quality health care as close to the family as possible." Resources will increasingly be transferred into district budgets for DHMTs to manage. DHMTs will be encouraged to negotiate their own arrangements with local providers, including private ones. In addition, GRZ has launched a number of initiatives designed to introduce user fees and voluntary insurance schemes. The former are not only designed to raise additional resources, but also to provide incentives to both consumers and providers. The managerial and financial changes are designed to improve overall efficiency and effectiveness, while changes in the budgeting system should help to improve equity by better distributing resources across districts.

## Assessment of the Private Sector Contribution in Zambia

Policies towards the private sector should complement the overall national reform effect, as well as helping to achieve the overall objectives of increasing efficiency, effectiveness, equity and available resources. They must take into account both the merits as well as limitations and potential negative impacts of private sector contributions. This assessment has compiled a picture of the various non-MOH providers in Zambia, detailed enough to allow formulation of an informed policy towards the private sector.

### *Merits of private sector*

Increased activity by non-MOH providers can have several advantages, as detailed in Table 5.2. In general, they can help increase access to basic services and the mobilization of resources for the health sector, as well as providing services, which are not appropriate or cost-effective for MOH to provide.

### *Limitations of private sector*

While there is considerable potential for increasing the role of private providers, there are important limitations to their contribution (Table 5.3). In general, (i) for-profit providers will fail to meet the needs of the poor and rural populations; (ii) for-profit providers will underprovide services of public health importance; and (iii) the missions will be dependent on public financing for expansion.

### *Adverse effects of increased private sector activity*

While increased private provision can have important, if limited, beneficial effects, there are potential problems that it may result in. Other than the reinforcement of existing differentials in access, it can potentially increase the costs of public services themselves by making it more difficult to employ and manage health personnel. These and other adverse effects are described in Table 5.4.

## **Recommendations**

The overall benefits of increased private provider activity will be positive, if effective measures are taken to reduce and prevent the adverse effects. It is important that policy makers recognize that private providers are not homogeneous, and that different policies will be needed for different providers and for different areas of the country. Some policies will be effective with some providers, but not with others. Similarly, the potential for expansion of a particular service may be great in some locations, but extremely limited in others. The major distinction is between rural and urban areas, each of which is characterized by a different mix of providers with different potentials for making meaningful contributions. In addition, policy makers should be aware of the complex interaction between the private sector and the public sector, and the need to implement policies in each sector which take into account the effects on the other.

A broad set of policies to increase the positive contribution of private providers to Zambia's health system are proposed below. Recommendations for additional research have been kept to a minimum. This recognizes that resources for such work will be limited and the understandable concern by Zambian policy makers for

**Table 5.2****Merits of Private Sector Activity**

<ul style="list-style-type: none"> <li>· Increases access to and effectiveness of basic services, by increasing the overall numbers of providers and services available over that which MOH can supply. Missions much more successful in providing services to the poorer and more remote parts of Zambia, while pharmacies, drug stores and shops provide a much more extensive supply network than MOH facilities.</li> <li>· Provides services which are not cost-effective for MOH to provide for those who wish to pay. Helps improve allocational efficiency, if it makes it easier to shift public resources away from inefficient uses.</li> <li>· Reduces demand for MOH services, thus freeing up public resources for other people. Improves equity if resources can then be more easily targeted at more-deprived groups.</li> <li>· Mobilizes additional resources for health sector by increasing the level of private financing to a greater extent than can MOH providers.</li> <li>· Helps meet the demand for greater quality as perceived by consumers, since private providers are better able to respond to such demand.</li> <li>· Increases the attractiveness of public sector employment for those personnel who can supplement their income through part-time work in the private sector. May not only increase the staff available to MOH, but also to Zambia as a whole if more doctors are persuaded not to emigrate or to return from abroad.</li> </ul>
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immediate action. These recommendations have been based on (a) careful analysis of the results of this assessment and the underlying objectives guiding the current reform efforts in Zambia, and (b) the experience of other countries. The recommendations can be grouped into three categories: (i) general ones relating to the health sector as a whole or MOH services, (ii) those relating to particular providers, and (iii) those relating to specific disease/intervention areas and specific target populations.

### General Policies

At the sectoral level, the general objective of policy makers should be to increase in quantity and quality the ability of the private sector to contribute to public health goals. This will require creating an enabling environment for private providers by reducing constraints to their action and improving the government's ability to coordinate private providers. This will have to be done, taking care to prevent or reduce the potential adverse effects of private sector growth. A number of policies are proposed below, some of which have greater relevance to rural areas, and others to urban areas. Following these are some additional proposals for provider-specific policies.

**Table 5.3****Limitations of Private Sector Activity**

- For-profit providers will locate in the most profitable areas, which in practice means urban locations concentrated in the line-of-rail provinces. The role for formal for-profit providers in rural areas and the more deprived off-line-of-rail provinces is limited.
- Access to for-profit providers is related to ability to pay. The beneficiaries of increased for-profit activity will be disproportionately the wealthy and non-poor, who are already the healthiest in the population. Evidence suggests that relatively high unit prices for ambulatory care in Zambia's private sector are suppressing utilization.
- For-profit providers in providing services are guided by demand, and they will tend to under-provide preventative care and those services for which there are significant positive externalities.
- Private sector will be unable to significantly expand the provision of private insurance beyond its small base in the formal sector. Much of the limited additional resources mobilized through insurance will be dissipated through increased prices in the insurance-financed sector and increased administrative costs.
- Missions do not share the limitations of for-profit providers, but they are much more dependent on public financing, and thus their ability to expand services is related to the availability of public resources.
- All modern private providers face significant supply constraints with respect to the availability of medical personnel.
- Poor infrastructure of roads and transport services increases the costs to consumers of reaching health providers, and thus reduces the level of effective demand in most areas.

*Continue decentralization*

- The current program of financial decentralization should continue, but with a modification of the allocation formula to increase the relative amounts assigned to more deprived and more peripheral districts. This would be to take into account the scarcity of and lower potential for formal private providers in these areas.
- Even within districts the distribution of private providers should be taken into account when targeting public resources. (E.g., concentrating PHC centers in low-income urban areas.)

