

**ENABLING AND REGULATING PRIVATE SECTOR PROVISION OF
MALARIA SERVICES IN THREE DISTRICTS OF WESTERN CAMEROON**

by

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To the memory of my father

ABSTRACT

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This study aims to examine the existing enabling and regulatory interventions in Cameroon, and to explore their impact on the performance of private providers of malaria services. It makes recommendations to decision-makers on the best strategies for influencing the performance of private providers of public health services in low income countries. The study's framework involves the Ministry of Health as a principal who authorises the private sector as an agent to provide malaria services to populations, in exchange for mutually agreed rewards and in the context of specified rules. Data were collected using both qualitative and quantitative research methods.

This study found that the private sector provides a substantial portion of malaria services in Cameroon. There is evidence that enabling and regulatory interventions can enhance the private sector's quantity and quality of inputs which are used for expanding coverage, improving quality of care and affordability of malaria services. These interventions can approximate the objectives of multiple stakeholders including the Ministry of Health, Medical Council, managers, clinical staff and patients, thereby addressing the principal-agent problems in the health sector. Areas of private sector activity that are particularly difficult, but critical to influence are those of over-charging, unnecessary self-referral and issues of informal providers.

Enabling interventions neither compete with nor negate traditional regulations in the health sector but seek to complement regulatory mechanisms by adding value from the perspective of influencing private sector providers' behaviour. Government needs to invest in its ability - improving capacities and governance, providing resources and logistics - to oversee the ongoing development, implementation, monitoring and revision of enabling and regulatory interventions for the private health sector. The performance of private providers appears to be more positively influenced by enabling interventions than by regulatory mechanisms. In the absence of enabling interventions it may be inappropriate to try to influence the performance of private providers through regulatory mechanisms alone. While the resources needed for enforcement of regulations are limited, enabling and regulatory interventions can be integrated in such a way that it is in the interests of the private sector to comply with regulation of health service delivery. This can reduce the level of resources needed for effective enforcement of regulation amongst private providers. This study concludes that the integration of enabling and regulatory interventions appear to be a strategic policy option for influencing the performance of private providers of malaria services in low income countries.

DECLARATION

I hereby declare that this thesis is my own unaided work, both in concept and execution, and that apart from the normal guidance from my supervisors, I have received no assistance. Neither the substance nor any part of this thesis has been submitted in the past, or is being, or is to be submitted for degree in the University or at any other university.

The thesis has been presented by me for examination for the degree of Doctor of Philosophy.

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AF	Agreement Framework
AIDS	Acquired Immunodeficiency Syndrome
ALOS	Average Length Of Stay
ALUCAM	Aluminium du Cameroun
ANAES	Agence Nationale d'Accréditation en Santé
APOC	African Programme for Onchocerciasis Control
ARV	AntiRetroViral
CAPP	Centre d'Approvisionnement Provincial
CCR	Clinic Christ-Roi
CENAME	Centrale Nationale d'Approvisionnement en Médicaments Essentiels
CFA	Communauté Financière Africaine
CON	Certificate-Of-Need
CIG	Common Initiative Group
CSC	Carte Sanitaire du Cameroun
EU	European Union
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GNP	Gross National Product
GP	General Practitioner
HF	Health Facility
HIPC	High Indebted Poor Countries
HIV	Human Immunodeficiency Virus
HMC	Health Map of Cameroon
HSSP	Health Sector Strategic Plan
IEC	Information – Education - Communication
IMCI	Integrated Management of Child Illness
ITN	Insecticide-Treated Net
KPH	King Palace Hospital
LCA	Letter of Collaborative Agreement
LMIC	Low and Middle Income Country
MDGs	Millennium Development Goals
MINCOF	Ministère de la Condition Féminine (Ministère de la Promotion de la Femme et de la Famille – MINPROFF)
MINEFI	Ministère de l'Economie et de Finances
MINPAT	Ministère du Plan et de l'Aménagement du Territoire
MIS	Management Information System
MoPH	Ministry of Public Health
MPDE	Malaria Patient Day Equivalent
MSP	Ministère de la Santé Publique
NCEDS	National Centre for Essential Drug Supplying

C'tnued LIST OF ABBREVIATIONS

NGO	Non Governmental Organisation
NHS	National Health Services
NMCP	National Malaria Control Programme
NPM	New Public Management
NQCVL	National Quality Control and Valuation Laboratory
NRBMC	National Roll Back Malaria Committee
NTTFM	National Technical Task Force on Malaria
NUDIST	Non-numerical Unstructured Data Indexing Searching and Theorising
OECD	Organisation for Economic Co-operation and Development
OMS	Organisation Mondiale de la Santé
PCEDS	Provincial Centre for Essential Drugs Supplying
PDE	Patient Day Equivalent
P. f.	Plasmodium falciparum
PHC	Primary Health care
PPMNet	Public-Private Mix Collaborative Research Network
RBM	Roll Back Malaria
SA	Special Agreement
TB	Tuberculosis
UK	United Kingdom
UN	United Nations
UNICEF	United Nation Children Fund
UNDP	United Nation Development Programme
US	United States (of America)
USAID	United States Agency for International Development
WHO	World Health Organization
WDR	World Development Report

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EXECUTIVE SUMMARY

In many malaria endemic countries, the regulation of private sector providers has been largely ineffective. There has recently been growing debate about enabling and regulating the private health sector to behave in a way that serves the public interest. In practice, however, there is little empirical evidence about the use of enabling interventions to encourage rather than require appropriate behaviour amongst private providers of health services. In addition, there is a dire lack of detailed evaluation of whether or not existing enabling and regulatory interventions are appropriate for influencing the performance of private sector provision of priority public health services. This study attempts to help guide policy by addressing some of these data and evaluation deficiencies in the light of private sector provision of malaria services in a sample of three districts in Cameroon.

The study aims to explore the performance of formal public and private providers and to consider whether or not the existing enabling and regulatory interventions are appropriate for influencing the private sectors' performance in terms of coverage, quality of care, prices charged and costs to patients, and user's satisfaction. It then recommends interventions for decision-makers to enhance the role of the private sector in malaria control activities.

This study has used both qualitative and quantitative research methods for data collection that took place at two levels. At the macro (primarily national) level, the study relied extensively on qualitative data, available from document reviews and in-depth interviews

with 105 stakeholders from different organisations. At the micro (facility and community) level, inventory checklists and structured interviews were used to collect qualitative and quantitative data from a sample of 45 public and private (both for-profit and nonprofit) health facilities and their managers, 82 staff members, and 99 microscopically confirmed malaria patients. In addition, focus group discussions were held with 180 community members in the three districts.

The study found that there was a substantial public-private mix in the provision of malaria services across districts. The utilisation statistics indicated that while the majority of uncomplicated malaria cases were treated at public sector facilities, the highest proportion of severe malaria patients were admitted to nonprofit facilities. The performance of for-profit facilities in relation to severe malaria was similar to that of public sector facilities. In terms of structural aspects of malaria services, the performance was not in overall terms superior in a particular type of health facility. However, the private for-profit facilities were better equipped with microscopes and other laboratory equipment than the public sector and private nonprofit facilities. The private nonprofit facilities were better stocked with recommended antimalarial drugs than the public sector and private for-profit facilities.

The process aspects of malaria services indicated that while private for-profit facilities employed more experienced staff, knowledge of the full range of clinical symptoms was superior in the public sector and private nonprofit facilities. This translates into a relative reliance by for-profit staff on microscopic diagnosis while public sector staff

predominantly used clinical diagnosis alone and the nonprofit staff often combined both. The prescribing behaviours of private providers were partly influenced by antimalarial drug resistance, patient's demand and profit motives. In addition, the relatively strong influence of medical technology and pharmaceutical companies often led to disagreement amongst health professionals over the appropriateness of standards recommended by the national malaria control programme.

Performance in terms of costs and prices of malaria services indicate that while the public sector facilities were the most financially accessible to patients across districts, the private for-profit facilities were more expensive than the private nonprofit sector ones. However, the community's satisfaction with and patients' acceptance of a health service are likely to be more a function of quality of care than only the prices charged to patients at health facilities. While rural patients perceived the quality of care to be superior at private nonprofit facilities, the majority of urban patients appreciate the quality of care at private for-profit facilities.

In Cameroon, existing enabling and regulatory interventions include several aspects of liberalisation policies, information provision, financial and non-financial incentives and a legislative framework for controlling the quantity, quality and prices of health services. Private sector providers of public health related services were eligible for a wide range of enabling interventions as well as being subject to certain regulations.

The performance in malaria service delivery suggests two trends in terms of desirable and undesirable private sector provider behaviours. First, desirable behaviours appeared to suggest that enabling and regulatory interventions could be a strategic policy tool for influencing the performance of private sector providers in terms of expanding coverage and access, strengthening quality of care, and lowering costs and prices of malaria services. Second, some undesirable behaviours still exist in private health sector settings thereby suggesting that parts of enabling and regulatory interventions should be better shaped for addressing market, voluntary and government failures.

It is suggested that enabling and regulatory interventions can be adequately designed, prepared, implemented, and monitored, in such a way that can broadly enhance the private sector's service delivery capacity which encompasses the quantity and quality of buildings, infrastructure, equipment, supplies, drugs, trained clinical staff, financial and other resources. The availability of these inputs can improve to some degree the structural and process quality of care as well as the affordability of malaria services in the private health sector. Data also suggest that while bank loans and health insurance benefited private for-profit health facilities more, most aspects of enabling interventions including tax-breaks, preferential customs tariffs, subsidies of generic drugs and clinical services, training support, and secondment of staff were more targeted to private nonprofit health facilities. Although the performance of private nonprofit providers can be related to both the contract failure and nondistribution constraint hypotheses, the relative ease (or lack thereof) of obtaining non-financial and financial incentives appeared to influence coverage and utilisation statistics, which partially can also explain the relatively better

performance of private nonprofit over for-profit health facilities. Access to tax-breaks, custom's duty free status and other financial incentives appears to ease the acquisition of microscopes that are generally imported from abroad. This coupled with the availability of trained technicians may contribute to definitive microscopic diagnosis being more available and rapid in private settings, and private for-profit facilities registered a lower number of over-diagnoses of malaria cases than private nonprofit facilities. In addition, access to financial incentives is suggested to be one of the important determinants of low costs and prices charged to malaria patients across private health facilities. Community satisfaction and patient acceptance of specific services are likely to be more a function of quality of care rather than only the prices charged to patients at health facilities.

The performance of the private sector can be more adequately influenced by enabling interventions than by specific regulatory mechanisms, although integration of enabling and regulatory interventions appears to be a potentially more appropriate strategy. By implementing enabling and regulatory interventions simultaneously, the substantial strengths of incentives can considerably compensate for the key weaknesses of regulatory control mechanisms. Given the weak capacity of the Ministry of Public Health (MoPH) to enforce regulations, in the absence of enabling interventions it may be unrealistic to try to influence the performance of private sector providers of health services through regulatory mechanisms alone. It is suggested that while enabling and regulatory interventions to influence private providers' behaviours can help to reduce the service burden placed on government, they may be inappropriate where government lacks the capacity (e.g. resources) to oversee incentive measures supported by regulatory controls.

In the short term, the resources needed for enforcement of regulations cannot be substantially strengthened, while enabling and regulatory interventions can be designed and implemented in such a way that it can be in the interests of the private sector to comply with regulations and to provide efficient, quality, equitable and affordable health services to populations. This is likely to considerably reduce the level of capacity or resources (skills, finance, equipment, logistics) and information needed for effective enforcement of regulation amongst private sector providers of health services in Cameroon. This also highlights the potential synergies between enabling and regulatory interventions. Enabling interventions neither compete with nor negate traditional regulations in the health sector but seek to complement regulatory mechanisms by adding value from the perspective of influencing private sector providers' behaviour. Although enabling and regulatory interventions in Cameroon are somewhat aligned at the moment, this could be strengthened by further restricting access to enabling incentives not only to formal compliance with regulatory interventions (such as being officially registered) but also by assessing actual performance in relation to coverage, price levels, and quality of care. Thus, enabling and regulatory interventions are suggested to approximate the objectives of multiple stakeholders (e.g. Ministry of Public Health, Medical Council, consumer's protection organisations, patients, management of private health facilities and clinical staff) thereby contributing to addressing the principal-agent problems in the health sector at low transaction costs for government.

The study also suggests that existing enabling and regulatory interventions are not adequately addressing the problems of enabling and regulatory capture; fraudulent

overcharging amongst providers resulting from rent-seeking behaviours; unnecessary self-referral resulting from dual practice of public sector staff; and lack of integration of unlicensed and informal private providers with other components of the health system. It is suggested that attempts by the Ministry of Public Health (MoPH) to enforce regulations encounter resistance from owners, politicians, and other socially and administratively interested parties. In addition, it is also suggested that many MoPH officials in charge of decision-making and the implementation of health policies have some implicit private interests to defend, but such private interests commonly conflict with the explicit official interests that the MoPH is supposed to pursue in order to achieve the public health goals of the country. Another problem is that most so-called local Non Governmental Organisation or Common Initiative Group (CIG) based-health facilities were simply unlicensed private associative health facilities.

Opportunistic rent-seeking behaviours where private providers manipulate the quantity of care as well as prices to increase their profits or surpluses are very problematic for efficiency in the health sector. Dual practice by public sector employees, particularly when clinical staff use their advantages and status to self-refer patients for their private interests, may have a significant negative impact on the performance of either the private sector or the public sector thereby limiting the achievement of national public goals. Private informal providers, particularly retail drug distributors, are still largely unregulated. Consequently, a substantial quantity of unregistered as well as counterfeit drugs can be dispensed to patients thereby increasing the development of drug resistance and wastage of limited resources. These findings suggest that it is important for the

success of enabling and regulatory interventions to develop strategies to influence private sector providers in these critical areas of concerns.

In general, government would need to invest in its ability - improving capacities and governance, providing resources and logistics – to oversee the ongoing preparation, implementation, monitoring and refinement of enabling and regulatory interventions for the private health sector. This investment in the ability of enabling and regulatory authorities, particularly the MoPH, would be an important first step for the feasibility of subsequent specific recommendations which can lead to more appropriate enabling and regulatory interventions for influencing the private health sector's performance.

The MoPH should continue its efforts to improve the design and implementation of liberalisation policies, non-financial and financial incentives and regulatory mechanisms which appear to be appropriate for influencing the performance of private providers of malaria services. It is suggested that the MoPH can base any enabling and regulatory interventions, offered to encourage and require appropriate behaviour amongst private providers, on a solid assessment of the likely influence on coverage and accessibility, structural and process quality of care, and costs and prices of malaria services. In designing and implementing policies, the MoPH should also be clear about what combination of enabling and regulatory interventions are most appropriate for influencing the performance and opportunistic rent-seeking behaviours of private providers.

The MoPH needs to address the critical issue of supplier-induced demand and overcharging by improving the financial environment facing private sector, particularly for-profit, health facilities. While policies for providing financial incentives should emphasise the prospects of adequate rewards, they should also highlight the punishments in case of misbehaviours. The ease of obtaining direct government subsidies and other public financing of operating costs, preferential bank loans with low interest rate, and level and types of taxation should be targeted equitably toward both private for-profit and nonprofit health facilities.

The MoPH may need to introduce and co-ordinate financial incentives to discourage private practice amongst public sector staff. These financial incentives may include a ‘non-private practice’ allowance and an ‘extra-payment’ based on the number of patients consulted in the public sector.

The MoPH should assess the feasibility and potential benefits of using non-financial and financial incentives including training prospects, subsidies for antimalarial drugs, ITNs, insecticides and other incentive measures to integrate informal providers into the community-directed treatment strategy.

This study concludes by suggesting that the integration of enabling and regulatory interventions could contribute to establishing an appropriate health system environment where decision-makers can successfully improve private sector health service coverage, access, efficiency, equity, quality and user’s satisfaction with limited resources. Hence

enabling and regulatory interventions appear to be a strategic policy option for influencing the appropriate development and behaviour of private providers of priority public health services, particularly malaria, in low income countries.

Chapter 1: Introduction

1.1 Overview

In many malaria endemic countries, the appropriate roles of government and the private sector in the provision of health services remain a critical policy issue. In a context where the capacity of government to deliver services is weak, the private sector can potentially play a significant role for improving coverage, efficiency, equity and quality of health services. However, the performance of private sector provision of health services would depend on the enabling and regulatory environment within which they operate. Thus, it is becoming important to understand what government as a responsible steward of the whole health sector can feasibly do for enabling and regulating private sector provision. In this dissertation, this is explored in the context of achieving the Millennium Development Goals and rolling back malaria. The Millennium Development Goals (MDGs) reflect a global consensus to improve the development of poor countries by 2015. Three of the eight MDGs relate to health outcomes, including increasing maternal and child mortality and prevention and treatment of HIV/AIDS, malaria and other diseases. Estimated global resources needed to achieve the health MDGs for the years 2006 to 2015 are particularly high for scaling-up health interventions in developing countries (Johns et al. 2007; Nordström et al. 2007; Stenberg et al. 2007). Roll Back Malaria (RBM) is a global partnership that aims to halve the malaria burden by the year 2010. The remaining parts of this chapter present: key issues around the public-private mix (1.2); the international background on malaria (1.3); malaria burden and providers of health care in Cameroon (1.4); the rationale for the dissertation (1.5); the study aims and objectives (1.6); and the structure of the thesis (1.7).

1.2 Key issues around the public-private mix in the delivery of malaria services

In recent years, the policy trend in developing countries has been to reduce the size of the public sector and limit the range of health services provided, along with promoting the expansion of private delivery and financing of health services, ranging from those for public health priorities such as HIV/AIDS, tuberculosis, malaria and reproductive health to broader packages of essential services (Bennett et al. 1997; Brugha 2003; Bustreo et al. 2003; Eggleston et al. 2006; Floyd et al. 2006; Marek et al. 2005; Mills et al. 2002; Travis and Cassels 2006; World Bank 1993).

Indeed, there has been a more recent focus on the Ministry of Public Health's (MoPH¹) stewardship² role, that partly supports a limited role for the public sector, but it also highlights the need for protecting the public interest in health care delivery. The term stewardship has been described as a function of the MoPH which is responsible for providing vision and direction for the health system, collecting and using intelligence, and exerting influence – through enabling, regulation and other means (Travis et al. 2002; Saltman and Ferroussier-Davis 2000; WHO 2000a). Enabling and regulation, as key instruments of stewardship, would from this perspective efficiently steer overall health system activities.

This new role in the health sector requires the government (MoPH) to exercise leadership in 'enabling' the development of private sector delivery of malaria services. The term 'enabling' refers to the use of liberalisation policies and both financial and non-financial incentives to

¹ In Cameroon, the Ministry of Health is named 'Ministry of Public Health' (MoPH). In this study, the abbreviation 'MoPH' is used to mean Ministry of Public Health or Ministry of Health.

² Additional information on the concepts of "stewardship" and "capacity" can be found in Appendix L.

encourage (rather than require) appropriate behaviours amongst private sector providers of health services in order to improve the efficiency of the whole health sector's management capabilities (Harding and Preker 2003; Hicks and Adams 2000; Mills et al. 2001; Saltman and Busse 2002; Vitale 2004).

However, private sector behaviour does not make for effective provision of malaria services in an unregulated "free-for-all" health care market. In many African countries, there is evidence of inequity and market failures in the private sector delivery of health services that have public good and externalities characteristics. Regulation is required to ensure that the private sector delivery of health care is consistent with malaria control policy guidelines and contributes to achieving health policy goals. The term 'regulation' refers to efforts for controlling or deliberately and directly trying to influence price, quantity, quality, market structure or the behaviour of actors in the health sector (Ensor and Wienzierl 2006; Maynard 1982; Kumaranayake 1998; Saltman et al. 2002; Weinzierl 2005).

In many low income African countries, however, there has so far been little or no research carried out to explore how, and to what extent, the interaction between enabling and regulatory interventions, can influence the development and performance of private sector provision of public health related services such as malaria.

1.3 Background on malaria

Malaria is a major cause of morbidity and premature mortality that threatens approximately 42 percent of the world's population. Public health specialists estimate that clinical malaria episodes vary from 350 to 650 million annually (Snow et al. 2005; WHO 2005). About 60 percent of these clinical episodes and 90 percent of deaths from falciparum malaria occur in Sub-Saharan Africa and the vast majority of them are children under the age of five years (Bremner et al. 2001; WHO 2000c; WHO 2003a). Malaria is also a major cause of anaemia in children and pregnant women leading to adverse birth outcomes including: spontaneous abortions, stillbirth, premature delivery and low birth weight (Boivin et al. 2007; Carneiro et al. 2006; Guyatt and Snow 2001; Steketee et al. 2001; WHO 2003b).

Malaria morbidity and mortality rates are particularly high in Africa because of increasing parasite resistance to antimalarial drugs and resistance of the mosquito vector to insecticides (Carter and Mendis 2002; Korenromp et al. 2003; ter Kuile et al. 2004; Trape 2001). The development of antimalarial drug resistance has seriously hampered efforts of African malaria control programmes. The failure of the most affordable treatment of malaria-falciparum (chloroquine) is already widespread and the economic implications are enormous for endemic countries. In many parts of Africa, the choice of antimalarial drug has important budgetary implications and national malaria control programmes need to weigh up the costs and benefits in deciding whether to change to more effective but more expensive drugs (Phillips and Phillips-Howard 1996). The greatest challenge to malaria control must still be Africa, where the burden is not only medical but also social and economic.

Malaria undermines the health and welfare of households, endangering the survival of children less than five years, debilitating the economically active population and straining both countries' and people's scarce resources through excessive health care costs, low productivity levels and impaired economic growth (Chima et al. 2003; Mills 2005; Onwujekwe 2005; WHO 1993).

The loss of economic growth potential in malaria endemic African countries is estimated to be about US\$12 billion in lost productivity annually (Sachs 2001). It is estimated that a single bout of malaria costs the equivalent of over 10 working days' income in Africa. African countries with endemic malaria had income levels in 1995 of only 33 percent of that of countries without malaria. In addition, those malaria endemic countries grew 1.3 percent less per person per year, and a 10 percent reduction in malaria was associated with 0.3 percent higher growth (Gallup et al. 2001). Since the 1990s, the GDP per person in many Sub-Saharan African countries has declined, and malaria is an important factor underlying this poor economic performance. The total estimated costs to support the minimum level of malaria controls required to achieve the 2010 Abuja targets and the Millennium Development Goals for malaria by 2015 for 82 countries with the highest burden of malaria is around US\$3.2 billion per year including US\$1.9 billion for African countries and US\$1.2 for others (WHO 2005). These findings strongly suggest that malaria obstructs overall economic development in Africa.

Malaria remains one of the most preventable and curable tropical diseases. Its effective control depends on easy access to preventive measures, early appropriate diagnosis and treatment services. In many endemic countries, however, the implementation of standard preventive measures, diagnosis and treatment services, is limited with low coverage. The current coverage

by public sector health systems in most of the malaria endemic countries averages between 30-60 percent of the population at risk (Deming et al. 1989; Ruebush et al. 1995).

Private sector providers can contribute to improving the coverage of malaria control activities. Recent research in Africa has confirmed that a substantial proportion of malaria episodes are treated in the private sector (Mills et al. 2002; Brugha and Zwi 1998; Deming et al. 1989; Snow et al. 1992). Insecticide-treated nets (ITNs) have been shown to be a cost-effective way of preventing malaria and there is a growing appreciation of the role of the private sector in expanding ITN coverage in many endemic countries (Conteh and Hanson 2003; Kikumbih et al. 2005). However, malaria prevention measures and treatment services have public good and externalities characteristics and may be underprovided by the private sector. There are also concerns that malaria services provided by the formal private sector may not be accessible and affordable for the majority of the poor population because its demand is influenced by prices (including travel and time costs for seeking treatment), income, lack of information about appropriate treatment and the difficulties patients have in assessing treatment quality (Chima et al. 2003; Hanson et al. 2004). Hanson et al. (2004) have pointed out that while poverty prevents access to effective malaria prevention and treatment services, the costs associated with complicated malaria can drive households into poverty, and the poorest households are likely to have access only to the most informal parts of the health sector where quality is lowest.

Policy interventions to expand coverage of malaria control activities should ensure that affordable prices are achieved through systematic cost reducing efforts (e.g. subsidies) and rigorous promotion of competition along with strategies such as making price information widely

available, adopting generics based medicines policies, and reduction of duties, tariffs and granting tax-breaks (Mushi et al. 2003; Simon 1999; WHO 2003b, 2005).

1.4 Malaria burden and providers of health services in Cameroon

1.4.1 The malaria burden in Cameroon

In Cameroon, malaria is still acknowledged to be by far the most important public health problem, causing great suffering and loss of both economic resources and life. The approximately 2 million clinical malaria episodes occurring yearly are estimated to represent about 50 percent of medical consultations, 35 percent of hospitalisations and 57 percent of hospitalisation days and lead to about 40 percent of total deaths in different health facilities (Carnevale and Mouchet 2001; MoPH 2000, 2001a). The incidence rate is estimated to be over 50 percent among high-risk groups, which are constituted of children less than five years and pregnant women (MoPH 2000). The number of cases is certainly under-estimated, because these statistics come from various health facilities; most of them with a weak disease notification information system and which thus might not notify all cases (Njournemi 1997).

The national malaria control programme is now experiencing difficulty in attracting sustainable financial support from the public sector as the budgetary pressures due to economic recession and macroeconomic adjustment undermine the allocation of limited resources to the health sector. Public sector financing of malaria control activities decreased from US\$ 527,880 in 1996

to US\$ 321,847 in 2000, which represents less than 1 percent of the total public sector health care expenditures (MoPH 2001a, 2001b).

Malaria is one of the major factors underlying the poor macroeconomic performance of the country. Taking into account the initial GDP level of 2002, annual economic growth rate (5.2 percent), annual 1.3 percent reduction of GDP associated with malaria, annual financial costs of malaria, annual population growth rate (2.9 percent), and other malaria related epidemiological factors, the economic costs of malaria were estimated to be approximately US\$739 million between 2002 and 2006, which represents about US\$46 per capita (MoPH/OMS 2001). This indicates that malaria continues to affect substantially the economic growth of Cameroon. Table 1.1 presents the estimated total costs and costs per person of malaria over the period 2002-2006.

Table 1.1 Estimated economic costs of malaria in Cameroon 2002-2006						
Year	Total costs of malaria in \$US			Costs of malaria per person in \$US		
	Financial costs of malaria (1)	Opportunity costs of malaria (2)	Economic costs of malaria (3)	Financial costs per person (4)	Opportunity costs per person (4)	Economic costs per person (4)
2002	10,928,571	122,200,000	133,128,571	0.71	7.88	8.59
2003	14,557,143	128,554,400	143,111,543	0.94	8.12	9.06
2004	15,485,714	135,239,229	150,724,943	1.00	8.35	9.35
2005	9,628,571	142,271,669	1151,900,240	0.63	8.60	9.23
2006	5,971,429	149,669,795	155,641,224	0.39	8.85	9.24
2002-2006	56,571,428	677,935,093	738,247,505	3.50	42.08	45.58
(1) Financial costs represent the estimated annual total costs of malaria prevention and treatment (2) Opportunity costs represent the estimated annual economic loss due to malaria (3) Economic costs are the sum of financial and opportunity costs of malaria (4) Costs of malaria per person are the ratio of estimated costs and total population						

Source: Estimated from MoPH/OMS (2001).

The economic costs of malaria are enormous and weigh heavily on both households and private companies. The annual direct costs of malaria per household in the city of Yaoundé (Cameroon) were estimated to be about US\$288 (Louis et al. 1992). In 1994, the estimated annual direct and indirect costs of malaria in a metallurgical company (ALUCAM) were US\$254,588 that

represents over 31 percent of annual total health expenditures of the country (MoPH 2001a quoting Chambon 1997). These findings highlight the substantial public health and economic burden of malaria in Cameroon. It is important to understand the current organisation of malaria control activities that attempt to deal with this burden.

1.4.2 Public and private providers of malaria services in Cameroon

Traditionally in Cameroon, the provision of malaria services have been channelled through the Ministry of Public Health (MoPH) owned public sector facilities. However, public health sector development has not followed the trends of population growth and expectations, particularly in urban areas. In particular, public sector provision of malaria services has declined in quantity and quality in middle-class neighbourhoods and failed to reach new poor neighbourhoods (Njoumeme 1997). The private sector, particularly for-profit - often unregulated – providers, has used this opportunity to invest and expand their services to people in many underserved neighbourhoods and communities. In many districts across the country, private sector providers have become increasingly important in most aspects of malaria control activities. Diagnosis and treatment services are offered through both formal and informal private sector health facilities. Nonprofit organisations increasingly use social marketing techniques to promote the distribution and use of ITNs nation-wide. Even if nonprofit organisations stimulate the demand, both ITNs and insecticides for the retreatment are mainly distributed through various for-profit facilities in communities.

Moreover, in many health districts given the need for public sector health workers to either explicitly or implicitly seek other means of supplementing their low incomes, a substantial proportion of public sector clinical staff also engage in private practice. De facto in many health districts, a significant proportion of patients attend private health facilities for malaria prevention and treatment rather than public health facilities. Alternatively, they seek treatment from traditional healers, or undertake self-treatment via private pharmacies or drug sellers, in lieu of attending public sector health facilities. Consequently, the MoPH and other stakeholders need to understand treatment practices and health seeking behaviour outside public sector health facilities and ensure that private sector health facilities become partners in the delivery of malaria services. Although informal providers are widespread and many patients use them for malaria treatment, this study focuses mainly on formal providers. The emphasis of this dissertation is on enabling and regulatory interventions as a means of influencing the development and performance of the private sector, while the informal providers and drug shops are currently not the target of much of the intended government interventions. However, the results' chapters will often return to the issue of informal providers arising particularly from the analysis of qualitative data.

1.5 Rationale for the dissertation

In many African countries that have experienced economic crisis and structural adjustment programmes, associated health sector reforms have led to growing interest in understanding how the emergence of pluralistic health systems can contribute to the attainment of overall policy goals that are in the public interest (Bloom 2004; Buchan 2000; Marek et al. 2005; Waters et al.

2003; WHO 2000a). However, there is a relative lack of both theoretical and empirical knowledge for understanding the reality of most African health systems in which the boundaries between public and private provision of health services have become blurred (Bloom and Standing 2001). Economic and related theories emphasise the roles of public and private sectors in terms of market failure, government failure and voluntary failure (Dollery and Wallis 2002; Salamon 2003; Wolpert 2003). Thus, “analysing in what respects economic theory provides the best or most powerful explanation, prescription, prediction or justification of any particular aspect of regulation, would be a novel and challenging exercise” (Black 1996: 710). Mills et al. (1997: 309) point out that “in the short term it is unlikely to be feasible to develop ‘the capable government’, able to set policy and effectively co-ordinate [or regulate] both public – and private actors” in the health sector. There is thus a need to better understand the strategies of working with the private sector for the provision of public health related services (e.g. malaria) in the context of African governments with weak or limited capacity.

In many African countries, malaria service coverage is still very incomplete, and structural, process and community-perceived quality of malaria services are not well-documented (Hanson et al. 2004). There are also limited studies regarding the performance of alternative sources of primary health services provision (Mills et al. 2004). Reviews identified only three studies of relative efficiency and quality, all comparing public and nonprofit providers (Bennett 1997c). As patients frequently prefer private sector providers of malaria services, the MoPH should pay greater attention to influencing the performance of private sector providers.

The effective delivery of malaria prevention and treatment services may involve the establishment of partnerships between a variety of public and private sector providers. The appropriate design of service delivery may be influenced by the ownership and incentives of the stakeholders as well as the nature of the service being exchanged (Williamson 1975). This study assumes that the success of malaria service delivery in a pluralistic health system will depend on enabling and regulatory interventions that can provide on the one hand effective incentives (enabling interventions) and on the other simplified updated rules (regulatory mechanisms) for private providers to work in partnership with the public sector to achieve common public health goals. The focus is on considering a set of enabling and regulatory interventions that can influence the development and performance of private sector providers of malaria services. These services should not only be available, affordable and acceptable to the population at risk, but should also comply with the safety, efficacy, clinical and quality standards of care defined by the MoPH. The availability of reliable baseline data on the enabling and regulatory interventions towards private sector providers is important for the MoPH and other agencies to plan strategically for and evaluate performance in the delivery of malaria services in Cameroon.

1.6 Aim and objectives of the study

This study aims to improve knowledge on strategies of working with the private sector in the provision of public health services in low and middle income countries by exploring the appropriateness of enabling and regulatory interventions in influencing the performance of private providers of malaria services in three districts in Cameroon. The research questions to be investigated are:

1. What is the relative performance in terms of coverage, accessibility, service prices and costs, quality and user acceptability of the public, private nonprofit and private for-profit sectors' provision of malaria services in three health districts?
2. What are the existing enabling and regulatory interventions for private sector provision of health services, particularly malaria control activities, in Cameroon?
3. Given the current state of performance of public and private health sectors are the existing enabling and regulatory interventions appropriate for influencing the development and behaviours of providers of health services in Cameroon?
4. How can the Ministry of Public Health enable and regulate the private sector better in order to enhance its contribution to the delivery of malaria control activities for achieving public health goals in Cameroon?

The specific objectives derived from the research questions are:

Objective 1: to examine the public and private sectors' performance in terms of coverage, accessibility, quantity of malaria services provided annually, recurrent costs of services, prices charged and costs to patients, quality of care and user's satisfaction with malaria prevention, diagnosis and treatment in three districts of the West Province.

Objective 2: to provide an overview of existing enabling and regulatory interventions for the private sector, including nonprofit and for-profit providers of health care, particularly in relation to malaria services in Cameroon.

Objective 3: to explore stakeholders' perceptions of the appropriateness of enabling and regulatory interventions on the development, behaviours and performance of private sector providers of malaria preventive and treatment services in Cameroon.

Objective 4: to explore whether or not existing enabling and regulatory interventions are appropriate for influencing the performance of private sector provision of malaria services.

Objective 5: to recommend health policy interventions to enhance the contribution of the private sector to malaria control activities in Cameroon.

1.7 Structure of thesis

Chapter 2 reviews literature in four sections including: economic and related theories of relevance to health sector regulation and the roles of the private sector (nonprofit and for-profit) and government in the health sector, empirical literature on the private health sector and its interaction with government in LMICs, existing literature on enabling and regulatory interventions, and methodological and conceptual issues arising from previous studies. It then highlights key issues from the reviews and some unanswered questions on the roles of the public and private sectors in the delivery of health services in LMICs.

Chapter 3 describes the methodology used to carry out this study. While the conceptual framework schematises the analytic strategy, the research methods describe the scope and the design of the study, the data sources, collection instruments and data analysis, and how ethical issues were handled in the study. The methods of data collection used were varied and included reviews of secondary data, and primary data collection with structured questionnaire interviews, in depth interviews, and focus group discussions.

The results of this study are presented in chapters 4 and 5. Chapter 4 presents the national context for health sector development and an analysis of utilisation patterns and coverage, the quality of malaria services, the service costing, the prices charged and costs to patients, and the performance of individual health facilities in terms of a comparison between the public, private nonprofit, and private for-profit sectors. Chapter 5 provides an overview of the existing enabling and regulatory environment facing the private health sector in Cameroon. It critically analyses current enabling and regulatory interventions, and the constraints on their perceived appropriateness for influencing private sector health care.

Chapter 6 presents an integrated discussion of the main findings from chapters 4 and 5. It considers the potential of enabling and regulatory interventions for influencing the growth and performance of private health facilities in the delivery of malaria services.

Chapter 7 presents the conclusions, recommendations and identifies further research needed. This chapter summarises the key findings on whether or not the existing regulations and enabling interventions are appropriate for influencing the performance of private sector health facilities' delivery of malaria services.

Chapter 2: Literature Review

2.1 Introduction

In many low -and middle- income countries (LMICs), the issues of enabling and regulatory interventions have come under increased scrutiny in recent years (Ensor and Weinzierl 2006; Hicks and Adams 2000; Mills et al. 2001; Vitale 2004; WHO 2000) as the roles of government and private (for-profit and nonprofit) sectors in health care financing and provision continue to inspire much policy debate (Bennett 1991; Bennett et al. 1997; Berman 1996; Bloom 2004; Brugha 2003; Eggleston et al. 2006; Floyd et al. 2006; Marek et al. 2005; Mills et al. 2002; Newbrander and Moser 1997; Preker and Harding 2003; Schieber et al. 2006; Travis and Cassels 2006; Uplekar 2000, 2003; Zwi et al. 2001). Nevertheless as the private health sector grows, governments need to elaborate appropriate health policy tools for influencing the emergence of responsible private providers. This chapter reviews theoretical arguments and international empirical knowledge underlying the policy debates on the role of government in enabling and regulating the private (for-profit and nonprofit) sectors in the health care market.

The first section explores the theoretical background that provides conceptual arguments of relevance to enabling and regulatory interventions and on the respective roles of government and the private sector in the health care market. The next section examines the international empirical literature on the nature of the private sector in LMICs – its benefits and challenges. The third section reviews the literature on enabling and regulatory interventions in terms of the private health sector. The fourth section describes key methodological and conceptual issues arising

from similar studies to that undertaken in this dissertation. The conclusion summarises potential strategies for enabling and regulating the private health sector and highlights some unanswered questions on regulation and the roles of government and the private sector in the delivery of health services in LMICs.

2.2 Background on economic and related theories of relevance to the roles of the private sector and government in the health sector

This section briefly explores different theoretical arguments from economic and related theories of relevance to the roles the private sector and government in the health care market. It presents: welfare economics - public interest versus private interest approach (2.2.1); institutional economic theory (2.2.2); the new public management theory (2.2.3); and the economic theory of nonprofit organisations (2.2.4). It merely provides a short overview of the key issues of relevance to this dissertation. It does not reproduce in detail the extensive literature that already exists on the relevance of these theories to the market for health care.