*Deregulate private practice by MOH staff — more in rural posts than in urban posts*

- MOH regulations and other legal provisions restricting or preventing private practice during off-duty hours by junior medical and other paramedical MOH staff should be relaxed in order to increase the supply of personnel to the private sector. At the same time, stringent penalties should be introduced



**Table 5.4****Adverse Effects of Private Sector Growth**

- For-private providers will reinforce the existing inequity in access to health services between regions and urban and rural areas, because of the higher incomes in these areas and the greater availability of MOH employees and other private sector inputs.
- The greater options for part-time private practice in urban areas will make it more difficult to persuade MOH employees to work in more peripheral areas, thus increasing inequity in access to public services.
- Disparities in incomes will lead to increased inequity of access across households.
- Higher incomes and increased opportunities for private providers will raise the market wages of medical personnel, thus ultimately raising the unit costs of personnel in the public sector.
- Expansion of private insurance coverage will tend to increase overall price levels in the private sector and thus reduce access for non-insured households.
- Perverse incentives in the private sector may lead to reduced quality of care, such as inappropriate drug prescribing or malpractice.
- The ability of the public sector to coordinate the activities of private providers in achieving public health goals may decrease, as the proportion of care provided by the private sector increases.

and enforced to prevent abuse of the rules.

- In view of the existing maldistribution of MOH medical staff, and the increased difficulties that private sector growth in urban areas will present, mandatory rural residence requirements for all health staff should be introduced and enforced. Licensing of doctors to engage in private practice and access to further training should be linked to completion of these requirements with rights to private practice preferentially increased for those working in rural areas (see Annex E).

### *Strengthen regulatory capacity and information systems*

- Regulatory capacity should be strengthened to the extent that annual licensing is enforced. This should be linked to improved reporting of basic data so that policy makers are better informed about trends in the private sector. However, detailed regulatory interventions are not recommended in view of institutional constraints.
- Organizations to represent private providers should be encouraged, and GRZ should more regularly consult with them on matters of policy concern. (This may be an area suitable for targeted donor assistance.)
- The information unit within the MOH should be strengthened in order to allow better and more regular compilation and dissemination of available data. Its mandate should be widened to include the routine collection of

information of data from the private sector. A 1% levy on all donor-funded health data collection and research projects is proposed to be paid into a trust fund, which will support the routine operation of an expanded information unit.

### *Increase the overall numbers of qualified health personnel*

- Reform of Zambia's educational system should be supported in order to reduce the unit costs of producing graduates, and to remove the constraints to increasing the output of graduates.
- GRZ should increase the overall output of pharmacists and doctors from UNZA by increasing the number of students supported. A doubling of the number of doctors graduated to at least 80 per year is recommended. There should be greater willingness to accept a modest reduction in overall standards, if that proves necessary.

## Provider-Specific Policies

### *Missions*

- While noting that the missions contribution to overall health care in rural areas is not the 50% sometimes claimed, GRZ should recognize their positive role in providing care predominantly to the more deprived and poorer rural areas of the country.
- Although it will not be possible to immediately phase out the current system of central grants to mission facilities, the formula for allocating funds to the districts should introduce a weighting for more peripheral and more deprived districts sufficient to compensate for any reduction in the central grants to missions.
- MOH should integrate the missions into its routine information systems.

### *Mines*

- The mines facilities should be regarded primarily as part of the historical employee compensation package for miners. The long-term interest of the health sector lies in a profitable mining sector which can generate significant tax revenues for GRZ. The future status of the mines hospitals should therefore be decided as part of the overall rationalization and privatization process in ZCCM, which ultimately is the key to reestablishing the long-term viability of the mines.

- Policy makers in the health sector should not support spinning off the mines hospitals on the grounds of substantial benefits from utilizing their excess capacity.
- MOH and the local DHMTs should investigate the possibilities of contracting with the mines hospitals for provision of services to the non-mining population in their catchment areas, but not on a fee-for-service basis.

### *For-profit clinics and hospitals*

- Annual licensing of facilities with an annual reporting of a basic set of data by providers should be enforced.
- The minimum level of amenities and services that private hospitals must provide in order to be licensed should be reviewed with a view to lowering it.
- The aim of policy makers should be to encourage the expansion of the private low-price ambulatory care sector, and not that of private hospitals.
- No subsidies, indirect or direct, should be given to for-profit providers, particularly hospitals.

### *Private insurers and employer-sponsored health schemes*

- While employers should not be discouraged from financing or providing health care for their employees, no subsidies or tax exemptions should be extended to them.
- Health insurance premiums should not be made tax deductible.
- The prices of private insurance and medical aid schemes should be not be regulated. However, if they are to be regulated, then the price structure must be designed to prevent specialists and hospitals being paid more than other private practitioners for the same service or procedure.
  - All private health insurers and medical aid schemes, as well as large employers, should be required to annually report the number of persons covered and their total health-related revenues and expenditures.

### *Pharmacies and drug stores*

- Training for pharmacists in the private sector should be provided in order to reduce the level of inappropriate prescribing.
- MOH's and MSL's drug procurement policies need to be reviewed to

increase the use of competitive tendering and other good procurement practices, in order to minimize drug prices. The public sector should aim to be a major competitive supplier of pharmaceuticals in the retail sector in order to keep overall prices in the private market low.

### *Traditional providers*

- Training should be given to TBAs to allow them to provide better quality care and in order to integrate them better with the public referral system.

### Intervention and Service Specific Strategies

The general and provider-specific proposals are intended to strengthen the ability of private providers to contribute to the broader public health goals. In addition to these, there are a number of possible interventions which can be implemented to improve the contribution of private providers in specific service areas and to specific problems of public interest.

Different policies will be needed for urban and rural areas. Table 5.5 describes a number of policies designed to increase the overall supply of population services, drugs, primary health care and hospital services in rural areas and in urban areas. This is followed by Table 5.6 which offers various policies which can be used to specifically increase the private contribution to certain individual disease areas.

Table 5.5

## Recommendations for Increasing the Contributions of Private Providers in Zambia in Major Disease Areas

Area	Estimated Disease Burden (share of total)	Availability of Cost- Effective Interventions	Key Private Providers	Current Contribution of Private Providers	Potential Contribution of Private Providers	Recommendations
Maternal/ Perinatal Conditions	10%	Yes	Missions Clinics TBAs	Moderate Low Moderate	High Moderate Moderate	<ul style="list-style-type: none"> <li>• Incorporate providers into referral system</li> <li>• Better training of TBAs</li> </ul>
EPI Diseases	10%	Yes	Missions Clinics	Moderate Low	High Moderate	<ul style="list-style-type: none"> <li>• Health education to increase demand</li> <li>• Distribute low-cost vaccines to providers</li> </ul>
Tuberculosis	10%	Yes	Missions	Low	Moderate	<ul style="list-style-type: none"> <li>• Reorganize GRZ program as high priority</li> <li>• Uniform guidelines for all providers</li> <li>• Distribute free TB drugs to providers</li> </ul>
Malaria	0.1	Yes	Pharmacies Clinics	Moderate Moderate	High High	<ul style="list-style-type: none"> <li>• Health education</li> <li>• Train providers in rational drug use</li> <li>• Resume public vector control</li> </ul>
Diarrhea	10%	Yes	Pharmacies Clinics	Moderate Moderate	High Moderate	<ul style="list-style-type: none"> <li>• Intensive social marketing program</li> <li>• Train providers in rational drug use</li> </ul>
HIV/AIDS	12%	Yes	Pharmacies Missions NGOs	Moderate Moderate Low	High High High	<ul style="list-style-type: none"> <li>• Intensive social marketing and IEC</li> <li>• Strengthen coordination with NGOs</li> <li>• Increase public funding of NGOs and missions</li> </ul>
<b>TOTAL</b>	<b>62%</b>					

Note: Proportions of disease burden estimated by adjusting figures for Sub-Saharan Africa in World Bank (1993h) for Zambian situation. Availability of interventions refers to whether highly cost-effective (i.e., less than \$100 per DALY saved) interventions exist. Pharmacies refers to all drug retailers, including drug stores and shops.

Table 5.6

## Recommendations for Increasing the Contributions of Private Providers in Zambia to Major Service Activities

Activity	Key Private Providers	Current Contribution	Potential Contribution	Constraints	Policy Strategies
<b>RURAL</b>					
Population Services	Missions Pharmacies Traditional	Low Low Low	Moderate Low Low	<ul style="list-style-type: none"> <li>Lack of trained staff</li> <li>Retail system not present in all rural areas</li> <li>Legal restrictions on provision of contraceptives</li> </ul>	<ul style="list-style-type: none"> <li>Training of providers</li> <li>Contraceptive social marketing</li> <li>Revise legal framework</li> </ul>
Drug Supply	Pharmacies Shops	Low	Moderate	<ul style="list-style-type: none"> <li>Retail system not present in all rural areas</li> </ul>	<ul style="list-style-type: none"> <li>Reform of GRZ drug policy</li> <li>Greater use of competitive tendering and supply of imports to private sector</li> </ul>
PHC / Ambulatory Care	Missions Pharmacies GRZ Doctors	Moderate Low Low	Moderate Low Moderate	<ul style="list-style-type: none"> <li>Unwillingness of health personnel to work in rural areas</li> <li>Lack of sufficient demand to support full-time providers</li> </ul>	<ul style="list-style-type: none"> <li>Mandatory rural service for all health personnel, with relaxation of rules on private practice by MOH staff</li> </ul>
Hospitalization	Missions	Moderate	High	<ul style="list-style-type: none"> <li>Mission facilities available only in some areas</li> </ul>	<ul style="list-style-type: none"> <li>Maintain support GRZ support for missions</li> </ul>
<b>URBAN</b>					
Population Services	Pharmacies Clinics	Moderate Low	High Moderate	<ul style="list-style-type: none"> <li>Legal restrictions on provision of contraceptives</li> <li>Lack of trained staff</li> </ul>	<ul style="list-style-type: none"> <li>Revise legal framework</li> <li>Contraceptive social marketing</li> <li>Training of providers</li> </ul>
Drug Supply	Pharmacies Shops	Moderate Low	High Moderate	<ul style="list-style-type: none"> <li>Problems of irrational drug use</li> <li>Tendency for high prices</li> </ul>	<ul style="list-style-type: none"> <li>Revision of competitive tendering procedures, and GRZ supply of private retail market</li> <li>Sale of low drugs through public sector to keep prices down through competition</li> <li>Training of pharmacists</li> </ul>
PHC / Ambulatory Care	Private Clinics	Moderate	High	<ul style="list-style-type: none"> <li>Scarcity of skilled personnel</li> </ul>	<ul style="list-style-type: none"> <li>Allow private practice by junior GRZ staff</li> <li>Increase output of doctors to meet demand in private sector</li> </ul>
Hospitalization	Private Hospitals	Low	Low	<ul style="list-style-type: none"> <li>Lack of capital</li> <li>Potential for cost escalation with insurance</li> <li>Limited potential to reach lower income groups</li> <li>Limited contribution to improvement of health</li> </ul>	<ul style="list-style-type: none"> <li>Avoid subsidies</li> <li>Regulate insurance schemes to reduce incentives for providers to enter sector in preference to primary care</li> </ul>

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## Annex A: Estimated National Health Accounts for Zambia, 1990

A set of National Health Accounts, describing the sources, uses and relative sizes of all health expenditures, was constructed for the year 1990. This was the most recent year for which a relatively complete set of data could be assembled. It also happens to be the same year for which national health expenditures were published in the World Development Report 1993, and thus allows easy comparison of Zambia with other countries. However, it should be noted that in the period since 1990 Zambia has experienced major macroeconomic shocks, and that there has been a substantial increase in inflows of foreign assistance to the health sector. Therefore, the level and structure of health care financing in more recent years may differ significantly in some respects to the picture presented here.