2.2.1 Welfare economics: public interest versus private interest approach

This sub-section focuses on the public interest versus private interest approach in the sense of social welfare as defined in welfare economics. First, it discusses the public interest approach that provides some theoretical arguments which commonly consider enabling and regulatory interventions as a correction for market failure. It then examines the private interest approach

which highlights the role of interest groups in the formulation of enabling and regulatory interventions.

2.2.1.1 Public interest approach

The public interest approach provides a number of theoretical arguments for enabling and regulatory interventions in relation to the improvement of social welfare. Indeed, welfare economics tells us that in a perfectly competitive market a Pareto optimal outcome occurs where there is free entry into the market with a large number of providers, all of whom individually have no influence over the price of health services but decide only the quantity of health services they will make available to consumers (Enthoven 1988; Pauly 1978, 1988). Pareto optimality is defined as the 'first-best' outcome where there are no possible changes which could be made without making at least one person worse off (Sen 1970). However, the achievement of a Pareto optimal outcome depends on fulfilment of a number of restrictive assumptions that may not be satisfied in the health sector (Kuttner 1997; Rice 1998; Roemer 1984; Smith 1993; Thurow 1983). Table 2.1 presents some of these restrictive assumptions that are particularly relevant in terms of malaria and arguments of market failures that provide the public interest theoretical justification for enabling and regulating private providers. However, enabling and regulatory interventions as a correction for market failures aiming to lead to an increase in social welfare does not mean that they should attempt to realise perfect competition (Hägg 1997). Enabling and regulating private providers can be focussed on the partial realisation of welfare improvements, a so-called 'second best' Pareto-optimum (Lipsey and Lancaster 1957). The market failures for

malaria services are related to public goods, externalities, asymmetric information and monopoly power.

Table 2.1: Competitive model’s assumptions and arguments of market failures for malaria prevention and treatment

Restrictive assumptions of competitive health care market	Arguments of market failures for malaria services
There are no public goods in health care consumption	Public goods related aspects of malaria control activities
There are no negative or positive externalities of health care consumption	Existence of both positive and negative externalities in malaria prevention and treatment
Community members as patients have sufficient information to make good choices about health care and they know, with certainty, the results of their health seeking decisions	Asymmetric information between patients and health care providers and/or principal-agent problems in the health sector
Health care providers do not have any monopoly power in the health sector	Monopoly power of some providers in many remote rural areas and poor urban neighbourhoods in LMICs.

Source: Adapted from Arrow 1963; Graaff 1971; Jones 1991; Musgrove 1996; Hanson et al. 2004.

Public goods. These are goods or services whose consumption is non-rival - one person’s consumption does not reduce the amount available for others to consume, and there is non-excludability from benefiting - if they are made available to anyone, they are available to all people at the community level (Foldvary 1994; Stiglitz 2000). In the health sector, preventive services (e.g. control of disease vectors) and curative medical care have some degree of public good characteristics (Musgrove 1996). In malaria control activities, public goods are related to the provision of health education, epidemic surveillance, indoor residual spraying and environmental management that benefit the general population (Goodman et al. 2000; Hanson et al. 2004). In addition, as malaria treatment increases the likelihood of healthy years of life gained, productivity and income of the society as a whole, it can be also viewed as a public good

(Gallup and Sachs 2001). Given these characteristics of public goods, they may be under provided by the market (Posner 1974; Varian 1984) and government can play a role by enabling and regulating the private sector provision of malaria services.

Externalities mean that the behaviour of one producer or consumer affects other parties but this is not taken into account in market transactions (Hägg 1997; Hahn 1989; Posner 1974). In the health sector, externalities always occur with infectious diseases, because the infected people put others at risk and the successful treatment of every case therefore also prevents or reduces the possibility of illness for other community members (Musgrove 1996). Malaria treatment for example is associated with externality characteristics because, in seeking treatment, an individual with a malarial illness confers benefits on others by reducing their probability of contracting malaria. Thus the externalities of treatment are related to the prevention of morbidity and mortality; the elimination of parasitaemia to minimise transmission to other humans through the mosquito's bites; and the limitation of development of drug resistance. As Hanson et al. (2004: 9) point out 'rational antimalarial drug use provides positive externalities to future patients in the form of a reduction in the rate of growth of resistance. Insecticide-treated nets (ITNs) may also have positive externalities if they reduce malaria transmission'. While the private sector may under-invest in malaria prevention and treatment activities, relying purely on individuals to make their own consumption decisions will result in a sub-optimal level of demand. While government may finance and provide health services, it also has a role in enabling and regulating the private sector provision of appropriate malaria diagnosis and treatment as well as ITNs and other preventive activities.

Information asymmetry means that the information available to only one side of a market readily leads to market failure in the sense that markets work perfectly only when both buyers and sellers possess full information (Arrow 1963, 1985). The public interest arguments for enabling and regulating private providers start from the perspective that many health services are either experience goods or trust goods for which the quality cannot be immediately recognised by the patients because their properties can only be assessed with the help of highly technical professionals and for which there is no learning through the repeat-purchase-mechanism (Cave 1985; Gehrig and Jost 1995; Shapiro 1983; Tirole 1992). Information asymmetry arises between patients and doctors, since the latter typically know much more about medical conditions and treatments (Musgrove 1996; Rice and Labelle 1989). In the market where information about price is relatively easier to obtain than information about quality, increasing the availability of the former might discourage quality competition and lead to a degradation of quality (Tirole 1992). Akerlof (1970) highlighted that quality uncertainty in an unregulated market with asymmetric information will lead to a deterioration of quality of the offered products.

Prospective patients who are in a poor position to evaluate alternative medical treatment may face two eventualities – either they may demand health care or medical professionals may provide extra services, which patients would not buy or have wanted if they were fully informed. The rent-seeking motives of providers increase the possibility that the most economically profitable, often ineffective, malaria treatment services will be dispensed to poorly informed patients (Hanson et al. 2004). This has been documented as a crucial problem in low income countries where lack of education and information may make it particularly easy for medical

personnel to exploit consumers due to their ignorance of medicine (Bennett et al. 1994; Le Grand et al. 1999; Musgrove 1995).

The public interest approach argues that enabling and regulatory interventions may be needed for providing information to all stakeholders as well as encouraging and requiring (medical) professionals to disclose information relating to price, identity, composition, quantity and quality (Ogus 1994). In addition, enabling and regulating minimum quality standards may be socially desirable in the following four market types (Leland 1979): (1) markets with a relatively price-insensitive demand; (2) markets with high demand sensitivity to average quality; (3) markets where the costs associated with providing good quality services are low; and (4) markets where willingness to pay for low quality services is low. The market for malaria services appears to satisfy these criteria. Moreover, patient welfare can be enlarged by licensing or certification as it may oblige providers to meet certain predetermined conditions of structural and process standards, in order to guarantee an adequate quality of services (Shapiro 1986).

Monopoly power occurs in markets where one or a small number of providers sell a particular good or service to many consumers with the power to raise prices without losing its/their entire market (Karier 1993; Schutz 1995). The health care market has the potential for monopoly power where patients are exposed to one or a small number of providers who may charge excessively high prices for health care (Rice 1998; Satterthwaite 1979). In this context, the public policy argument is not to create a competitive market, but only that it may be in the public interest to moderate abuse of dominance by regulating the monopolistic providers of health services (Case et al. 1992; Elliott 2000; Stigler 1971). In the health sector, however, there are areas where it

would be better to have only or a few providers in the market rather than many small providers who may operate inefficiently. Theoretically, the economies of scale and scope in production of natural monopolists may exist in some districts or sub-districts when the costs of producing certain services together are smaller than the costs of producing these services separately.

However, the public interest approach does not specify how or when new enabling and regulatory interventions originate as it assumes that these interventions will be formulated by government agencies to serve the public interest (Posner 1974).

2.2.1.2 Private interest approach

The private interest approach stresses the role of interest groups in the formation and potential failure of enabling and regulatory interventions (Spiller 1990). It encompasses a number of related theories such as capture theory, some features of public choice theory and the economic theory of regulation which commonly appear to suggest that enabling and regulatory interventions are not only a response to market failure, but also a result of rent-seeking behaviour by interest groups (Buchanan et al. 1980; Becker 1983; Peltzman 1976; Stigler 1971).

The public choice literature attempts to model how decisions are made in developing and implementing policy. Indeed, while legislation is enacted, government bureaucrats are responsible for implementing it. Government failure arises from the fact that in the decision-making arena, the behaviour of economic agents can be rationally related to their utility maximisation (Becker 1983; Buchanan et al. 1980; Spiller 1990). Supporters of legislation (both lobbyists and legislators who support it as well as senior bureaucrats who will implement it) may

be motivated by their self-interest to overstate the benefits (and understate the costs). Since decision-makers would like to be re-elected, they may be more likely to strive for maximisation of votes, and they could also seek to maximise their budget or prestige that could give rise to ineffective regulation (Buchanan and Tullock 1975; Ogus 1994; Posner 1998; Skaggs and Carlson 1996). While rational politicians respond to lobbying activities from already existing interest groups, they may also take into account the possible actions of potential lobby groups or shadow interest groups (Keenan and Rubin 1988). In the implementation process, bureaucratic behaviours may emphasise the power, prestige and private gains that can lead to high levels of technical and allocative inefficiencies (Folland et al. 2004; Niskanen 1971) thereby resulting to inappropriate enabling and regulatory interventions.

The capture theory argues that private interest groups influence the formation and failure of enabling and regulatory interventions because both public and professional agencies may be subject to pressure, influence and bribery by the very people who are the subjects of a particular intervention and who in this strategy want to protect their own private interests (Hägg 1997; Posner 1974). This regulatory capture by private interest groups creates government failures (Birdsall and James 1992; Musgrove 1996; World Bank 1987). Private interest capture is based on the principle that enabling and regulatory interventions are supplied by the political office bearers in response to demands by various private interest groups who provide financial and political support in return for favoured legislation (Baldwin et al. 1998).

Stigler (1971) pointed out that the government is the supplier of regulation, while the demand side exists of interest groups looking for protective regulation, such as regulated prices or entry

barriers to the market. Stigler argued that economic actors who are powerful enough will lobby the government to erect entry barriers like obligatory training or apprenticeships, legally determined service requirements, taxes, import quotas, price fixing, direct rules of conduct, etc. which can keep the supply of new providers to a market artificially low, thereby benefiting market insiders because they will be able to sell their services at relatively high prices. However, Pelzman (1976, 1989) argued that organised interest groups will yield less to the membership if government organises it than if it were organised privately because while organised groups are expected to obtain favours on the political market, other competing interest groups and voters will be influential as well thereby leading politicians to distribute favours and disfavours among pressure groups and voters in order to maximise their chances of being re-elected. Becker (1983) highlighted this competitive behavioural model among pressure groups for political influence to obtain preferential taxes, public subsidies and other political favours such as protective regulation. Private interest groups are continually influencing political decisions on regulation in order to seek rents for themselves (Hahn 1989a, 1989b). This rent-seeking behaviour may be most successful if interest groups are small, single-issue oriented and well organised (Ogus 1974; Olson 1965). Private professional interest groups in the health sector are more likely to satisfy at least two out of these three characteristics. Indeed, in the health sector, doctors can be seen as economic participants with skills to sell as well as being part of one of the best organised pressure groups with interests to defend/pursue (Kumaranayake 1998).

2.2.1.3 Public and private interest approach to self-regulation

Self-regulation can be referred to as rules, norms and codes of practice formulated by a professional agency to govern the activities of its members (Hagerty 2005; Ogus 1995). The public interest reasons for self-regulation (Graddy and Ferris 1991; Miller 1985; Ogus 1995) in a particular sector of the economy is based on (1) professionals' greater degree of expertise and technical knowledge of practices and possibility of innovations within relevant disciplines, and relatively low information costs for the formulation and interpretation of standards than independent public regulatory agencies; (2) mutual trust leading to low costs of monitoring, enforcement and practitioners dealing with regulators; (3) less formalised processes and rules issued by self-regulators and savings in the costs of amending standards than those of independent public enabling and regulatory agencies; and (4) internalised administrative costs in the self-regulatory activity, while those costs are borne by taxpayers in the case of independent public enabling and regulatory agencies. However, of these, only one argument appears to be unquestionable in the literature: that of the better expertise and technical knowledge on quality and risks by self-regulatory agencies as opposed to public regulatory agencies (Donabedian 1995; Hägg 1997; Ogus 1994).

The public interest argument for self-regulation considers markets with asymmetric information. As suggested by Akerlof (1970) quality uncertainty and differences in information can lead to certain types of market failure. In the health sector, the analysis of quality uncertainty can be extrapolated to malaria services: if patients cannot evaluate the quality of malaria services provided by a particular type of provider, but can only discriminate based on price, providers

have no incentive to offer high quality malaria services. Since this asymmetric information exists, providers cannot signal relative differences in the quality of their malaria services. Consequently, the market price of malaria services will reflect only the average quality level and will then attract average quality providers. This decrease in the average quality level perceived by patients will be the result, which in turn will lead to a reduction of the market price. Good providers ('lemons') will be driven out of the market by bad providers ('quacks'). Self-regulation can provide a second-best solution that would increase welfare in a number of cases through minimum quality constraints and other self-regulatory requirements. Self-regulatory organisations may serve the public interest by preventing quack, poorly trained, incompetent, or unethical providers from practising medicine and by altering the behaviour of private providers in the course of their practices.

However, the private interest approach provides arguments against self-regulation. Indeed, self-regulation seems to fit the criteria of special interest groups (relatively small, single issue oriented and well organised), which can lack the appropriate motivations to enforce compliance with required behaviours and practices (Shaked and Sutton 1981). The fact that the same professionals would make the rules for themselves and would bear most of costs of enforcing and monitoring those rules, may in practice imply that they would resist any changes in the regulation that would appear to limit their opportunities for rent seeking behaviours (Gehrig and Jost 1995). In the presence of quality uncertainty and asymmetric information in markets, it is suggested that professional self-regulatory agencies will be more likely to set the standards too low/high and below/above the socially optimum level, since they can seek to maximise their net gains (Leland 1979). In addition, organised group of professionals who expect to be subject to

government prescribed regulations will use lobbying to push through their own criteria about the required standards, thereby protecting themselves against new competitors. For example, licensing can be used as an entry barrier by interest groups which may lead consumers to substitute licensed (good quality) services with alternative – often unlicensed - (low quality) services (Ogus 1995, Shaked and Sutton 1981, Shapiro 1986). The result of all private interest arguments presented here would be a decrease in the social welfare level and a redistribution of wealth from consumers to providers in a market. Thus, even with asymmetric information between consumers, providers and governmental authorities; self-regulation may be socially desirable only if the incentives of providers are given a sufficiently high weight in the social welfare function (Gehrig and Jost 1995).

Although both the public interest and private interest approach provide a plausible theoretical framework to justify enabling and regulatory interventions in the health sector, it does not clearly indicate anything about the regulation of the health sector as being institution-free (Preker, Harding and Travis 2000; Robinson 1997).

2.2.2 Institutional economic theory on the roles and behaviour of public and private health sectors

Institutional economic theory emphasises the importance of institutions in explaining economic performance and questions the core assumptions of welfare economics about agents possessing perfect information (Baldwin and Cave 1999; North 1990; Preker and Harding 2000). Institutions here are understood as rules, norms of behaviours, and the way they are enforced

rather than an organisation (North 1993). This theory also highlights the fact that the institutional arrangements for service provision can address the problems associated with asymmetric information in the health sector (Mills et al. 2001; Preker, Harding and Travis 2000; Robinson 1997). Institutional arrangements are directly concerned with enabling and regulatory interventions to ensure the best possible structures for service provision, consisting of government and private sector pursuing multiple and often conflicting interests as modes of organisation in different areas of social and economic activities (Harding and Preker 2003; Harding 2002; OECD 1992; Preker, Harding and Girishankar 2000; Williamson 1985, 1994). The governmental institution may set the framework for enabling and regulatory interventions and actors adapt their behaviours to the government's objectives. This narrow view of enabling and regulatory interventions assumes that in the market for social services there are rational actors who would be able to choose between alternative courses of action based on private interest calculation for getting incentives (including: financial and non-financial rewards) for social investments (Jorgenson 1963; Ostrom et al. 2002; Vitale 2004). The field of institutional economics encompasses other theories amongst which those most relevant to understanding the roles of government and the private sector in health care include principal-agent theory, transaction cost economics, and property rights theory.

Principal-agent or agency theory. Principal-agent theory has profoundly influenced the way in which enabling and regulatory interventions are considered by placing information and its role in the operation of a market economy, at the centre of its analytical framework (Laffont 2003). The difficulties a market economy must face include co-operation problems because actors' interests do not converge and cannot be resolved by solely providing more information as there are

problems relating to incentives and to alignment of interests that are not attributable solely to information problems (Barbera 2000) Milgrom and Roberts (1994, p. 257) argued that "... if individuals with significant information have different interests to those of decision-makers, they may not communicate their knowledge fully and accurately". In this context, the principal may face two different types of opportunism: (1) the pre-contractual opportunism of adverse selection and (2) the post-contractual opportunism of moral risk. Principal-agent theory argues that the pre-contractual opportunism of adverse selection would be resolved through signalling (the agents that have private information may behave in such a way as to show the information they possess prior to being granted a contract) and auto-selection (the principals may undertake to contract only when they discover the agents' private information). The problems of moral risk are more complex because of likely hidden actions as "... a form of post-contractual opportunism caused by the non-observability of certain actions, which allows the individuals charged with carrying them out to pursue their interests at the expense of the other party" (Milgrom and Roberts 1994, p. 258). The principal-agent theory suggests that hierarchical control may not be an effective and efficient approach for addressing the moral risk problems and the most appropriate way could be the use of incentive mechanisms that align the interests of the principal with those of the agent. The agents should be offered financial and non-financial rewards to pursue some specific objectives that would not otherwise be pursued without incentive measures (Vitale 2004).

However, public regulation of social development by means of incentives is almost always connected with the production of public goods (Barbera 2000), while principal-agent theory provides good heuristic tools in situations where the agent's opportunism is directed at private

goods, meaning that the theory of agency may not be very promising where public goods are concerned (Triglia 2002). Given these criticisms of the principal-agent theory, principally by sociologists, some people may believe that it is not possible to conceive a government intervention model based on incentives for the production of public goods. But these criticisms should not be generalised to apply to enabling and regulatory interventions which combine incentives and control requirements. Principal-agent theory provides a unified simple theoretical model in which the state or government through the MoPH (the principal) authorises or delegates responsibility to make decisions or act on his/her behalf for the production of public goods to the private sector provider (the agent) within given institutional conditions (Bennett et al. 1994; Martimort 2006; Mills et al. 2001; Preker, Harding and Travis 2000). In this sense, institutions provide the incentive structure of an economy and therefore the way they evolve shapes long-term economic performance (North 1993). In the health sector, incentives can work with appropriate institutional conditions, including trust, social capital, interpersonal relations, rules and regulatory controls. The provision of health services may not only be a function of legislative constraints that exist between the actors, but rather of relevant enabling measures (financial and non-financial incentives) that should complement regulatory controls. For example, the private sector provider as an agent undertakes to deliver various forms of (malaria preventive and treatment) services for the MoPH as a principal, in exchange for mutually agreed rewards through specific enabling interventions such as non-financial and financial incentives.

In practice, however, problems arise because the MoPH's goal of universal equitable malaria service provision usually conflicts with private sector providers' goals which are often to pursue the profit motives which may be at the expense of national public health goals. Principal-agent

problems also occur within the MoPH when officials such as inspectors in charge of enabling and regulatory units are engaged in – often unofficial - private practice; and outside the MoPH when the professional organisations such as Medical or Paramedical Councils are empowered to self-regulate the private health sector. The objectives of inspectors and self-regulators acting as agents often differ from those of the principal (MoPH). The problems may become particularly complex at health facility level where there are often multiple principals (e.g. MoPH, Professional Associations, Pharmaceutical Companies, Management Boards/Committees, Consumers, etc.) for any one agent (e.g. manager, clinical staff), who pull that agent in opposite directions (Svedoff 1998). This principal-agent problem is further exacerbated when the principal has limited information and weak capacity to co-ordinate, supervise and monitor the behaviour of the agent (Bennett et al. 1994; Harding and Preker 2003).

The principal-agent problem can be overcome by providing appropriate enabling interventions (incentives) for agents, and by regulating (monitoring and sanctioning) the agent's behaviours (Mills et al. 2001). Relevant enabling and regulatory interventions “must be shown to work, to be manageable without overburdening the agent or the principal with administration, and to be achievable at limited costs or [capacity]” (Bennett et al. 1994).

Transaction cost economics. Transaction cost refers to costs associated with making an exchange, both ex ante and ex post. It is usually used to shed light on the ‘make or buy’ decision based on the argument that where transaction costs are high an organisation should produce that good or service directly through hierarchical control mechanisms rather than using market-based exchange (Mills et al. 2001; Preker, Harding and Travis 2000). This institutional approach

emphasises the need for flexible means of co-ordinating the principal-agent relationship because principal and agent may both be opportunistic. Private sector providers of health services may be unreliable, seeking to minimise transaction costs, and engaging in profit-maximising behaviours and incomplete disclosure of information for decision-making in the health sector (Bennett et al. 1994; Harding and Preker 2003). In contrast, the principals (e.g. MoPH, patients, etc) may also engage in opportunistic behaviours by seeking to maximise their benefits to such an extent that the relationship could become less viable for the agent (private sector provider of health care) interacting in the market for goods or services (Preker, Harding and Travis 2000). Although such opportunistic behaviours arising from the principal-agent relationships do vary considerably by setting, they are likely more pronounced in many LIMCs with acute problems of asymmetric information and abuse in the health sector (Gilson 2003; Gilson 2005; Russell 2005; Tibandebage and Mackintosh 2005). Government should regulate the market in order to improving informational problems and limiting the abuse amongst the parties engaged in a market-based exchange in the health sector

Property rights theory. Institutional economics also focuses on property rights of private ownership which may provide appropriate incentives to the service providers and could result in greater economic efficiency in the market (Bennett et al. 2001; Chinitz 2002; Forder 2002; North 1990). The institutional economics literature suggests that as private sector behaviour is closely related to the power of incentives, it is important to emphasise the power of information, motivations and incentives using private interests to influence providers' behaviours in a way which promotes public health goals of the health system (Preker, Harding and Girishankar 2000). The rationale for government intervention thus becomes that it serves as an 'enabler', a

mechanism by which to improve the operation and efficiency of economic undertakings (Saltman and Busse 2002).

Institutional characteristics of economic goods or services. Institutional economics theory proposes a framework for the provision of health care goods based on their economic characteristics of contestability and measurability. Contestability means that there are competing suppliers of goods or services characterised by low barriers to entry and exit from the market (Shepherd 1984, 1995). Measurability is the precision with which inputs, processes, outputs and outcomes of particular goods or services can be measured thereby allowing consumers to compare one good or service with another in the market (Baumol et al. 1982; Baumol 1984; Klein et al. 1978; Shepherd 1995). However, given the existing asymmetric information in the health sector, the measurability aspect relies on the highly variable extent to which information about the performance of individual providers is available to users.

In practice, different types of ownership provide a variety of health care goods on the basis of contestability and measurability which influence the institutional arrangements for their provision (Chakraborty and Harding 2002). Most malaria services have some degree of market imperfection in terms of reduced contestability and measurability. The roles of government and a competitive market are particularly linked to these contestability and measurability characteristics. Economic characteristics of malaria services can be based on the institutional classification as shown in Table 2.2.

Table 2.2: The nature of malaria services based on institutional economics

Economic characteristics	<i>High contestability</i>	<i>Medium contestability</i>	<i>Low contestability</i>
<i>High measurability</i>	Retail: ▪ Antimalarial drugs ▪ Malaria supplies ▪ Other malaria goods	Wholesale: ▪ Antimalarial drugs ▪ Malaria supplies ▪ Other malaria goods	Production: ▪ Antimalarial drugs ▪ Malaria high technology goods.
<i>Medium measurability</i>	▪ Malaria routine diagnostics ▪ Malaria hospital support services	▪ Malaria management services ▪ Malaria training	▪ Malaria high technology diagnostics ▪ Malaria research
<i>Low measurability</i>	Ambulatory malaria services: ▪ Medical ▪ Nursing ▪ Household ▪ Community	▪ Management of severe malaria ▪ Malaria vector control ▪ Health insurance for malaria	▪ Policy-making on malaria control programme ▪ Monitoring and evaluation of malaria control programme

Source: Adapted from Chakraborty and Harding 2002; Preker, Harding and Travis 2000.

Table 2.2 indicates that malaria services that are neither contestable nor measurable are more likely to be provided by the public sector. Malaria services for which there are competing suppliers and for which consumers can easily compare one service with another are more likely to be provided through a competitive market (the private sector). Malaria services with intermediate characteristics of contestability and measurability are more likely to be provided through a public and private mix. This requires government enabling interventions (e.g. provision of information as well as encouraging information disclosure) and regulations (licensing, registration, setting minimum and maximum prices, setting standards and guidelines of health services).

2.2.3 New public management on public and private roles in the health sector

In many LMICs, while governments do not automatically serve the public interest, the market is more likely to pursue private interest in the provision of public health services (e.g. malaria, tuberculosis). Thus, in the health sector both the market and government failures often coexist. These failures usually arise from conflicting objectives of the principal and agent and the lack of incentives to improve performance in the health sector (Bennett et al. 1994; Bloom 2004). Interventions to compensate for government failures are often referred to as the 'new public management' (NPM) (Hood 1991; Minogue 2001; Mintzberg 1989; Shockley et al. 2006)). The NPM aims to strengthen the accountability of the agent to the principal and create appropriate incentives to bring their objectives in closer alignment with the national public health goals (Graddy and Ferris 1998; Mills et al. 2001).

The term New Public Management (NPM) has been described as “government moving from a concern to do, towards a concern to ensure that things are done” (Hood 1991; Kaul 1997; Mills et al. 2001; Minogue 2001; WHO 2000a). The public sector is to move away from the direct provision of health services to a more indirect role of stewardship (Travis et al. 2002).

In Sub-Saharan Africa, the rationale underlying the NPM approach of health sector reforms is to encourage competition, greater managerial autonomy and responsibility, consumer choice, and to promote private health sector and NGO operators; and through these to improve the efficiency, responsiveness and quality of service delivery (Bennett et al. 1996; Gilson and Mills 1995; Gilson et al. 1999; Segall 2000; Smiths et al. 1997; UNICEF 1998; World Bank 1993). Thus,

Ministries of Health are being encouraged to reduce direct provision of health services, and to adopt an indirect role in service provision to ensure that cost-effective and quality health care are delivered through new partnerships between the public and private sectors. However, some analysts have questioned the form which NPM has taken in different countries, and the feasibility and desirability in developing country contexts of actually implementing NPM in the health sector (Klages and Löffler 1998; Hunter 1997; Mills et al. 2001).

Moreover, the existence of market failures of significant size only provides the possibility government intervention because the inefficiencies associated to the state's interventions may more than cancel out the potential benefits for the society. Therefore as markets may fail, it is equally important to point out that government too may fail to play its role efficiently. While most economic theories about the respective roles of government and the private sector are often posed in terms of market and government failures, they (the theories) cannot predict the outcome of a particular intervention when there are major failures of both (Moore 1999).

2.2.4 Economic theories of the nonprofit sector

Earlier sub-sections (2.2.1; 2.2.2; and 2.2.3) in this chapter provide a brief picture of the theoretical rationales and a basis for exploring the effect of enabling and regulatory interventions in the market for health care. This sub-section provides a complementary review of the literature that becomes central to an analysis of the nonprofit sector. It presents the standard approach to analysing the economics of nonprofit providers (2.2.4.1). The remaining part of this sub-section summarises the conclusion on economic theories of nonprofit providers of health care.

2.2.4.1 – Economic approach to nonprofit providers in the health sector

In every modern health sector, there are essentially three types of providers: private for-profit providers; public sector providers; and private nonprofit providers. These three types of providers reflect some basic economic behaviour that legislation may want to accommodate in order to satisfy the economic incentives and unmet economic needs of the society. But as mentioned in the previous sub-sections, it appears that the most prominent cases of market failure would involve private for-profit providers, while public sector providers would be associated with government failures. To trivialise the argument, private nonprofit providers arise to fill the gaps left by both market and government failures (Dollery and Wallis 2002). Thus, the existence of the private nonprofit sector has been attributed to some specific aspects of market and government failures that highlight the necessity for alternative institutional organisations to perform some socially important tasks (Anheier and Ben-Ner 2003; Ben-Ner 1986; Hansmann 1980; Hughes 2006; James 1987; Rose-Ackerman 1986; Vladislav 2006; Prychitko and Boettke 2002; Weisbrod 1975, 1988). It is important to note that nonprofit refers to different forms of voluntary organisations that often qualify for public subsidies, tax exemption, tax deductible donations and other public privileges (Anheier and Ben-Ner 2003; Weisbrod 1998). In different settings, similar nonprofit organisations exist and may be called by many other names such as Non-Governmental Organisations (NGOs), Private Voluntary Organisations (PVOs), Community-Based Organisations (CBOs), National or Local Associations, Voluntary Mutual Organisations, Voluntary Common Initiative Groups, etc. The common characteristic of all nonprofit organisations is that they do not have owners who are entitled to receive the profits of the organisations, but instead, all surpluses must remain with the organisation and be used to

further the social objectives and the development of the organisation (Clarke and Estes 1992; James 1986).

In many countries, either developed or low and middle-income, no matter how strong the political and economic allegiance to the ideology of the profit motivated market, there is a significant number of private nonprofit providers who are not governed by the maximisation of profit and the laws allow no one a legal claim to any of their revenues (Anheier and Ben-Ner 2003; Dollery and Wallis 2002; Hansmann 1980; Hughes 2006; James 1987; Rose-Ackerman 1996; Weisbrod 1998). The proscription of distributing net revenue or surpluses as dividends is termed a 'nondistribution constraint' (Hansmann 1980; Weisbrod 1975). This nondistribution constraint is the theoretical cornerstone that underlies the economic theories of private nonprofit providers (Clarke and Estes 1992; Milhaupt 2004; Vladislav 2006). Hansmann (1987, p. 28) pointed out that economic "theories of the nonprofit firm are ... essentially theories of the way in which the presence of a nondistribution constraint affects a firm's role or behaviour". The nondistribution constraint may lead to a utility-maximisation type of behaviour of nonprofit providers in the market (Newhouse 1970). However, property right theorists question the nonprofit provider's behaviours under nondistribution constraints which may lead to the lack of economic incentives for improving the quality of services. The absence of transferable residual claims would attenuate economic incentives for monitoring decision-makers in the private nonprofit sector (Badelt 2003; Young 2003). Several complementary and competing economic arguments have attempted to explain the theoretical understanding of the nonprofit sector.

Weisbrod (1975) argued that the *unmet demands for public goods* and *beneficial externalities* are the most prominent economic arguments that justify the existence of the nonprofit sector. This theory accounts for the existence of the nonprofit sector which arises to provide for the unsatisfied demands for public or quasi-public goods related services, but most specifically in situations where there are significant external benefits to the provision of services (Kingma 2003; Slivinski 2003). While private for-profit providers would tend to underproduce health services entailing external benefits, they could also more easily meet excess demand by raising prices. Whereas under demand heterogeneity, public sector providers tend to satisfy the median voter, resulting in excess demand for certain types of services to a significant minority of citizens (Clarke and Estes 1992; James 1989). Burton Weisbrod (1988, p. 25) pointed out that “when demand is diverse ... whatever quantities and qualities of services government [public sector] providers will over-satisfy some people and under-satisfy others”.

The nonprofit sector emerges as a substitute for government intervention in the light of efficiency failures in the free market system (Berger et al. 1996; Prychitko and Boettke 2002; Weisbrod 1988). In principle, the unmet demands for public goods are applicable to several aspects of malaria prevention and treatment services that provide external benefits to the whole community. In the context of government failure, nonprofit and for-profit providers may have distinct portfolios of services for different types of consumers. For example, nonprofit providers are more likely to offer malaria services to the indigent because serving the poor may entail some external benefits which may be considered as public goods to any charitably minded individual or institution. Theoretically, since low-income malaria patients are more likely to be less informed regarding both quantity and quality of health services, we should expect to find more

nonprofit providers serving such patients than would be the case for private for-profit providers. The unmet demands of public goods emphasised by Weisbrod has been complemented by a number of related issues in the literature.

Hansmann (1980) argued that *contract failure* or *trustworthiness* constitutes the justification for the existence of the nonprofit sector. Deriving from the so-called principal-agent problem, contract failure is based on two key concepts: asymmetry of information and nondistribution constraints. This framework was adopted and expanded from Arrow (1963), who focused on asymmetric information, and the issue of trust and agency as key characteristics of the relationship between providers and consumers of health care, as well as Akerlof (1970) who pointed out that quality uncertainty is inevitable because of the asymmetry of information between sellers and buyers of goods and services. In the market for services where asymmetric information exists, consumers cannot observe the quality of services in advance and may rationally prefer to choose nonprofit providers because of nondistribution constraints that considerably reduces or even eliminates its incentive to take advantage of less informed consumers (Hansmann 1980). In addition, under asymmetric information on quantity and quality of services, the nonprofit sector may have an advantage over the private for-profit sector which would be perceived to have a conflict of interest because it can increase its profits by manipulating the quantity and quality of services, while the nonprofit sector may derive greater utility from offering an optimal quantity and quality of services (Hansmann 2003; Ortmann and Schlesinger 2003). Fearing for-profit providers' opportunism, consumers search for a mechanism that mitigates the incentives of the agent to act contrary to the interests of the principal and nonprofit providers, with their nondistribution constraint, serve this purpose (Clarke and Estes

1992, Hansmann 1987). Thus, consumers rely on legal form as a signal that the urge for profit maximisation has been muted and, hence, that nonprofit providers merit institutional trust (James 1989). Newhouse (1970) pointed out that the nonprofit sector has fewer incentives to lower the quality of services provided, since their performance is judged by quality, or their desire to show professional excellence or technical expertise by stressing quality. Nonprofit providers are constrained by several external forces such as philanthropic service mandates and the expectations of professionals, communities, politicians, and boards of trustees (Clarke and Estes 1992; Weisbrod 1988).

The contract may also fail because of high transaction costs of elaborating, monitoring and enforcing a contract that specifies all characteristics and attributes of goods or services (Clarke and Estes 1992; Weisbrod 1989). Contract failure argues that the asymmetry of information between the principal (patient) and the agent (provider) becomes important in explaining the role of the nonprofit sector. The nonprofit agent, by better serving the principal's interests, also serves the market and society more efficiently. In African settings, for example, where it appears difficult for most malaria patients with limited knowledge to judge either quantity or quality of preventive and treatment services, particularly where mobility is difficult, patients cannot shop around to compare different providers of health services. According to the contract failure argument, it is expected that the nonprofit sector would provide higher quality malaria services than the for-profit sector that may have both the incentive and the opportunity to take advantage of patients by lowering the quality of health care. However, a review of empirical studies that test Hansmann's trustworthiness thesis arrive at a mixed conclusion that his predictions are well-supported in some nonprofit firms and doubtful in others (Ortmann and Schlesinger 2003;

Hansmann 2003). In addition, some studies that test differences in consumer preferences and organisational behaviour between for-profit, public and nonprofit providers of services find that theoretical expectations fit religious nonprofit providers far better than secular nonprofit providers which appear to be closer to for-profit and public sector providers in terms of the variables examined (Kingma 2003; Slivinski 2003; Weisbrod 1998). Moreover, the failure of the nondistribution constraint to prevent opportunism in the nonprofit sector has been recognised and criticised as a limitation of the contract failure approach (James 1983; Ben-Ner 1996). Indeed, some self-entrepreneurs can rationally opt for nonprofit status as a means of committing to soft incentives (Glaeser and Shleifer 1998).

The conventional conceptual arguments suggest that nonprofit providers can respond to government failure, but they don't demonstrate that nonprofit providers generate the optimal outcome in light of government failure (Prychitko and Boettke 2002; Weisbrod 1988). While nonprofit providers arise in response to 'market failure-government failure', they also emerge as a substitute for government intervention in the market for public goods (Berger et al. 1996; Glaeser and Shleifer 1998; Weisbrod 1988).

Salamon (1987) proposed the notion of *voluntary failure* which in contrast emphasises that nonprofit providers do not exist as a substitute for services provided by government, but instead exist in partnership with government to form a 'third-party government'. This alternative theoretical argument attempts to demonstrate not only how nonprofit providers can enhance the modern welfare state, but more specifically, how the welfare state supports and improves the nonprofit sector. Under this theoretical framework, the theory of the welfare state is criticised for

its failure to acknowledge the reality of 'third-party government', while the theory of the nonprofit sector is criticised for its emphasis on the role of nonprofit as a substitute for the state (Salamon 1987; Salamon and Anheier 1996; Wolpert 2003). Neither the theory of the welfare state nor the theory of nonprofit organisations provides insights for better understanding of a flourishing government-nonprofit partnership (Salamon 2003). Salamon (1995, p. 6) pointed out that "... To come to terms with the reality of widespread government-nonprofit co-operation, therefore, it is necessary to reshape the conceptual lenses through which this reality is perceived, to replace the traditional theories of the welfare state with the concept of 'third-party government', and to replace prevailing 'market failure/government failure' theories of the nonprofit sector with a theory that acknowledges the possibility of 'voluntary failure' as well, of inherent limitations of the voluntary sector. Equipped with this alternative set of theoretical lenses, the widespread partnership between government and the nonprofit sector comes into focus not as an aberration, but as a reasonable adaptation to the respective strengths and weaknesses of the voluntary sector and the state. Rather than a phenomenon to be shunned or discouraged, co-operation between government and the voluntary sector emerges from this analysis as a reasonable model to be promoted and improved".

Given that the nonprofit sector is often involved in the direct delivery of health services which are supported by government interventions through standardised rules, tax exemptions, public subsidies and other incentive measures, some empirical interconnections may exist between government and the nonprofit sector. From this perspective, the concept of voluntary failure can be fitted into the traditional framework, and thereby provide greater clarity to the normative government-nonprofit partnership that can propel the nonprofit sector towards a socially optimal

outcome. This relationship between the nonprofit sector and government implies that the growth of nonprofit activity reflects an increase in the gap between perceived social need and government provision (Weisbrod 1998). However, it may be more conceptual than empirical to argue that the partnership between government and nonprofit organisations is not only the consequence of voluntary sector failure, but also an efficient improvement within the nonprofit sector (Prychitko and Boettke 2002; Salamon 1987). While the notions of public goods, external benefits, asymmetric information, contract failure, trust, demand heterogeneity, transaction costs as well as voluntary failure and partnership continue to serve as the building blocks of economic theories of the nonprofit sector, recent work has expanded beyond these early attempts and now includes several other major theories such as demand-side or stakeholder approaches and supply-side or entrepreneurial theories of the nonprofit sector.

The theoretical demand-side approach to the nonprofit sector focuses on beneficiary stakeholders or consumers of either private or public goods. However, the issue emphasised in this demand-side framework is not the demand for goods or services, but instead the demand for organisational forms in that there is a systematic preference on the part of beneficiary stakeholders for transacting with a certain organisational form including for-profit, nonprofit, and public sector (Ben-Ner and Gui 2003). The stakeholders' preference for the nonprofit sector over the for-profit sector rests on the nonprofit peculiar 'failure correcting devices'. The failure correcting devices that may improve desirable behaviour and trust, and reduce the transaction costs include: the 'nondistribution constraint', the 'mutual' form of nonprofit organisations, and the voluntary co-operation with beneficiary stakeholders (Krashinsky 2003). However, there is the possibility of conflicts between various groups of stakeholders. The supportive view of the

stakeholder approach suggests that nonprofit providers would resolve those conflicts more effectively than the for-profit sector. Thus the nonprofit sector should evolve when it is more effective in providing a particular service than other possible institutional arrangements (Krashinsky 2003). In contrast, the opposing view suggests that those conflicts will persist in the nonprofit sector and will require some kind of resolution, including government interventions. Besides its specific correcting devices, the nonprofit sector shares with the for-profit sector some existing protective mechanisms such as providers' reputation based on past performance, enabling measures or incentives based on compliance with agreed rules, public regulation, self-regulation, independent monitoring agencies, professional ethics, etc.

The theoretical supply-side approach of the nonprofit organisational form is derived from the existence of the demand-side that creates the potential for a meaningful nonprofit organisational form. While it is well established that individuals derive satisfaction not only from consumption-like activities but also from setting meaningful goals and achieving them by starting and shaping an organisation (Aaron 1994; Badelt 2003; Hirschman 1985), understanding the financial and non-financial motivations of economic actors who take actions from which they derive no material advantages has always been a challenge for economic theory (Anheier and Gui 2003). Engaging in starting and shaping socially valuable activities through a nonprofit organisation allows entrepreneurs to realise their own visions, as to how a particular service should be provided (Rose-Ackerman 2003), as to how an organisation should conduct itself, and as to which unsatisfied needs of fellow human beings priority should be given (Anheier and Gui 2003). From this perspective, pure nonprofit entrepreneurs are in a sense demanders because they take advantage of an opportunity for meaningful engagement and this provides some

advantages to nonprofit providers as compared to for-profit providers with respect to their ability to assemble the resources needed to deliver the services. The most likely specific resource that improves the performance of nonprofit providers is a privileged link with customers particularly where nonprofit providers may enjoy a captive market, due to special links with associations, churches and social movements (Steinberg 2003). However, the nonprofit sector's ability to provide services at low cost and to align productive choices with the preferences of their beneficiary stakeholders depends to a large extent on the effectiveness of its management's incentives in keeping the organisation in track (Ben-Ner and Gui 2003). In the health sector, the size, distribution, and the evolution of nonprofit providers are subject to a great variety of factors including: economic, technological, institutional, social, and cultural. Nonprofit providers seem to enjoy a permanent comparative advantage at matching unsatisfied needs with latent entrepreneurial resources in search of non-financial motivations (Badelt 2003; Ben-Ner and Gui 2003; Steinberg 2003; Vladislav 2006).

This development necessitates the integrative conceptual core of a theoretical understanding applicable to the whole nonprofit sector that has evolved and revealed a more complex nature, origins, and behaviour (Ben-Ner and Gui 2003; DiMaggio and Anheier 1990; Steinberg 2003; Vladislav 2006). The integrative conceptualisation focuses on demand-side and supply-side factors that underlie the existence of the nonprofit sector as a response to the difficulties in the adaptation of some economic agents' financial motivations to others' non-financial motivations (Vladislav 2006). While this evolving economic theory faces the challenge of taking account of the diversity of different types of organisations in the nonprofit sector, the principal similarities among nonprofit providers are institutionalised to some meaningful extent, which include being

private, nonprofit distributing, self-governing and voluntary, as well as prohibiting excessive executive compensation and self-serving dealings (Ben-Ner and Gui 2003; Salamon and Anheier 1992; Vladislav 2006). Managers in the nonprofit sector commit themselves to operate in the direct interests of their beneficial stakeholders by moderating financial motivations. The opportunistic behaviour of both supply and demand stakeholders may be discouraged by their adherence to certain social values, direct enjoyment of interpersonal association and mission that play the equivalent role that profit does in the for-profit sector (Vladislav 2006). This integrative approach of economic theory of the nonprofit sector is oriented to the perspective of the market for health services by focusing on different roles of the nonprofit sector, the for-profit sector, and government (or public sector) in the presence of market failure, government failure and voluntary failure. While the reduction in government direct supply of health services forces patients to rely more on private (both nonprofit and for-profit) providers, patients' protection against 'market failure, government failure and voluntary failure' is brought forth by both exogenous interventions such as appropriate enabling measures and regulatory mechanisms, and endogenous change in competitive practices such as self-regulation of professionals.

Conclusion. The nondistribution constraint, public goods and contract failure issues appear to be the common ground for existing theoretical arguments for the emergence of the nonprofit sector, particularly because opportunism caused by asymmetric information can prevent profit maximising providers from leading to maximisation of public health services to the whole society (Ben-Ner 1986; Hansmann 1980; Weisbrod 1977). The early economic theories of the nonprofit sector extend their influence beyond economics and inform sociological and political science approaches to the set of institutions and organisations located between the market

enterprise and the government agency (Anheier and Ben-Ner 2003). Conversely, economic theories can benefit from the theoretical framework developed by sociology, political science, law and history – theoretical insights that could provide conceptual and empirical material useful for further building economic theories (DiMaggio 2003; Galaskiewicz and Bielefeld 2003; Matsunaga and Yamauchi 2004; Wolpert 2003). The literature also considers the theoretical models for private providers.

2.2.5 Theoretical economic models of private sector providers' behaviour

The economic literature suggests that in theory, private providers' behaviour is related to the elasticity of supply. This is the relationship between the quantity of health services provided and their prices measured as the percentage change in quantity supplied resulting from a one percent change in prices charged. However, traditional economic models tell us that prices are determined by supply (willingness and ability to sell) and demand (willingness and ability to buy). If government wishes to influence the performance (e.g. increase the utilisation) of health services, traditional economic models would suggest focusing on demand. Theoretical models predict that price elasticity of demand for health services is likely to be higher for lower income groups (McPake 1993). Because government interventions may hold health service prices below their market levels, people are both encouraged to use, and can afford to buy, more health services. But the supply of health services may be discouraged because profit or surplus margins are reduced.

Jegers et al. (2002) point out that legislation and financial incentives are among the policy tools which can be used to achieve the general objectives of health care: accessibility, efficiency and quality. While private providers become strongly active actors in the operation of the health care market, it would be possible to influence their performance by enabling and regulating supply rather than demand of health services. This needs an understanding of which set of enabling and regulatory interventions could be most appropriate for influencing the performance of private providers. Government can regulate the price and increase the availability of loans, subsidies, and introduce other enabling and regulatory measures.

Price regulation can be referred to as establishing the terms under which public and private providers charge patients for health services (Dor 2004; Kumaranayake 1998; Langwell 1993; Liu et al. 2000). Price regulation often uses distorted fee schedules to affect the behaviour of providers. Regulated prices or fees (e.g. consultation fees, diagnosis fees, laboratory fees, drug fees, medical procedure fees, etc.) of health services are administratively or legally determined by governmental agencies. As price regulation interferes with private contracting in the market place, it is frequently argued that the market will not clear. However, while market transactions continue to exist under price regulation, the market will necessarily clear in the sense that the quantity demanded will equal the quantity supplied (Cheung 1974).

Economic theory also suggests that price regulation may cause changes in the quality of the good or service transacted. To understand the effects of this pricing policy, the theoretical prediction suggests that price regulation would make health services available cheaper than they otherwise would be in the context where private providers can use their market power to charge prices that

vary from the cost of providing the services. There is also theoretical support for the hypothesis that “if [regulated] prices do not reflect actual costs and public health objectives are not taken into consideration in pricing health services, a range of undesired consequences may result. Providers may charge informal payments to compensate for inadequate formal payments, or they may avoid treating sicker patients. Services provided may be of suboptimal quality. Inappropriate referral patterns may develop between levels or sites of service. Services may be either under – or over-utilised, depending on the relationships between the price, the actual costs of services, the value of services to individuals, and the presence of positive externalities for services, such as immunisation, that provide health benefits beyond the individual to whom they are directly provided” (Waters and Hussey 2004, p. 178). The literature also suggests that, supply and demand may not be independently determined because in response to economic considerations, providers can induce demand for their services, but that such behaviours are neither automatic nor unconstrained (Hurley and Labelle 1995).

However, the economics literature also suggests that specific behavioural responses to price regulation cannot accurately be predicted without knowledge of private providers’ financial orientation. In theory, private nonprofit providers are expected to differ from private for-profit providers in the way they respond to price regulation. The nonprofit sector’s pricing policies under regulated fee schedule, particularly price discrimination by charging lower prices or nothing at all to a target population of deserving consumers, while charging richer persons higher prices, can be used not simply to generate revenue, but to achieve the nonprofit’s distributional mission (Steinberg and Weisbrod 1998). In addition, while nonprofit providers may charge user fees to generate revenue to support their mission-oriented activities, they may set price below

marginal cost – even zero – for certain underserved groups and indigent consumers (Arenson 1996; Sloan 1998). In the health sector, while it has been found that nonprofit providers allow greater access to patients regardless of ability to pay (Schlesinger 1998), it has also been highlighted that nonprofit hospitals have significantly lower yearly variation in ‘profit’ rates, meaning that they pursue nonprofit maximising objectives by seeking instead to maximise the nonprofit organisations utility subject to a ‘profit’ constraint (Hoerger 1991). The variety of the nonprofit sector allocation mechanisms may better highlight the nonprofit departures from profit maximising behaviour (Steinberg and Weisbrod 1998) as shown in Table 2.3. below. Perhaps it may be worthwhile to highlight that these predicted behaviours of nonprofit providers should be considered as hypotheses that contribute to extending the theoretical basis for exploring the effects of enabling and regulatory interventions on the performance of different providers.

The theoretical assumption would be that nonprofit providers would often use uniform pricing under the same conditions and in the same way as for-profit providers. While for-profit providers would use uniform pricing when, given asymmetric information and other constraints, this pricing mechanism would maximise their financial profits, nonprofit providers would employ it for health services when this practice would maximise their financial surplus available to further the nonprofit’s public goods or redistributive mission, or the private agendas of managers of nonprofit facilities (Steinberg and Weisbrod 1998). However, unrelated mission activities may be nonpreferred in the nonprofit utility’s framework, so that when uniform pricing is employed, nonprofit providers would underprovide unrelated health services as compared to for-profit providers (Schiff and Weisbrod 1991; Weisbrod 1998).

Table 2.3: Nonprofit Use of Price and Nonprice Allocation Mechanisms

Price and Nonprice Allocation Mechanisms	Examples of malaria services	Hypotheses about nonprofit departures from profit-maximisation behaviour
Price:		
▪ Uniform Pricing	No differences in price charged for malaria prevention and treatment services	Nonprofit and for-profit providers more likely to use uniform prices for those health services unrelated to the nonprofit mission (except for disfavoured or nonpreferred activities).
▪ Sliding-Scale Fees or Interpersonal Price Discrimination	Income-based user fees of malaria services in urban settings	Nonprofit providers more likely to price-discriminate and to choose a low price that is below the marginal cost of serving their patients.
▪ Voluntary Price Discrimination (when eligibility for particular prices cannot be verified by the providers)	Fees for indigent and poor malaria patients	Nonprofit providers more likely to use extensively; while the practice is not generally feasible for for-profit providers, except in cases where the donor can control, at least in part, who benefits from her contribution, as in for-profit day care.
▪ Intertemporal Price Discrimination	Day, night, weekend, and holidays' fees for services	Nonprofit providers more likely to use this for those who will never be profitable to serve.
▪ Noncash Payment	Malaria patients' unable to pay for user fees	Nonprofit providers may require partial payment in the form of labour or in kind; while For-profit providers more likely to stick to cash.
Nonprice:		
▪ Waiting Lists	Malaria daily case management	Nonprofit providers more likely to use waiting lists; while For-profit providers more likely to react to persistent excess demand by expanding capacity or increasing price.
▪ Eligibility Requirements	Guidelines for fees exemption for uncomplicated and severe malaria services to poor patients.	Nonprofit providers more likely: (1) to use requirements poorly or negatively correlated with willingness to pay; (2) to restrict eligibility to those who cannot pay; while For-profit providers more likely: (1) to use requirements positively correlated with willingness to pay; (2) to use eligibility requirements to establish a niche market
▪ External Imposed Eligibility Requirements	Regulatory body's requirements for fees exemption to poor patients	Nonprofit providers more likely to construe requirements broadly for unprofitable patients and narrowly for profitable patients.
▪ Quality Dilution and Opportunistic Quality Sharing	Quality of service in the time of epidemic or malaria endemic seasons	Nonprofit providers more likely to hold excess capacity in order to avoid quality dilution, while For-profit providers more likely to dilute quality in cases of contract failure.
▪ Product Bundling	Coupling prevention and treatment services	Nonprofit providers more likely to bundle 'merit goods' in pursuit of paternalistic objectives, while For-profit providers more likely to bundle in pursuit of profit.
▪ Recruiting Target Populations	Location of Health Facilities	Nonprofit providers more likely to target mission-related populations regardless of expected future profitability.

Source: Steinberg and Weisbrod 1998

Sliding-scale fee mechanisms are related to a type of price discrimination in which patients pay different prices per unit based on their observable characteristics such as income, age, sex, family size, severity of illness, etc. rather than on the particular costs of serving that individual patient. Other forms of interpersonal price discrimination may be related to production cost factors and occupancy rates, particularly whenever marginal costs are markedly lower than average costs (Steinberg and Weisbrod 1998). Sliding-scale fees may be common in malaria preventive and treatment services for children under five and pregnant women in many malaria

endemic countries. Since income is the most feasible proxy for patients' ability to pay, the income-based fee schedule is expected to be largely used by for-profit providers because they could raise prices for some without losing other patients who could be profitably served, than by nonprofit providers who may fear for the consequences of their price allocation mechanism. However, the lowest price selected by a nonprofit provider that has distributional goals would often fall below the marginal cost of serving the indigent group, whereas for-profit providers would select a lowest price at or above marginal cost (Steinberg and Weisbrod 1998).

Voluntary price discrimination by nonprofit providers may be related to patients' stated willingness to pay more, regardless of other patient characteristics. Indeed, nonprofit providers may voluntarily charge different fees, while provide almost the same health services to all categories of patients. In some circumstances, nonprofit providers may choose to offer health services free of charge as donations to some categories (poor, indigent, disabled, etc.) of patients. Donations in general constitute a form of voluntary price discrimination in the sense that each donor voluntarily determines the size of its contribution (Ben-Ner 1986; Spiegel 1995). However, these voluntary free health services should be distinguished from charity health services required by regulation and from health services paid for by the third parties such as health insurance organisations or government through public subsidies. Steinberg and Weisbrod (1998, p. 70) hypothesised that "sliding scales and voluntary price discrimination may be more prevalent at nonprofit than for-profit providers for the following three interrelated reasons: (1) there is more scope for a sliding scale when the range of patients is broad, as it is for nonprofit providers that serve persons unwilling or unable to pay marginal costs; (2) patients are more likely to reveal their willingness to pay truthfully when dealing with a nonprofit provider because they know that

when revelation causes them to pay a higher price, that price is supporting a mission they support rather than lining a stakeholder's pockets (Ben-Ner 1986); and (3) the redistribution accompanying the use of sliding-scale fees sometimes constitutes the nonprofit's mission, rather than serving merely as a means for raising revenue to accomplish some other mission".

Intertemporal price discrimination may be used by both nonprofit and for-profit providers of health services. Some private providers may discriminate based on evening, night, weekend, and holiday consultation and admission fees which are different from the price charged during working hours. But other types of intertemporal price discrimination exist. Nonprofit providers may offer, even on an occasional basis, some free consultation or admission. For-profit providers may rely often on promotional prices and free samples in an effort that appears to be a marketing strategy, but it may be rare for for-profit providers to offer free health services directed to those who will never pay the marginal costs of provision.

Noncash payment, such as labour or a mixture of labour and small cash payments may often be accepted by nonprofit providers in circumstances where patients appear to be unable to pay the full total costs of health services. While nonprofit providers may prefer this relatively inefficient payment method because it may be in line with some aspects of their mission as well as supplies some resources, this pricing method may not suit for-profit providers because they may prefer to be paid in cash since it could be used to hire additional qualified staff, or for other purposes which require ready access to cash.

A variety of nonprice mechanisms may be used to allocate health services that are provided at a low price. The most prominent nonprice allocation mechanism is the waiting list that may be better used as a signal of trustworthiness by the nonprofit providers than for-profit providers. Eligibility requirements constitute another important nonprice mechanism that can serve to ration the availability of health services. This pricing strategy may require that patients provide evidence that they meet eligibility standards including income, wealth, family size, gender, religious affiliation, political persuasion, age, employment status, disability, or the like before they are eligible to receive the health services (Steinberg and Weisbrod 1998). While nonprofit providers and for-profit providers may define their own eligibility requirements for patients' to benefit from or access health services, contracting government bodies can define their own eligibility criteria and would require both nonprofit and for-profit providers to use them for selecting and providing health services to patients.

It is suggested that from the perspective of government agencies' typically specified eligibility requirements, the sectoral differences in behaviour of nonprofit and for-profit providers would be related to the profitability of serving the target population. In such circumstances, nonprofit providers by pursuing their social objectives would be less likely than for-profit providers to take advantage of asymmetric information to use the contractually and externally imposed eligibility requirements in a way that restrict access to health services or maximise profits or surpluses (DeHoog 1984; Ferris and Graddy 1991).

Quality dilution may arise when an unexpectedly large demand for health services occurs, when both nonprofit and for-profit providers may experience a lack of capacity to contain or satisfy

this excess demand. This may occur for example, during the occurrence of an epidemic or malaria endemic seasons in low income countries with limited supply capacities. In the presence of quality uncertainty, when patients are unable to verify that the quality of health services is at the promised/required standard level, nonprofit providers may be less opportunistic than for-profit providers in using the possibility of quality dilution to meet excess demand (Akerlof 1970; Hansmann 1980).

Another nonprice allocation mechanism is associated with health service bundling where providers require patients of one service to compulsorily complement this with other direct and indirect related services. Service bundling may be particularly consistent with malaria prevention and treatment, for example, pregnant women at prenatal clinics may be required to purchase insecticide-treated nets. Nonprofit providers of health services may go beyond service bundling by emphasising preferential pricing and eligibility restrictions in order to encourage the participation of target populations. It may be possible that more nonprofit health facilities be located in underserved, low-income and rural areas than for-profit health facilities (Pauly 1987).

Enabling interventions (e.g. financial incentives; loans, subsidies, etc.) can be used to affect private providers' behaviours on the basis that while they have the entrepreneurial capacity to contribute to meeting public health objectives (Badelt 2003; Frank 2006; Roper and Cheney 2005), they face a range of challenging circumstances. These include: a lack of access to capital necessary to start, sustain and expand services, lack of infrastructure, limited access to supplies and equipment, loans at very high interest rates, and shortage of other structural and process elements that can drive up the costs and lower the quality of health services (Marek 2005).

Economic theory suggests that the market for health care fails because private providers do not have enough incentives for health services they provide (Barnum et al. 1995; Chaix-Couturier et al. 2000; Migué 1977; Vitale 2004; Yip and Eggleston 2004). Although internal incentives would affect decision making powers and can have profound effects on performance (Adams and Hicks 2000; Hicks and Adams 2000), this study focuses on external incentives that affect organisational performance. WHO (2000a) defines external incentives as strategies used by government to oversee the activities of health organisations, including governance (responsibility for decisions and control over residual income), financing directed toward public policy objectives, and control mechanisms (the degree to which regulations or financial incentives are necessary to obtain desired policy objectives). Enabling interventions such as loans, subsidies and other incentives can, in principle, alter the behaviour of private providers in the course of their practices. While government can either make loans directly available or provide loan guarantees to private providers in the form of more-attractive loan terms than private providers might otherwise obtain in the financial market, subsidies can include tax-exemptions, 'lump-sum', and other supporting public financing directed to private providers (Shah 1995; Thomas et al. 1992; Zee et al. 2002). The provision of financial incentives (tax-breaks, loans, subsidies, etc.) to private providers will change both the operational capacity and prices thereby influence supply and demand patterns. This suggests that both patients and providers can share the benefits of financial incentives even though they are paid to providers. However, prices charged to patients will be reduced by the amount of financial incentives received (tax-breaks, loans, subsidies) only when the supply is perfectly elastic or when the demand is perfectly inelastic. In some circumstances, however, prices charged to patients may not fall by the amount of financial incentives received, thereby allow providers to receive higher prices than before.

The theoretical approach for analysis of the provision of loans, tax-exemptions, and other subsidies can be couched in terms of whether private providers respond to incentives thereby moderate their rent-seeking behaviour (e.g. demand inducement) and protect the public interest. The theoretical literature predicts that if (private) providers are offered appropriate enabling and regulatory interventions, then a range of desirable behaviours would be expected (Barbera 2000; Chaix-Couturier et al. 2000; Dudley et al. 1999; Kingma 1999; Laffont 2003; Vitale 2004) including:

- they would tend to behave as near perfect agents for their multiple principals (MoPH, Medical Council, patients, etc.) in the delivery of health services. This means that appropriate enabling and regulatory interventions would align the interests of both the principal and agent to pursue some commonly defined specific objectives which are in the public interest;
- they would provide relative low cost and high quality of specific public health services to either rural and urban or poor and rich communities. This means that under enabling and regulatory interventions, private providers are expected to provide comparable costs and quality services and to locate irrespective of financial orientation, between urban and rural or poor and rich areas.

The economics literature elaborates quite a number of alternative models of the nonprofit sector's behaviour. Newhouse (1970) proposed an economic model of nonprofit behaviour that appears to be theoretically applicable to different types of nonprofit providers of health services. This approach recognises the possibility for nonprofit decision makers to choose either a utility-maximisation type or a profit-maximisation type of behavioural model for the quantity and quality of health services. But Newhouse's arguments put more emphasis on utility

maximisation, that is the measure of the satisfaction of nonprofit decision makers. The preferences of nonprofit managers can be associated with a combination of quantity (number of cases treated over a given period of times) and quality (standards of structural inputs, expertise of clinical staff, prestige and influence, charity or mercy) of health services provided that they entail external benefits to the community at large and to the nonprofit decision makers in particular (Folland et al. 2004). While the nonprofit provider would face a budget constraint, its nondistribution constraint characteristic entails that it would have no incentive to overcharge patients to increase net revenues as a general rule.

However, nonprofit providers have been criticised for often choosing a combination of medical inputs that are conspicuously prestigious and may lead to inefficient delivery of quality health services for the society (Lee 1971). Nonprofit health facilities have also been criticised for behaving as a physicians' co-operative in which the objective of managers (medical doctors) is to operate in the way that maximises their pecuniary gain such as net incomes (Paul and Redisch 1973). This approach argues that while the total costs of health services will be determined by patient demand, they depend largely on the total quantity of care offered by the physicians' co-operative. In turn, the quantity of health services provided to patients depends on the quantity of a combination of inputs chosen by the managers of health facilities.

These concerns have been further highlighted by the so-called 'interest group' approach for which medical professionals, particularly physicians, prefer the nonprofit sector because they can increasingly develop and use their influence as an interest group to exercise greater economic control within the health sector (Bays 1983). The interest group proponents argue that the

governance of private nonprofit facilities may give some admitting privileges to organised medical and paramedical personnel who can increase their incomes by ordering health services complementary to their own services or ordering health services perhaps well past the extent that would be appropriate for the patient's needs. This theoretical argument appears to indicate that favoured tax exemptions, custom's privileges, tax deductible donations, loan subsidies, and public subsidies to nonprofit providers may not be particularly in the public interest.

Moreover, a distinctive alternative model proposed that the nonprofit health facility may behave like a noncooperative oligopolistic firm representing two opposing interest groups represented by administrators and physicians respectively (Berenson et al. 2007; Harris 1977). While the physicians' group will tend to demand new medical technologies that are complementary to existing capacity for improving quality of health services, regulation to limit health care costs should establish incentives for and constraints on both the physician and administrator groups (Folland et al. 2004). In these circumstances, enabling and regulatory interventions would seek to provide an institutional framework capable of guiding and moderating the behaviour of different interest groups in the provision of affordable quality health services.

James (1983) modelled nonprofit organisational behaviour as a multiproduct firm who potentially provide three categories of services that contribute in some ways to the nonprofit's mission. The first category of services that is related to the nonprofit's mission involves some type of preferred collective or public services such as provision of health care for the poor (Schiff and Weisbrod 1991). This category also involves public trust that, in the presence of asymmetric information, the nonprofit provider will not act opportunistically against ill-informed

patients. The other two categories of services involve preferred and nonpreferred private services, which may more likely be potential sources of revenue for financing the mission-related services (Weisbrod 1998). While the preferred private health services can be provided by the for-profit sector, the nonprofit sector may wish to make them available to some patients independent of their ability to pay for health care. The nonpreferred private health services may be provided by the nonprofit sector solely for the purpose of generating additional revenue to scale up the delivery of preferred public health services to the community at large. The nonprofit sector's behaviour may be dependent on the degrees of its preferences for or aversions to, engaging in the three categories of health services. However, the nonprofit sector's increasing reliance on commercialisation of health services has been highlighted and criticised.

Weisbrod (1988) pointed out that the emerging commercialism-like behaviour in the nonprofit sector raises the question of whether nonprofit providers are merely 'for-profits in disguise (FPID)'. Given the scope of commercialism changes that are occurring in the nonprofit sector, neither market nor government failures can be overcome by nonprofit providers because they are transformed into rent-seeking entities which are dependent on generated revenues and tax-finance rather than the voluntary contributions of individual and institutional donors (Ravichandran 2006; Weisbrod 1998). The rationale for the nonprofit sector's favoured tax treatment and subsidies rests on the belief that it provides health services that are materially different from, and are preferred to, the health care that the private for-profit sector provides. But the policy debate over its behaviour in the modern health sector continues, particularly where private for-profit providers claim they are victims of 'unfair competition' from subsidised, tax exempt, nonprofit providers, pressuring government to restrict the nonprofit sector's commercial

activities (Rose-Ackerman 1990; Weisbrod 1998). It is therefore important to delineate the appropriate role of government's interventions and look at the functional significance of nonprofits in filling the gap left by government and the market (Prychitko and Boettke 2002).

Nonprofit providers who engage in commercial activities to generate revenue may behave more like for-profit providers, thereby challenging the traditional theoretical predictions for the nonprofit sector's specific behavioural models based on mission-related economic and social objectives. However, the literature suggests that the way nonprofit providers would use their opportunities to sell services may reflect their social-service missions to reach particular target populations, instead of maximising profits (Weisbrod 1998).

Theoretical models for exploring the effects of government interventions can be based on economic theory in which behaviours are assumed to reflect an effort by private providers of health services to maximise incomes subject to constraints imposed by enabling and regulatory interventions. Economic behaviour suggests that while the production is largely dependent on marginal income, relative to the marginal cost of production, it is expected that providers would produce until marginal income equals marginal costs (Jegers et al. 2002). If private providers' actual costs can be taken into account in the enabling interventions that they receive, and if providers can still earn a profit or surplus if they comply with regulatory interventions, we would expect enabling and regulatory interventions to considerably influence their performance in terms of coverage, accessibility, utilisation, service prices and costs, and quality of care. However, economic theory also suggests that most private providers not only pursue financial objectives. The theoretical literature suggests that while private for-profit providers may seek to

maximise profits, private nonprofit providers may not pursue financial objectives. Private nonprofit providers are exposed to the nondistribution constraint associated to practice ownership, mission related activities and a number of non-price mechanisms, such as screening, socialisation, education, profiling, promotion, prestige, professional experience, professional ethics, etc. that all affect their behaviour and they can even reverse some financial-based behavioural predictions (Anheier and Ben-Ner 2003; Hansman 1987; Newhouse 1970; Robinson 2001; Vladislav 2006; Weisbrod 1975).

Moreover, enabling and regulatory interventions are not straightforward as they entail some transfer of responsibilities from government to a bureaucracy or self-regulator in another principal-agent type relationship. Bureaucrats and self-regulators (agents) are given authority to undertake various tasks in the implementation of enabling and regulatory interventions for government (the principal). The theoretical literature predicts that bureaucrats and/or self-regulators would use their administrative discretion to engage in opportunistic behaviours in order to capture economic rents or such agents may be complacent in the implementation and enforcement of enabling and regulatory interventions (Peltzman 1976; Posner 1974; Stigler 1971; Rose-Ackerman 1999; Shaked and Sutton 1981). These behaviours of bureaucrats and self-regulators would lead to inappropriate enabling and regulatory interventions which in turn, would affect the expected performance of private providers.

Table 2.4 presents an overview of the key theoretical predictions on the effects of enabling and regulatory interventions. Theoretical models predict how private providers respond to enabling interventions they receive and regulatory mechanisms they face. There are basic theoretical

expectations of a range of government interventions including: liberalisation of the private practice environment, provision of financial and non-financial incentives, regulation of entry and distribution, regulation of prices, and regulation of quality of care in the private sector. Data from Table 2.4 suggest that enabling and regulatory interventions may affect the quality of health services, the costs of producing and the prices of providing health services, the number of practising health providers, the types of practising health providers, and the incomes of health care providers. Enabling and regulatory interventions will explicitly influence the supply thereby implicitly affect the demand of health services.

In theory, some both positive and negative effects are expected from government interventions. The liberalisation of the private practice environment may expand coverage through increasing the number of practising health providers thereby potentially establishing a relatively competitive market that would provide the possibility for patient choice and improvement in efficiency and quality of care in the private sector. But a competitive health care market would present some risks in relation to the under-provision of health services entailing external benefits, and raising prices and lowering quality to meet potential excess demand of public health services.

Table 2.4: Theoretical models of the private sector's behaviour under enabling and regulatory interventions

Types of government interventions	Theoretical predicted effects on the private sector's behaviour		More likely predicted behaviours of providers by ownership	
			The for-profit sector	The nonprofit sector
• Liberalisation of the private practice environment for more competition among providers (e.g. dual practice, early retirement from the public sector to undertake private practice, etc.)	• Social welfare improvement in a competitive market and providers have no influence over service prices but decide only the quantity supplied (Welfare economics); • Private providers would lack incentives to supply the optimal level of health services associated with public goods and externalities characteristics (Public interest approach); • As health services are experience goods associated with public goods and asymmetric information characteristics, private providers would use their information advantage to exploit patients or to delude quality of health services provided (Public interest approach); • Patients would be exposed to one or a small number of providers (potential monopoly power) who may overcharge for health care provided (Public interest approach).		• Competition in quantity supplied would lead to rent-seeking behaviours for profit motives and distribution of residual income ; • Under-provision of services entailing external benefits, raising prices and lowering quality to meet excess demand of services.	• Nondistribution constraint would lead to maximisation of nonprofit social-mission type of behaviours; • Trustworthiness and contract failure would lead to optimal provision, good quality, and low prices of public goods; • Commercialism-like behaviours may not reflect social-service missions;
• Provision of (non-) financial incentives (e.g. subsidies, government loans, tax-breaks, other public financing for operating costs, training, etc.)	• Private providers would supply an optimal quantity and quality of services at low prices to patients thereby increasing utilisation (Economic theory of regulation); • Private providers would compete for obtaining (non-) financial incentives rather than for individual patients that often lead to demand inducement (Economic theory of regulation); • Private provider's behaviours would change in response to financial incentives from the perspective of their financial orientation (Economics of nonprofits); • Private providers would tend to behave as perfect agents thereby resolving the problems of asymmetric information and post-contractual opportunism of moral risk because incentives would align the interests of providers with those of government/patients (Agency theory, New Public Management); • Private providers rent-seeking behaviours would not be moderated if bureaucrats in charge of implementing incentives act as imperfect agents by seeking to maximise their utility, prestige, budget and private gains (Public choice theory; Agency theory) ; • Private providers may seek to protect their own interests at the expense of patients by using pressure, influence and bribery on bureaucrats or self-regulators in charge of implementing incentives(Regulatory capture).		• Motivated providers would improve coverage, efficiency and quality by locating in underserved areas, serving the poor, offering public services and applying the standards; • Property rights could result into efficient service provision; • Practice changes in response to financial incentives would result from profit-maximisation behaviours; • Resistance to incentives that would limit income and increase transaction costs to providers.	• Motivated providers would improve coverage, efficiency and quality by locating in underserved areas, serving the poor, offering public services and applying the standards; • Nondistribution constraint could result into effective service provision; • Practice changes in response to financial incentives would result from utility-maximisation behaviours; • No resistance to all types of incentives.
• Regulating entry and distribution (e.g. licensing, certificate-of-need, accreditation, etc.)	• Licensed private providers would meet predefined conditions of structural and process standards of care, thereby improving patient welfare (Public interest approach); • Private providers would lobby the government to erect licensing barriers to limit the supply of health care, thereby allowing licensed providers to charge high service prices and may incite patients to substitute licensed (good quality) services by alternative – often unlicensed - (low quality) services (Economic theory of regulation; Private interest approach).		• Location and duplication of medical inputs in rich catchment areas; • Cross-subsidising of services and substitution by patients of licensed services with non-licensed ones.	• Location and concentration in areas with more mission-related activities (e.g. church, charity); • Cross-subsidising of services and substitution by patients of licensed services with non-licensed ones.
• Regulating prices of health services (e.g. fixing uniform reference prices or reference fee schedule, etc.)	• Private providers would not use their market power to charge prices that vary from the cost of providing the services (Economic theory of regulation); • Private providers would supply suboptimal quantity and quality if regulated prices do not reflect actual costs of delivering the services as market would not clear (Theory of price control);		• Competition in service quality if prices are set above market level; • Dumping, cream-skimming and demand inducement if low prices.	• Price discrimination to protect poor and indigent patients; • Nondistribution constraint would moderate undesirable practices
• Regulating quality of health services (e.g. minimum standard, code of ethics, etc.)	• Patient welfare could be improved by setting minimum standards as private providers would have no incentive to offer high quality health services in the presence of quality uncertainty and differences in information (Public interest approach); • Self-regulatory agencies will be more likely to set the standards too low/high and below/above the socially optimum level, since they can seek to maximise the net gains of their members (Private interest approach).		• Low compliance with minimum standards because of potential conflict of interests between revenue and quality of care; • Lobbying regulators to protect reputation of profession (e.g. not publicising of medical malpractice).	• Contract failure / trustworthiness would lead to compliance with the minimum standards of care; • Lobbying regulators to protect reputation of profession (e.g. not publicising of medical malpractice).

Source: Literature review.

The provision of financial incentives would improve coverage, efficiency, equity and quality of care of the private sector. It is expected that private providers would compete for financial incentives from government thereby behaving in the way that can achieve the predicted performance. Indeed, it is generally argued that the performance will not be improved by encouraging competition between providers for individual patients because this type of competition would make patients vulnerable to exploitation by opportunistic providers who may take advantage of their superior knowledge of medical services (Eggleston et al. 2006). However, both the private interest and agency theorists warn of yet other risks: rent-seeking behaviours and issues of imperfect agents would lead to opportunism and resistance to incentives that would limit income and increase transaction costs to providers.

Regulation of market entry and distribution of private providers through licensing (e.g. certificate-of-need) requirements would improve coverage (e.g. location), contain costs and expenditure, and guarantee an adequate quality of care. But there are some risks: duplication/concentration of medical inputs in areas (rich catchment or mission-related activities) where private providers expect some captive market; pushing for entry barriers for private gains; charging high prices and cross-subsidising of licensed inputs/services with non-licensed ones. Regulation of prices could improve utilisation, equity and quality of care of private providers.

Regulation of quality of care would improve coverage and maintain a minimum quality of care in private settings. It is expected that if the quality of health services appears to be

too low from a social welfare point of view, regulating the minimum standards may help to solve the problem (Shapiro 1983). However, while it may not be easy to determine the optimal minimum standard of health services, some unintended effects may occur in the private sector. A theoretical model predicts that if professionals self-regulate quality standards themselves it is likely that the standards will be set too high and above the socially optimum level. Leland (1979, p. 1338) pointed out that “in choosing the optimal minimum standards, a professional group seeks to maximise its net gains. As with any monopoly, extra profits can be achieved by a lower level of total supply than is socially optimal, [...] motivating the profession to set the optimal standard too high”.