Total national health expenditures are estimated at K3,742 millions in 1990 or 3.0% of GDP. In per capita terms this was equivalent to K480 per capita, or US\$16.60 per capita at the then prevailing exchange rate.

The resulting estimates are presented in Tables A.1 and A.2. Table A.3 provides additional details of MOH expenditures during the past thirty years. Details of the data sources used and the methods of estimation are given in the text below. Because of the unreliability and inadequacy of some of the data sources and basic macroeconomic information used, a sensitivity analysis was also carried out and the results are presented in the last section. It should be noted that these estimates were compiled as an adjunct to this study and in very limited time. It should be possible to further refine these estimates by a more detailed analysis of available data if resources are available. In particular, more detailed analysis of data from household surveys, such as PS1 and PS2, should allow more accurate estimation and disaggregation of the private expenditures, and more detailed analysis of GRZ accounts would further clarify the foreign aid and GRZ components. However, it can be assumed that the estimate of 3.0-3.4% of GDP for total national health expenditures is fairly robust.

### Sources

1. MOH expenditures from the 1990 Financial Report, minus estimate for official donor assistance.

2. Local governments receive grants from MOH. In theory, these are supposed to be matching grants on a 1:1 basis, but it is clear that most local governments spend much more from their own resources, since MOH grants have fallen drastically in real terms over the years. However, there are no available estimates of such additional spending. Examination of published accounts of several local governments for 1969-1970 indicate that even at that time MOH grants only accounted for approximately 30% of total spending by local councils. It is believed that this proportion is much less today. As a conservative estimate, it was assumed that local spending was 5 times greater than MOH grants received.
3. ZCCM expenditures derived from estimates for the financial year 1990/91 in World Bank (1993j). These are given in US dollars and were converted at the average exchange rate for 1990 of US\$1 = 28.90 Kwacha. The estimates are based on expenditures reported in the ZCCM hospital accounts, with an additional amount added for Konkola hospital. To this was also added a sum of US\$ 7.5 million which was the estimated value of other indirect operating subsidies by ZCCM. All income was from ZCCM, except fees from non-miners comprising US\$ 1.87 million.
4. Aid flows from official donors are estimated as US\$ 6 million for 1990 in World Bank (1993, h). This appears to be on the low side, since it would imply that foreign aid accounted for less than 10% of total MOH expenditures, when this proportion is estimated as 17% in 1987 rising to more than 31% in 1992/93. In addition, Unicef was spending approximately US\$ 2 million annually during 1987-90, and SIDA alone is reported to be spending US\$ 5 million annually. However, since there was insufficient time to check the Financial Report for 1990, the World Bank estimate was used.
5. It has been variously estimated that approximately 30% of funding for the mission hospitals comes from non-GRZ sources, such as donors and other NGOs, including sister churches and missionary organizations. This usually does not take into account the value of drugs and other supplies given to mission facilities by MOH. The missions do receive a proportion of the foreign donor supplied essential drugs and vaccines. The value of this was conservatively estimated as approximately US\$ 0.5 million in 1990. In addition, many mission personnel are foreign volunteers or donated staff. Probably over 90% of doctors are expatriates. It is difficult to impute a value for such staff, but a conservative estimate was made on the basis that the value of each expatriate doctor was US\$10,000 per annum, and that there were 100 expatriate doctors. The average salary of an expatriate employed by ZCCM was more than US\$ 35,000 per annum in 1990 (World Bank, 1993j).
6. Household expenditures are estimated from data in the 1990 Priority Survey

1 (CSO, 1993). This found that expenditures on medical treatment accounted for 1.26% (+0.23%) of total household expenditures. This not significantly different from the values (0.8 - 1.5%) reported in smaller surveys in the late 1960s and 1970s. It is also consistent with the proportions reported in recent household surveys. The proportion reported is more likely to be accurate than the actual amount in kwacha terms, because of potential underreporting of all expenditures during the three month recall period used in the survey. Therefore, this estimate was taken and multiplied into the figures for private consumption derived from the revised national income accounts (World Bank, 1993i), yielding a total of K800 million. Private consumption is here used as a proxy for total household consumption, although strictly it also includes consumption by other private entities such as NGOs.

The resulting total was first distributed amongst GRZ, mission and ZCCM services according to estimates of cost recovery in these facilities, with the residual being allocated to other private providers.

GRZ (assuming recovery rate of 1 - 3% of total costs)	=	2.3 - 6.9 %
Missions (assuming recovery rate of 5 - 10% of total costs)	=	1.0 - 2.0 %
ZCCM (cost recovery = K54 million)	=	6.8 %

Additional data are also available from the two Priority Surveys conducted in 1991 and 1993 on the composition of private health expenditures. These two surveys used different health questionnaires, so the responses from each are not always comparable. In addition, there were dramatic changes in the household consumption patterns during the 1991-1993, as well as the expanded introduction of user fees in MOH and mission facilities. Analysis of the results of the two surveys has not yet been completed by DDM, so only highly preliminary estimates were available. But these suggest that the composition of private expenditures were as follows during this period: The higher numbers for GRZ and mission facilities could be due to underesti-

GRZ	=	5 - 25 %
Missions	=	2 - 4 %
Mines/industrial	=	5 - 10 %
Traditional	=	3 - 27 %
For-profit formal private/pharmacies and other drug retailers	=	50 - 60 %

mation of cost recovery rates and/or an increase in cost recovery during 1990-1993. Payments at GRZ facilities could also include unofficial payments to staff, as well as purchase of drugs. The estimate of 6.8% for ZCCM is deemed accurate as it is based on official company accounts. It is not possible to cross-check the accuracy of the numbers for other private providers. Given the above two sets of estimates, the following breakdown of private expenditures was used as a compromise in the actual accounts:

GRZ	=	5 %
Missions	=	2 %
Mines/industrial	=	7 %
Traditional	=	20 %
For-profit formal private/pharmacies and other drug retailers (of which 10 % to clinics)	=	56 %
TOTAL	=	100 %

7. It was not possible to obtain an accurate estimates of expenditures by parastatals (other than ZCCM) and other ministries on their employees. Information available suggests that one parastatal alone spent approximately US\$ 0.8 million in 1993. It is conservatively assumed that total parastatal expenditures are approximately four times this figure, i.e., US\$ 3.2 million in 1993. It was then assumed that expenditures in 1993 are the same as in 1990. These expenditures were then arbitrarily allocated 70:20:10 between other parastatal facilities, pharmacies, and private clinics.
8. Little information was available on expenditures by private employers in the formal sector.

So a conservative estimate was made on the basis that private employers accounted for 30% of total employer expenditures (excluding ZCCM), which roughly corresponds to the private share of the formal sector. It is believed that private employers are probably spending more per employee than the parastatals. The expenditures were then allocated between providers as for the parastatals.

## Reliability of Estimates

The accounts were compiled using all information available. Many of the numbers were estimated on the basis of very little data. In most cases they were estimated conservatively, that is the lower of a possible range of figures was taken. To give an assessment of what impact this conservative approach might have had, a sensitivity analysis was carried out. The ranges in possible values for some of the more important quantities are given below.

Total National Health Expenditures (NHE) in nominal kwacha	=	3,700 - 4,200 millions
Total National Health Expenditures (NHE) as % of GDP	=	3.0 - 3.4 %
Total Public Expenditures by all GRZ entities in nominal kwacha	=	2,500 - 2,750 millions
Total Public Expenditures by all GRZ entities as % of GDP	=	2.0 - 2.2 %
Total Public Expenditures by all GRZ entities as % of NHE	=	66 - 76 %
Total Expenditures by MOH (excluding foreign aid) in kwacha	=	1,500 - 1,847 millions
Total Expenditures by MOH as % of GDP	=	1.2 - 1.5 %
Total Expenditures by MOH as % of NHE	=	36 - 49 %
Total Private Expenditures in nominal kwacha	=	670 - 1,000 millions
Total Private Expenditures as % of GDP	=	0.5 - 0.8 %
Total Private Expenditures as % of NHE	=	19 - 27 %
Total Household Expenditures in nominal kwacha	=	650 - 950 millions
Total Household Expenditures as % of GDP	=	0.5 - 0.8 %
Total Household Expenditures as % of NHE	=	18 - 25 %
Total Expenditures in missions in nominal kwacha	=	200 - 300 millions
Total Expenditures in missions as % of GDP	=	0.2 - 0.3 %
Total Expenditures in missions as % of NHE	=	5 - 9 %



**Table A.1****National Health Accounts, Zambia 1990 (millions nominal kwacha)**

	SOURCES								Totals
	GRZ				Private		Foreign		
	MOH	LGAs	ZCCM	Other Parastatals	Private Companies	Households	Official Donors	Foreign NGOs	
<b>USES</b>									
MOH	1,503	0	0	0	0	120	153	0	1,776
Local Governments	1	5	0	0	0	0	0	0	6
ZCCM	0	0	900	0	0	54	5	0	959
Other Employer Services	0	0	0	65	20	0	0	0	85
Missions	99	0	0	0	0	16	15	71	201
Other NGOs	71	0	0	0	0	0	0	0	71
Private Clinics/ Hospitals	0	0	0	9	3	80	0	0	92
Drug Retailers	0	0	0	18	5	370	0	0	393
Traditional Healers	0	0	0	0	0	160	0	0	160
<b>TOTALS</b>	<b>1,674</b>	<b>5</b>	<b>900</b>	<b>92</b>	<b>28</b>	<b>800</b>	<b>173</b>	<b>71</b>	<b>3,743</b>

Note: All numbers given are estimates of varying reliability. Numbers given in bold are considered reasonably accurate. Amounts are italicized if no information was available, but are considered to be minimal.

Total expenditures are estimated as K3,742 million, which was equivalent to K480 per capita and 3.0% of GDP.

**Table A.2****National Health Accounts, Zambia 1990 (as percentage of total health expenditures)**

	SOURCES								Totals
	GRZ				Private		Foreign		
	MOH	LGAs	ZCCM	Other Parastatals	Private Companies	Households	Official Donors	Foreign NGOs	
<b>USES</b>									
MOH	40					3	4		47
Local Governments									
ZCCM			24			1			26
Other Employer Services				2	1				2
Missions	3							2	5
Other NGOs	2								2
Private Clinics/ Hospitals						2			2
Drug Retailers						10			11
Traditional Healers						4			4
<b>TOTALS</b>	<b>45</b>		<b>24</b>	<b>2</b>	<b>1</b>	<b>21</b>	<b>5</b>	<b>2</b>	<b>100%</b>

Note: Only quantities greater than 0.5% are given.

Table A.3

## Ministry of Health Expenditures, 1964-1994

Year	Total Expenditures (millions of current Kwacha)	Proportion of Central Government Expenditure (%)	Proportion of GDP (%)	Expenditures Per Capita (constant 1990 Kwacha)
1964	6.6	5.9		
1965	9.8	5.3		
1966	11.0	4.4		
1967	15.5	4.4		
1968	19.6	4.8		
1969	21.3	5.8		
1970	27.2	6.6		
1971	29.6	6.5	2.2	450
1972	31.7	7.0	2.0	456
1973	31.4	6.6	1.7	370
1974	35.2	6.9	1.6	362
1975	41.5	5.5	2.3	482
1976	48.7	7.0	2.2	477
1977	57.3	8.0	2.5	503
1978	52.5	6.4	2.0	398
1979	56.6	5.9	1.8	339
1980	68.7	4.2	1.9	359
1981	76.3	5.9	2.0	372
1982	105.4	7.4	2.5	448
1983	108.3	7.2	2.0	362
1984	121.2	8.0	1.9	338
1985	146.1	6.7	1.6	262
1986	223.5	4.2	1.3	211
1987	352.0	6.0	1.6	269
1988	648.1	7.8	2.1	340
1989	860.5	8.9	1.5	231
1990	1,267.3	4.3	1.0	162
1991	3,612.3	7.2	1.5	
1992	6,672.0	4.2		
1993	20,060.0	6.6		
1994	56,510.0	8.2		

Source: Various including MOH Annual Reports, GRZ Annual Expenditure Estimates, UNDP (1977). National income accounts data and price indexes derived from CSO (various years) and World Bank (1993i).