In some circumstances, private providers may seek to treat specific types of patients by dumping, cream-skimming or skimping, but given this potential for contract failure, patients also may select themselves into a particular type of private providers. For example, there may be substitution by patients of expensive licensed services with cheaper unlicensed ones in the informal sector. Dumping refers to the refusal to treat less healthy patients who might use health services in excess of their total resources (funded through financial incentives and ‘subsidised’- regulated prices). Cream-skimming is the practice of attracting more low-severity or healthy patients who will use health services that cost less than their total resources (funded through financial incentives and ‘subsidised’- regulated prices). Skimping refers to the provision of less than the optimal quantity of health services for any given clinical condition in a given period of time.

Theoretically, however, it is predicted that in many cases, enabling and regulatory interventions may serve the public interest by improving private providers' performance in terms of high coverage, low prices and costs, and good quality health services. It might also be expected that, without enabling interventions, private providers would deliver fewer health services when they face a price regulation – they would simply slide down the supply curve. In the presence of enabling interventions, private providers might increase the provision of health services even under price regulation.

2.2.6 Further theoretical basis for enabling and regulatory interventions

The introduction of enabling and regulatory interventions involves a number of different potential costs for government and the private health sector. The literature generally identifies three main cost categories (Attanayake and Siyambalagoda 2003; Ogus 1994) which can be adapted and expanded for the theoretical basis here include:

- administrative costs to government (including: costs of defining enabling and regulatory interventions, costs of providing enabling interventions such as financial and non-financial incentives, inspectorate costs of monitoring and enforcing the provision of rewards and control of rules, and costs of punishing offenders);
- compliance costs to private providers (including costs of: improving standards of facilities, training/upgrading staff qualifications, hiring new staff, purchasing new equipment, maintenance costs, administrative costs of adapting enabling and regulatory requirements, and opportunity costs resulting from losses in productivity or forgone market benefits of not complying); and

- social costs (including: costs of market failure associated with sub-standard quality of services).

Enabling and regulatory interventions should be efficient from a societal point of view when the administrative costs to government plus compliance costs to providers for addressing market failure are less than the social costs. But from the perspective of private providers, the choice should be made in relation to a comparison between the opportunity costs of compliance and the costs of non-compliance. Therefore, the costs of non-compliance, through the use of both enabling measures or incentives (carrots) and regulatory mechanisms or dis-incentives (sticks), appear to be fundamental to successful enabling and regulatory interventions (Ensor and Weinziel 2006).

If there are no effective incentives for delivering quality service combined with missing penalties for non-compliance, it may be almost impossible to control the private medical sector (Asiwe et al. 1997). While carrots are associated with enabling measures provided to encourage compliance with required rules, which are then lost if a provider does not comply such as loss of financial or non-financial incentives for non-compliance, sticks may include punishments such as fines, removal of incentive agreements, losing contracts, expulsions, suspensions, bans or more severe sanctions. By using the functions of both the costs to government for the implementation of enabling and regulatory interventions and the private provider costs of non-compliance with these interventions, data in Table 2.5 suggests some enabling and regulatory scenarios for the health sector.

Table 2.5: Different enabling and regulatory scenarios

Scenarios of enabling and regulatory interventions		Private provider costs of non-compliance (slope of private provider cost curve)	
		<i>Low-increasing implementation has a modest effect on the costs of non-compliance</i>	<i>High-increasing implementation has a substantial effects on the costs of non-compliance</i>
Government costs of implementation (slope of government costs curve)	<i>Low-costs rise slowly with extra implementation</i>	(1) Enabling and regulatory interventions partially appropriate on the efficiency ground alone (or efficient but technically ineffective)	(2) Enabling and regulatory interventions fully appropriate (or effective and efficient)
	<i>High-costs of additional implementation are high</i>	(3) Enabling and regulatory interventions inappropriate (or not socially efficient or effective)	(4) Enabling and regulatory interventions partially appropriate on the effectiveness ground alone (or effective but not efficient)

Source: Adapted from Ensor and Weinzierl (2006)

Data from Table 2.5 suggest that appropriate enabling and regulatory interventions should aim to address the problems of market failures with strategies that may provide incentives for compliance but do not impose excessive costs on government. The first possibility (1) denotes the situation where low costs to government of implementation coincide with low costs to provider of non-compliance. This could happen in the context where government delegates its role to a self-regulatory agency which can be exposed to political pressures and lobbying by its members. This requires different types of enforcement or improvement in existing institutions. The second possibility (2) represents the most satisfactory outcome for government who incurs low costs for implementation, while the private provider bears high costs of non-compliance. This ideal outcome may be realised through a combination of appropriate carrots and sticks with more emphasis on good management information systems on providers' location, behaviours and practices as well as the availability of a good legal framework. The third

possibility (3) represents a relatively bad outcome from the societal point of view because it may be difficult and costly in terms of government implementation, while it appears that private providers incur low costs for non-compliance. This may be the case in the regulation of informal providers in many LMICs where their identification, inspection and imposition of penalties appear to be extremely costly and ineffective (Ensor and Weinzierl 2006). The fourth and last possibility (4) denotes a typical situation of enabling and regulatory dilemma about trade-offs between effectiveness and efficiency when government may incur substantial costs but which in turn may lead to an effective intervention by moderating the opportunistic behaviour of providers. The issues of dual practices, multiple job holdings and conflicting interests of some government officers or inspectors may fall into this category.

2.2.7 Concluding remarks on economic and related theories

In concluding this section, it is perhaps important to point out that other disciplines such as political science, sociology, socio-legal theory, etc. can provide a complementary theoretical basis which could help to better understand enabling and regulatory interventions in the health sector. However, Black (1996, p. 710) points out that “an analysis of [enabling and] regulatory interventions which describes itself as economic should be criticised for not taking on board other disciplines is an inevitable, and to an extent unfair, comment. But it reflects the dominance of the economic analysis of [enabling and] regulatory interventions that it should be posited without further explanation or justification of why an economic as opposed to other disciplines should be

adopted". Economic and related theories around the issue of regulation and the respective roles of public and private sectors in the provision of health care may not fully reflect the reality of many LMICs. Bloom (2004) points out that this reality includes: large numbers of people seeking health care outside the formal health system, fragile and inefficient public sector provision, weak legal and regulatory systems, and rapid economic and institutional changes associated with structural adjustments. Moreover, theories imported from developed countries tend to be normative, asking what health systems a country might wish to have, but they provide little guidance for predicting how local institutions and actors will respond to the same reform policy in different contexts (Bloom 2004; Joshi and Moore 2002; McCourt 2001; Rose 2003).

Moreover, the theoretical basis of enabling and regulatory interventions can be enlarged with the hierarchy of regulatory enforcement proposed by Walshe (2003) as shown in Figure 2.1. Information from Figure 2.1 suggests that a hierarchy of regulatory enforcement should start from more incentive-oriented interventions that can be implemented with relatively few resources. The hierarchy appears to indicate that government would move progressively to strategies that emphasise the use of detailed supervision as well as possible removal of licenses to practice or closure of facilities once incentive based methods have experienced difficulties or have failed to generate the expected outcome (Walshe 2003). This hierarchy suggests the use of economic incentives combined with some basic regulatory requirements to influence private providers' behaviours that can help reduce the burden placed on government. In practice, however,

it may be important to take care of political pressures and regulatory capture in the implementation of proposed policy measures as suggested by private interest theory.

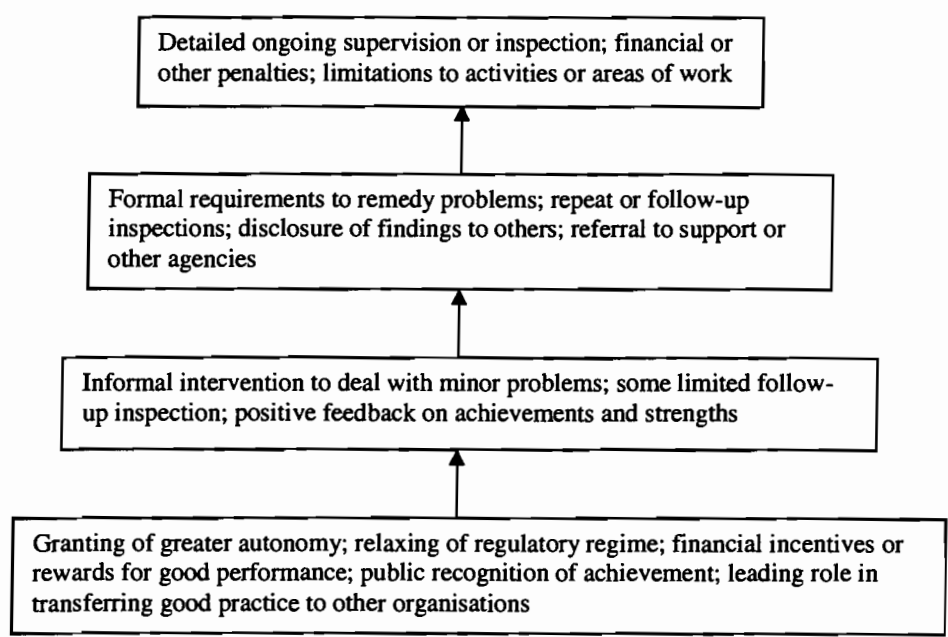


Figure 2.1: Hierarchy of regulatory enforcement
Source: Walshe (2003)

Given the potential limitations of the theoretical framework arising from economic and related theories, it is important to complement it with empirical evidence on enabling and regulatory interventions and the roles government and the private sector in the provision of health care in LMICs.

2.3 Empirical literature on the private health sector and government in LMICs

This section reviews the empirical evidence related to the private sector and government involvement and interactions in the health sector in LMICs. It considers: the definition of the private health sector (2.3.1); empirical data on the importance of private sector

financing and utilisation patterns (2.3.2); and arguments on the pros and cons of private sector involvement in health care provision based on international experience (2.3.3).

2.3.1 Definition of the private sector in the health system

The empirical literature attempts to provide an operational definition of the private sector in the health system. The private health sector has been described as those parts of the health care system not under the direct control of the MoPH and other government agencies (Bennett 1992; Smith et al. 2001). The concept of control suggests that private health care can function according to the imperatives of financial orientations and ownership. The private sector has also been defined as “comprising all providers who exist outside the public sector, whether their aim is philanthropic or commercial, and whose aim is to treat illness or prevent disease. They include large and small commercial companies, groups of professionals such as doctors, national and international NGOs, and individual providers and shopkeepers. The services they provide include hospitals, nursing and maternity homes, clinics run by doctors, nurses, midwives and paramedical workers, diagnostic facilities, e.g. laboratories and radiology units, and the sale of drugs from pharmacies and unqualified static and itinerant drug sellers, including general stores” (Mills et al. 2002: p. 325).

2.3.2 Overview of private health care financing and provision patterns and reasons for growth in the private health care sector in LMICs

In many LMICs throughout the world, much of total health expenditures have been driven by private sector financing. The World Bank (2004) points out that the private sector provides the greatest share of health sector financing with private expenditures for health care in twenty seven LMICs ranging from 1.7 percent to 6.5 percent of GDP in 2000. In terms of the relative share of total health expenditures between the public and private sectors, the private share was greater than 50 percent in all selected countries (see Table 2.6). Moreover, the private sector share exceeded 70 percent of total health expenditures in eleven countries including: Cambodia (75.3 percent), Cameroon (74.4 percent), Dominican Republic (71.4 percent), Georgia (90.1 percent), India (81.6 percent), Indonesia (77.8 percent), Kenya (78.3 percent), Morocco (71.1 percent), Nigeria (77.3 percent), Pakistan (78.1 percent) and Vietnam (75 percent). While these empirical data indicate that the private sector already provides major financial resources to the health sector, increasingly, it also accounts for a significant share of health service provision patterns in most LMICs.

The private sector already constitutes an important source of health care provision in most LMICs throughout the world (Bennett 1991; Bennett et al. 1997; Berman 1996; Berman and Rannan-Eliya 1993; Bustreo et al. 2003; Eggleston et al. 2006; Floyd et al. 2006; Marek et al. 2005; McPake 1997; Mills et al. 2002; Travis and Cassels 2006). In the Middle East, the available data on Pakistan, for example, indicates that the private

sector plays a leading role accounting for about 70 percent of health service provision (Mohammad et al. 1993).

Table 2.6: Distribution of public and private expenditure for health in selected low and middle income countries, 2000.

Country	Percentage of GDP			Relative Share (%)		Country	Percentage of GDP			Relative Share (%)	
	Total	Public	Private	Public	Private		Total	Public	Private	Public	Private
Bangladesh	3.8	1.4	2.4	36.8	63.2	Mali	4.9	2.2	2.7	44.9	55.1
Brazil	8.3	3.4	4.9	41.0	59.0	Mexico	5.4	2.5	2.9	46.3	53.7
Cambodia	8.1	2.0	6.1	24.7	75.3	Morocco	4.5	1.3	3.2	28.9	71.1
Cameroon	4.3	1.1	3.2	25.6	74.4	Nigeria	2.2	0.5	1.7	22.7	77.3
Chile	7.2	3.1	4.1	43.1	56.9	Pakistan	4.1	0.9	3.2	21.9	78.1
China	5.2	1.8	3.4	34.6	65.4	Paraguay	7.9	3.0	4.9	38.0	62.0
Dominican Republic	6.3	1.8	4.5	28.6	71.4	Singapore	3.5	1.2	2.3	34.3	65.7
El Salvador	8.8	3.8	5.0	43.2	56.8	South Africa	8.8	3.7	5.1	42.0	58.0
Georgia	7.1	0.7	6.4	09.9	90.1	Tanzania	5.9	2.8	3.1	47.5	52.5
India	4.9	0.9	4.0	18.4	81.6	Uganda	3.9	1.5	2.4	38.5	61.5
Indonesia	2.7	0.6	2.1	22.2	77.8	Vietnam	5.2	1.3	3.9	25.0	75.0
Ivory Cost	2.7	1.0	1.7	37.0	63.0	Zimbabwe	7.3	3.1	4.2	42.5	57.5
Kenya	8.3	1.8	6.5	21.7	78.3	Low Income	4.3	1.1	3.2	25.6	74.4
Korea Republic	6.0	2.6	3.4	43.3	56.7	L Middle Income	5.8	2.7	3.1	46.6	53.4
Malawi	7.6	3.6	4.0	47.4	52.6	LMI SS Africa	5.9	2.5	3.4	42.4	57.6

Source: World Bank (2004)

In South Asia, the example of Bombay in India indicates that the private sector accounts for about 88 percent of hospitals, 40 percent of beds and 70 percent of doctors (Yesudian 1994), while in India as a whole about 80 percent of doctors and 60 percent of hospitals are in the private sector (Ogden et al. 1999). Similarly, the example of Bangkok in Thailand shows that about 75 percent of hospitals and health centres with inpatients, 42 percent of beds and about 98 percent of health centres and clinics with outpatients are in the private sector; while in Thailand as a whole the private sector accounts for about 30 percent of hospitals, 23 percent of beds and 56 percent of health centres and clinics (Mongkolsmai 1997; Pannarunothai and Mills 1997).

In Africa, the available data on South Africa indicate that about 72 percent of doctors, 75 percent of specialists, 48 percent of hospitals and 25 percent of hospital beds are in the private sector (Price et al. 1993; Van Rensburg and Van Rensburg 1999). In Cameroon, the private sector accounts for about 38 percent of hospitals, 34 percent of hospital beds and 32 percent of health centres, and it is estimated that there are more than 10,000 informal private providers of health care nation-wide (MoPH 2000). In Ogun State (Nigeria), the private sector accounts for about 30 percent of health facilities, 43 percent of beds, 50 percent of doctors and 33 percent of nurses and midwives (Ogunbekun et al. 1999). In relation to the provision of public health related services, recent work in Africa has confirmed that the great majority of malaria episodes are treated through the private sector (Hanson et al. 2004; Mills et al. 2002; Brugha and Zwi 1998; Deming et al. 1989; Snow et al. 1992).

The empirical literature generally identifies two main justifications for the growth of private sector health care provision in LMICs (Bennett 1991; Kumaranayake 1998). Firstly, the development of private sector provision of health care is seen as a natural growth related to different national social and economic contexts of many LMICs. In this regard, Kumaranayake (1998) points out that the development of private sector health care emerges spontaneously in response to weak, poor and inadequate public sector provision of health services that stimulates a rapid increase in private formal and informal sector provision of primary health services. In addition, particularly in urban areas of most LMICs, the development of private sector provision of health care is seen as a pragmatic response to increased middle class consumer affluence and preference for

greater quality of care. Moreover, Bennett (1991) highlights the fact that in upper middle income countries of South-East Asia and Latin America, rapid growth of income, health insurance and industrialisation have caused an equivalent rapid development of private sector health care.

Secondly, the development of private sector provision of health care is also seen as a deliberate policy choice through health sector reform packages (Kumaranayake 1998). In many LMICs, particularly in Sub-Saharan Africa, scarce resources and the poor performance of the public sector pushed budget-constrained governments to look to the private sector as a complementary source of providing and financing health services to the population (Bennett 1991). The rapid growth of private health care provision has been linked to the prolonged financial crisis of the public sector in East Africa (Mackintosh and Tibandebage 2002; Semboja and Therkildsen 1995; Van Lerberghe et al. 2002). Thus, the poor performance of the public sector, increasing economic difficulties and changes in prevailing ideologies led to calls for a reduction in the role of the government and an increased role for the private sector (Zwi and Mills 1995). In the late 1980s through the 1990s, World Bank policies built into structural adjustment programmes strongly advocated for the development and increased private sector role in the provision of health care (World Bank 1987). Despite persisting doubts, concerns and information gaps, many LMICs, particularly in Sub-Saharan Africa, have implemented liberalisation policies which enhance private sector provision of health services. With some level of variation, almost all African Ministries of Health now operate some kind of pluralistic

national health systems where both public and private sectors are extensively involved in the provision of health care.

Much of the empirical literature on the role of the private sector in health care has presented a number of alternative arguments for the way in which the public sector might work together with the private sector to achieve public health objectives (Bennett et al. 1997). Amongst those alternative arguments, three commonly emphasised are: complementary, collaboration and competition (Adjunid and Zwi 1997; Bennett 1991, 1992; Bloom 2004; Swan and Zwi 1997; Mills et al. 2002; World Bank 1987, 1993, 2003). There has been relatively more focus on the merits of the public and private sectors offering complementary services, and encouraging high income groups to use private providers so that limited government resources can be better targeted to the poor (World Bank 1993). The second alternative considers the potential for the private sector to collaborate with its public sector counterpart to improve coverage, accessibility and effectiveness of public health services (Swan and Zwi 1997). The third alternative emphasises competition between public and private sectors in health care because it may enhance the efficiency of service delivery in the health sector (Bennett 1991). All three arguments (complement, collaboration and competition) have been used to encourage private sector growth in LMICs.

In practice, while private for-profit providers are generally perceived as competitors of public sector providers, some analysts consider private nonprofit providers as collaborators and/or complementary providers which may offer welfare benefits over

both public sector and private for-profit providers (Gilson et al. 1994; Gilson et al. 1997). However, operationally, the fact that some nonprofit health facilities also engage in commercial activities complicates the differentiation and all three alternatives (complement, collaboration and competition) potentially overlap in the heterogeneous private sector setting.

In relation to competition, the empirical literature suggests that this has shifted from being based on fees and provider income to being based on induced demand (service intensity) and quality of care competition amongst the full range of health care providers including public, private nonprofit and for-profit sectors (Evans 1974; Chirikos 1992; Robinson 1988; Rice and Labelle 1989; Zweifel 1981). According to Bennett (1997):

1. The induced demand model argues that the prevalence of principal-agent problems limits the likelihood of public and private providers of health care being fully constrained by the patient demand function in the health sector market. In the context of increased competition between alternative providers, the commonly used solution is for providers to increase the quantity of service that shifts the demand curve outwards instead of lowering the prices as would be expected in a perfectly competitive marketplace.
2. The quality competition model posits that patient demand for health care is not very price elastic in the presence of health insurance coverage. Therefore in order to increase market share, providers invest in improving structural quality of care that attracts potential patients. It is generally argued that the nonprofit motivation

of some providers may contribute to the credibility of this quality competition model in many LMICs.

Both the induced demand and quality competition models have been criticised in terms of whether they reflect reality on the ground and whether they are appropriate mechanisms for competition. The main concerns about the supplier-induced demand model are related to its assumption that the primary motivation of providers is profit-seeking, but in reality the appropriateness of this assumption may depend on the ownership of providers in the health-care market, particularly in settings where private nonprofit providers compete for patients with their public sector and private for-profit counterparts (McGuire 1985; Rice and Labelle 1989). The quality competition model has been criticised on the issue of imperfect information where patients cannot accurately assess the process aspects of quality of care, and rely on structural aspects of quality of care to make the decision of choosing providers. Thus, there are real concerns about providers investing in high-technology equipment, hotel aspects of buildings, and other related structural indicators as a signal to attract patients, with little effect on actual quality of care provided (Bennett 1991; Nitayarumphong and Tangcharoesenthien 1994; Robinson 1988).

2.3.3 Advantages and disadvantages of private sector provision of health care

The empirical literature has focused heavily on the advantages of private sector providers. The most apparent benefits are concerned with the private sector contribution to the provision of public health related services including: preventive services such as

immunisation, insecticide-treated nets (ITNs), family planning, etc.; community-based services such as water and sanitation, vector control, health education and promotion, etc.; and curative services with positive or negative externalities that influence the trends of public health disease transmission such as the treatment of communicable illnesses such as malaria, tuberculosis, sexually transmitted infections, etc. (Atkinson and Cheyne 1994; Balraj et al. 1993; Berman and Rose 1994; Blaauw and Schneider 2003; Brugha and Zwi 1998; Hanson et al. 2004; McCombie 1996). Findings from some studies also indicate that in LMICs a significant proportion of patients prefer to use private sector providers for a wide range of reasons, including greater ease of access, travel time, flexible operating hours, short waiting times, readiness and courtesy of staff, availability of drugs, availability and visibility of functional medical equipment, and privacy of the treatment (Aljunid 1995; Attah 1986; Berman and Rannan-Eliya 1993; Brugha and Zwi 1998; World Bank 1993). A few studies report that even patients from low-income groups frequently use private sector providers in many settings (Berman 1996; Gan and Yusof 1993; Yesudian 1994).

However, major challenges remain as private sector provision of health care has been criticised as often not being in compliance with national public health goals. Findings from a number of studies identified major problems associated with private sector provision, including: profit maximising behaviour through over-supply and over-pricing; failure to comply with national treatment guidelines and other regulations; lack of collaboration with their public sector counterparts; attraction of government staff out of the public sector; and inadequate record keeping, reporting, and disease notification

(Bennett et al. 1994; Blaauw and Schneider 2003; Brugha and Zwi 1998; Kirsh and Harvey 1994; Uplekar and Rangnan 1993). Private for-profit providers have also been criticised on the grounds of underproviding health services they cannot easily charge for such as vector control and health promotion, or of focusing on particular aspects of health care which consumers may easily measure, or of concentrating in urban areas where they can attract rich and high income groups (Bennett et al. 1997; Mills et al. 2001). Moreover, despite regulations being in place, a number of opportunistic behaviours have been observed in the private sector, including: practices of self-referral, where patients are sent to other services the provider has a financial interest in; over-servicing; doctor-patient collusion to collect health insurance payments; and the use of unlicensed staff in private facilities (Hongoro and Kumaranayake 2000; Kumaranayake et al. 2003).

These problems associated with private sector provision challenge the government's responsibility of ensuring universal access to affordable and equitable health services to all the population. Findings from studies highlight that the behaviour of private sector providers is influenced by factors such as the policy, professional, economic, enabling and regulatory contexts in which they operate, provider knowledge and factors that determine it, institutional objectives of the provider, management structure, the availability of and access to diagnostic and treatment resources, and the range of interacting needs, demands and expectations of providers, patients and communities (Bennett et al. 1994; Brugha and Zwi 1998). This indicates that influencing the behaviour of private sector providers to adhere to national public health goals constitutes a complex task necessitating multidimensional interventions that are based on the national context

and both external and internal factors. Interventions should particularly consider the issue of ownership as it is often assumed that charitable, nonprofit organisations frequently locate their health facilities in poor and underserved areas, whereas for-profit providers locate in urban areas where richer people live. Therefore, effective government interventions toward the private sector require an understanding of the health sector's market structure, including the relationships within and between the public and private sectors.

2.4 Literature on enabling and regulatory interventions for private sector provision of health care

In the health sector, enabling and regulating the private sector emerges as one of the core approaches in relation to government stewardship. This section reviews literature on existing enabling and regulatory interventions for private sector provision of health services. The first subsection examines the issue of enabling interventions, while the latter explores regulation in the health sector.

2.4.1 Existing literature on enabling interventions for the private health sector

Empirical evidence appear to indicate that most governments of LMICs traditionally have an unrealistic perception of their ability to regulate the health sector by using command and control interventions alone. For example, one study suggested that the government policy that seeks to encourage the supply and demand of essential drugs appeared to be

much more difficult to enforce simply through decree that private sellers are meant to follow unless financial incentives are employed to encourage private provider compliance (Stenson et al. 1997). Recent reviews of dual practice suggest that bureaucratic controls over provider behaviour are likely to be ineffective unless the underlying financial incentives are altered (Ferrinho et al. 2004). Mackintosh and Tibandebage (2002) observed that in Tanzania, for example, while the government lacks inspection capacity, it does have considerable total resources which can influence the evolution of the system if associated with efforts of other stakeholders.

During the 1990s through to the early 2000s, one of the major proposed approaches of government interventions has been a stronger focus on enabling the private health sector, particularly through incentives. In the health economics literature, incentives have been referred to as “allowing individuals to behave in accordance with expected material rewards or favours that can be traded for such rewards including leisure” (McPake et al. 2002). The purpose should be to embody market incentives to enhance improvements in quality of health service because it appears that when correctly set and monitored, incentive instruments have been shown to have a powerful impact on the performance of providers of health services (Ensor and Weinzierl 2006; Hicks and Adams 2000).

The rationale underlying this approach is that incentives may configure the provision of public health related services in such a way that private providers making decisions in their own best interest achieve allocative efficiency for society as a whole (Jackson and Price 1994; Vitale 2004). The principal-agent problems arising from asymmetric

information in the market constitute the basis for incentive considerations between economic actors (principal and agent) who may change their behaviours and which may lead to improvement in the provision of services.

Enabling interventions refer to the specific liberalisation and/or incentive instruments that can be used to influence the quantity and coverage, efficiency, equity and quality of health services exchanged in the health care market (Kumaranayake 1998; Laffont and Martimort 2002; McPake et al. 2002). Enabling interventions can take the form of explicit measures such as easing requirements for the entry into the private health care market; ease of access to (start-up) capital through loans with a low interest rate, government guarantees for borrowing on the private financial markets, tax-breaks and/or exemptions, preferential custom tariffs or duty free status for private sector purchased medical equipment, supplies and antimalarial commodities; donations of assets or transfers of public inputs, subsidies and contracting out health services to the private sector; best practice clinical training or refresher courses on malaria directed to private providers; etc. (Harding and Preker 2003; Kumaranayake 1998; Kumarayanake et al. 2000; Laffont and Tirole 1993; McPake et al. 2002; Mills et al. 2001; WHO 2000a; World Bank 1993).

The literature identifies a wide range of enabling interventions as shown in Table 2.7 that presents different types of potential government enabling interventions for the private health sector.

Table 2.7: Government interventions to enable private health sector provision

Policy options	category	Potential interventions
Enabling policies	Liberalisation of the health sector environment	• Enforce political/administrative commitments for the development of private sector • Repeal or relax laws prohibiting private practice for various cadres • Permit public sector doctors to do private practice • Permit private practitioners to admit patients to public hospitals • Permit the secondment of public sector staff to private sector facilities • Permit private traditional sector practice • Break monopoly on purchasing from public sector pharmaceutical companies or distributors • Facilitate local production of pharmaceuticals • Repeal laws prohibiting private and mutual health insurance • Permit autonomy for private sector service provision • Permit early retirement of public sector staff to undertake private practice
	Information provision	• Provide general public information on health services • Monitoring of structural and process quality aspects of private services • Disseminate information on enabling and regulatory mechanisms
	Non-financial incentives	• <i>Enabling and regulatory environment:</i> • Facilitate ease of entry into healthcare market • Facilitate ease of access to enabling mechanisms • Increase transparency on enabling and regulatory processes • Reduce bureaucracy on enabling and regulatory processes • <i>Human resource development:</i> • Provide training and refresher courses to private sector • Organise dissemination workshops on treatment guidelines • Improve career prospects and rewards for good practice • <i>Public-private sector relationship:</i> • Promote mutual trust and respect between public and private sectors • Enhance referral and counter-referral system across public and private sector • Involve private sector in national public health programmes • Promote exchange and dialogue between public and private providers • Promote mutual agreement on performance indicators across providers
	Financial incentives	• <i>Capital markets:</i> • Facilitate ease of access to start-up capital for private investors • Provide government loans at low interest rates • Provide government guarantees for borrowing on financial markets • Improve access to low-cost credits • Permit external funding to invest in the private sector health care • <i>Taxes and tariffs:</i> • Provide easy customs clearance and preferable customs tariff for imports of medical equipment, supplies and pharmaceuticals • Provide tax-breaks, tax waivers, exemptions, and deductibles for investment in medical buildings, equipment, supplies, pharmaceuticals and other inputs • <i>Subsidies and other public financing:</i> • Provide government subsidies targeted to public health activities • Give a lump-sum for operating costs of diagnosis and treatment services • Provide government grants targeted to preventive activities • Provide bonuses to private sector providers serving in remote underserved areas • <i>Provider payment:</i> • Permit government contracting out of clinical services to private sector • Establish appropriate provider payment mechanisms • Permit the private sector to treat public social security scheme's patients • Assure reasonable profit margins for the private sector • Pay government obligations to providers in a timely manner • protect overdrafts in response to government payments delays

Source: Bennett and Zwi 1993; Harding and Preker 2003; Kumaranayake 1998; Kumaranayake et al. 2000; Laffont and Tirole 1993; Le Grand 2003; McPake et al. 2002; Mills et al. 2001; Sinanovic 2004; and Vitale 2004.

Nevertheless, there is general agreement that incentive measures have relatively low transaction costs associated with them, and monitoring seems to be important because it could indicate if incentives are having the desired effect on the private provider's behaviours (Kumaranayake 1998; Norton 1992). While incentive measures may be targeted at all private sector providers, it is generally observed that specific interventions should distinguish between private nonprofit and for-profit providers, and traditional and modern providers (Mills et al. 2001). This is because private for-profit providers are assumed to be largely influenced by financial incentives, but there is not yet good supportive arguments on the types of incentives or aspects of the liberalisation policies that can particularly influence private nonprofit providers (Robinson et al. 1988). This research will seek to highlight some empirical evidence on incentive measures that may influence the behaviour of nonprofit providers of health services.

There has been limited experience to date in LMICs in using enabling interventions to influence the development and behaviours of private sector providers. Where some enabling interventions have been used, there were few attempts to explore their effectiveness with respect to the original policy objectives (Bennett et al. 1994; Mills et al. 2001).

In the context of high income countries, experience in the United Kingdom (UK) indicates that the introduction of lump-sum payments to private physicians for achieving target levels of immunisation coverage and cervical smears led to a short-term increase in the number of smears being performed in the National Health Service (Hughes 1993).

Other empirical literature on the GP contracts in the UK emphasised that the effectiveness of financial incentives depends on factors such as the level of incentive, the identity of the provider, and socio-economic factors associated with the community under consideration (Hughes and Yule 1992; Lynch 1994). However, the income-based economic incentives for UK GPs have had limited impact because a substantial proportion of their income continues to be determined by patients' characteristics and thus the scope for a discretionary response to income incentives is correspondingly small (Whynes and Baines 1998).

Liberalisation policies have been at least partially implemented in relation to public sector doctors being allowed to undertake private practice. In Sri Lanka and Thailand, a high proportion of doctors in private practice also hold public sector posts (Nittayaramphong and Tancharoensathien 1994; Griffin et al. 1994). Policies most successful at promoting private sector growth were sometimes the direct effects of health care financing reforms (Bennett et al. 1994; Kumaranayake 1998; Mills et al. 2001; World Bank 1993). The rapid growth of private health insurance and a growing number of people taking up social security are amongst the dominant explanatory factors of private health sector growth. For example, in Thailand, the establishment of the Social Security Scheme, and rules under the scheme allowing beneficiaries to seek care from the private sector, has considerably boosted demand at some private hospitals and encouraged further investment (Bennett et al. 1994).

Enabling policies in LMICs have generally been initiated outside of the health sector. The links between private health sector growth and economic liberalisation have been documented in recent studies (Bennett 1991; Berman 1995; Kumaranayake 1998; World Bank 1993). Support for policies to enable private sector health care development and to influence their behaviours come from Economic, Finance and Development Planning Ministries. Examples of these financial incentives include: tax-exemption status and tax credits in Zimbabwe; loans at concessional rates and tax-breaks on imports in India; tax-breaks, tax-free medical imports, sales tax exemptions, Board of Investment tax-breaks, and import duty exemptions in Sri Lanka; and Board of Investment tax-breaks and waivers on import duties in Thailand (ADB 1999; Bennett 1991, 1994; Bennett et al. 1994; Nittayaramphong and Tangcharoensathien 1994; Teerawattananon et al. 2003).

Donors supported financial efforts to encourage private sector participation in programme-specific initiatives have been implemented in many LMICs for major public health problems (Mills et al. 2001). These generally include: subsidised or free drugs for diseases of public health significance, free vaccines, subsidised supplies, and training opportunities. For example, in India, the size of the private sector, and its importance in service provision, has meant that many external investors have sought ways to enable the private sector in the delivery of better quality public health related services such as tuberculosis and HIV control and prevention (Uplekar 2003; Uplekar et al. 2001).

Most enabling interventions have been directed to support private nonprofit providers and other charitable organisations, which have benefited from their long-standing historical

relationships with governments in many LMICs. For example, in Ghana and Zimbabwe there are grants in kind and cash to members of the Church Medical Association, while in India support includes tax-breaks to both private for-profit and nonprofit hospitals to guarantee a proportion of beds for indigent patients and free services for these patients (Mills et al. 2001).

Another trend in LMICs has been the increasing use of enabling-based incentives in the contracting out of clinical and non-clinical services (Bhatia and Mills 1997; Broomberg et al. 1997; Broomberg et al. 2001; Chee 2003; Gilson et al. 1997; Gilson et al. 2001; Mills et al. 2001; Palmer 2000; Palmer and Mills 2003; Sinanovic 2004). A number of studies provide evidence that private providers under contracting agreements tend to provide services at a lower cost than the public sector, but if their profit margin is taken into account the cost to the public sector tends to be higher or comparable to direct public sector provision (Mills 1997). In addition, the non-clinical aspects of quality of care of private contractors are superior than in the public sector, but their technical quality of care often tends to be inferior (Beracochea 1997; McPake and Hongoro 1995). With respect to contracting with the private sector for the provision of TB treatment, public-private partnership potentially improves the quality of care, increases access to TB treatment, reduces costs to both the public sector and patient, and increases cost-effectiveness of TB treatment as compared to purely public sector provision (Sinanovic 2004). However, the most recent review suggests that there does appear to be limited evidence that contracting for health services can stimulate improvements in service utilisation and quality (Palmer and Mills 2006). There is also a growing use of the social

marketing approach that involves the use of incentives such as a targeted subsidy to encourage private sector delivery of public health products (e.g. ITNs) in LMICs (Conteh and Hanson 2003; Kikumbih et al. 2005; Mushi et al. 2003; WHO 2002).

The limited evidence available highlights some problems associated with criteria for being eligible to access enabling interventions. In India, criteria were regarded as being vague or inappropriate and it was difficult to verify whether hospitals were actually meeting the eligibility criteria. In addition, private hospitals were accused of abusing the law by providing free care to politicians, staff and relatives of staff who were not actually indigent (Mills et al. 2001). Enabling interventions were poorly co-ordinated and monitoring was also very weak (Werna 1995).

The implementation of enabling policy reforms have particularly suffered from bureaucratic behaviour and power/authority constraints as predicted by the private interest approach to regulation. For example, Hirschmann (1993) points out that in Malawi, public sector staff were reluctant to undertake policy reforms which diminished or dismantled their own power. As Mills et al. (2001) point out, a considerable amount of anecdotal evidence suggests that such abuses of authority to defend private interests are prevalent in the health sector of some developing countries. These behaviours have led to a number of complexities in the way in which the public and private sectors interact and exacerbated problems of conflicts between formal, articulated and informal, unarticulated interests (Bennett et al. 1994; Bennett 1992). While enabling interventions are persuasive and directed to encourage desirable behaviours, regulatory interventions are typically

coercive and used to restrict undesirable behaviours of private sector providers of health services.

2.4.2 Existing literature on regulation of the private health sector

In general terms, regulation can be defined as the process by which the government/state has sought to steer behaviour in non-state sectors of the society by exerting control over the activities of individuals and firms (Downs 1957; Roemer 1993). The academic literature indicates that regulation encompasses the different disciplinary perspectives of economics, management, law and politics. Political scientists emphasise the need to make trade-offs amongst alternative interests and potential outcomes, while legal scholars focus on related questions of law and status (Saltman and Busse 2002). Public management considers the process of designing, implementing and monitoring regulatory mechanisms, while management theorists focus on mutual adjustment, direct supervision, standardisation and decentralised decision-making (Chinitz 2002). Economic theorists define regulation as government interventions to control prices, volume or quantity, distribution, market structure or behaviour of economic actors, quality of goods and services, and diffusion of information in the market (Chinitz 2002; Ensor and Weinzeirl 2006; Fischer et al. 1988; Maynard 1982; Musgrove 1996; Stigler 1971; Weinzeirl 2005).