Note: Figures in constant kwacha and the percentage of GDP for some years not given owing to unavailability of reliable price indices and national income accounts data.

## Annex B: Findings of the Private Provider Survey

As part of this assessment, a field study was carried out (Mwanza et al., 1994). A questionnaire was designed by Mwanza and associates and administered to a small sample of private providers. The response rate was very low in spite of the best efforts of the interviewers. Only one mission facility and one ZCCM facility responded. 41 surgeries and private facilities responded. Because of the very low response rate, generalizable conclusions cannot be made from the findings. Be that as it may, some of the findings may point to generally prevailing views among non-governmental health care providers.

The private providers were asked what they saw as their major contributions to the public health agenda (Table B.1). In terms of preventive services, 22% of those who responded claimed to provide health education, while 71% listed medical examinations as their major contribution to the public health agenda.<sup>30</sup> On the question of outreach programs, 43% of the respondents said they made home visits but only 20% participated in community education. An even smaller percentage of respondents, 18% engaged in the provision of environmental inspection services. Other contributions listed include easing decongestion in GRZ facilities (13%), timely care of patients (42%) and health education (4%).

**Table B.1**

**Contribution of Private Providers to the Public Health Agenda**

<i>Activity</i>	<i>Proportion of Respondents (%)</i>
<i>Preventive Services</i>	
Health Education	29.1
Medical Examinations	70.9
<i>Outreach Programs</i>	
Home Visits	43.6
Hospital Visits	38.2
Community Health Education	20.0
Environmental Education	18.2

Source: Mwanza et al. (1994)

30/ It is not clear if these were routine medical examinations.

This evidence, as incomplete as it is, shows that most of the nongovernmental providers surveyed do not actively engage in the provision two important public health goods: environmental inspection and health education. The latter is one that the GRZ may wish to address in light of the threat from HIV/AIDS.

## Constraints

Certain factors may constrain the ability of private providers to contribute to the overall volume of health services and to the public health agenda in particular. These constraints can be broadly grouped as follows: institutional and policy constraints, credit constraints and infrastructural and manpower constraints. Providers in the survey were asked which of the major constraints impeded their public health activities. Of those responding, 97% indicated that lack of access to information from the Ministry of Health was the constraint. On the question of their working relationship with the Ministry of Health, 21% believed the Ministry was generally uncooperative and 57% listed other reasons as obstructing access to MOH information. Only 2% of those surveyed acknowledged receiving vaccines from the Ministry of Health in the last year.

Among the second group of constraints, although 34% of respondents identified the high cost of acquiring or repairing medical equipment as a major constraint, only 5% indicated that raising initial capital was a constraint and only 3% thought that lack of trained and skilled personnel was a problem. These are interesting results worth exploring in further research. The skills issue can in part be explained by the fact that most of the responding institutions are sole proprietorships, requiring only the doctor-owner and perhaps a nurse. The fact that most of them did not see credit as a constraint illustrates once again the importance of self-finance in Africa, a result not at variance with the findings of research on finance and credit in Africa. The problem with self-finance is that it limits the scale of operations of the institution.

Other constraints identified in the survey include taxes. 39% of respondents would like the government to grant some tax relief to private providers. Another 18% would like to be granted access to GRZ facilities and equipment.

## Incentives

A majority of respondents (82%) would like the GRZ to subsidize their public health activities. In terms of specific incentives, 40% will like to see direct GRZ funding, 9% want ambulances and another 9% wanted vaccines. Only 10% wanted the GRZ to second staff to them and 7% would like to see the government provide scholarships for training of staff.

## Annex C: Analysis of Clinic Records at Medical Council of Zambia

It is very difficult to assess what happened to the private clinic sector over time, since there are no reliable data on numbers of private clinics before 1982. Although in theory, all private clinics were supposed to register after 1977, it took several years for MCZ to implement procedures for registration and then enforce them. Even then, many clinics continued to operate illegally, and it was only from 1992 that effective measures were taken to ensure that all clinics registered. This involved setting up of regional teams of inspectors who would visit clinics at random, and were empowered to close down and levy stiff fines on those who found to be operating without a license. Inspections in 1993 revealed 10 unregistered clinics, all of which were closed down. Most of these have subsequently reopened having registered. The Medical Council believes that more than 97% of all clinics in Zambia are now registered with it.

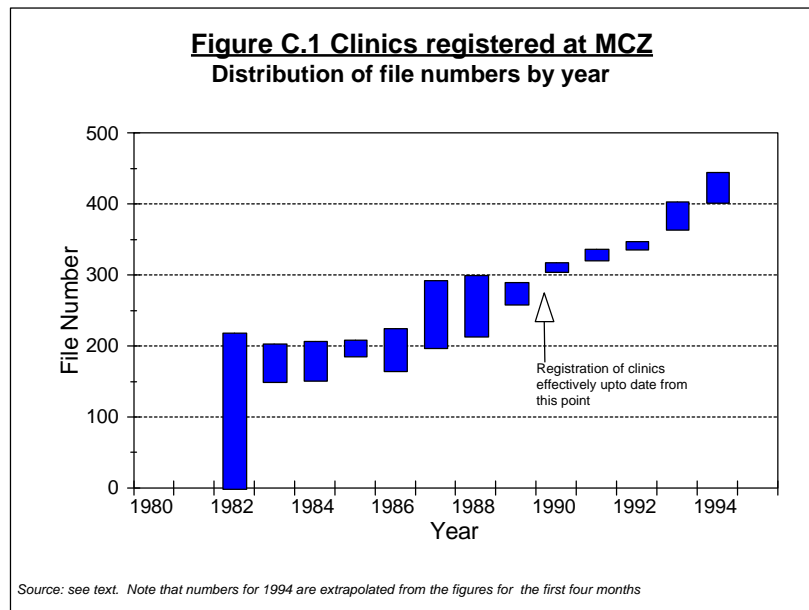
While no data were available for previous years, examination of the record system at the Medical Council revealed that all clinics ever-registered after 1982 were issued a permanent and unique file number. In general, file numbers were issued sequentially as new files were opened. Years of initial registration frequently do not correspond to the year of establishment, because (i) most of the clinics first registered in 1982 were pre-existing, (ii) until 1992 many clinics were able to operate for several years without ever registering, and (iii) not all new file numbers were issued sequentially. Files were apparently discarded when clinics closed down, and it is also possible that a few inactive file numbers were issued to new applicants. Nevertheless, it was possible to derive some useful information by rapid assessment of the records, as well as of a newly prepared list of currently operating clinics.

It was not possible, because of time constraints, to examine all the records. However, a random sample was taken of the files of existing clinics. Clinics which no longer exist are no longer filed. The correspondence, documents and receipts in the sampled files were reviewed to determine the earliest of the date of establishment, the date of registration, the dates of inspections and the dates of receipts, whichever were available. These were then noted together with the file number. The distribution of file numbers against the years recorded are shown in Figure C.1. As can be seen, a large number of clinics date from 1982, as would be expected. After that, a gradual increase in the number of clinics registered can be inferred during the period 1984-1994, with an acceleration starting around 1988. This may be an

underestimation of the increase in the trend rate, as the proportion of new registrations which relate to established, but illegally operating, clinics fell during the late 1980s as most of them were uncovered.

During 1983-1993 approximately 250 new file numbers were issued, suggesting that the average annual rate of clinic openings was somewhat less than 24 over this period. Comparison with the list of file numbers of currently operating clinics (as of April 1, 1994) suggests that many clinics no longer exist. The majority of clinics first registered in 1982 no longer exist, while on the other hand most of the clinics dating from around 1989-1994 do still exist.

As of April 20, 1994 a total of 12 new applications for registration had been received. According to the Registrar for clinics all of these were for clinics run by private practitioners, and none for industrial or company clinics. All were being opened by doctors who were leaving GRZ service, and of these 7 were Zambian nationals and 5 were Indian nationals who were permanently residing in Zambia. The Registrar, who had visited all the clinics concerned, stated that in each case the primary reason for leaving GRZ service was a realization that the doctors could earn much higher incomes in full-time private practice. All 12 had also been previously working as part-time doctors in other private clinics, which suggests that this part-time practice was important in making them consider the private sector.



## Annex D: Medical Council of Zambia Requirements for Licensing Medical Clinics

25th March 1994

TO: ALL CONSULTING ROOM OR SURGERY OWNERS

Dear Sir/Madam,

### INSPECTION OF PRIVATE SURGERIES GUIDELINES

The Medical Council of Zambia has available for your use a summarized guidelines considered necessary for all private surgeries.

It is important as surgery owners to know what the inspectors look for when they come to inspect your premises.

The first impression of the consulting room inspectors get is general appearance of the premises in terms of cleanliness. For a complete inspection, each requirement is inspected as follows:

1. RECEPTION: With emphasis on proper record keeping, register and filing space.
2. WAITING ROOM: With adequate sitting facilities.
3. CONSULTING ROOM: The following should be made available:
  - desk with two chairs, one for the medical practitioner
  - Examination couch and a foot stool
  - adequate lighting
  - handwash basin with soap, towel and running water
  - adequate privacy
  - disinfectants
4. TOILETS: At least two toilets, one for the staff patients and one for the staff.
5. TREATMENT ROOM:

- a. Resuscitation tray with the following minimum requirements:
    - 2 ampules adrenaline
    - 2 ampules hydrocortisone
    - 2 ampules anti-histamine eg piriten and phenegan
    - adequate syringes and needles
    - 2 ampules aminephylline
  - b. a full oxygen cylinder with working gauge
  - c. I.V. fluids, cannulars and giving sets
  - d. Seiled dressing and syringe disposal containers with a lid
6. EQUIPMENT:
- working sterilizer
  - diagnostic set
  - B/P machine
  - thermometers
  - stethoscope
  - suction machine
  - weighing scales for children and adults
7. DRUG CUPBOARDS:
- proper drug cupboards for storage of drugs
  - suitable storage cupboards for poisens and dangerous drugs
  - check for expiration dates of drugs
8. STAFF:
- each surgery should have a medical doctor on full-time operating from the surgery
  - the medical staff available should be registered with the Medical Council and General Nursing Council and should have their latest practising licenses

Meanwhile, the Medical Council is preparing 1994 inspection programme and the same will be communicated to you as soon as it is ready.



Yours faithfully,

MEDICAL COUNCIL OF ZAMBIA

I. Mwanza  
INSPECTOR  
FOR/ REGISTRAR

## Annex E: Improving the Rural Distribution of MOH Doctors

The numbers of health personnel in Zambia are low. This is a major constraint to the expansion of both public and private health care provision. Compounding this is the maldistribution of available personnel, which is skewed in favor of the more developed LOR provinces (80% of all doctors), and in favor of urban centers within provinces. This underlies the great disparity in access to modern health care between urban and rural residents and between individual provinces. To some extent this is understandable, given that health personnel are attracted to the economically developed areas in all countries. Various factors, common to all countries, contribute to these imbalances. These include differences in income, superior lifestyles, the desire to work in better-equipped hospitals and the availability of better opportunities for education of children (Abeykoon, 1990).

Nevertheless, there are reasons to be particularly concerned about the situation in Zambia. Firstly, most Zambian-qualified doctors were trained at public expense. The primary purpose of such subsidies was to provide personnel to the public sector to allow it to deliver health services to the whole Zambian population. Failure to widely distribute such doctors presumably represents a failure in such subsidy policies. Secondly, while rural-urban imbalances are common to all countries, efforts in Zambia to counteract such disparities have been particularly ineffectual. It is therefore useful to review the experience of some other South-East Asian countries.

Indonesia, Sri Lanka and Thailand all have publicly-financed medical education systems and large rural populations (>70%), and have experienced considerable problems of moving doctors to rural areas.<sup>31</sup> However, they have developed similar policies. These consist of a mix of both administrative coercion — requirements for mandatory rural service — and incentives and rewards. Experience has shown that compulsory rural service requirements are ineffective by themselves. They must be complemented with incentives such as housing, higher salaries and most importantly permission for doctors in rural areas to engage in private practice.