Although different disciplinary perspectives of regulation often overlap, and while regulation in practice may be a constantly evolving mix of these different disciplines, this study focuses mainly on economic dimensions of regulatory initiatives. Economic

dimensions of health sector regulation emphasise social and economic policy objectives, and health sector management mechanisms as shown in Table 2.8 below.

Data from Table 2.8 show that an important dimension of regulation in the health sector is concerned with national social and economic objectives which are basically population-wide and lead to mandatory national requirements on all actors, including the private nonprofit and for-profit sectors. Another dimension of regulation in the health sector is related to health sector management mechanisms which tend to emphasise the operational micro-level, particularly facility/institution level, where policy-makers seek to achieve all defined social and economic objectives. These management mechanisms adapted from private sector managerial tools have been part of a concerted effort to implement the ‘New Public Management’ (NPM) approach within the health sector (Hunter 1997).

The World Bank (1993: 54-59) points out that “strong government regulation is crucial, including regulation of privately delivered health insurance to encourage universal access to coverage and to discourage practices that lead to overuse of services and escalation of costs... As less developed countries [or LMICs] take steps to encourage a diversified [or pluralistic] system of health service delivery, they need to strengthen government’s capacity to regulate the private sector. Regulations are required to ensure that quality standards are met, that financial fraud and other abuses do not take place that those entitled to care are not denied services, and the confidentiality of medical information is respected”.

Table 2.8: Overview of economic dimensions of health sector regulation

1. Social and economic policy objectives
<i>Equity and justice:</i> to provide equitable and needs-based access to health care for whole population, including poor, rural, elderly, disabled and other vulnerable groups.
<i>Social cohesion:</i> to provide health care through a national health care service or to install a social health insurance system.
<i>Economic efficiency:</i> to contain aggregate health expenditures within financially sustainable boundaries.
<i>Health and safety:</i> to protect workers, to ensure water safety and to monitor food hygiene.
<i>Informed and educated citizens:</i> to educate citizens about clinical services, pharmaceuticals and healthy behaviour.
<i>Individual choice:</i> to ensure choice of provider, and in some cases insurer, as much as possible within the limits of the other objectives.
2. Health sector management mechanisms
<i>Regulating quality and effectiveness:</i> assessing cost-effectiveness of clinical interventions; training health professionals; licensing or accrediting providers.
<i>Regulating patient access:</i> gate-keeping; co-payments; general practitioners lists; rules for subscriber choice among third-party payers; tax policy.
<i>Regulating provider distribution and behaviour:</i> location, ownership, transforming hospitals into public firms; regulating capital borrowing by hospitals; rationalising hospital and primary care/home care interactions.
<i>Regulating payers:</i> setting rules for contracting; constructing planned markets for hospital services; developing prices for public-sector health care services; introducing case-based provider payment systems (e.g. diagnostic-related groups); regulating reserve requirements and capital investment patterns of private insurance companies; retrospective risk-based adjustment of sickness fund revenues.
<i>Regulating pharmaceuticals:</i> generic substitution; reference prices; profit controls; basket-based pricing; positive and negative lists.
<i>Regulating physicians:</i> setting salary and reimbursement levels; licensing requirements; setting malpractice insurance coverage.

Source: Saltman and Busse 2002

The regulatory strategies government can use to influence health care market variables include : market entry, exit, organisation and entitlements; prices and remuneration; and standards/quality and safety of health services (Allsop and Mulcahy 1996; Chinitz 2002; Ensor and Weinzierl 2006; Kumaranayake 1998; Kumaranayake et al. 2000; Matsebula et al. 2005; Mills et al. 2001; Stigler 1971; Wienzierl 2005).

Regulation of market entry, distribution, exit, organisation and entitlements. This control aims at limiting the quantity and uncontrolled expansion of the national health system capacity that can lead to supplier-induced oversupply and a waste of scarce resources (Afifi et al. 2003; Chinitz 2002). It also aims at establishing the 'rules of the

game' for all potential providers and consumers in the health sector (Allsop and Mulcahy 1996). Operationally, government enacts legislation that provides requirements for entry or exit into health care markets, criteria for expansion and acquisition of new medical inputs and minimum levels of health services. Moreover, the legislation on entitlements might require that all subsystems, such as districts or front-line facilities, provide the same standard package of health services with or without specifying the services to be included.

The regulation of quantity usually covers individual providers, both physicians and other allied health workers such as midwives, nurses, and pharmacists, as well as health care facilities, including hospitals, clinics, health centres, pharmacies, laboratories, and diagnostic-testing facilities. Regulation may include setting standards for structural dimensions such as buildings, equipment, and staffing (Berman 1997). The main regulatory mechanisms of market entry and exit are licensing or registration and certification or accreditation. Licensing of health care providers serves to regulate the inputs into the production of health care services. Many countries have requirements to license or register health facilities before they can open. Medical devices should be periodically monitored. The term medical device refers to a broad range of highly different products, including high cost sophisticated health technology products, equipment and installations, surgical, medical and dental instruments and supplies used in patient care.

Motivated by the need for cost reduction and aimed at preventing the duplication of services, and also for controlling distribution, certificate-of-need (CON) laws are generally used to control the construction of new facilities, investment in new equipment, distribution and expansion of special services (Chinitz 2002). The success of certificate-of-need regulation in the US has been mixed, particularly because the criteria determining which investments should and should not be allowed are confusing and if hospitals are banned from investing in one type of equipment then they are more likely to re-allocate resources into other types of medical capital inputs (Kumaranayake 1998). This is particularly observed in urban areas of LMICs for example where providers signal quality on the basis of highly visible investments (Bennett 1991). An unintended effect of CON laws is that they may reduce competition in the provision of services, leading to increased monopoly power and price increases, and thus may actually increase costs.

Evidence in many countries suggests that although there were problems with the regulatory frameworks, more serious weaknesses in performance were evident with respect to the implementation of regulation: both regulatory councils and Ministries of Health have performed poorly (Bennett et al. 1994; Hongoro and Kumaranayake 2000; WHO 1993). The conventional view is that organised professional associations use registration for self-interest by limiting entry and reducing competition by raising authorising standards for potential entrants (Aljunid and Zwi 1997; Cumper 1990). These principal-agent relationships are made more complex because Medical Councils are generally not supposed to represent the interests of the medical profession – although

they are commonly accused of doing so (Bennett and Ngalande-Banda 1994; Kumaranayake 1998; Mills et al. 2001).

Non-compliance with regulation has been experienced in a range of settings. In high income countries, for example in Norway, attempts by the central government to control the expansion of the hospital system according to 'technocratic' directives encountered resistance from local interests that encourage hospital expansion (Berg 1999). Some developing countries have encountered similar weaknesses in the implementation of regulation. For example, critics claimed publicly that the Medical Council of India had approved licences for medical colleges on the basis of 'personal favours' or hospitality offered by the owners despite the facilities clearly not meeting set standards (Bennett and Muraleedharan 1998; Jesani 1996, Mills et al. 2001).

Regulation of prices and remuneration. This mechanism aims at limiting total expenditure and increasing financial accessibility by using government price-setting or centrally determined fees or reference prices for various groups of similar health services, pharmaceuticals, medical procedures, and diagnostic tests. However, if the goal is to limit overall expenditure, pricing alone is usually insufficient and must be supplemented by some effort at controlling the volume of health services (Berg 1999).

Regulating the prices of health care can be done through the negotiation of payment schedules between government or private health insurance groups and professional associations. This approach is contingent on the relative power positions between the

negotiating parties. In many cases, the physicians are politically powerful and as such will attempt to maximise their income relative to the consumer's interest (Bennett 1991). On the other hand, governments may be able to invoke their sovereignty to limit the bargaining power of physicians in order to meet society's interests.

Decision-making about such regulation is based upon relatively weak information; price regulation is particularly complex with the heterogeneity of input factors and the wide range of different health services provided which make the informational problems acute. In the context of self-regulation, the alleviation of informational problems on prices often creates conflicts of interest among health care providers. Thus, price regulation can be a particularly important policy option where it is not simply an alternative to the market, but rather a complementary tool for improving the way in which different market structures allow providers and patients to complete the health service transactions in which they are engaged (Chinitz 2002).

In practice, however, very few of the regulatory interventions encountered in many LMICs have focused upon price of private sector health services and those that have being often ineffective (Liu et al. 2000; Mills et al. 2001). The evidence from studies indicate that major asymmetries of information between regulators and regulatee have favoured opportunistic behaviours including over-servicing of patients, colluding with patients to claim reimbursement for drugs and visits, and unnecessary self-referrals for private financial interests (Hongoro and Kumaranayake 2000; Kumaranayake et al. 2003). In practice, it is difficult for the regulators to set standardised fee levels with

which private sector health facilities will comply. The Chinese experience revealed problems of violation of price regulations where providers charged actual fees that exceeded the regulated fees, over-provision of profitable diagnostic tests and high-tech services, over-prescription of drugs, and use profitable services to cross-subsidise regulated low priced services (Liu et al. 2000). As Bennett (1991: 43) points out: “one problem with this process is that physicians are renowned for the power that they wield and, even with regulatory intervention, the price setting process may protect private sector profit rather than consumer interests. This is particularly in situations in which the regulatory authorities have limited data on underlying costs. In some developing countries it may be very difficult to ensure that physicians actually charge at the recommended levels”.

Uniform reference prices are those that are said to be monitored and controlled by government policy. This implies a restriction on the extent to which prices may vary, depending on government’s policy objective. The effectiveness of uniform pricing may depend on compliance in the private sector setting. As Giuliani et al. (1998) point out, uniform reference pricing rarely has a straightforward effect across all groups of drugs, but rather tends to vary in terms of reductions in price and utilisation. Prices and overall expenditure may decline for the reference-price drugs, but this may be compensated for by increased expenditure on drugs not subject to reference pricing. Uniform reference pricing may contribute to transparency by erasing price differentials between similar products but, on its own, it is unlikely to contain expenditures on drugs.

Overall, the greatest problem is the weak capacity for enforcement and the likely low priority accorded to pricing issues and the limited resources devoted to regulation. However, even in countries with a great deal of resources, legal controls to affect price may have serious drawbacks in practice (Kumaranayake 1998).

Regulation of standards/quality and safety. This mechanism aims at monitoring and ensuring safety and minimum quality of care, diffusion of information on provider performance as well as implementation of initiatives to protect patients' rights. In practice, the main focus is on regulation of quality of care through licensing, registration and accreditation laws.

Accreditation is one process using a range of different approaches for checking and standardising the quality of care provided in the health sector (Scrivens 2002). It is used to describe a voluntary, health service based activity that allows all public and private providers to compare their organisational process and procedures against accepted good medical practice, and the end result is to denote the degree of compliance with standards of health care (ANAES 1999; Hayes and Shaw 1995; Scrivens 1995). However, there is little experience of using accreditation to control the quality of care in LMICs.

The empirical literature indicates that many LMICs focus mainly on licensing, registration, setting minimum standards of care, dissemination of treatment guidelines, inspections, supervision and monitoring of quality assurance (Asibuo and Ampofo 2001; Bennett and Ngalande-Banda 1994; Kumaranayake 1998; Kumaranayake et al. 2000;

WHO 1991). The control of quality of care in the private sector of developing countries may be a critical problem as the number of ways in which the government can attempt to enforce minimum standards of care may be limited (Uplekar 1989). Private health sector expansion has also occurred in a context of weak regulatory policies with no concurrent mechanisms to ensure adequate quality of care (Bennett 1994; Kumaranayake et al. 2003).

In Africa, there appear to be two major reasons for the failure of licensure to guarantee quality. First, the enforcement of regulatory controls is often lacking or weak, with limited funding available to the professional bodies which are responsible for regulating the profession (Bennett 1991; Havighurst 1986). Second, even if professional bodies were adequately resourced, they may be reluctant to operate against their own membership and self-interest. The findings of a previous study indicated that the Zimbabwean Medical Council had not publicised cases of malpractice for fear of damaging the reputation of the profession (Bennett and Ngalande-Banda 1994). This regulatory capture indicates that the Medical council has become more of a union representing members' interests than a disciplinary organisation willing to act against its members (Ensor and Wienzeirl 2006).

Other factors limiting effectiveness of regulation in the health sector include the over-centralisation and lack of independence of the regulatory body, the absence of legal mechanisms to control the quality of care, and the lack of knowledge by patients of their rights (Hongoro and Kumaranayake 2000; Kumaranayake et al. 2003; Russell and

Attanayake 1997; World Bank 1993). The inability of regulations to control retail pharmaceutical distribution is a particularly well known problem (Kumaranayake, 1998). Drugs that should be available only with a physician's prescription are often easily obtainable from formal or informal drug sellers.

Inspection-based quality control may also be ineffective; the implementation of regulation may be misused so that inspectors pursue their own interests rather than maintain quality standards (Savedoff 1998). This has been found in some LMICs to have contributed to the ineffectiveness of inspectors who have not reported some of the worst examples of malpractice or prevented low standard facilities being closed (Kumaranayake et al. 2000; Mills et al. 2001). The success of inspection-based regulation also depends on factors such as the availability of performance data and degree of providers' co-operation. In a number of countries, regulators have argued that comparative data on hospital or physician performance are problematic in that they fail adequately to account for case mix (Edward et al. 1998).

In addition, the regulation of quality of care can also include laws empowering patients to take legal action against providers for malpractice, or laws restricting such malpractice. In Zimbabwe and India consumers formed a powerful lobby for stronger regulation, specifically in relation to malpractice (Bhat 1999; Bennett and Ngalande-Banda 1994). Civil society organisations such as NGOs can be powerful allies to government in ensuring effective regulation: they can publicise cases where regulatory agencies have been captured, bring transgression of regulatory statutes to the attention of government

regulatory bodies, support consumer claims, and educate consumers about consumer rights (Mills et al. 2001). As Chinitz (2002) points out, in some contexts the implementation of patients' rights regulations may raise consciousness of these issues, even in the face of initial scepticism.

Overall regulation issues. The evidence above indicates that regulation can affect the quantity and distribution of health services, the costs and availability of inputs needed by health care providers, the prices of the services they produce, and the quality of services (Bhat 1997; Buchan 2000; Herrin 1997; Waters et al. 2003). From this perspective, regulation is not simply an alternative to the market, but an instrument for improving the way in which different institutional structures allow economic actors to complete the transactions in which they are engaged (Chinitz 2002). However, regulation has been criticised for assuming the prior existence of a private market with a government which only intervenes to correct market failures, while it is well-known that in the health sector, particularly in LMICs, government is the primary actor and it often itself promotes the creation of a private market as an alternative to its own ownership and intervention in order to correct its own failures (Chinitz 2002; Wolf 1979, 1988). In addition, regulation in the health sector seems to pay more attention to private for-profit providers than to private nonprofit providers. This is unfortunate because private nonprofit providers account for a substantial proportion of financing and provision patterns and some of them even hold monopoly power and may engage in commercial-like activities in many areas of LMICs.

Moreover, regulation is a political as much as an economic undertaking and it is usual for government to intervene in the health sector for political reasons that are not necessarily justified by arguments of market failures (Fischer et al. 1988). Some analysts have pointed out that much of the government intervention in relation to the private health sector focuses on control-like regulation that occurs through legislation, with more emphasis on the social rather than economic aspects of regulation within the health sector (Kumaranayake et al. 2000). In practice, it is often not easy for government to distinguish its intervention to correct market failures from its intervention to achieve other social policy objectives (Stone 1997). While there is general agreement that effective regulation is essential, regulation alone is unlikely to be very effective in influencing the behaviour of private sector providers. Thus, the legal control needs to be complemented by some enabling measures for the private sector.

Conclusion. The key conclusion to this section is that in many LMICs, the regulation of the private health sector is ineffective, weak and outdated, particularly because of the government's lack of capacity including skills, financial, institutional, and information problems (Ensor and Weinzeirl 2006; Bennett and Ngalande-Banda 1994; Hongoro and Kumaranayake 2000; Kumaranayake 1998; Kumaranayake et al. 2003; Weinzierl 2005; WHO 1993). Ministries of Health in many African countries have the "authority but not the capacity" to regulate (WHO 1991). Even self-regulation appear to have played a minimal role in controlling poor conduct of health professionals because medical and paramedical councils have tended to adopt a very passive approach to regulation, failing to inform the general public of their role and waiting for consumers to bring complaints

to them (Mills et al. 2001). The ineffectiveness of regulation becomes apparent if viewed as a 'principal-agent problem' (Bennett et al. 1994; Gravelle et Rees 1992; Kumaranayake 1998; Kumaranayake et al. 2003; McGuire et al. 1989). Regulation that focuses only on legal controls cannot be fully implemented and enforced effectively because it is just one side of a broader public policy. Another side is that of enabling interventions which in practice could encourage compliance with legal controls. This issue will be explored in more detail in later chapters.

2.4.3 Summary of the literature on enabling and regulating the private health sector

The literature highlights the fact that effective government intervention is essential, but regulation alone is unlikely to be very effective because private providers of health care respond to immediate enabling measures (liberalisation policies and incentives) and to longer-term considerations associated with career, social standing and ethical norms (Bloom 2004). For example, a study pointed out that it may not be possible to regulate private pharmacies through legislation alone and 'less formal' approaches such as incentives and an increased role for consumer organisations are required (Nandraj et al. 2001). Regardless of the precise reason for private sector activity in the health sector, "enabling and regulatory interventions" are seen as a potential response to address the many problems which arise in the private production, financing and delivery of health services (Mills et al. 2001; Bennett et al. 1994; Kumaranayake 1998). However, little attention has been given to considering how these new tasks should be performed, and whether the MoPH has the capacity to adopt these new roles.

2.5 Key methodological and conceptual frameworks arising from previous studies

Research methods are currently not well developed to frame policy questions on enabling interventions and regulation of the private health sector. This section briefly reviews key methodological and conceptual issues. It looks at the research methods to address enabling and regulatory questions (2.5.1), and the research methods on costs and quality of care in LMICs (2.5.2).

2.5.1 Research methods on enabling and regulatory interventions for the private health sector

In LMICs, the most recent methodological approach to researching government interventions emerges from the work of the Health Economic and Financing Programme at the London School of Hygiene and Tropical Medicine and the Public-Private Mix Collaborative Research Network (PPMNet). Kumaranayake and Lake (1998) propose a research approach in two phases as shown in Figure 2.2 below. While in the first phase, the research strategy consists of a mapping exercise at national level, in the second phase, the research strategy focuses on assessing effectiveness of specific regulatory mechanisms. At each phase two complementary methods of data collection were used including: a review of existing legislation, records, reports, documents and newspapers; and structured interviews with key stakeholders.

The two phases can be used separately or simultaneously according to the study objectives in question. For example, Kumaranayake et al. (2000) used the first phase to understand the framework of existing health sector regulations facing private for-profit providers in Tanzania and Zimbabwe, and Hongoro and Kumaranayake (2000) used the second phase to assess the regulatory environment and the effectiveness of regulatory mechanisms in the same settings. Data for both studies were collected simultaneously for PPMNet.

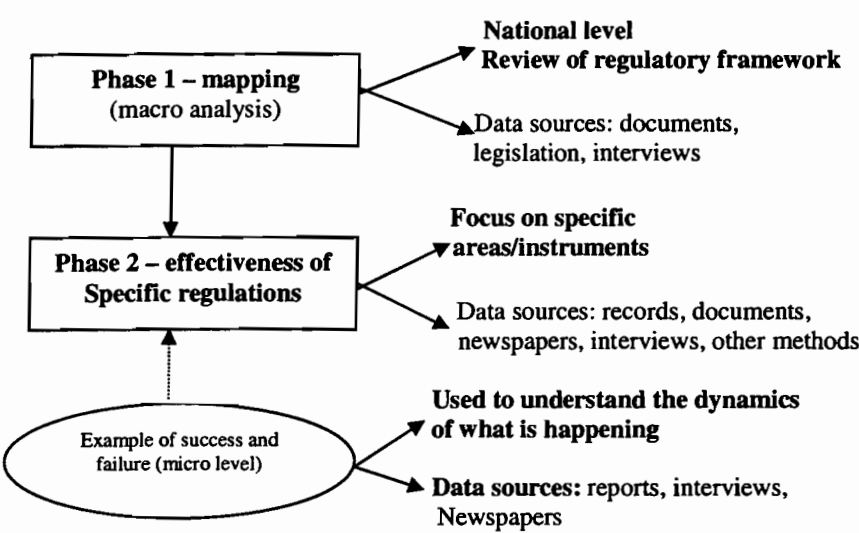


Figure 2.2. Research strategy. Source: Kumaranayake and Lake (1998)

The research strategy of mapping (macro analysis) consists of exploring three dimensions related to the process of enabling and regulatory interventions: what to enable and/or what to regulate, who to enable and/or who to regulate, and how to enable and/or how to regulate. According to Kumaranayake et al. (2000), the ‘what to enable and/or what to regulate’ is concerned with a range of target variables: entry, quantity, distribution, price, quality and competitive practices. The choice of ‘who to enable and/or who to regulate’

considers the private health sector's inputs, organisations and markets. The 'how to enable and/or how to regulate' refers to specific enabling measures and/or regulatory mechanisms used to affect these target variables, for example, to encourage the private sector to expand and offer appropriate quality of care. More specifically, the 'how to enable' includes liberalisation policies, non-financial and financial incentives. The 'how to regulate' strictly speaking means setting rules including legislation, laws, codes of conduct, etc in order to affect the target variables.

The research strategy on assessing the effectiveness of specific enabling and regulatory interventions looks at whether a particular enabling measure and/or regulatory mechanism works in the real world in order to achieve the public policy objectives (Hongoro and Kumaranayake 2000; Kumaranayake et al. 2003; Mills et al. 2001). The key data collection instruments were 'in-depth' interviews and document reviews. In-depth interviews through structured or semi-structured interviews based on a questionnaire or interview guide allow a broad range of topics to be covered. Open-ended and in-depth questions are used, placing the researcher in a position to collect a wealth of information as it gives an opportunity for the respondent to reveal the complexity and/or intensity of their feelings about the topic under consideration. Document review seeks out documents and reports pertaining to the research topic in different stakeholders' settings. This has many forms including legislative texts, financial accounts, annual reports, policy documents, etc. This research method can be enhanced when combined with the analysis of stakeholder views.

Varvasovszky and Brugha (2000) provide guidance on how to do a stakeholder analysis with the aim to conduct a policy analysis or predict policy development, or implement a specific policy. Stakeholder analysis is a research method for generating knowledge about actors so as to understand their behaviour, intentions, interrelations and interests; and for assessing the influence and resources they bring to bear on decision-making or implementation processes (Brugha and Varvasovszky 2000). It is usually used to conduct a comprehensive analysis that produces new knowledge about policy making processes with a strong retrospective dimension. The scope may be broad, particularly where the policy issues are complex requiring a greater reliance on qualitative approaches and deepened and extended data collection and analysis over many months. In a developing country context, interviewing a wide range of key informants, including those who can mediate or transcend cultural positions, is recommended at all stages in order to minimise individual biases and develop a more comprehensive picture (Ford and Sporne 1988). In policy analysis with complex issues involving a range of national actors, the sampling of stakeholders may often be a protracted and iterative process, especially in a more stable and well organised context. Many studies use a 'snowball technique' whereby at the end of each interview, respondents are asked to identify all other important stakeholders who have or could have, considerable influence in the relevant policy arena (Varvasovszky 1998). A combination of semi-structured interviews and structured questionnaires, and document reviews can be used for data collection. Data need to be organised and analysed progressively.

2.5.2 Research methods on quality of care in the private sector and other elements of performance

The basic components of care are both the technical quality of care and the management of the interpersonal process (Lohr 1990; Newbrander and Rosenthal 1997). These interpersonal elements of quality are judged as good or bad according to how the care complies with social norms, ethical standards, community's expectations, and amenities. There are also non-clinical aspects of quality of care including accessibility of the services, the efficiency with which they are delivered, and the convenience of using the services. Donabedian (1988) provides a basic conceptual framework for assessing quality of care. This framework uses the elements of structure, process and outcomes, all related to the provision of care. These three elements describe approaches for gathering and analysing data about quality rather than being the actual attributes of quality as follows:

- (1) Structure describes the attributes of the setting within which care is delivered. It is a static description of the relation of the structure of care to the actual process. This relationship is not well understood and is not directly causal, for example, the absence of certain equipment, facilities, management practices, staff, and drugs are likely to result in poor quality but the presence of those items does not necessarily assure high quality of care.
- (2) The outcomes of care are a measure of the patient's present and future health status attributable to the process of care. The measure of outcomes must be relevant to the goal, achievable by good care, and attributable to the care evaluated immediately or in the short or long term.

(3) Process is the primary concern in attempting to assess quality. It relates to the actual interaction between provider and patient. There is a causal link between the outcomes of care and what occurs during the process. Structure and outcomes are actually indirect means for assessing the process of care.

At the health facility level, some studies have drafted methodological guidelines for 'Assessing the Private Sector' as a tool for descriptive analysis (Berman and Hanson 1993). They emphasise the use of data that are already available and include describing the provider sector and analysing utilisation patterns. However, this methodology has been found to be limited and better data is needed in the future for targeted health policy development. Private providers have not typically been very forthcoming with certain types of data, such as details on their practice, costs, quality and earnings (Mills et al. 1997). Sampling can be difficult where there are no data on provider numbers and location and when good classification of types of providers is lacking. In addition, most studies are done in rural settings and do not address the issues in urban settings.

There has been some research on the performance of different models of primary care provision in Southern Africa (Mills et al. 2004; Palmer and Mills 2003; Palmer et al. 2003). Performance was defined as technical quality (in terms largely of structure and process aspects), acceptability to users and cost of service delivery (Mills et al. 2004). Performance is considered to be affected by both demand and supply factors. Factors affecting demand are the socio-economic and demographic characteristics of the population, and their preferences for different provider characteristics. Supply side factors include the size and location of providers, and capacity issues such as provider

resources and expertise, and the financial and non-financial incentive structures available to providers.

Methods for studying the private sector supply of public health products in developing countries have also been proposed (Conteh and Hanson 2003). This study emphasises that market outcomes including prices, quantity, technical and perceived quality as well as public health consequences including affordability, appropriate use and coverage are influenced by both demand and supply factors. The demand factors include: price, income, information and preferences, who receive benefits, availability and accessibility, characteristics of substitutes and provider advice. The supply factors encompass the market structure, regulation, provider knowledge, ownership and commercial orientation, perception of patient preferences, and behaviour of wholesalers/distributors of products.

The common data collection methods of the aforementioned studies were that of surveys which involved adopting sampling procedure to generate representative results and a set of quantitative and qualitative data collection instruments. The questionnaire was a commonly used data collection instrument and it was designed as structured, semi-structured or unstructured (Mills et al. 2004). Another frequently used tool was that of focus group discussions, which are a “qualitative research technique where it is considered essential to understand the psychological and behavioural underpinnings of consumer or provider behaviour and to identify ways and means to influence this behaviour” (Folch and Trost 1981). In practice, a small number of users or providers are

encouraged to participate in free and open interaction in a neutral/informal environment (Kafle et al. 1996).

These studies are almost all natural experiments or cross-sectional analyses, not evaluations of intentional public policy interventions. No published research on the effects of enabling and regulatory interventions and their relative impact on structural, process and perceived quality of *malaria services* provided through the private sector in LMICs could be found.

2.6 Conclusion and unanswered questions

This chapter has reviewed economic and related theories as well as empirical evidence that provide ample justification for the development of appropriate roles for government and the private sector in the provision of health care. Welfare economics emphasise that, if certain conditions are met, a competitive health care market may assure the most efficient allocation of resources, compared to the alternatives that governments have increasingly been superimposing on the market (Friedman and Friedman 1980; Rice 1998). However, this model indicates that problems occur in both efficiency and equity when public health services with significant externalities are allocated through markets in which private sector provision usually leads to suboptimal quantity, quality or price and this market failure provides a strong justification for government regulation (Preker, Harding and Travis 2000). Although welfare economics provides a strong justification for

government regulation, it does not help to understand the specific form of institutional arrangements most appropriate for the regulation of the private health sector.

Institutional economic theory is directly concerned with creating the best possible structures for institutions that consist of individuals pursuing multiple and often conflicting interests (OECD 1995; Williamson 1985). The institutional arrangements evolving as a result of the actions of different agents' help to reduce uncertainty and ameliorate the problems associated with asymmetric information. Thus the rationale for government intervention becomes that it serves as an 'enabler' or a 'steward', a mechanism by which to improve the operation and efficiency of economic undertakings (Saltman and Busse 2002). New institutional economics proposes that the roles of government and a competitive market should be linked to both contestability and measurability characteristics of public health services (Bloom 2004; Chakraborty and Harding 2002; Preker et al. 2000). Economic characteristics of malaria services are particularly related to these contestability and measurability classifications.

New public management theory considers the issue of government failures including insufficient incentives to improve efficiency, lack of responsiveness to local needs, and a tendency to be influenced by powerful private interest groups (Bloom 2004; Hood 1991; Minogue 2001). It emphasises that providers of health services may respond to immediate non-financial and financial incentives and interventions to improve their performance. It argues that government should move away from the direct provision of health services to the more indirect role of regulation (Travis et al. 2002).

Economic theories of the nonprofit sector attribute the existence of nonprofit providers to a number of specific market and government failures that create the need for alternative institutional frameworks to perform some socially useful tasks (Vladislav 2006). While the initial theoretical approach emphasises that the nonprofit sector arises as a substitute for government intervention in light of efficiency failures in the market place (Weisbrod 1988), the voluntary failure approach, in contrast, argues that the nonprofit sector does not exist as a substitute for services provided by government, but instead exists in partnership with government to form a 'third-party government' (Salamon 1987). However, the nondistribution constraint coupled with the notions of public goods, external benefits, trust, asymmetric information, demand heterogeneity, transaction costs, and partnership continue to serve as the building blocks of economic theories of the nonprofit sector. Recent literature has expanded these issues to include both the stakeholder and entrepreneur approaches as well as institutional and comparative understanding of the nonprofit sector. Moreover, the nonprofit sector's growth in size and commercial activities make the theorisation of its proper role in the liberalisation era even more complex by the fact that the justification for public subsidies, receiving donations, tax exemptions, and other preferential treatment and privileges to the nonprofit sector hinges on its differentiation from the private for-profit sector (Ravichandran 2006; Weisbrod 1998). This development is not only questioning the social welfarism philosophy, but also the enabling and regulatory challenges that stand in front of policy-makers, academic and professional researchers in many LMICs.

The empirical literature indicates that in many LMICs throughout the world, much of total health expenditures have been driven by private financing. In addition, the private sector already constitutes an important source of health care delivery in many LMICs (Bennett 1991; Bennett et al. 1997; Berman 1996; Berman and Rannan-Eliya 1993; Bustreo et al. 2003; Eggleston et al. 2006; Hanson and Conteh 2003; Hanson et al. 2004; McPake 1997; Mills et al. 2002; Travis and Cassels 2006).

The empirical literature also indicates that there has been little experience of using enabling or incentive interventions to influence the development and behaviours of private providers of health services (Bennett et al. 1997; Kumaranayake 1998; Mills et al. 2001; Palmer 2000; Sinanovic 2004). In addition, widely implemented regulatory interventions focus mainly on control-like mechanisms that occur through legislation with more emphasis on the social rather than economic aspects of regulation in the health sector (Kumaranayake et al. 2000). Regulatory interventions have been largely ineffective, particularly in African settings (Hongoro and Kumaranayake 2000; Kumaranayake et al. 2003). Perhaps this may be the case in Cameroon, but it is important to assess the effectiveness of combining incentive and control measures to influence the behaviour of private providers.

Moreover, the empirical literature highlights that in many low income African countries, malaria coverage is still very incomplete and structural, process and community-perceived quality of malaria services are not well-documented (Hanson et al. 2004). As patients frequently prefer private sector providers of malaria services, policy-makers

should pay greater attention to influencing the development and behaviours of private sector providers, particularly through enabling and regulatory interventions. The appropriate design of service delivery is influenced by the ownership and incentives of the stakeholders as well as the nature of the service being exchanged (Williamson 1975). In many LMICs, there are limited studies regarding the performance of alternative sources of primary health services provision (Mills et al. 2004). Recent reviews identified only three studies of efficiency and quality, all comparing public and nonprofit providers. There is a need for comparison of three types of providers: public sector, private nonprofit sector, and private for-profit sector.

Theoretical and empirical arguments about regulation and the respective roles of government and the private sector are often posed in terms of market, government and voluntary failures, but they do not help understand the outcome of public policies when there are major failures of all three institutions (the private for-profit sector, the private nonprofit sector and government). In the health sector, the roles of government and the private sector are often conflicting; on one hand market failures justify government intervention to ensure that markets operate in the public interest, while on the other hand private interest groups - either in the for-profit sector or the nonprofit sector - may influence government to use its enabling and regulatory powers on their behalf (Bloom 2004).

Although the theoretical and empirical literature provides a robust rationale to justify the need for government interventions, particularly for enabling and regulating the private

health sector, it does not yet adequately answer the most critical questions facing policy-makers in many LMICs. In addition, the relatively small body of literature on enabling and regulatory interventions for private providers offers considerable scope for further research with potential to make important contributions to the area. Should the public sector provide public health services by itself or in partnership with the private sector? What are the best strategies of working with the private sector for a low income African state with major failures of the for-profit sector, the nonprofit sector, and government in the provision of public health services? When an African government with limited capacity decides to intervene in the provision of public health services by the private sector, should the Ministry of Public Health enable or strictly control the private sector provision or use a combination of both enabling and regulatory interventions? As command and control regulations seem to be ineffective, are enabling interventions more appropriate? If government uses a combination of both enabling and regulatory interventions, will they be appropriate in influencing the development and behaviour of private sector providers of malaria services as well as their performance in terms of expanding coverage, strengthening efficiency and quality of care, and improving equity and health status of the population? This study attempts to provide some empirical answers to some of these challenging questions in the light of health sector development in Cameroon.

Chapter 3: Methodology

3.1 Introduction

The literature review highlights that researching enabling and regulatory interventions for private sector provision of public health services in the specific context of a low income country is a challenging task, particularly where there are major failures of the private for-profit sector, government (public sector), and the private nonprofit sector alike. Whilst both the weak capacity and potential inefficiency of governments may provide a justification for relying less on the public sector, there are substantial risks of opportunistic behaviours of the private for-profit sector and commercialisation of the nonprofit sector in the provision of public health related services such as malaria. Strategies for enabling and regulating private sector provision of health care may contribute to addressing these conflicting policy issues in Cameroon. This chapter presents the research approach used in this study including a conceptual framework, detailed data collection and analysis methods and ethical considerations.

3.2 Conceptual framework of the study

The conceptual framework arises from the perspective that the purpose of enabling and regulatory interventions should be to address the problems of market failure, government failure and voluntary failure, as they affect achieving public health policy objectives, by using strategies that may provide incentives for compliance but do not impose excessive

costs on the regulators. This encapsulates the Ministry of Public Health's stewardship role, through enabling and regulating private provision of malaria services. It encompasses the application of state authority in health sector decision-making and management responsibilities (Saltman and Ferroussier-Davis 2000; WHO 2000a) and the principal-agent relationship where a principal (government through the MoPH) authorises an agent (the private sector) to provide malaria preventive and treatment services, in exchange for mutually agreed rewards and within the context of a set of rules, through specific enabling and regulatory interventions (Bennett et al. 1994; Martimort 2006; Mills et al. 2001; Preker, Harding and Travis 2000; Vitale 2004). Thus, its main focus distinguishes enabling interventions generally termed as the 'carrot of incentives' (Bennett et al. 1994; Gilson et al. 1994) from the 'stick regulations' that consist of legal controls (Hongoro and Kumaranayake 2000; Kumaranayake 1998).

This conceptual framework outlines the analytical issues for exploring the performance of different providers of malaria services and for examining whether or not existing enabling and regulatory interventions are appropriate for influencing this performance. Figure 3.1 schematises the overall conceptual framework of enabling and regulatory interventions to influence the performance of private providers of health services. It highlights a number of interrelationships that may guide appropriate enabling and regulatory interventions.

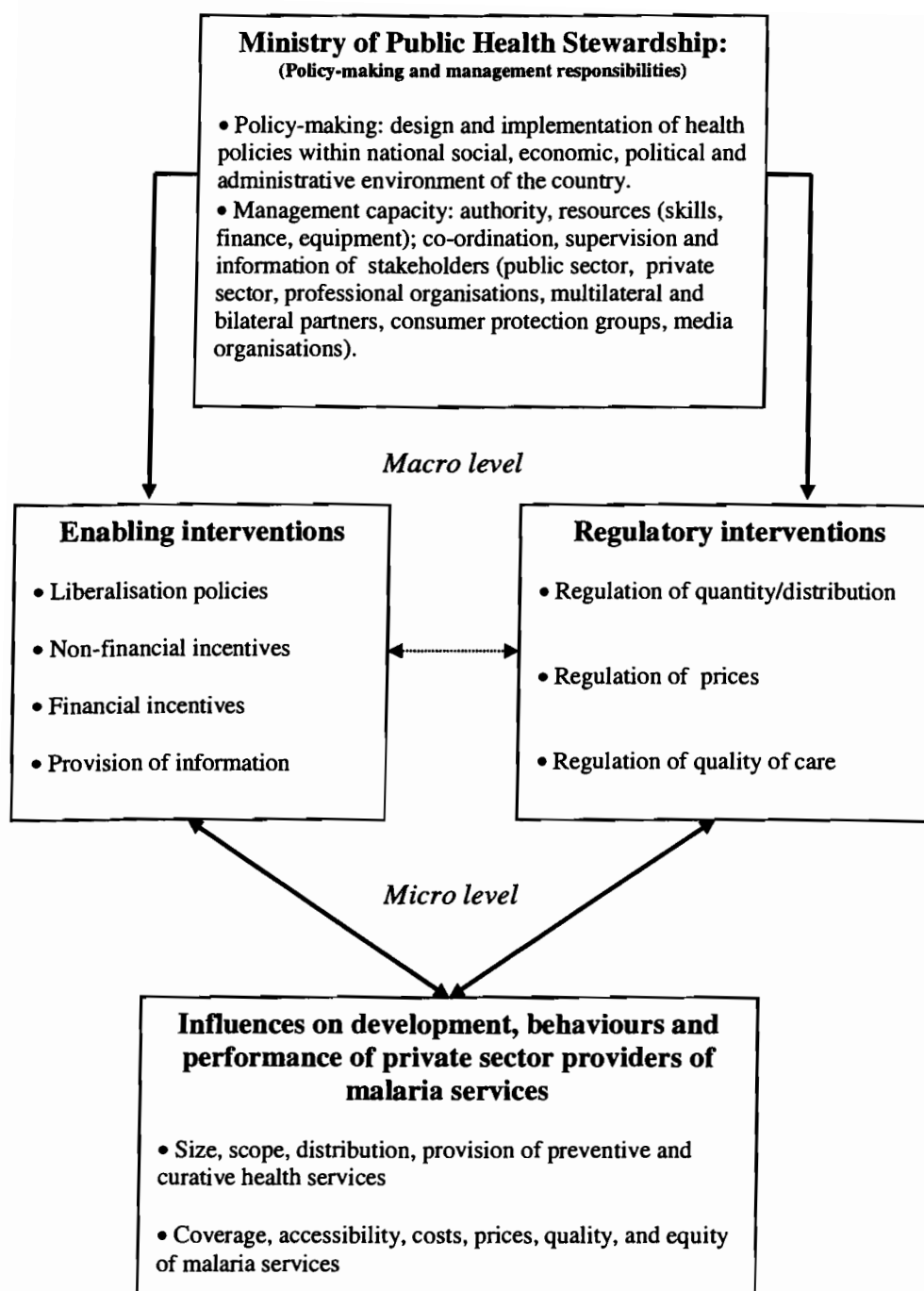


Figure 3.1: CONCEPTUAL FRAMEWORK OF THE STUDY

As mentioned earlier in this section, the conceptual framework (Figure 3.1) originates from institutional economics, particularly agency theory, whereby the MoPH (as principal) authorises the private sector (as agent) to provide malaria services under enabling and regulatory interventions. From this perspective, the conceptual framework suggests two complementary (macro and micro) levels of exploring enabling and regulatory interventions.

At the macro level, the conceptual framework suggests two analytical dimensions:

- In depth description of existing enabling and regulatory interventions;
- Assessment of their potential for achieving health policy objectives.

Operationally, these two analytical dimensions are considered simultaneously. Thus, at this macro level, the analysis consists of describing existing enabling and regulatory interventions and further assessing how *appropriate* these interventions are for achieving health policy objectives (e.g. good coverage, low prices and good quality of care). The appropriateness of government intervention is evaluated both in relation to stakeholders' perceptions of the appropriateness of specific interventions in relation to their potential for achieving policy objectives and in relation to theoretical predictions of the likely impact of these interventions. In broad terms, economic and related theories suggest that appropriate enabling interventions can stimulate private sector provision of malaria preventive treatment services while supporting regulation can simultaneously safeguard compliance with national malaria control objectives.

The New Public Management (NPM) approach of the liberalisation of the health sector is to encourage competition by promoting private for-profit and nonprofit providers, greater managerial autonomy and responsibility, consumer choice; and through these improve efficiency, responsiveness and quality of malaria service delivery. Welfare economics suggests the liberalisation of the health care market environment will encourage many private providers to start and expand malaria services, but the structures of the health care market do not satisfy the restrictive assumptions for perfect competition: malaria services are associated with public goods, externalities, asymmetric information characteristics, and a private provider can abuse its dominant position. The public interest approach posits that enabling and regulatory interventions do not seek to realise perfect competition in health care market. The operation of the health care market is influenced by enabling and regulatory interventions that seek to fulfil the achievement of health policy objectives. Regulation of quantity/distribution through licensing is to influence the number, distribution, location, coverage and physical accessibility of private providers. Regulation of prices and quality through hierarchical controls complements this to assure that good quality malaria services are provided at low service costs and prices to patients in the private sector. The public interest approach also emphasises the provision of information to all actors in the market whereby encouraging and requiring private providers to disclose information on the quality of their inputs such as staff qualification and composition, standards of equipment, supplies and drugs available in order to improve quality competition in the market.

Institutional economics also highlights the fact that the institutional arrangements for malaria service provision can address the problems associated with market failures whereby giving (non-) financial incentives (e.g. taxes, subsidies, loans, training opportunities etc.) may encourage private providers to adapt their behaviour to the health policy objectives. Institutional economics posits that in the health care market there are rational private providers who would be able to choose between alternative behavioural options based on private interest calculation on the benefits of (non-) financial incentives which will ultimately promote achieving health policy objectives.

However, economic theories also highlight the possibility for enabling and regulatory interventions to be potentially inappropriate for achieving health policy objectives. The public choice theory stresses that bureaucrats who are responsible of implementing enabling and regulatory interventions may emphasise their power, prestige, budget and private gains that deviate the process from the public interest of achieving health policy objectives. Enabling and regulatory capture by private interest groups for obtaining preferential taxes, subsidies, loans, and protective regulatory mechanisms would not lead to achieving health policy objectives.

Self-regulation may serve the public interest by preventing low standard medical facilities, equipment, supplies, as well as quack, poorly trained, incompetent, or unethical staff from entering the health care market and by altering the behaviour of private providers in the course of their practice. But self-regulation also appears to fit the criteria

for private interest groups which can lack the appropriate motivations to enforce compliance with behaviours and practice required for achieving health policy objectives.

The economics of the nonprofit sector emphasises the presence of a nondistribution constraint which can support the compliance with enabling and regulatory requirements for achieving health policy objectives. It further suggests the issues of unmet demands for public goods and beneficial externalities, contract failure or trustworthiness, and ‘third-party-government’ as key theoretical arguments for moderating the behaviour of private nonprofit providers to achieve the health policy objectives. However, property rights arguments question the nonprofit’s behaviours under nondistribution constraints arguing that the absence of transferable residual claims would attenuate economic incentives for achieving the health policy objectives.

At this macro level, the framework takes into account the social, economic, political and administrative environment of the country. The *design and implementation* of public health policies underlie the relative appropriateness of enabling and regulatory interventions. This conceptual approach relies on the combination of both theoretical and empirical literature with qualitative interviews with stakeholders. However, we should recognise that stakeholders’ perceptions are qualitatively subjective judgements. As the appropriateness of enabling and regulatory interventions is measured qualitatively, it would be difficult to attribute direct causation of enabling and regulatory interventions to any aspects of the performance of different providers. However, the choice of this conceptual approach is suggested from the fact that a well-implemented enabling or a

regulatory intervention can have limited influence if it is poorly designed or it is not appropriate for addressing a particular policy objective or a given health sector problem. Conversely, a well designed intervention that is not adequately implemented can also be inappropriate.

The conceptual framework also indicates that management capacity can be critical to the appropriateness of enabling and regulatory interventions. Management capacity includes: authority (role and power of different stakeholders); resources (trained people, finance, equipment); co-ordination, supervision, and information.

To understand whether or not enabling and regulatory interventions are appropriate in a particular setting, it is important not only to look at theoretical predictions of the likely impact of specific interventions, but also to appreciate the perceptions of different stakeholders involved in both the design and implementation processes. This analysis thus also uses qualitative data to assess how enabling and regulatory interventions are likely to influence the performance of private health providers on the basis of different stakeholders' positions, levels of interest and influence around enabling and regulatory interventions in the health sector.

The macro level links to the micro level through the implementation process and the direct effects of enabling and regulatory interventions. The conceptual framework highlights the interrelationship between enabling and regulatory interventions. From this perspective, it is more likely that in seeking to obtain the 'carrot incentive', private sector

providers will behave in such a way that complies with the health sector regulatory framework of the country.

At the micro level, the conceptual framework also suggests two analytical dimensions:

- In depth analysis of the performance of public and private providers;
- Assessment of whether or not enabling and regulatory interventions are appropriate for a given level of performance.

Thus, at this micro level, the analytical dimensions are related to how do private providers perform and whether or not enabling and regulatory interventions are appropriate in light of the performance of the private sector, drawing on the theoretical predictions of the likely impact of specific interventions, thereby assessing if good performance can be sustained or/and poor performance can be improved by the enabling and regulatory interventions. Indeed, at this micro level, *appropriate* enabling or regulatory intervention refers to its potential for sustaining and/or improving performance of private sector providers. However, different national health systems may have varying cultural and economic environments that shape private providers' expectations and responses to enabling and regulatory interventions. The analysis here places more emphasis on a *mix of theoretical literature, performance and qualitative data* to improve the understanding of whether or not enabling and regulatory interventions are appropriate for promoting private health providers and addressing the problems generally associated with private sector provision of health care. According to Bennett et al. (1994), these concerns include: lack of integration with MoPH services; inadequate provision of public health related services; dual practice of public sector staff; motivation to maximize

profits; and provision of poor quality and inappropriate health services. The theoretical framework (outlined in chapter 2, section 2.2.5, Table 2.4) predicts that if private providers are offered appropriate enabling and regulatory interventions, then two important desirable behaviours would be expected:

- (1) They would tend to behave as better agents for their multiple principals (MoPH, Medical Council, patients, etc.) in the delivery of health services. This means that appropriate enabling and regulatory interventions would align the interests of both the principal and agent to pursue some specific objectives which are in the public interest. In economic theory, a good agent (private provider) would behave in line with the medical code of ethics by choosing health services that the patient himself would choose in the absence of asymmetric information.
- (2) They would expand coverage and provide relatively low cost and high quality public health services to either rural and urban or poor and rich communities. This means that under appropriate enabling and regulatory interventions, private providers are expected to provide comparable costs and quality of services and to locate indifferently of financial orientation between urban and rural or poor and rich areas.

Theoretical models suggest that coverage could be improved by using liberalisation measures, financial incentives and licensing requirements to influence private providers to expand, locate in underserved areas and offer an optimal volume of health services associated with public goods and externalities characteristics. This also can influence the number of practising health providers, and the types of practising health providers. The

costs of producing and the prices of providing health services could be improved by using financial incentives and price regulation to influence private providers to serve poor patients. The quality of health services could be improved by using non-financial incentives, licensing and requirements for minimum standards to influence private providers to apply specified standards of care.

In this framework, assessing the potential influence of enabling and regulatory interventions suggests gaining an understanding of individual private sector health care providers' performance. The performance of individual health facilities is measured in aggregate terms including: (1) coverage and utilisation, (2) readiness and availability of services, (3) prices and costs to providers and patients' seeking malaria services, (4) equitable access to health care, (5) structural and process quality of care, and (6) patient satisfaction with quality of care.

As highlighted earlier, assessing whether or not enabling and regulatory interventions are appropriate is based on theoretical predictions (see Table 2.4, p. 66), given the state of performance across different types of providers. From this perspective, the conceptual framework emphasises the iterative process thereby using feedback from performance assessment to inform refinement of enabling and regulatory interventions.

3.3. Research methods

3.3.1. Scope and site of the study

The scope of this study covers both the macro and micro levels. The macro level covers the national headquarters of central administration in the capital city of Yaoundé, the West Province health sector administration in the provincial city of Bafoussam, and three health districts (Mifi, Foumbot and Fouban) within the West Province.

The West Province covers 13,870 km², the climate is warm and relatively dry. In this Savannah region, the annual rainfall varies between 500 and 1500 mm. The transmission of malaria is relatively permanent. The West Province is divided into eight administrative divisions which are made up of 16 health districts, 212 health areas with 216 health facilities, of which 75 are private facilities, and 2,343 communities. The population is estimated at about 2,093,670 inhabitants in 2004. People living in the western province are semi-Bantu of mixed races, living between Bantu of the forest region in the south and the Sudanese of the grass land in the north. The ethnic group comprises two tribes: the Bamileke and the Bamum people.

The district intermediates between the macro level (policy-making) and the micro level (health service provision). The micro level includes the three aforementioned health districts, 61 Health Areas and 620 communities.

The health district of Mifi covers a surface area of 402 km², with an estimated population of about 294,325 inhabitants of whom 95% are Christian, has a very high population density of about 733 people per km². It is mainly an urban setting covering three administrative subdivisions of Bafoussam, Bamougoum and Baleng. Mifi is a malaria high risk and hyperendemic health district, and it is the headquarters of the West province in which the main city is Bafoussam. The health district of Mifi is made up of 13 health areas with 35 health facilities, of which 21 are private facilities, and 198 communities.

The health district of Foubot covers 3,293 km², with an estimated population of 145,508 inhabitants of whom 80% are Moslem, has a population density of 45 people per km². It covers three administrative subdivisions: one semi-urban area of Foubot, and two rural areas of Kouoptamo and Massagam. In this setting, the risk of malaria transmission is high and the disease is endemic. It is made up of 24 health areas with 32 health facilities, of which 13 are private facilities, and 201 communities.

The health district of Fouban covers 2,500 km², with a total population of 236,931 inhabitants of whom 90% are Moslem, and with a population density of 95 people per km². It covers three administrative subdivisions: one urban area of Fouban, one semi-urban area of Koutaba, and one rural area of Bangourain. The Fouban health district is malaria high risk and endemic. It is made up of 24 health areas with 36 health facilities, of which 12 are private facilities, and 221 communities.

3.3.2. Design of the study

This research uses a descriptive cross-sectional study design. The design is descriptive because both quantitative and qualitative data are collected from a sample of the study population of interest and descriptive findings are generated (Moser and Kalton 1971). It is also cross-sectional because the data are collected from a sample of the study population of interest at one point in time (Bowling 1997). This design allows the use of data ranging from the analysis of routine statistics and documents to cross-sectional surveys which can describe the phenomena of enabling and regulatory interventions for the private health sector. The limits of this design are that the evidence does not allow any inferences to be made about cause and effect relationships for the findings.

This study examines appropriateness of enabling and regulatory interventions through qualitative description and assessment of enabling and regulatory interventions, qualitative and quantitative evaluation of performance of private providers. The qualitative assessment of enabling and regulatory interventions emphasises the perceptions of various stakeholders involved in the process of designing and implementing the interventions. Hongoro and Kumaranayake (2000) pointed out that the strength of qualitatively assessing the effectiveness of health sector regulations is that this approach allows for the specific context to be taken into account, and by emphasising a range of stakeholders, researchers can explore the perception of effectiveness from a number of perspectives. They also indicated the likely limitation of using a qualitative approach on the grounds of the lack of a baseline against which to make the comparison

(e.g. effectiveness compared to what? And whether theory predicts will be appropriate) and the findings can be somewhat subjective.

3.3.3 Typology of private sector health facilities in this study

A variety of criteria can be used to distinguish among private sector health facilities operating in Cameroon. This study adapted the methodological approach developed by the USAID's Data for Decision-Making project for use in the study of private sector development in Africa (Berman and Hanson 1993). That methodology identifies a simple typology using the criteria "ownership" or "financial orientation" as a starting point for distinguishing between the public and private sectors and for identifying combinations that frequently occur in practice. This study focuses on the ownership criterion. This criterion is used to distinguish whether the health facility is owned by a public or private entity, and whether it operates on a for-profit or nonprofit basis. While the ownership distinction between the public and private is relatively easy, the dividing line between for-profit and nonprofit may be difficult to identify and often is a legal category related to tax status rather than a practical distinction.

Operationally, this study groups private sector health facilities into two broad categories. Nonprofit health facilities are comprised of facilities owned, financed, and managed by a voluntary agency, generally religious or other nonprofit groups usually legally registered as health NGOs. For-profit health facilities are comprised of individuals or groups of professionals, medical health centres, clinics, polyclinics, and hospitals that are fully

financed by private owners who have been authorised to create and operate health care services on a for-profit basis with a special license granted by the Ministry of Public Health (MoPH).

Private informal providers and drug shops do exist and operate in Cameroon, but they are excluded in this study because they are not the target of much of the health sector regulation and none of the enabling interventions. Other reasons for not including informal providers are that they are difficult to access (to get data) and that it would be unmanageable to focus on formal and informal sectors comprehensively. The existing regulations directed to private informal providers and drug shops consist of discouraging, prohibiting and banning informal practices, although the current regulations appear to be largely ineffective as many private informal providers and drug shops continue to operate almost everywhere in the country (Stakeholders interviews: public sector, national level, 2002). Although the informal health sector is not included in the sample, the analysis will often implicitly highlight issues relating to informal providers arising particularly from the qualitative component of this study. Some qualitative evidence may suggest a number of recommendations to the MoPH for policy changes towards the informal health sector.

3.3.4. Sampling

3.3.4.1 Sampling methods at the macro level

In terms of the macro level of the conceptual framework, the design of this study called for extensive reliance on both secondary and primary sources of data, available from document reviews and cross-sectional qualitative data collection at national, provincial and district levels of the health system. The objectives of sampling at this macro level are: (1) to understand the roles and perceptions of different groups of stakeholders which have an interest in, or would be affected by the development, evolution, processes, and implementation of enabling and regulatory interventions for the private health sector; (2) to provide a relatively comprehensive overview and new knowledge about enabling and regulatory processes and their appropriateness in Cameroon. At the national level, the study population includes key informants and opinion leaders in the headquarters of:

The Ministry of Public Health :

- Inspectorate generals: Inspectorate General for Medical and Paramedical Services; Inspectorate General of Pharmaceutical Services;
- General Administration: the Division of Operational Research in Health; the Division of Studies and Projects; the Division of Co-operation; the Directorate of Health Care Organisation and Medical Technology; the Directorate of the Fight Against the Disease; the Directorate of Family Health; the Directorate of Health Promotion; the Directorate of Pharmacy and Drugs; the Directorate of Financial Resources and Patrimony; and the Directorate of Human Resources.

- National Malaria Control Programme: Permanent Secretariat for the National Roll Back Malaria Committee.

- National Quality Control and Valuation Laboratory

The Ministry of Economics and Finance :

- Directorates of Taxation, Customs, Planning and Investment, Budget, and Co-operation.

The Ministry of Territorial Administration and Decentralisation :

- Sub-Directorate of NGOs, Associations and other Civil Society Organisations.

The Ministry of Trade:

- Directorate of Prices and Tariffs.

The Ministry of Agriculture:

- Sub-Directorate of Co-operatives and Common Initiative Groups.

Professional Organisations:

- National Medical Council;
- National Pharmaceutical Council;
- National Paramedical Council.

Private sector :

- National Board of Catholic Health Services;
- National Board of Protestant Health Services,
- National Network of NGOs in health;
- National Secretariat of Private For-Profit Practitioners' Trade Unions.

Civil Society :

- National Association of Consumer Protections ;

- Cameroon's 'Réseau Ethique Droit et Sida'.

At least one stakeholder from each aforementioned institution was interviewed by the principal investigator.

At the provincial level, West Province was purposely selected because of its epidemiological profile of a relatively highly stable malaria endemic region of the country. In addition, there is growing private sector provision of health care in this province of the country. The selection of the West Province represents a trade-off between having a more extensive study scope involving a large number of provinces and collecting high quality data within the constraints of available time and resources. At this level, the study population included key informants and opinion leaders in the provincial headquarters of the aforementioned Ministries (public sector), professional organisations, and private sector and civil society organisations.

Moreover, at provincial level three health districts were randomly selected from the list of sixteen districts. Three districts were randomly selected because all districts have similar levels of malaria endemicity and all have a mix of public, private for-profit and nonprofit providers. The three selected districts were Mifi, Foumbot and Fouban. The study population includes key informants and opinion leaders in both health district and local administrative authorities. A detailed description of these districts is available in sub-section 3.3.1. A more detailed description of sampling within each district is presented in the next sub-section.

Sampling of key informants and opinion leaders. In this study setting, the issues of enabling and regulatory mechanisms are relatively complex as they involve a range of national, provincial as well as district stakeholders. Stakeholders here can be defined as actors who have an interest in the issues of enabling and regulatory interventions for the private health sector in Cameroon, who are affected by these regulations, or who – because of their position – have or could have an active or passive influence on the decision-making and implementation processes (Varvasovzky and Brugha 2000). While most of the relevant stakeholders with an interest in enabling and regulatory interventions are not directly visible, the use of an iterative process for selecting stakeholders presents a risk because important actors may not emerge at all or emerge only at a late stage. Since the sampling aims to interview the relevant stakeholders with a direct or indirect interest in enabling and regulatory interventions, the determination of the sample here uses the ‘*snowballing*’ approach because no sampling frame exists and it cannot be created (Bowling 1997). The ‘*snowballing*’ approach means that at the end of each interview, the respondent or interviewee is asked to assist the researcher in identifying all other important actors who have or could have, considerable influence in the framework of enabling and regulatory interventions for the private health sector. In addition, key informants include a wide range of selected stakeholders (policy-makers, planners, managers, senior administrative, financial, and regulatory officials) in the public sector, professional organisations, and the private sector. Opinion leaders include activists in civic and consumer organisations as listed in an earlier sub-section. The sample of various stakeholders was selected and distributed as shown in Table 3.1 below. There were a total of 105 respondents.

Table 3.1: Distribution of sample size of stakeholders at the macro level

Sources of the study population	Sample size at macro level			
	National headquarters	Provincial headquarters	District Areas	TOTAL
Public sector	28	12	10	50
Private nonprofit	04	04	04	12
Private for-profit	04	03	04	11
Professional organisations:				
• Public sector's members	01	02	03	06
• Private nonprofit members	04	04	04	12
• Private for-profit members	04	04	04	12
Consumer organisations	01	01	00	02
TOTAL	46	30	29	105

3.3.4.2 Sampling methods at the micro level

At the micro level, the sample was drawn in three stages. In the first stage, three districts were randomly selected as explained previously (all districts have similar levels of malaria endemicity and all have a mix of public, private for-profit and nonprofit providers). In the second stage, a list of all public and private health facilities within the selected districts was established. Then, a stratified sampling approach was used to select individual health facilities, with stratification being based on ownership. This sampling technique allowed the selection of different subgroups (public sector, private nonprofit, and private for-profit) located in urban and rural areas. In the third stage, while all managers were interviewed, there was a random selection of providers (e.g. doctors, nurses, etc.) and patients within health facilities for semi-structured interviews and people in communities around health facilities for FGDs. The sampling in this second phase includes four sub-samples, namely health facilities, providers, malaria patients and FGD participants.

Sampling of health facilities (HFs). The HFs in the study sample were theoretically homogeneous on the basis of the MoPH's criterion of required technical standardisation, but they were a fairly diverse group in terms of number of patients, physical structure, and services. The MoPH's criterion of technical standardisation requires that a health facility of a particular category (hospital or health centre) must have the same standardised building, medical equipment, trained personnel, supplies, laboratory and clinical services, etc. For example, on the basis of required technical standardisation, all health facilities included in the sample were supposed to have at least one functional and working microscope. The study was carried out in HFs providing primary health care (in some cases, they provided both outpatient and inpatient care) including malaria services. This required a detailed list and location of all health facilities providing malaria services.

The sampling frame of health facilities was determined from two comparable sources in the Ministry of Public Health. First, we used the detailed list of all health facilities compiled by the former Directorate of Community Health in 1996 for the health district system. Second, we checked the accuracy of the sample frame with another detailed list of health facilities that the former Division of Studies, Planning, and Information System compiled in 1999 for the Health Map Project of Cameroon (so-called 'Projet de Carte Sanitaire du Cameroun'). The following method was used to select the sample:

- (1) The sample was stratified by district. An equal number of health facilities were to be selected in each district.
- (2) The sample was then stratified by organisational category (large, medium, and small size hospitals and health centres). At this stage all small size hospitals and large size

health centres were purposively selected because several MoPH technical standardisation criteria overlap between (small size) hospitals and (large size) health centres. Indeed, they are somewhat comparable because small size hospitals and large size health centres share some operational overlapping functions.

- (3) The sample was then stratified by ownership category (public sector, private nonprofit and private for-profit). This sampling stratification took into account the total number and distribution of each ownership category across districts. For this reason, more public facilities were sampled in particular districts, while more for-profit facilities were sampled in other districts.
- (4) The sample was selected within the district area, and facilities were chosen so as to reflect a range of social, economic, physical and organisational factors that were considered important in determining performance across these three facility ownership categories. These factors were total population, dispersion of the settlements within the district area, distance from the main city of the district as well as the capital city of the province, quality of the roads and ease of travel, and malaria epidemiological profile across locations of different facilities. In general, many nonprofit facilities were located in relatively inaccessible rural areas.

The list for the sampling frame of HFs providing malaria services was confirmed through field visits during the preparatory phase. Table 3.2 shows the frame and sample size of health facilities.

Table 3.2: Sample frame and sample size of health facilities

Province and Health District	SAMPLE FRAME OF HEALTH FACILITIES			
	Public sector	Private sector		TOTAL
		For-profit	Nonprofit	
Province: West				
Health District of Mifi (Bafoussam)	14	14	7	35
Health District of Foumban	24	3	9	36
Health District of Foumbot	19	6	7	32
TOTAL	57	23	23	103
Province and Health District	SAMPLE SIZE OF HEALTH FACILITIES			
	Public sector	Private sector		TOTAL
		For-profit	Nonprofit	
Health District of Mifi (Bafoussam)	2	9	4	15
Health District of Foumban	7	1	7	15
Health District of Foumbot	7	6	2	15
TOTAL	16	16	13	45

The study sample was therefore composed of 45 private and public health facilities. The sample of health facilities included 6 (small size) hospitals (2 public sector hospitals, 2 private nonprofit hospitals, and 2 private for-profit hospitals) and 39 (large size) health centres (14 public sector health centres, 11 private nonprofit health centres, and 14 private for-profit health centres) which had in common the same required technical standardisation for each category (hospital or health centre).

Sampling of Managers of HFs and Providers of Malaria Services. All 45 managers from the selected HFs were interviewed during the fieldwork, while 88 randomly selected clinical staff who provided malaria services in the selected HFs and were present on the days of the fieldwork visit were interviewed.

Sampling of malaria patients. At each selected health district, all presumptive malaria patients attending the HF on the days of the fieldwork visit were interviewed when

leaving the health facility. The microscopic confirmations of malaria were made either at the visited health facilities or nearby laboratory of referral health facilities. A total number of 148 patients to whom presumptive malaria treatment was dispensed were interviewed. Amongst those 148 patients, 67 percent (99 cases) were microscopically confirmed as malaria patients and a few of them had severe malaria and were admitted to inpatient wards. Thus the sample size retained for the analysis of patient exit interviews was 99 microscopically confirmed malaria patients.

Sampling of community members for FGDs. The purpose of the FGDs is to shed light on community expectations from the national health system and the development of the private health sector, and how people perceive the performance of public and private (nonprofit and for-profit) providers of malaria services in order to illustrate some quantitative as well as other qualitative evidence arising from the study. In each selected health district, 6 focus group discussions were held with community members. Participants were selected primarily on the basis of single sex groups in similar age ranges, although ethnic status, religion and other socio-economic characteristics were often carefully taken into account in order to ensure the homogeneity of each group. Ten participants attended each focus group discussion. The number and sample size for the FGDs are presented in Table 3.3:

Table 3.3: Number and sample size of FGDs per district and target population

Province and Health District	Number of FGDs per district and per target population				
	Adults		Youth		TOTAL
	Male	Female	Male	Female	
Province: West					
Health District of Mifi (Bafoussam)	2	2	1	1	6
Health District of Foumban	2	2	1	1	6
Health District of Foumbot	2	2	1	1	6
TOTAL	6	6	3	3	18
Region, Province and Health District	Sample size of FGDs per district and per target population				
	Adults		Youth		TOTAL
	Male	Female	Male	Female	
Health District of Mifi (Bafoussam)	20	20	10	10	60
Health District of Foumban	20	20	10	10	60
Health District of Foumbot	20	20	10	10	60
TOTAL	60	60	30	30	180

3.3.5. Data sources and collection instruments

This study uses a combination of both quantitative and qualitative research methods for data collection. Document reviews, structured interviews, observational checklists or inventory interviews, semi-structured ‘in-depth’ interviews, and focus group discussions were used to gather both secondary and primary data from a variety of sources.

Data sources and collection instruments at the macro level. The research methods at this level were basically qualitative. Two qualitative methods, namely document reviews and semi-structured ‘in-depth’ interviews with key stakeholders, were used to collect information to answer the study’s objectives 2 and 3. The data collection at this level was primarily carried out by the principal investigator of the study. While most document reviews were undertaken in 2001-2003, the majority of semi-structured interviews took place in 2002-2003.

Document reviews. The review of documents was used to describe and to map the existing enabling policies and regulations for private sector health care in Cameroon. It particularly gathers background information on the design (e.g. tax incentives and subsidies for the private sector; licensing laws for the private sector), context (e.g. economic and social conditions of the country), capacity (e.g. financial resources allocated to enabling and regulatory tasks), authority (e.g. credibility and power of different stakeholders), and information (e.g. level of knowledge amongst various stakeholders). A wide range of both published and unpublished documents and reports on enabling policies, regulations, provision, financing, statistics and epidemiological profiles were reviewed from various stakeholders (public sector, private sector and professional organisations). Much of the information retrieved from documents was related to specific enabling interventions (e.g. liberalisation measures, technical support, financial incentives, etc.) and regulatory interventions (licensing and registration laws, laws relating to price control, laws on quality standards). The review of enabling policies and regulations and the context within which they have been implemented relied on the following documents:

- Selected Annual Reports on Macroeconomic Policies for the Social Sector. Ministries of Economic, Finance and Development Planning (1988, 1990, 1995, 2000, 2003).
- Annual Reports on Taxation and Custom Duties in the Social Sector. Ministry of Economic, Finance and Development Planning (2002/2003).
- Selected Annual Reports of the Directorate of Financial Resources. Ministry of Public Health (2000/2001, 2001/2002, 2002/2003).

- Selected Annual Reports of the Directorate of Human Resources. Ministry of Public Health (2000/2001, 2001/2002, 2002/2003).
- Selected Annual Reports of the National Malaria Control Programme. Ministry of Public Health (2000/2001, 2001/2002, 2002/2003).
- National Primary Health Care Reorientation Policies. Ministry of Public Health (1993)
- National Health Sector Policies. Ministry of Public Health (1992)
- Health Sector Strategic Plan. Ministry of Public Health (2000/2001)
- Law No. 96/03 Relating to the Framework of Health Sector. Republic of Cameroon (1996).
- Legal Provisions in connection with Medical Practice in Cameroon: Basic Texts. Edited by the Cameroon Medical Council, (CyBerSpace 2000).
- Law No. 90-036 Relating to the Organisation and Practice of Medicine. Republic of Cameroon (1990).
- Decree No. 94/199 Relating to the Status of Government Employed Personnel in the Health Sector. Republic of Cameroon (2000).
- National Strategic Plan for Malaria Control. Ministry of Public Health (2001)
- Decree No. 2002/209 Relating to the Organisation of the Ministry of Public Health. Republic of Cameroon (2002).
- Decision No. 0334 Relating to the Organisation of the National Malaria Control Programme. Ministry of Public Health (2002).
- Selected Annual Reports of Medical Council, Pharmaceutical Council and Paramedical Council (2000/2001, 2001/2002, 2002/2003).

- Selected Annual Reports of National Board of Catholic Health Services (2000/2001, 2001/2002, 2002/2003).
- Selected Annual Reports of National Board of Protestant Health Services (2000/2001, 2001/2002, 2002/2003).
- Selected Annual Reports of National Secretariat of Private For-Profit Practitioners' Trade Unions (2000/2001, 2001/2002, 2002/2003).
- Decision No. 0413 relating to the Framework of Collaboration between the Ministry of Public Health and Non Governmental Organisations including Local Associations and other Civil Society Organisations. Ministry of Public Health (1999)
- Law No. 90/053 relating to the Freedom of Association. Republic of Cameroon (1990).

The semi-structured 'in-depth' interviews used open-ended questions and focused on stakeholders': (1) knowledge of enabling and regulatory interventions; (2) perception of the relative effectiveness of these interventions in relation to policy objectives as well as their influence on variables such as quantity, price and quality; and (3) concerns and suggestions about the existing enabling policies and regulations of the private sector health care in Cameroon. Four different interview guides were used for each of the main groups of stakeholders (public sector, private nonprofit, private for-profit, and consumer organisations) with several overlapping questions (see Appendices A-D). Several specific open-ended questions were asked about existing enabling and regulatory interventions and their perceived effectiveness in achieving public policy objectives (expanding coverage, strengthening efficiency and quality of care, and improving equity and health status of population) and perceived impact on the performance of different providers.

The interview guides were pre-tested by the principal investigator on a small group of respondents. All respondents at this stage were informed that they were being interviewed for a test or pilot study in order to improve the data collection instruments. They were first tested on 5 colleagues in the Faculty of Medicine and Biomedical Sciences in Yaoundé. Then all four interview guides were revised and piloted on 10 stakeholders in the public sector, private sector, professional organisations and consumer organisations in Yaoundé. All final data collection instruments are included in appendices (A-D). The in-depth interviews were tape-recorded and notes were taken. The tape recordings, their transcriptions, and fieldnotes were used in the data analysis.

Data sources and collection instruments at the micro level. Data for this component of the research were collected by the principal investigator assisted by a research assistant (sociologist), a team of nine fieldwork assistants and a data entry clerk. While the research assistant was recruited from a group of junior sociologists who had worked recently on other qualitative research projects in the Department of Sociology, fieldwork assistants and the data entry clerk were recruited from the pool of experienced fieldworkers either in the Institute of Training and Research in Demography or the Institute of Research and Behavioural Studies. They were trained on the study objectives, data collection instruments, fieldwork activities, and ethical dimensions in health and health services research. All data collection instruments, which had been translated into French at this stage, were pre-tested on a similar study target population in Yaoundé. All final data collection instruments are included in appendices (E-I).

The Focus Group Discussions were conducted by the principal investigator and research assistant (a sociologist). The structured interviews with facility staff and patients and the inventory checklist were mainly conducted by fieldwork assistants working in a team of three under the close daily supervision of the principal investigator. A team of three fieldworkers spent on average seven days in each of the selected health facilities. Each team of fieldworkers was assigned the tasks of collecting mainly quantitative data for a single district. The first fieldworker was assigned the tasks of administrating the inventory checklist questionnaire. The second fieldworker was in charge of interviewing both the manager and clinical staff at health facilities. The third fieldworker was assigned the task of administrating the patient exit questionnaire. But when one fieldworker's specific tasks were completed earlier than expected, he/she helped others in the administration of their questionnaires. Quality assurance procedures consisted of regular routine checks during the field supervision by the principal investigator. All completed questionnaires were regularly checked for missing data, obvious errors, and legible writing. The principal investigator's supervision helped to control the quality of data collected by fieldwork assistants and to propose practical responses to problems arising during the fieldwork. While ongoing field retraining and explanations were given to fieldworkers in order to eliminate errors, those with missing data were requested to revisit the respondent and obtain the relevant data. The fieldwork consisted of visiting a representative sample of health facilities (HFs) within the geographic area of interest during a full week of 7 days.

The administration of all data collection instruments took approximately 7 days per HF to ensure that there was enough time to examine fully each subsystem. In some cases, it was advisable to spend more than 7 days at a HF. This occurred when the parasitaemia confirmation specimens were sent to a distant referral facility and the team leader was requested to collect the results of all malaria diagnostic tests for the purpose of assessing overdiagnosis. For the first day of the visit, the data collection team was present slightly before the HF was scheduled to open and stayed until it closed. Because in general only a few malaria patients were recorded in each HF, it was not possible to make a full and accurate assessment of quality of care at any given individual HF. However, aggregating all malaria patients across all HFs of a particular type (private for-profit, nonprofit, and public sector) in the sample provides a reasonably valid inference about quality of care for the district and province as a whole.

At this micro level, there were five data collection instruments: An inventory checklist (Appendix E), manager questionnaire (Appendix F), provider questionnaire (Appendix G), patient exit questionnaire (Appendix H) and guide for focus group discussions (Appendix I). The manager and provider questionnaires had considerable overlap and they are described together in the next paragraphs. Information on expenditures, costs and prices were collected mainly through the inventory checklist from the provider perspective and through patient exit questionnaires.

- 1) **Inventory checklist.** The inventory checklist was carried out in all 45 HFs. Including a sample of public sector HFs in the study permitted the comparison of public and

private sector facilities in terms of their performance over a one-year period. A complete inventory checklist was taken of (1) location, accessibility and services available; (2) infrastructure and medical examination facilities; (3) Malaria related equipment, supplies, commodities and IEC materials; (4) availability, provision and management of antimalarial drugs; (5) staffing including part-time positions of public sector staff in the private sector; (6) management of record keeping, reporting and supervision; (7) health service statistics; (8) pricing and costing of malaria services; (9) financing and expenditure information; (10) basic enabling and regulatory information. In addition, recurrent costs were collected through a combination of bottom-up and step-down costing methods. The bottom-up costing method was used to estimate the direct diagnostic and treatment costs such as laboratory tests and antimalarial drugs. The standard step-down costing method was then used to collect data for all the remaining recurrent resources. Costs were collected for the most recent financial year for which data were available. The main sources of recurrent cost data were financial records at facility level.

- 2) **Structured questionnaires for managers and clinical staff.** Structured interviews were conducted with both the manager and staff involved in the prevention, diagnosis and treatment of malaria at each health facility. Two separate but overlapping instruments were used to collect information on the following aspects: (1) level of training and experience in malaria control activities; (2) knowledge, behaviours and practices of providers in malaria prevention, diagnosis and treatment; (3) perceptions of their profession, quality of care, awareness and compliance with regulations, and

the social and economic factors affecting the growth of the private sector; and (4) socio-demographic characteristics of providers and managers. Additional questions to managers were related to organisational and managerial structures, potentialities, enabling measures, constraints and difficulties in operating the health facilities.