In Indonesia, regulations were introduced in the 1970s requiring all medical graduates (from government and private medical schools) to serve two to five years in a rural health center (Abeykoon, 1990 and Sedyaningsih, 1994). It is two years for those who serve in the most inaccessible areas in Irian Jaya and Kalimantan, and

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31/ Total numbers of doctors per 100,000 population in 1985 were Indonesia - 12.4, Sri Lanka - 13.5, and Thailand - 14.8 (Abeykoon, 1990). This compares with a level of 10.0 to 12.5 per 100,000 in Zambia during the 1980's (see Table 4.1).

five years for those who work in relatively comfortable Java. This administrative coercion was accompanied by several incentives. Selections into specialist training programs in teaching hospitals are from those who have completed the rural service. Such doctors also get priority for overseas training. Junior doctors in rural areas are allowed to engage in private practice. Private practice requires a license from the local government, but this is automatically issued on provision of proof that the doctor is actually working in her assigned post. The license is only valid for that area. Local governments also provide housing and other material benefits. This system has been successful in improving the geographical balance of medical personnel. By the mid-1980s, virtually all health centers were manned by doctors, and some were no longer willing to move from their rural postings on completion of the mandatory rural service. Government salaries are not attractive, but doctors are able to enjoy a comfortable life with their private sector earnings and other benefits. Under recent changes, the rural service requirements have been standardized at three years in all areas, but salaries for working in remote areas have been increased — up to four times the normal salary.

Sri Lanka introduced a five year compulsory service requirement for all new medical graduates in the early 1970s. At the same time private practice was banned. This policy was a failure, as doctors either broke the rules or found ways to bypass them. In 1977 a new government did away with the five year requirement and legalized private practice for all doctors. The distribution of doctors to rural areas improved almost immediately as younger doctors realized the higher earning opportunities available in rural areas through private practice. New graduates are now only required to complete their two-year internships in rural posts in order to receive full medical registration, and rural posts are paid double the normal salary.

In Thailand, three years of rural service is compulsory for new medical graduates. Doctors can only avoid this by paying 400,000 baht (US \$16,000).<sup>32</sup> Junior doctors are allowed to practice privately after regular work hours, and most rural doctors run private clinics. Priority in access to specialist training is given to those who have completed rural service. Specialist training is free for those who commit to working for the government for three times the number of years spent in training. While it is possible to pay for one's own specialist training, such places are restricted since the public system is short of specialists (Padungtod, 1994).

In all three countries, junior doctors doing their rural service requirements are allowed to run their own health facilities, when senior staff are not available. In fact, in Indonesia this is considered normal from the first year. The risks and disadvantages of allowing very junior doctors to practice unsupervised are considered insufficient to outweigh the benefits from making medical services more widely available to the rural populations.

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32/ Policy makers are currently discussing raising this amount to over one million baht to act as a greater disincentive. It is also argued that the cost of such avoidance is more than the direct cost of training the doctor, and should include the opportunity cost to the government of the place in medical school which could have gone to someone who would have worked in the public system.

This experience and the practical problems that Zambia now faces with decentralization suggests that the MOH in Lusaka should consider the following measures: (i) compulsory and enforced rural service requirements for all new medical graduates, regardless of sponsor, (ii) allowing private practice especially for rural staff, (iii) higher salaries for doctors working in rural posts, and (iv) provision of adequate housing for all rural posts.

Details of a possible policy to put this into effect are proposed below:

1. A two step process of medical registration should be introduced. All new medical graduates would be placed on the provisional medical register as now. The provisional medical register would be structured in the form of two lists: A and B. All new graduates initially would be placed on List A.
  2. Transfer from List A to List B would be dependent on serving a one year supervised internship in a designated central institution. The list of designated institutions would be similar to that used currently, and include ZCCM hospitals. A maximum of two years would be allowed for transfer from List A to List B.
  3. Transfer from list B to the full register would require two to three years service in designated rural posts. No exceptions would be allowed. Doctors on List B would not be allowed to practice in any capacity unless employed full-time by MOH. Doctors on List B would be allowed to work unsupervised at their designated post, and would be permitted to engage in unsupervised private practice outside normal work hours.
  4. A list of designated rural posts for List B would be drawn up in consultation with the DHMTs. Since the current output from UNZA is very low, it would only be practical to designate posts in rural district hospitals. However, in the future if output is increased it may be possible to include rural health centers. The posts should be restricted in number to the size of the expected cohort of medical graduates. The distribution should be biased in favor of understaffed districts, in particular those which have historically had difficulty recruiting staff.  
  
Two years service would be required for the most unpopular or difficult postings, and three years for the others.
  5. A system of salary incentives should be introduced for those who work in rural postings. These should range between one to three times the basic salary, and be based on the undesirability of the posting and the potential for private practice. If salary budgets are devolved to districts, then the allocation formula should be changed to take allowance of this.
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6. MOH should commit itself to providing adequate accommodation for all doctors working in rural posts. Since resources are limited, assistance from international donors should be sought for the necessary construction.

Such a policy would have two benefits: (i) improve the distribution of publicly delivered health services, and (ii) improve the distribution of private provision into rural and more peripheral areas. Since part of the reason for Zambia's poor health indicators is lack of access to modern health services in the poorer districts, this would do much to improve the country's overall health indicators. However, the policy may meet resistance from the medical profession and from central urban hospitals. Questions may be raised about the safety of unsupervised junior doctors, and the lack of suitable training in rural postings. However, policy makers should take note of the fact that such policies do work elsewhere without deleterious effects, and that they have contributed to the superior health performances of these other countries. If the quality of medical training in Zambia is at international levels, then there should be no difficulty to prepare Zambian graduates to undertake similar responsibilities to those of junior doctors in Indonesia, Sri Lanka and Thailand. Resistance is also likely to be reduced if MOH is able to guarantee adequate accommodation for rural staff as well as higher salaries.