3) **Structured questionnaire for patients.** Structured exit interviews were conducted with all malaria patients before they left the health facility on the day of the research team visit. Malaria patients were interviewed in a room in the facility with both auditory and visual privacy. This instrument collected information on (1) patients' knowledge of cause, symptoms and preventive tools of malaria; (2) health-seeking behaviours, experience, waiting and consultation times, perception of quality of care by patients; (3) direct and indirect costs of seeking malaria services; and (4) socio-demographic profile of patients.

4) **Focus group guide for community members.** Focus Group Discussions (FGDs) were conducted with adults (male and female) and youth (male and female) as community members in each health district. Information collected at community level were related to (1) community expectations about the health system; (2) perceptions and acceptability of public and private providers; and (3) factors influencing the choice of particular type of providers. The information gathered through FGDs were recorded by tape and note-taking. The FGD tape recordings and their transcriptions, and fieldnotes were made available for data analysis. Table 3.4 below presents an overview of the data collection sources used in this study.

Table 3.4: Data sources

Study short term objectives	Measurement levels	Descriptive and analytical domains	Data sources
Objective 1: to examine the public and private sectors' performance in terms of coverage, accessibility, quantity of malaria services provided annually, recurrent cost of services, prices charged and costs to patients, quality of care and user's satisfaction with malaria prevention, diagnosis and treatment in three districts of the West Province.	• District level - Health facilities (HFs) - Managers of HFs - Staff of HFs - Patients exiting HFs • Community level	• Operational details of health facilities • Quality of care as judged by structural, technical, process, social and economic dimensions of health services, accessibility and community satisfaction with health care provided at different health facilities. • Utilisation statistics and financing patterns in different health facilities for malaria prevention, diagnosis and treatment. • Prices charged and costs to patients for obtaining malaria services in different health facilities.	- Inventory checklist of health facilities ; - Structured interview with managers, staff and patients ; - FGDs with community members ; - Review reports at the districts.
Objective 2: to provide an overview of existing enabling and regulatory interventions for the private sector, including nonprofit and for-profit providers of health care, particularly in relation to malaria services in Cameroon. Objective 3: to explore stakeholders' perception of the appropriateness of enabling and regulatory interventions on the development, behaviours and performance of private sector providers of malaria preventive and treatment services in Cameroon.	• National, provincial and district levels of various stakeholders including: - Public sector - Private sector - Professional bodies - Consumer organisations	• Exploration and description of existing enabling and regulatory framework for the private sector health care • Perception of effectiveness of specific enabling and regulatory interventions and identification of factors most likely to influence the development and behaviours of private sector providers.	- Semi-structured in-depth interviews with stakeholders involved in the process of designing and implementing enabling and regulatory interventions. - Document review in all stakeholder settings.
Objective 4: To explore whether or not existing enabling and regulatory interventions are appropriate for influencing the performance of private sector provision of malaria services. Objective 5: To recommend health policy interventions to enhance the contribution of the private sector to malaria control activities in Cameroon.	• National, provincial and district levels • Health facility level • Community level	• Findings from objective 1 • Findings from objective 2 • Findings from objective 3	- Semi-structured in-depth interviews - Document reviews; - Inventory checklist - Structured, exit and FGD interviews

3.4 Data analysis

This study has used a combination of qualitative and quantitative methods of data collection as described in the preceding sections. The principal investigator has used different techniques for analysing qualitative and quantitative information collected for this study.

3.4.1 Analysis of qualitative data

The qualitative data includes information gathered through semi-structured ‘in-depth’ interviews, document reviews and focus group discussions. Data from these sources often necessitate different specific techniques and procedures of data analysis.

The analysis of semi-structured ‘in-depth’ interview data. The scope for this qualitative analysis is the relatively broad dimension of enabling and regulatory interventions at national, provincial and district levels. The analytical framework involves five types of stakeholders from the public sector, the private nonprofit sector, the private for-profit sector, the professional organisations and civil society organisations. The stakeholders from professional organisations (e.g. Medical Council) have also been categorised as public sector members, private nonprofit members and private for-profit members. Categorising stakeholders in this way allowed identification of potential individual biases and provided different ways of interpreting data according to stakeholder interests, positions, networks and influence in relation to enabling and regulatory interventions.

The first step of the procedure for analysis consisted of ongoing analysis while collecting data in order to improve the research process. This was done through the transcription of all recorded tapes, primary content analysis of semi-structured interview fieldnotes, and reviewing notes from observations. This ongoing analysis was found to be very helpful in organising data collected according to specific existing enabling and regulatory interventions and their perceived effectiveness in terms of the broad public policy objectives of expanding coverage, strengthening efficiency and quality, and improving equity of malaria services. Once data collected were organised or coded by specific enabling and regulatory interventions and their perceived effectiveness, a final analysis of the coded data was undertaken.

The principal investigator carried out the analysis using a 'content analysis' approach whereby specific enabling and regulatory interventions and their perceived effectiveness were highlighted in transcripts and fieldnotes. Then all relevant enabling and regulatory measures highlighted were cut and pasted into Microsoft Excel spreadsheets constructed for this purpose, with specific enabling and regulatory interventions displayed along the top row, and the variables of interest (e. g. effectiveness: expanding coverage, strengthening efficiency and quality of care, improving equity and health status) listed in the left-hand column for further cross-referencing with specific interventions. However, in order to satisfy criteria for reliability and validity the principal investigator has benefited from many comments and exchanges with his supervisor during the data collection, analysis and writing-up process. The transcripts of tape recordings and fieldnotes were used as inter-source comparisons to test for interviewer bias. In addition, to enhance rigor, the field data including transcripts of tape recordings and written fieldnotes were reviewed for open comments by relevant colleagues to agree on various enabling and regulatory interventions

used in relation to their reliability and validity in Cameroon specific settings. Indeed, a team of three colleagues (composed of a medical sociologist, a medical doctor with public health specialisation and an economist) were asked to inspect the research material and to quickly repeat the procedures of data analysis in order to independently categorise various emerging concepts and themes of enabling and regulatory interventions as a check against bias and error of perception. There were no major discrepancies from different independent comments and their suggestions were to simultaneously use 'content analysis' and a qualitative computer package because the data were already in a manageable format. The computer software easily accessible to the principal investigator was the Non-numerical Unstructured Data Indexing Searching and Theorising (NUD.IST) which can increase reliability and validity but not at the expense of conceptual thinking of 'content analysis' (Lewando-Hundt et al. 1997; Richards and Richards 1990).

Thus, the final data analysis used the 'content analysis' method as well as the NUD.IST computer program and presented the results in a narrative format. While the content analysis permitted very close review of data, NUD.IST facilitated the process of data analysis by offering the possibility of entering verbatim transcripts, marking text by specific enabling and regulatory measures to sort and perform analysis. This increases the rigor and allows the principal investigator to analyse in great detail each specific intervention and its perceived effectiveness. Text was coded similarly to in the 'content analysis' in terms of different specific enabling and regulatory interventions and their relative perceived effectiveness for expanding coverage, strengthening efficiency and quality, improving equity, and their overall influence on the

development, behaviours and performance of private sector providers of health care, particularly for malaria services.

The analysis of document review data. The analysis focused mainly on the content aspects of documents of relevance to enabling and regulatory interventions and their relative effectiveness in terms of expanding coverage, strengthening efficiency and quality, and improving equity of malaria services. The procedure was similar to the approach described above for content analysis of in-depth interviews. Some important aspects of the document data were triangulated with data from interviews with various stakeholders in order to increase the reliability and validity of the overall analysis. In addition, the analysis here also retrieved and highlighted key background information for the study.

The analysis of FGD data. The procedure consisted of ongoing analysis while collecting data in order to improve the quality of data. This was done through the transcription of all recorded tapes, primary content analysis of FGD fieldnotes, and reviewing notes from observations. Content analysis as described above for the in-depth interviews was used, but the themes of analysis were different as FGDs focused on the following issues: major health problems in the community; knowledge of malaria symptoms and preventive measures; people's expectations about the health system; health seeking behaviours of different social groups; perceptions and acceptability of public and private (nonprofit and for-profit) providers; factors influencing the choice of particular types of providers; and issues of consumer protection.

3.4.2 Analysis of quantitative data

This analysis includes data collected through structured interviews and the inventory checklist. These instruments were regularly checked by the principal investigator for missing data and illegible writing and quantitative data were predominately pre-coded during the fieldwork. All open questions in returned questionnaires were coded after the fieldwork by the principal investigator. These quantitative data were entered and cleaned for range and consistency on computer using Epi Info software. Another cleaning procedure was undertaken before the analysis in order to check for response and interviewer bias as well as the coding of missing values. The data were then exported to the Stata Software Package for the final analysis.

3.4.3 Analysis of cost data

The approach for service costing used 'step-down' accounting techniques. Step-down costing involves disaggregating total expenditure to units of services such as patient visits or patient hospital days (Waters and Hussey 2004). This is accomplished by allocating costs to 'cost centres' or units of service activity, determining the amount of units of service per cost centre, and finally allocating costs to units of service (Wiley 1993). The analysis of cost data used the following steps:

- (1) The total expenditure on each particular recurrent input (e.g. personnel) was calculated for the year the expenditure occurred.
- (2) The total expenditure on parasitaemia tests and antimalarial drugs was directly allocated to malaria costs.

- (3) Information in relation to the allocation of shared resources was gathered during the fieldwork by asking the persons in charge to indicate what portion of each individual recurrent input was used for malaria services in the year (e.g. average time of each staff member spent on malaria related activities). This information was then used to allocate a percentage of the total costs of each individual recurrent input (i.e. excluding diagnostic tests and drugs) to malaria services.
- (4) Costing of malaria treatment from the patient's perspective distinguished between uncomplicated and severe malaria cases. Direct costs were estimated for the consultation, diagnostic and antimalarial drugs. Indirect costs were estimated for transport, food and other economic losses (opportunity costs) borne by patients in relation to malaria illness.
- (5) The opportunity costs were estimated as the loss of productive labour time due to illness. This implied using the proportion of income malaria patients lost either when they could not work (time lost) or seeking care at health facilities. While there is no definitive standard accounting approach for costing illness, the most common approach is to use an average wage rate but others have used average daily income, or average daily output per adult, or actual output and income lost for each respondent (Russell 2003). When data on income was not available, the analysis used the minimum wage to ascribe a monetary value to time devoted to receiving treatment and time of work. Patient times were converted and measured in full hours, and then this was divided by 8 to give the number of equivalent 8-hour working days devoted to malaria illness. However, the opportunity costs should be interpreted with caution as its valuation is not straightforward and may even inevitably involve elements of subjective judgement. Indeed, the use of lost income appears to be problematic in relation to valuing the individual patient's opportunity costs

because it may allocate either a higher or a lower value to the time of someone in paid or non-paid work. In addition, Chima et al. (2003) point out that the range of effects and burdens that ill-health imposes is difficult to define and measure so it is difficult to allocate cost to multiple dimensions of malaria burdens such as impacts on growth and intellectual development, anaemia and low birth weight. It is generally observed that less tangible costs of illness (e.g. suffering, emotion) are regularly excluded from cost analysis.

- (6) Cost data was converted to US Dollars at the exchange rate that existed at the time the cost was incurred. Then, following the recommendations of Kumaranayake (2000), all costs were inflated upwards to 2005 US Dollars by using the national consumer price index. This allows all comparisons between facilities to be in the same monetary units.

3.4.4 Statistical analysis

The analysis used mainly bivariate statistics (frequency tables; cross-tabulations, etc.) to compare performance between the public and private sectors; public and private nonprofit; public and private for-profit; private nonprofit and private for-profit; and rural and urban areas. The analysis of this data has generated the findings in relation to comparative performance of facilities in terms of coverage, accessibility, prices and relative efficiency, and quality of care.

3.5 Ethical Issues in this study

This study in the area of health systems and operational research is by definition health facility, policy maker, provider and patient-oriented, problem based and participatory. Therefore, ethical aspects of research have been respected as much as in biomedical studies. Administrative Clearance was granted by the Ministry of Public Health to facilitate access to all types of information relevant to the study.

Information and consent procedures. Before entering the field to collect data, information about the study was provided to the officials and managers of the institutions to be included in the study. At all levels, information was provided in a language that respondents understood, so that they were clear about why the researcher wished to do certain work, what the implications of this study were (immediate and long term), what expectations the researcher had of respondents, and so on. No information was deliberately withheld. Opportunities for interaction between respondents and the researcher were provided so that fears and concerns were addressed appropriately at all levels.

All respondents participating in this study conventionally signed a consent form (see Appendix J). However, where not all respondents were literate (e.g. some FGD participants), or where respondents were uneasy about the use of forms, consent to participate in the study by being interviewed was often sought and given verbally. A special effort was made to ensure that all respondents were fully informed and that they gave their own consent to participate in the study willingly. The respondent had the freedom to choose whether or not to comply with our request

to be interviewed. Each respondent was informed of their right to withdraw from the interview at any time.

Maintaining Anonymity and Confidentiality. The respondents were informed about the confidentiality of the information they gave to the researcher. In addition, the researcher has made provision for the careful storage of data in order to ensure its security. All data collected were treated confidentially, and the HF, patient and providers names did not appear on the questionnaires; a reference number was usually used. In addition, the data presented in this study is anonymous in that no individual or facility is identified (with the exception of two cases studies where the facilities gave permission to be explicitly identified).

In summary, this chapter provides a description of the conceptual framework and research design used in this dissertation. It also presents an overview of the data collection and analysis methods in line with the research questions and objectives.

Chapter 4

Health sector context and evidence on the performance of the public and private sectors in malaria service delivery

4.1 Introduction

How do the public sector, nonprofit sector and for-profit sector perform in malaria service delivery? This operational and frequently debated question is of considerable interest both for academics and policy-makers in many LMICs. This chapter aims to provide empirical answers to this *question* in the light of evidence from three districts in Cameroon. Indeed, this chapter briefly provides an overview of the national context within which health service delivery takes place (4.2) and detailed analysis of the performance across public sector and formal private (nonprofit and for-profit) health facilities (4.3). The last section presents the conclusion (4.4). In this chapter the term ‘malaria services’ refers to prevention and treatment services. Prevention includes insecticide-treated nets, chemoprophylaxis as well as health education, while treatment refers to both clinical and microscopic diagnosis of symptomatic cases, management of symptomatic cases by dispensing antimalarial drugs, and referral for severe cases (if necessary).

4.2 Overview of the national context for health sector development

This section provides background information on the social and economic environment, health policy, provision and health care financing patterns in the country.

4.2.1 Social and economic environment

Cameroon is a Central African Region country with a surface area of 475,400 square kilometres. The country is a democratically elected constitutional presidential republic, which is divided into 10 provinces and 58 divisions with widely varying ecological and climatic conditions. Unlike many sub-regional African countries, Cameroon enjoys relative peace and political stability. The country has a relatively high rate of demographic growth, which evolved from 1.6 percent in 1950 to 2.9 percent in 1987. While the life expectancy is 59 years for women and 54 years for men, and the adult literacy rate is about 63.4 percent nation-wide, some disparities exist between sex as well as provinces (MINCOF 2002). Based on data from the MoPH, Table 4.1 presents information on the total population as well as malaria risk groups and morbidity in Cameroon as a whole and in the study site.

Table 4.1: Population at risk and morbidity of malaria for Cameroon in 2004

Area → Population's characteristics ↓	Cameroon	West Province	Study Sites			
			Health Districts			All Sites
			Mifi	Foumbot	Foumban	
Total Population	16,572,528	2,093,670	294,325	145,508	236,931	676,764
Children under 5 years	2,817,330	355,925	50,036	24,737	40,278	115,051
Pregnant Women	828,627	104,684	14,717	7,275	11,847	33,840
Total malaria high risk group	3,645,956	460,610	64,752	32,012	52,126	148,890
Malaria morbidity ³ (risk groups)	1,928,867	230,299	32,700	16,646	26,583	75,930

Sources: In-depth interviews and Document Reviews MoPH/PDPH/DHS/Activities Reports

Economically, Cameroon was one of Africa’s success stories in the late 1970s. However, since 1985, the sharp decline in commercial crop prices, an over-valued exchange rate for the Cameroon Franc (CFA) until 1994, fiscal crisis, economic mismanagement and bad governance, have contributed to macroeconomic weaknesses. The macroeconomic reforms of the 1990s have

³ This is the number of malaria cases amongst children under five and pregnant women in 2004

improved the country's performance with the average annual growth rate of the Gross Domestic Product (GDP) rising from 1.7 percent in 1990 to about 5.4 percent in 2004, while the average annual growth rate of the Gross National Product per capita (GNP) has increased from 1.1 percent in 1990 to about 3 percent in 2004 (MINPAT/MINEFI 2004). Meanwhile, the macroeconomic reforms have so far brought limited benefits for the poor. Efforts to alleviate poverty are hampered by the dilapidated physical infrastructure and poor public sector delivery of basic health and other social services. The medium term programme of economic and fiscal reforms has led to the admission of Cameroon into the group of Highly Indebted Poor Countries (HIPC). The debt alleviation associated with the HIPC initiative has contributed to developing the Health Sector Strategic Plan (HSSP) to facilitate structural reforms of the national health system.

4.2.2 National health policy, provision and health care financing patterns

The national health policy has emphasised the primary health care (PHC) approach. While initially basic social services were provided free of charge, this changed with the adoption of the Bamako Initiative, whereby user fees were used to generate additional funds for PHC services. Key elements of health policy are spelt out in law No. 96/03 of 4th January 1996, which stipulates that *'the efficiency of management and financial system of the health sector is done through the development of the decentralised management of human, financial and material resources allocated to the health sector; the development of partnership between the public and private sectors; the strengthening and support of operational research in health; the mobilisation of additional resources and the containment of health care spending and costs'*.

This health policy has been overtaken and strengthened by the ongoing HSSP. The HSSP aims to promote the equitable and universal availability of effective and affordable basic health care to the population in rural and urban areas. It emphasises the prevention and treatment of parasitic, infectious and non-infectious diseases. It particularly encourages the private for-profit sector to grow and provide efficient, good quality, and equitable health care to complement the private nonprofit sector and public sector provision of health services.

The government's enabling policies to promote the private for-profit sector were based on the assumption that they would stimulate more competition in public health service delivery. Theoretically, however, the contract failure approach suggests that the issue of asymmetric information and non-distribution constraints can contribute to direct patients' preferences toward the nonprofit sector, thereby reducing the effect on competition of the private for-profit's participation in health service delivery. Indeed, the contract failure hypothesis (Hansmann 1980) argues that as patients cannot appreciate the quality of health service in advance, they may rationally prefer to choose private nonprofit providers because of non-distribution constraints that eliminate their incentives of raising surpluses by lowering the quality of their health services. An additional argument that supports the patients' likely preferences for the nonprofit providers arises from the behavioural model of managers of the nonprofit sector who potentially have fewer incentives to lower the quality of services provided, since their performance is judged by quality, or they desire to show professional excellence or technical virtuosity by stressing quality (Newhouse 1970). In contrast, the for-profit providers need to make a profit, thereby inclining to a risk of opportunistic behaviour of induced-demand, manipulating prices and quantity, and lowering the quality of health service. However, these patients' preferences for the

private nonprofit providers are based on the belief that they can provide affordable higher quality of health services, though this theoretical perception may not in practice reflect the actual behaviours and performance of either private for-profit or nonprofit providers of malaria services.

Decision No. 0334/MSP/CAB of 29th July 2002, which originated from the HSSP, reorganised the fight against malaria in Cameroon and constitutes the current national malaria control policy. This policy combines public health approaches to malaria control with public and private sector collaboration, which includes:

- Prevention - land planning and environmental management, larval control, targeted residual spraying, personal protection with insecticide-treated nets (ITNs), and health education in health facilities, communities and schools;
- Surveillance - special emphasis has been placed on regular monitoring of the occurrence of malaria at national, provincial, district and health area levels;
- Case management - early accurate diagnosis, prompt and appropriate treatment.

The malaria control policy's objectives clearly emphasise the fact that the private sector should be enabled and regulated in ways that promote the achievement of public health goals of the country.

Cameroon has a pluralistic health system covering both public and private sectors. The national health system is organised around the activities of the MoPH, which is the leading public sector authority that has the main responsibility for the development of health policies, enabling and regulating the health sector, health planning strategies and health programmes, as well as the

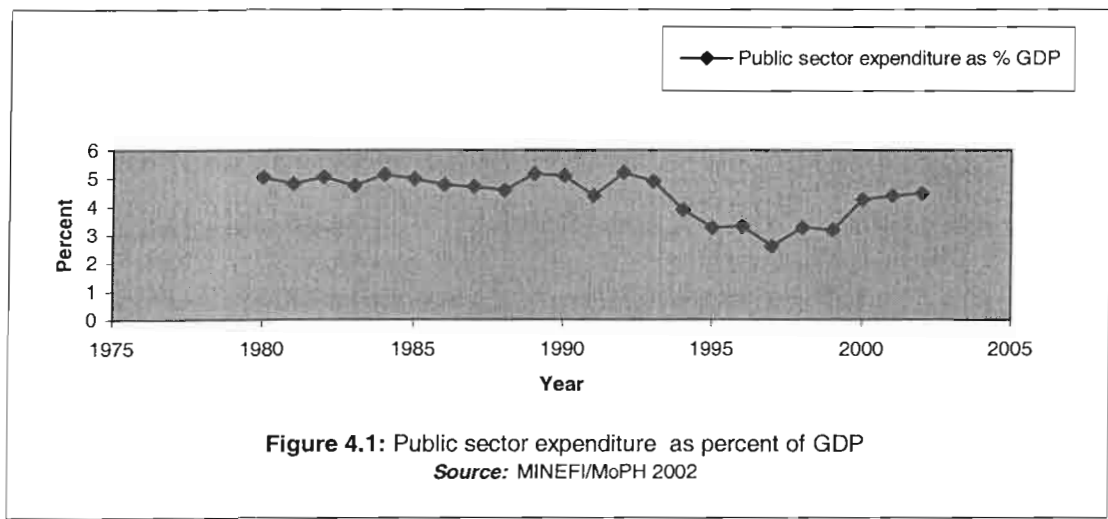
provision of public sector health care. A few other Ministries also participate in public sector health care provision, each with specific target groups (e.g. armed forces, education). The private health sector is comprised of nonprofit and for-profit health service networks, which are more heterogeneous than commonly perceived. In practice, there are three main groups of nonprofit organisations operating in the health sector with a predominantly social welfare orientation. They include: religious (Catholic, Protestant and Muslim) organisations that provide curative and preventive health services; locally-based NGOs such as associations and common initiative groups (CIGs) which are interested in the delivery and promotion of public health activities; and international NGOs and foundations which support curative and public health activities. However, in practice, a substantial proportion of locally based nonprofit organisations also engage in some commercial activities. The for-profit sector includes officially established private practice owned by entrepreneurs, companies and individuals as well as unofficial private practitioners, informal providers and traditional healers.

The provision patterns indicate that the public sector dominates all types of health facilities. According to reviews of MoPH documents cross-checked with stakeholders interviews for this study, about 67 percent of health facilities are owned by the public sector. However, as public sector provision does not keep pace with the population's need, the private sector – both nonprofit and for-profit – is expanding. The formal private sector currently operates about one third (33 percent) of health facilities. The largest part (61 percent) of private facilities comes from the nonprofit or mission sub-sector whose activities and geographical patterns of provision are equally distributed between urban and rural areas. The formal private for-profit sector accounts for about 39 percent of private provision. The distribution of hospitals, as opposed to

health care facilities in general, is somewhat different. The public sector operates 62 percent of hospitals; the private for-profit sector plays the second most important role for hospital-based health services by operating 24 percent of hospitals, while the private nonprofit sector operates only 14 percent of hospitals in the country. At the same time the culture of informal provision of health care dominates the national health system. According to the results of in-depth interviews, *“it is estimated that there are more than 10,000 informal private providers nation-wide. They include small groups of qualified practitioners or individual providers, unqualified street and itinerant drug vendors, shopkeepers and traditional healers. Overall informal private sector providers are the gateway to preventive and curative health services for approximately 70 percent of the population with symptoms of malaria”* (Stakeholders interviews: public sector, national level, 2003). Unfortunately, the informal private health sector is currently unregulated in Cameroon because this practice is discouraged and prohibited by the MoPH. Therefore, the informal providers including street vendors, drug shops, and traditional healers are excluded in the sample for the analysis that will follow in section 4.3. Although, the informal providers including drug shops appear to be key parts of the private sector, they are not the target of much of existing enabling and regulatory interventions in Cameroon.

Health care financing comes mainly from domestic public and private sources, but also from multilateral and bilateral partners. Public sector financing remains under considerable pressure, with the MoPH's spending representing more than 90 percent of this source. Figure 4.1 below presents the evolution of public sector expenditure as a share of GDP from 1980 to 2002. It is estimated that public sector financing represents about 11 percent of total health sector expenditures (MINEFI/MoPH 2002). A key concern about public sector financing relates to the

lack of appropriate guidelines for budgetary management that results in a disproportional allocation between the central, provincial, district and peripheral levels of the health system. Improving efficiency requires that the highest share of public sector finances be allocated to the hub of health care activities at district and peripheral levels.



Private sector financing comes from charitable donations, community and household contributions through user fees, health insurance and mutualisation. Private financing represents about 82 percent of national health spending out of which household financing accounts for about 73 percent of the total health expenditure. Out-of-pocket payment represents the greatest share of household financing because prepayment through health insurance and mutual schemes covers less than 5 percent of the population (MoPH 2004). As few data are available, it is difficult to estimate how private financing is allocated to different uses. However, a study using the National Health Account framework (Ntangsi 1998) points out that household financing was distributed among providers as follows: private pharmacies and drug vendors (53 percent), private nonprofit providers (23.1 percent), private for-profit providers (2.3 percent), private traditional medicine (7 percent) and public sector facilities (14.6 percent).

Finally, bilateral and multilateral funds together represent 7 percent of total annual health care expenditure. This external financing is provided through medium and long-term loans and direct aid to the government. It varies considerably from one year to another, but in recent years there have been considerable inflows of NGO, bilateral and multilateral financing, especially to control endemic diseases such as onchocerciasis, malaria, HIV/AIDS and tuberculosis, mainly from UN-Agencies, the Global Fund and similar organisations.

The existing financing mechanisms may influence the coherent implementation of enabling and regulatory interventions as well as the performance of different types of providers. In many LMICs, policies most successful at promoting private sector growth were sometimes the direct effects of health care financing reforms (Bennett et al. 1994; Kumaranayake 1998; Mills et al. 2001; World Bank 1993). Lack of funds in the context of African countries can prevent adequate implementation of liberalisation policies, training opportunities, access to financial capital, subsidies and tax incentives, as well as the effective inspection, supervision, monitoring, evaluation and enforcement required to ensure appropriate quantity and distribution, prices and quality of care at private sector health facilities. The remaining part of this chapter focuses particularly on the comparative analysis of the performance of public and private health facilities in malaria service delivery in three districts of west Cameroon.

4.3 Performance of public and private sectors in the delivery of malaria services

This section uses data from health facility as well as community levels to compare the performance of public, private nonprofit and private for-profit health facilities in the delivery of

malaria services. Indeed, several MoPH technical standardisation criteria overlap between (small size) hospitals and (large size) health centres. For example, on the basis of required technical standardisation, all health facilities included in the sample were supposed to have at least one functional and working microscope. While all six hospitals were located in cities, health centres were distributed across rural and urban areas. In this study context, ownership would make a difference more than organisational system. The organisational system of health service delivery has a relatively ill-functioning referral system where patients are free to choose whichever level (category) of health facilities they can afford. Small size hospitals and large size health centres have some overlapping functions. Since it is suggested that there are not significant differences in terms of malaria incidence between districts (see Table 4.1) and the very small number without wide variation of small size hospitals across ownership, data are not presented in a way that controls for those variables. Nevertheless this methodological aspect needs to be kept in mind in interpreting the results. Indeed, while data are presented on the basis of comparable government (MoPH) required technical standardisation, both categories (hospital and health centre) of health facilities in the sample are matched by ownership (public sector, private nonprofit sector, and private for-profit sector). However, additional analysis that compares the collaboration between the public and private (nonprofit and for-profit) hospitals can be found in appendix K.

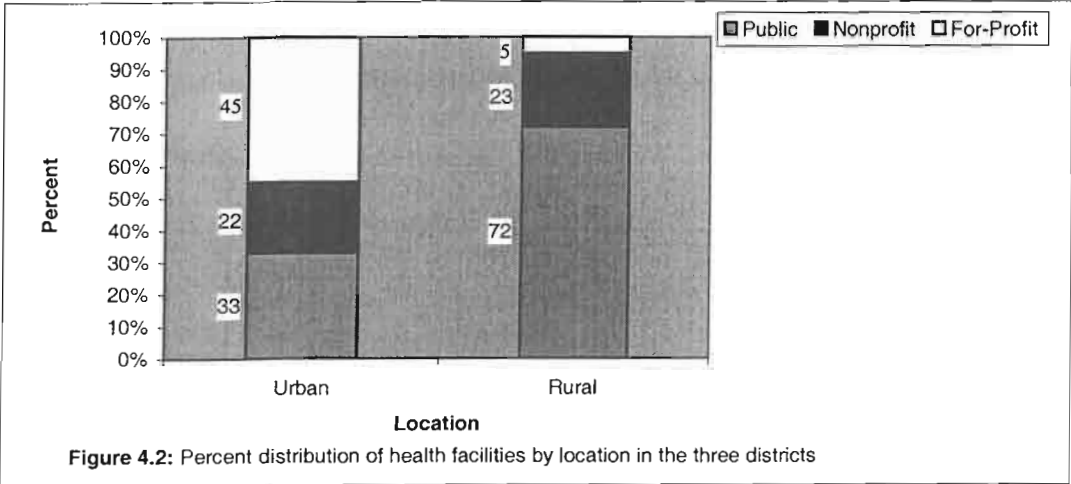
The first sub-section analyses coverage and utilisation statistics. The second sub-section looks at the functional capacity and quality of malaria services. The third sub-section examines the costs of health care and prices charged for malaria services. The fourth sub-section compares the

relative performance across types of facilities. The conclusion considers ways of improving performance of public and private sectors in the delivery of malaria services in Cameroon.

4.3.1 Coverage and utilisation of health facilities

This section examines the ability of public and private sectors to contribute to more equitable population coverage. It uses location and utilisation statistics to compare performance across types of facilities.

Appropriate location facilitates prompt access to adequate health care. From this perspective, the performance of the for-profit sector is remarkably different from that of both public and private nonprofit health facilities. When all health facilities within the three districts are considered together ($n = 103$), about 44 percent are located in urban areas. Amongst facilities located in urban areas, the highest proportion (45 percent) are private for-profit facilities, the second largest proportion (33 percent) are public sector facilities and the lowest proportion (22 percent) are private nonprofit facilities ($\chi^2 = 24.49$, $P < 0.000$; Figure 4.2). Figure 4.2 presents the distribution and location of public and private health facilities across the three districts. This distribution of facilities may not be relative to the distribution of the population, but instead it is likely to be influenced by both economic and social orientations of facilities. This finding is in line with the prediction of the economic theory which states that nonprofit health facilities are more likely to locate in settings where they can target mission-related populations regardless of expected future profitability (Steinberg and Weisbrod 1998).



Data from the facility inventory highlight that private for-profit health facilities have expanded in cities where the population has a strong willingness to pay for (expensive) malaria services. Data from patient exit interviews indicate that about 52 percent of *city dwellers* seeking malaria services were wage earners and better-off business people with a strong advantage in terms of ability to pay for health services.

In contrast, data from the entire sample of patient exit interviews indicate that about 56 percent of malaria patients (n=99) were poor (with annual income less than \$US400). Amongst those poor patients about 56 percent attended the private nonprofit sector, about 36 percent went to the public sector, and only about 8 percent went to private for-profit facilities. More interestingly, amongst the 44 percent of patients that were relatively non-poor (with annual income of more than \$US400), the same proportion (32 percent) seek care at either nonprofit or public sector facilities respectively while a slightly higher proportion (36 percent) went to the for-profit sector (Chi2 = 21.33, P < 0.046).

Similar findings have emerged from other studies carried out in LMICs. Bennett (1991, 1992) points out that despite the fact that the private sector has often been encouraged as a means of improving efficiency, the experience so far demonstrates that the for-profit sector has no equity concerns for the poor and rural population as it always directs its services to those parts of the market which are likely to be more economically profitable. More specifically, the private for-profit sector tends to expand most in urban areas and targets the wealthier members of the community. Thus, private for-profit health facilities are highly concentrated in urban areas (Dakpallah and Adusei 1993; Nitayarumphong and Tangcharoensathien 1994) and even when the rural population use hospitals in urban areas they are far more likely to use public hospitals than the urban population (Pannarunothai and Mills 1997).

Data from Figure 4.2 highlight that the private nonprofit health facilities are more evenly distributed between urban and rural communities than both public and for-profit ones. Given that about 54 percent of the population lives in rural areas, the nonprofit sector contributes to more equitable population coverage of malaria services while the disproportional location of public sector health facilities in remote rural areas also makes malaria services available to the more sparsely distributed rural population. The urban concentration of private for-profit health facilities leads to more inequitable coverage and inaccessibility to their services for the rural population. This is likely to reflect the distribution and location of health facilities in other districts of the country. In this context with about 54 percent of population living in rural areas, this finding challenges some of the arguments used to encourage private for-profit sector growth. For example, an important argument on the pros of growth in the formal and regulated private for-profit sector was based on the hypothesis that it could improve coverage and access to

primary health services (Bennett et al. 2001; Brugha and Zwi 1998; Mills et al. 2002; World Bank 1993).

However, data on community perceptions indicate that the distribution and location of private sector, particularly for-profit, health facilities has only stimulated the urban-based demand for malaria services. The result of FGDs highlights that “...*Today, going to [private for-profit] clinic is very convenient, people don't travel so much, ... The majority of our neighbourhoods are seeking malaria services at the clinic. Pregnant women now walk short distances to [attend] the antenatal care unit of their choice in various clinics. So now in our neighbourhoods, every pregnant woman gets drugs to prevent fever [chemoprophylaxis] and did collect a free [insecticide-treated] net distributed from the clinic. For [women who are] 'buyer-sellers' in the city's market, when their children get fever, a busy mother on her way to the market usually stops-over at the nearest clinic and quickly she receives the health care needed for her ill child... But the payment doesn't matter, some people negotiate a delay, a 'buyer-seller' can pay the fees when she returns from the market in the afternoon*” (Women Mifi 2002). From the community perspective, it is clear that the reasons for this pattern of health seeking behaviour could be attributed mostly to issues of accessibility that falls in line with the policy advocating the growth of the private for-profit sector. This can contribute to decreasing the pressures on scarce public sector resources and highlights the need for the MoPH to allocate most of its resources to rural districts and remote health areas within the national system. As indicated in Figure 4.2, this seems to be what is happening.

Before attending formal health facilities, about 74 percent of poor malaria patients used at least one of the multiple informal providers, which include street drug vendors, drug hawkers, shops as well as traditional healers. This pattern of informal health seeking behaviour was prevalent in both urban and rural areas. The results of FGDs reveal that poor urban patients were using mainly western antimalarial drugs from informal providers while poor rural patients were seeking informal malaria services mainly from traditional healers. *“In this town our major problem is poverty. Without money you cannot go to a hospital, clinic or mission. They [health facilities] are all available around our neighbourhoods. But if the fever is not very serious, I mean when the child's body is not very hot, and she/he cannot sit, or eat, I always buy amodiaquine and paracetamol tablets from the street vendors or shops. Sometime when I give those tablets in the morning, by noon the child already feels better and starts to play as usual. However, if the fever persists I will take the child to the nearest mission [nonprofit] hospital”* (Women Foumbot 2002). *“In this village, many people who got fever firstly went to the traditional doctors because they provide cheap locally made products and patients can pay in kind for example with a chicken. But often this does not work for all people who may finally go to the hospital for the treatment”* (Men Foumban 2002). This finding is consistent with recent research in low income countries where a substantial proportion of malaria cases are initially treated through self-medication by purchasing antimalarial drugs from informal providers such as street vendors, shops and drug hawkers (Berman 2000; Hanson et al. 2004; McCombie 1996; Mnyika et al. 1995). The experience so far as well as from this study highlights the need for the MoPH to integrate the informal providers into the national health system. This integration would contribute to preventing the development of parasite resistance that emerges from under-dispensing of antimalarial drugs in the informal sector across many districts within the country.

In Tables 4.2a and 4.2b, the utilisation statistics on total outpatient visits, inpatient admissions, and malaria service provision are shown for different types of facilities.

Table 4.2a: Performance across types of facilities measured as mean and median of coverage and efficiency statistics, 2001/2002

Mean and median utilisation indicators per health facility per year	Performance of health facilities by ownership							
	Mean				Median			
	Public sector n = 16	Non-profit n = 13	For-profit n = 16	All n = 45	Public sector n = 16	Non-profit n = 13	For-profit n = 16	All n = 45
COVERAGE :								
Outpatient visits	1,935	2,147	1,163	1,722	1,128	1,478	992	1,162
Inpatient admissions	453	487	449	462	262	348	256	280
Uncomplicated malaria	761	693	373	603	516	496	351	464
Severe malaria	305	476	274	444	240	284	222	252
Chemoprophylaxis*	712	928	252	610	663	840	205	557
ITNs**	980	919	926	945	863	837	848	852
Immunisation services***	1,632	1,531	1,553	1,579	1,052	1,114	1,440	1,114
Inpatient days	3,411	3,419	2,896	3,168	2,183	2,759	2,497	2,365
Patient day equivalents (PDE)****	4,056	4,135	3,284	3,742	2,559	3,252	2,828	2,752
Beds	17	13	13	14	13	12	12	12
EFFICIENCY :								
ALOS	7.53	7.02	6.45	6.86	8.33	7.92	9.75	8.45
Bed turnover rate	26.65	37.46	34.54	32.04	20.16	29.03	21.34	23.33
Bed occupancy rate (%)	55	72	61	62	46	63	57	54
PDE per clinical staff*****	98.93	103.38	71.39	88.46	82.55	101.6	70.7	86
Outpatient visits per doctor*****	968	1074	582	868	564	740	496	584
Outpatient visits per nurse*****	430	383	232	343	251	320	199	262
Inpatient visits per doctor	226	244	225	228	130	174	128	148
Inpatient visits per nurse	101	105	90	98	58	76	52	62
Uncomplicated malaria per doctor	381	347	187	305	260	249	174	226
Uncomplicated malaria per nurse	169	150	75	129	115	107	75	98
Severe malaria per doctor	153	238	137	174	118	141	109	121
Severe malaria per nurse	68	103	55	72	52	61	45	53
*Chemoprophylaxis includes mainly pregnant women attending antenatal care units as well as intermittent presumptive treatment to children and other community members. **This includes the number of ITNs that have been sold and/or distributed free of charge from the health facilities. *** This is the number of people immunised including all immunisation activities related to the target of the National EPI Programme. **** PDE = Inpatient days + 1/3 outpatient visits. (Inpatient days = Bed occupancy rate x Number of beds x 365 days) ***** A part-time clinical staff member is treated as 0.5 full time equivalent. ***** All doctors including specialists taken as the denominator. ***** Refers to all nurses using a conversion factor as one assistant nurse is 2/3 of registered nurse and midwife.								

Source: Inventory or checklist questionnaire in the three districts (Mifi, Foubot and Fouban)

Table 4.2b: Performance of health facilities by size measured as average of coverage and efficiency statistics, 2001/2002

Average utilisation indicators per health facility per year	Performance of health facilities by size and ownership							
	Hospitals				Health Centres			
	Public sector n = 2	Private Sector		All n = 3	Public sector n = 14	Private Sector		All n = 39
		Non-profit n = 2	For-profit n = 2			Non-profit n = 11	For-profit n = 14	
COVERAGE :								
Outpatient visits	2,496	2,621	2,199	2,438	1,854	2,061	1,015	1,611
Inpatient admissions	907	991	854	917	388	395	391	389
Uncomplicated malaria	974	942	704	873	731	648	326	562
Severe malaria	608	962	521	697	262	388	239	289
Chemoprophylaxis*	804	986	306	698	699	918	244	597
ITNs**	984	954	978	972	979	913	919	939
Immunisation services***	1,788	1,590	1,734	1,704	1,610	1,520	1,527	1,555
Inpatient days	4,650	4,592	5,081	4,818	3,270	2,628	2,672	2,942
Patient day equivalents (PDE)****	5,482	5,466	5,814	5,631	3,888	3,315	3,010	3,479
Beds	26	17	24	22	16	10	12	13
EFFICIENCY :								
ALOS	5.13	4.63	5.95	5.25	8.43	6.65	6.83	7.56
Bed turnover rate	34.86	58.34	35.58	41.71	24.25	39.52	32.60	29.93
Bed occupancy rate (%)	49	74	58	60	56	72	61	62
PDE per clinical staff*****	114.21	118.82	85.5	104.8	82.72	85	53.75	74.32
Outpatient visits per doctor*****	998	1,048	733	915	927	1,031	406	896
Outpatient visits per nurse*****	499	437	367	435	309	294	127	238
Inpatient visits per doctor	363	396	285	344	194	198	156	218
Inpatient visits per nurse	182	165	142	164	65	57	49	58
Uncomplicated malaria per doctor	390	377	235	328	366	324	130	314
Uncomplicated malaria per nurse	195	157	118	156	122	93	41	83
Severe malaria per doctor	243	384	174	262	131	194	96	160
Severe malaria per nurse	122	160	87	101	44	55	30	43

*Chemoprophylaxis includes mainly pregnant women attending antenatal care units as well as intermittent presumptive treatment to children and other community members.
**This includes the number of ITNs that have been sold and/or distributed free of charge from the health facilities.
*** This is the number of people immunised including all immunisation activities related to the target of the National EPI.
**** PDE = Inpatient days + 1/3 outpatient visits. (Inpatient days = Bed occupancy rate x Number of beds x 365 days)
***** A part-time clinical staff member is treated as 0.5 full time equivalent.
***** All doctors including specialists taken as the denominator.
***** Refers to all nurses using a conversion factor as one assistant nurse is 2/3 of registered nurse and midwife.

Source: Inventory or checklist questionnaire in the three districts (Mifi, Foubot and Fouban)

Tables 4.2a and 4.2b present data on a number of health service statistics such as inpatient days, patient day equivalents (PDE), average length of stay (ALOS), bed turnover rate (average number of inpatients per bed during a year) and bed occupancy rate (percentage of beds occupied on average). They also show statistics on staff productivity as measured by the average patient day equivalents per clinical staff member for different types of health facilities. While data in Table 4.2a are presented in a way that compare the mean and median across types of facilities,

data in Table 4.2b are relative to the size of health facilities. All these statistics can contribute to explaining variations in the performance of different health facilities. These statistics indicate that the private nonprofit sector played a leading role for outpatient visits and inpatient admissions across health districts. Malaria cases represent a substantial proportion of outpatient visits and inpatient admissions in all facilities. Although, the public sector plays the leading role for uncomplicated malaria cases, the majority of patients with severe malaria appear to prefer to seek care at private nonprofit health facilities. The performance of public sector delivery of severe malaria services as a share of total inpatient admissions (67 percent) is not very different from that of private for-profit health facilities (61 percent). The private for-profit sector plays the second leading role, after the public sector, in the sale/distribution of insecticide-treated nets (ITNs). However, the overall superior performance of private nonprofit over for-profit health facilities in relation to coverage is highlighted with its total annual outpatient visits, uncomplicated and severe malaria, and chemoprophylaxis services. This is partly explained by the results of FGDs, which revealed that in many endemic communities people consider malaria treatment and preventive services as a reputation good, “...*The majority of our community’s members go to mission hospitals because they have heard about their good reputation of providing good [quality] malaria services*” (Women Fouban 2002). In addition, data from Tables 4.2a and 4.2b also indicate that the private sector (nonprofit and for-profit) facilities do provide a substantial volume of immunisation services. This contrasts with other findings suggesting that in many African settings, often key public health services such as immunisations are not provided by private clinics, which refer those patients to the public sector (Marek et al. 2005; Palmer et al. 2003).

4.3.2 Functional capacity and quality of malaria services at health facilities

This section examines successively the issues of malaria services’ accessibility; inputs/structural quality of malaria services; process quality of malaria services; and patient perceived quality of malaria services in different types of health facilities.

4.3.2.1 Accessibility to malaria services in different types of health facilities

The national malaria control policy considers the availability and accessibility to insecticide-treated nets (ITNs), early diagnosis and prompt treatment as major determinants of quality malaria services (MoPH 2001a). Data from the facility inventory and patient exit interviews provide comparative accessibility indicators across types of facilities as shown in Table 4.3:

Table 4.3: Indicators of accessibility to health facilities by ownership

Accessibility indicators for different types of health facilities	Health facilities by ownership across districts			
	Public sector	Private sector		Both public and private sectors
		Nonprofit	For-profit	
<i>Percentage of health facilities offering malaria services :</i>	n = 16	n = 13	n = 16	n = 45
Insecticide-treated nets for sale/distribution	56.3	76.9	50.0	60.0
Chemoprophylaxis for malaria	87.5	92.3	93.8	91.1
Treatment of uncomplicated malaria	100	100	100	100
Treatment of severe malaria	81.3	69.2	87.5	80.0
Management of malaria in pregnancy	68.8	53.8	93.8	73.3
Malaria services provided 7 days a week	93.8	69.2	62.5	75.6
Facility opened 24/24 hours daily	68.8	69.2	68.8	68.9
Existing sign advertising malaria services	50.0	30.8	37.5	40.0
<i>Other accessibility indicators:</i>				
Perceived financial accessibility* (%)	30.2	41.9	27.9	100
Average travel time to health facility	27 mn	30 mn	21 mn	25 mn
Average waiting time at health facility	18 mn	30 mn	14 mn	21 mn
Average number of beds	17	13	13	14
*Proportion of malaria patients who declared that the costs of health care were cheap or affordable. (mn = minutes)				

Source: Inventory checklist and patient exit questionnaires.

Data in Table 4.3 indicate that ITNs are more available in the private nonprofit sector than in public and private for-profit sectors. Severe malaria care and management of malaria in pregnancy are more available in the private for-profit sector. The average travel and waiting times are shorter for the private for-profit sector. The majority of patients perceive the private nonprofit sector as financially more accessible. The public sector is more accessible in terms of the number of beds and opening days than the private nonprofit and for-profit sectors. The opening hours are similar across types of facilities but slightly more nonprofit sector facilities are open 24 hours a day.

This contrasts with the results of FGDs in urban areas, where the community perceived the opening hours of the private for-profit sector to be more convenient: “...we find private [for-profit] clinics more accessible because after [official] work the majority of [part-time] government employees go there to practice in the afternoon, evening hours, weekends and holidays....In cities, there are convenient opening hours with shorter waiting times for many busy people....Government hospitals may be open all 24 hours but when you go there in the afternoon you would not see the doctor and someone there will ask you to return the next morning if you want to see a doctor...Otherwise if you don't mind someone will direct you to a private clinic where you can see a doctor right now or later in the evening or night...” (Men Mifi 2002). This is suggested to be a consequence of public sector doctors undertaking dual practice. This finding is in line with the findings of other studies on public and private providers, which revealed that the private for-profit clinics were generally more accessible than public facilities in terms of greater ease of access, shorter waiting time, longer or more flexible operating hours such as

opening on weekends and holidays which provides advantages to the community (Aljunid and Zwi 1997; Brugha and Zwi 1998).

4.3.2.2 Inputs/structural quality of malaria services at health facilities

This study uses structural indicators as an indirect means for assessing the quality of care. Data in Table 4.4 indicate that the private nonprofit sector followed by the for-profit sector has relatively good building and basic infrastructure components, which have cleaner consultation rooms and wards; greater availability of clean functional toilets; are well equipped with sufficient seating for patients; and have piped running water, electricity, telephones and functional refrigerators.

Table 4.4: Structural indicators of quality of care at health facilities by ownership

Structural indicators in different types of health facilities	Health facilities by ownership across districts			
	Public sector	Private sector		Both public and private sectors
		Nonprofit	For-profit	
<i>Percentage of health facilities with structural inputs available:</i>	n = 16	n = 13	n = 16	n = 45
Clean buildings with sufficient basic infrastructure (electricity, piped running water, toilets, seats, refrigerators, telephone)	62.5	76.9	75.0	71.1
Auditory and visual privacy in the consultation rooms	93.8	92.3	100	95.6
Sterilising equipment	37.5	76.9	43.8	51.1
Fever thermometers	93.8	100	100	97.8
Microscopes with enough supplies	37.5	61.5	75.0	57.8
Laboratory with microbiology, biochemistry and haematology equipment	31.3	38.5	43.8	37.8
Lab. with oxygen equipment	0.0	15.4	31.3	15.6
Insecticide-treated nets for patient's use	31.3	61.5	50.0	46.7
Antipyretics: paracetamol	93.8	92.3	81.3	88.9
First-line drug: amodiaquine	68.8	92.3	75.0	77.8
Second-line: sulfadoxine-pyrimethamine	37.5	53.8	25.0	37.8
Third-line drug 1: quinine	68.8	100	75.0	80.0
Third-line 2: artemisinin based drugs	0.0	7.7	12.5	6.7

Source: Inventory checklist

The private nonprofit sector is better equipped with sterilising equipment and ITNs for patient's use and it is also stocked with more amodiaquine, sulfadoxine-pyrimethamine and quinine than the public and for-profit sectors. These data are consistent with findings from other African countries: for example in Ghana, key laboratory reagents and essential drugs were more available in church hospitals than their government counterparts (Gilson et al. 1997).

The private for-profit sector has more microscopes with enough supplies; laboratories with microbiology, biochemistry, haematology and oxygen equipment; and often it is stocked with artemisinin based antimalarial drugs. Both auditory and visual privacy in the consultation rooms were superior in private for-profit than in nonprofit and public sector health facilities. Overall, these findings highlight that both private nonprofit and for-profit facilities potentially provide higher structural quality malaria services than the public sector.

The private sector's input factors are better perceived by malaria patients as confirmed by FGD participant's declarations: *"when a child or a woman gets fever in this area, people always go to the private hospitals because there you see new equipment for example thermometers, microscope and balance... Particularly at the mission, sisters are courteous and friendly to everyone and [antimalarial] drugs are always there for patients...Some people travel long distances crossing and leaving behind government hospitals to go to a mission where they will be treated friendly with privacy and receive good care..."* (Women Foumban 2002). This result is explained in theory by the 'contract failure' hypothesis and nondistribution constraint that can lead patients to prefer to seek care at private nonprofit health facilities (Hansmann 1980; Weisbrod 1998). This finding is also consistent with the general perceived quality of nonprofit

facilities in other African countries where patients always preferred to use them because of their availability of drugs and good services (Gilson et al. 1994; Mujinja et al. 1993).

Diagnosis. Access to early accurate diagnosis is a critical first step in the delivery of quality malaria services. As malaria services are integrated in the overall primary health care package, diagnosis in children should take into account other aspects of Integrated Management of Childhood Illness (IMCI). Malaria in children has considerable overlap with the signs and symptoms of common childhood diseases and conditions. Clinical diagnosis alone can often be inappropriate and may lead to other diseases such as acute respiratory infection, diarrhoea, etc, being overlooked. It is from this perspective that the availability of functional microscopy influences the quality of the diagnosis and treatment. Faced with the prevalence of other febrile diseases where fever is the common symptom, even well-trained clinical staff may over-diagnose malaria on clinical grounds alone, which may contribute to increase antimalarial drug resistance (Hanson et al. 2004).

In private for-profit health facilities, the use of diagnostic equipment was likely to be effective because their microscopes were usually in good functional repair condition and the supplies needed to process blood films were readily available. Inventory data revealed that in many public and private nonprofit health facilities, where the laboratory equipment such as microscopes were in functional condition, the related complementary supplies were either out of stock or unreliable. Data from interviews point out that *“in some remote rural public sector and nonprofit health facilities, the availability of microscopy is not always improving the actual structural quality of malaria services because the supplies needed to perform the microscopic test are*

lacking. In addition, it is usual to find that clinical staff are less qualified to perform accurate microscopic diagnosis and often unable to use the results for prescribing appropriate treatment. This is the worst reality of the field; the district management team is seeking to organise refresher courses to improve staff knowledge and laboratory skills to enhance effective diagnosis and treatment of malaria even in very remote rural areas. But how long improving skills will last depends on the regularity of retraining and access to reliable recent good clinical practice” (Stakeholder interviews: public sector, district level, 2003). This indicates that the variation in performance between facilities may be related to problems with both input and process aspects of care. Where a microscope is available in settings where laboratory assistants have inadequate training and poor supervision, clinical staff may not always use the results in their treatment choices (Barat et al. 1999).

This study also looked at the issue of overdiagnosis. The study team collected the results of microscopic diagnosis tests on 148 presumptive malaria patients to whom malaria treatment was dispensed. The result of this assessment indicates that across all health facilities where microscopic diagnosis was performed, presumptive treatment had been dispensed to about 33 percent of patients who immediately went back home without receiving the results of their (unnecessary) microscopic diagnosis tests. Among those febrile non-malaria patients to whom antimalarial drugs had been dispensed, about 65 percent were recorded at public sector health facilities, while about 25 percent were at private nonprofit sector and only 10 percent at private for-profit health facilities. The problem of overdiagnosis would exacerbate problems with the availability of antimalarial drugs, which are not yet well stocked in some health facilities. This evidence confirms the understanding that where clinical diagnosis is used, over-diagnosis rates

tend to be high (Olivar et al. 1991). Basing the diagnosis of malaria cases on clinical symptoms alone would increase the likelihood of resistance to antimalarial drugs and may lead to the misuse of limited resources as the cost of wasted treatment on suspected cases who do not in fact have malaria rises and the more worthwhile it becomes to invest in more specific diagnostic techniques (Phillips and Phillips-Howard 1996).

Insecticide-treated nets (ITNs). An important aspect of structural quality of malaria services is related to the use of insecticide-treated nets in the health facility's beds. The exposure of malaria patients to mosquito bites during the course of treatment increases their likelihood of re-infection. This can explain why the majority of private nonprofit health facilities were using ITNs as part of their inpatient bed services. About half of private for-profit facilities also provided ITNs for their patient's use. However, it is surprising that public sector health facilities sold/distributed more ITNs than private facilities (See Table 4.2a) but only a few of them had currently made nets available for their patient's use.

The results of FGDs point out that the community perceives the health facility's beds that are covered with ITNs as an important aspect of quality of care. *"I cannot understand why staff of government hospitals encourage people to use the nets while back home when at the hospital's bed they don't use it; there are lots of mosquitoes over there too. My eldest daughter has probably got malaria from mosquito's bites while staying with her junior brother in the inpatient ward at the government hospital [village health centre] last week. They have proposed the nets to buy and take home and they were distributing some to pregnant women free of charge. During the health talks we were informed that children and pregnant women are high risk groups but it*

is disappointing that there is not free distribution for children and the hospital does not even use the nets for its inpatient bed's services. The use of nets at hospital would stimulate people who get the opportunity to try it there to buy and use nets later at their homes" (Women Fouban 2002). This finding is disappointing because the promotion of ITN use is a key objective of the national malaria control programme and the health sector settings, particularly inpatient wards, could have been the first place in fulfilling the MoPH prevention objectives. However, the community satisfaction with the availability of ITNs for patient's use does not necessarily contribute to more sale/distribution in the nonprofit sector as the public sector still plays the leading role in this respect (see Table 4.2a). The most likely explanation is related to government and donor supported distribution of free ITNs through the public sector, while the private sector usually sells their ITNs at subsidised prices for cost recovery and sustainability purposes.

Staffing. The availability of clinical staff is an important patient perceived aspect of structural quality of care. The clinical staff include: doctors, nurses and laboratory technicians. Commensurate with its labour-intensive nature, the delivery of malaria services requires staff with various levels and types of skills. The quality of clinical staff employed varies considerably across types of health facilities. For example, amongst the total number of full-time clinical staff employed, generalist doctors represent about 44 percent of clinical staff at private nonprofit, 15 percent of clinical staff at public sector, and 14 percent of clinical staff at private for-profit health facilities.

Data on staffing indicate that the average number of full-time clinical staff including clinically trained managers, given that managers also provide some clinical services, is about 3 clinical

staff per facility. The clinical staff allocation across categories of facility and professionals points out that, on average a public or a private hospital-based health facility equally employs one highly trained medical doctor. A private nonprofit hospital employs on average more nurses and relatively unskilled paramedics than either a public sector or a private for-profit hospital. In the category of health centre, particularly in the districts of Mifi and Foubot, a private for-profit sector facility employs on average more nurses and relatively unskilled paramedics than either a public sector or a private nonprofit facility. In the district of Fouban, a private nonprofit health centre employs more nurses and relatively unskilled paramedics than its public sector or private for-profit counterpart. Private for-profit facilities employ slightly more laboratory technicians than public and nonprofit health facilities. These staff-related differences were less clear in other African countries where the nonprofit sector usually used a lower grade of nurse than the public sector, and were relatively understaffed particularly because while the public sector benefited from the availability of qualified paramedical staff, the nonprofit sector 'made do' with nurses who had received in-service training for these functions (Hongoro 1995; Gilson et al. 1997).

By comparing the performance using the output/staff mix (see Tables 4.2a and 4.2b), the private nonprofit had on average a higher workload per staff member, particularly for a medical doctor than the public sector and private for-profit health facilities. This performance contrasts with the referral role that public sector district hospitals are playing for all other health facilities. This result appears to be consistent with the prediction of the theory of nonprofit organisations. But the public sector had on average a higher workload per clinical staff than the private for-profit facilities. This finding had emerged in other settings where public facilities generally received

more patients than private (for-profit) providers on any day of the week except on Sundays (Aljunid and Zwi 1997).

Antimalarial drugs. The availability of antimalarial drugs is a key input factor in attracting patients and in keeping morale high amongst staff. With a few slight differences, the essential generic antimalarial drugs (amodiaquine, sulfadoxine-pyrimethamine and quinine) were more available in the private nonprofit sector than in the public sector and private for-profit health facilities (see Table 4.4). The private for-profit sector was better stocked with amodiaquine and quinine than the public sector.

In many LMICs, essential drugs including antimalarials are frequently out of stock across health facilities (Gilson et al. 1994). The proportion of health facilities that have experienced stock-outs of antimalarial drugs during the last twelve months constitutes an important criterion in the assessment of drug management at facility level. As shown in Figure 4.3, both public sector and private nonprofit health facilities had a better supply system for paracetamol and sulfadoxine-pyrimethamine than private for-profit health facilities. The private nonprofit health facilities had experienced fewer stock-outs for amodiaquine, sulfadoxine-pyrimethamine and quinine than the public and for-profit sectors.

The private for-profit sector had a better supply system for amodiaquine and quinine than the public sector. In addition, a few private for-profit health facilities were dispensing artemisinin based antimalarial drug combination therapy and may not rely on quinine as their main third line drug. For example, both Plasmotrin 200mg and Arsumax 50mg (12 percent and 6 percent

respectively) were available at private for-profit sector facilities, but not in any public sector health facilities. While Plasmotrin was not available in any private nonprofit health facilities, Arsumax was available in 8 percent of private nonprofit health facilities.

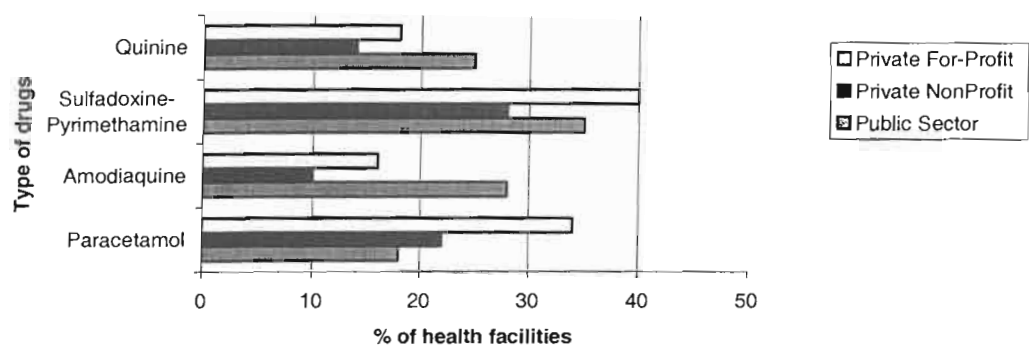


Figure 4.3: Percent of health facilities which experienced stock-outs of antimalarial drugs during the last 12 months

The availability of antimalarial drugs at health facilities was influenced by the sources of procurement. The MoPH owns the National Centre for Essential Drugs (NCED) (in French Centrale Nationale de Médicaments Essentiels-CENAME) and the Provincial Centre for Essential Drugs' Supply (PCEDS) (in French Centre d'Approvisionnement Provincial- CAPP), which were providing almost all antimalarial drugs available in public sector health facilities. The relatively higher performance of the for-profit sector in stocking amodiaquine and quinine is related to the easy access to the "CAPP" which supplies antimalarial drugs to all public sector facilities, 42 percent of private for-profit facilities and 36 percent of nonprofit facilities. While the majority of private sector health facilities had purchased their antimalarial drugs from the network of private pharmacies, some private sector health facilities had purchased their antimalarial drugs from pharmaceutical company's representatives as well as from the informal sector distribution network. Having antimalarial drugs in stock can influence the quality of care, but this requires an understanding of process factors at facilities.

4.3.2.3 Process quality of care at health facilities

It is anticipated that staff qualifications and ongoing training is a critical process quality indicator if improved knowledge can be translated into good clinical practice in the delivery of malaria services. Basic training on malaria services constitutes the foundation for good practice. The results of clinical staff interviews revealed that in the last two years, the majority of public sector clinical staff had received basic training while a substantial proportion of clinical staff of private nonprofit and for-profit facilities had received a refresher course on malaria diagnosis and treatment.

The actual performance of health facilities is related to factors that reduce discrepancies between clinical staff knowledge and practice. Clinical staff knowledge of malaria characteristics may be the first critical constraint to good practice. For example, parasite and spleen rates are the main ways of measuring the prevalence of malaria in humans. The knowledge of these terms varies amongst clinical staff. Data from staff interviews revealed that about 83 percent of clinical staff at for-profit, 77 percent of clinical staff at public sector, and 68 percent of clinical staff at nonprofit health facilities know that the parasite rate is one of two main ways of measuring the prevalence of malaria in humans.

The role of microscopy in making a definitive diagnosis of malaria is relatively well known amongst clinical staff. The majority of clinical staff of private for-profit and nonprofit health facilities knew that the thick blood film must be preferred for the routine diagnosis of malaria and the preservation of parasite morphology. The fact that the thin blood film must be preferred

for the characteristic host cell features was mentioned by about 46 percent of clinical staff at private for-profit, 36 percent of clinical staff at private nonprofit, but 25 percent of clinical staff at public sector facilities.

Probably a reflection of relatively poor knowledge, about 58 percent of clinical staff of public sector, 44 percent of clinical staff of nonprofit and 18 percent of clinical staff of for-profit health facilities declared that microscopy is not absolutely important in their routine diagnosis of malaria. This perception of clinical staff about microscopic diagnosis raises a concern because, even in relatively high prevalence endemic areas, clinical diagnosis alone leads to overdiagnosis as indicated earlier (see section 4.3.2.2).

Microscopic diagnosis is an important process quality aspect particularly if it is rapid. Amongst health facilities that perform microscopic diagnosis, laboratory confirmed diagnosis of malaria within two hours of request is almost equally available in for-profit and nonprofit facilities while public sector health facilities lag behind as shown in Figure 4.4 below:

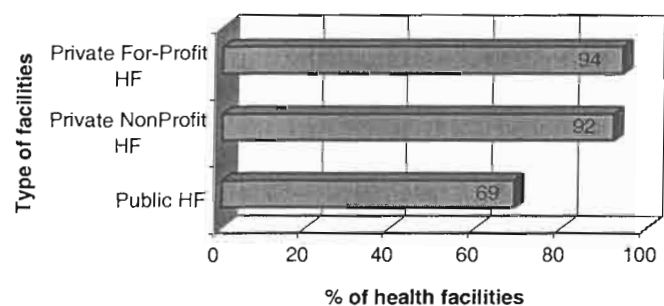


Figure 4.4: Percent of health facilities with laboratory confirmed microscopic diagnosis of malaria within 2 hours

The ability of clinical staff to correctly diagnose uncomplicated and severe malaria in children and adults is one of the critical process quality indicators explaining performance. In the absence

of microscopic equipment, clinical staff knowledge of other symptoms of both uncomplicated and severe malaria can improve the specificity of clinical diagnosis and the cost-effectiveness of case management in health facilities. However, there is substantial variation in the proportion of clinical staff able to correctly diagnose uncomplicated and severe malaria, perform differential diagnosis, and prescribe appropriate antimalarial drugs to patients, as shown in Table 4.5.

There is much higher knowledge of clinical symptoms in public sector facilities than private nonprofit facilities and very poor knowledge in general amongst private for-profit clinical staff. However, private for-profit facilities do tend to have better access to and rely more on definitive laboratory diagnosis and don't tend to treat presumptively.

The prescribing behaviour of clinical staff influences the quality of care received by malaria patients at health facilities. The national policies for malaria prevention and treatment at the time of data collection recommend amodiaquine for the first line drug; sulfadoxine-pyrimethamine for the second line antimalarial drug; and quinine for the third line treatment. However, in all three types of health facilities, quinine is also being prescribed as a first and second line antimalarial drug therapy. The adherence of clinical staff to national guidelines for malaria treatment is relatively weak, especially in the private for-profit health facilities (See Table 4.5).

Table 4.5: Proportion of clinical staff able to correctly diagnose uncomplicated and severe malaria as well as prescription of appropriate antimalarial drugs.

Knowledge of clinical symptoms of malaria in patients and prescription behaviour of clinical staff	Type of health facility			All n = 127
	Public sector n = 41	Private sector		
		Nonprofit n = 40	For-profit n = 46	
Knowledge of clinical symptoms of uncomplicated malaria in children among clinical staff				
- Fever	96	76	71	82
- Headache	69	71	36	60
- Vomiting	70	71	50	65
- Myalgia	33	26	8	23
- Watery diarrhoea	23	46	23	32
- Tachypnoea	22	48	20	30
- Cough	44	30	20	34
- Febrile convulsions	59	57	36	52
- Anaemia	52	57	20	44
Knowledge of clinical symptoms of a severe malaria defined as asexual parasitaemia in children among clinical staff				
- Coma (cerebral malaria)	74	57	46	60
- Respiratory distress	63	58	30	51
- Hypoglycaemia	19	29	4	19
- Severe anaemia	85	88	48	74
- Repeated and general convulsions	85	92	86	88
- Metabolic acidosis	11	17	0	10
- Shock	22	16	4	15
- Impaired consciousness other than coma	59	42	24	44
- Prostration or extreme weakness	63	46	28	47
- High parasite count (Hyperparasitaemia)	44	42	20	37
- Jaundice	59	46	35	48
- Rectal temperature above 40° C (Hyperpyrexia)	67	54	65	63
Additional clinical symptoms of severe malaria in adults				
- Acute renal failure	39	21	20	29
- Pulmonary oedema including adult respiratory distress syndrome	35	29	15	27
- Spontaneous bleeding	19	17	0	12
- Haemoglobinuria ('blackwater fever')	27	17	15	21
Antimalarial drugs' prescribed for first line treatment				
- Amodiaquine	96	84	34	70
- Chloroquine	24	14	2	19
- Sulfadoxine-Pyrimethamine	4	8	4	5
- Quinine	16	12	18	15
- Combination drugs	00	00	14	04
Antimalarial drugs' prescribed for second line treatment				
- Amodiaquine	44	26	13	28
- Sulfadoxine-Pyrimethamine	38	38	17	30
- Quinine	44	40	40	40
- Combination drugs	00	00	26	08
Antimalarial drugs' prescribed for third line treatment				
- Quinine	67	54	56	60
- Non-artemisinin based combinations	61	50	79	64
- Artemisinin based combinations	70	73	86	74

Sources: Clinical Staff Interviews.

In urban areas, some combination antimalarial drug therapies were available in private nonprofit and for-profit health facilities. The reasons for stocking and prescribing those combination drugs are related to *“the multiple drug resistance that is frequently common across districts, and the dispensing of antimalarial drugs at for-profit health facilities automatically takes into account the patient’s reported unsatisfactory self-use of essential generic drugs such as amodiaquine, sulfadoxine-pyrimethamine and often quinine. During the clinical diagnosis, the history of self-medication treatment failure with recommended antimalarial drugs is critical in determining the prescription of combination antimalarial drug therapies. The self-treatment failure may be caused by the inappropriate dispensing, mismanagement of malaria cases and non compliance to national guidelines. However, given increased patient demand for drugs different to those they always use in self-treatment, the management team asked the drug procurement unit to stock antimalarial brand-names and/or combination drug therapies. This internal drug policy is particularly crucial in attracting more patients to revisit the private for-profit health facilities otherwise they may not return if they were dispensed the same antimalarial drugs previously used in self-treatment, especially when due to the resistances their illness fails to improve”* (Manager for-profit sector, 2002). This corroborates results from both FGDs and patient exit interviews, which highlighted that the most common reason for not using or bypassing some formal health facilities was that they were dispensing the same antimalarial drugs (amodiaquine, sulfadoxine-pyrimethamine and quinine) patients previously used in self-medication.

Thus, it is likely that fearing for their reputation and sustainability issues, and considering the market structures of antimalarial drugs in urban settings, private for-profit health facilities were stocking and prescribing the antimalarial drugs that meet the demand of patients. This can

explain in part, the prevalence of prescribing combination antimalarial drug therapies in the private for-profit health facilities. In urban settings where a wide range of both formal and informal providers are competing for patients, *“the multiple treatment-seeking over the course of a malaria episode has resulted in the reported misuse (either under dosing when seeking treatment at shops or street-pharmacies or overdosing at the formal providers) of some recommended antimalarial drugs which may likely contribute to the emergence and spread of resistant parasites. It is important that the history of antimalarial drugs used in self-treatment be routinely traced at formal health facilities in order to dispense the most appropriate drug regimes available that would enhance patient’s adherence to the treatment guidelines”* (Stakeholders interviews: nonprofit, district level, 2003). There is also likely to be an element of profit-making in this decision because branded versions of commonly used monotherapy drugs and artemisinin combination therapies are much more expensive so the profit from the mark-up is much greater. Similar findings emerged from other studies that suggested that about 73 percent of private practitioners were found to dispense a wide variety of drugs including those not on the approved list (Ngalande-Banda and Walt 1995; Marek et al. 2005).

Another striking drug-based quality of care issue is related to the prescription of chloroquine that has been withdrawn from the national guidelines. Data from the facility inventory indicate that in urban areas, chloroquine was no longer prescribed, particularly at for-profit health facilities. Data from patient exit interviews revealed that in rural areas, despite the fact that chloroquine has been withdrawn and replaced with amodiaquine as the first-line treatment, about 52 percent of clinically diagnosed malaria patients attending either the public sector or the private nonprofit health facilities were prescribed chloroquine, while only 48 percent were given amodiaquine in

compliance with the national treatment guidelines. The process of changing chloroquine as the first-line antimalarial drugs has been very confusing in many remote rural health facilities because other essential antimalarial drugs were frequently out of stock, but chloroquine was still available and affordable for more patients and hence used despite the high rates of parasite resistance to it.

Supervision is an important process indicator as it contributes to monitoring and enforcing the compliance of medical practice to the defined regulatory standards. The results from the facility inventory indicated that in the last three months preceding the fieldwork, more public sector facilities received between one to three supervisory visit(s) than private nonprofit and for-profit health facilities. About 23 percent of private nonprofit facilities have received between 4 to 6 supervisory visits in the last three months while none of the public sector and private for-profit health facilities have received more than 3 supervisory visits. During their visits more supervisors enquired about malaria services at private nonprofit than at private for-profit and public sector health facilities.

The prevention of malaria through the Information-Education-Communication (IEC) initiative for behavioural changes is an important component of the malaria control programme. A full range of IEC materials such as flip chart, brochure or pamphlet and poster were more available in the private nonprofit and for-profit health facilities than public sector ones. Information disseminated on malaria prevention is dominated by chemoprophylaxis following by larval control or environmental management and ITNs. Information on indoor residual spraying is found mainly in IEC materials available at private health facilities. With regard to diagnosis and

treatment, the appropriate antimalarial drug/dosage, symptoms and complications, sources of malaria treatment and dangers of self-treatment constitute the main information disseminated in the IEC materials across health facilities.

The record-card system is either well or partially ordered in all public sector facilities compared to private nonprofit and private for-profit health facilities. All public sector health facilities have a good daily activity register for each of the different primary health care services. However, the patient's record is kept in duplicate by both patient and service delivery point in more private nonprofit than in private for-profit health facilities. This indicates that the problem of record keeping may be more pronounced in the private for-profit sector of the national health system. In many LMICs, the lack of epidemiological and clinical information about the performance of private facilities in terms of number and type of cases treated has made MoPH planning more difficult (Bennett et al. 1994).

4.3.2.4 Patient perceived quality of care at health facilities

Patient satisfaction with malaria services provided across the different types of facilities routinely demonstrate that patients value prompt attention to their health care needs because it may lead to better health status improvement, and it can allay fears and concerns through interaction during the diagnosis or treatment.

Patient exit interviews and FGDs highlighted the facilities' performance in relation to respect for patient autonomy, and respect for confidentiality. With regard to the respect for patients'

autonomy, the private nonprofit health facilities were regarded as very responsive by both the community and malaria patients. According to FGD participants, demand-inducement for ‘irrational’ diagnosis, medical procedures, and over prescription of drugs is well known behaviour of clinical staff at both public sector and private for-profit health facilities: “... *at private [for-profit] clinics and government hospitals, doctors always prescribe more laboratory tests during the treatment... and often doctors indicate to patients a particular private laboratory where they must go for the tests.... When patients change and go to a different laboratory, doctors may be unhappy with the results*” (Women Mifi 2002). Data from Table 4.6 indicate that the reasons for patient’s satisfaction were mainly related to input and process factors.

Table 4.6: Degree of malaria patient’s satisfaction with aspects of structural and process quality of care at health facilities (%)

Reasons for patient's satisfaction	Type of facility			All n = 99
	Public n = 36	Private		
		Nonprofit n = 33	For-profit n = 30	
Cleanness and availability of infrastructure and equipment	59	61	64	60
Availability of staff	88	100	96	92
Availability of antimalarial drugs	90	89	78	82
Waiting time before consultation	81	96	92	89
Both clinical and microscopic diagnosis services	67	90	100	86
Right amount of time during the consultation	94	100	100	96
Confidentiality and privacy during the consultation	85	88	96	90
Health education with IEC materials	71	100	50	77
Patient monitoring with dates of follow-up visits	78	100	100	94
Type of malaria treatment: Oral	42	39	45	46
Injection	16	24	5	9
Intravenous infusion	42	38	50	45
Reputation of antimarial drugs prescribed to patients	53	70	80	62
Number of daily doses of antimalarial drugs prescribed to patients	89	88	93	90
Taste and size of tablet or volume per dose for syrups and suspensions	45	60	55	54
Duration of malaria treatment	81	94	81	85
Patient ability to pay price charged	90	100	76	84
Patients received services they wanted	78	94	83	85
Providers explained the examinations performed	53	71	67	62
Providers explained the results of examinations	74	74	64	70
Providers were easy to understand during consultation	83	90	90	86
Providers listened to patient's concerns about malaria	70	89	76	77
Patients satisfied with their visits at health facility	83	97	90	90

Source: Inventory checklist and patient exit interviews

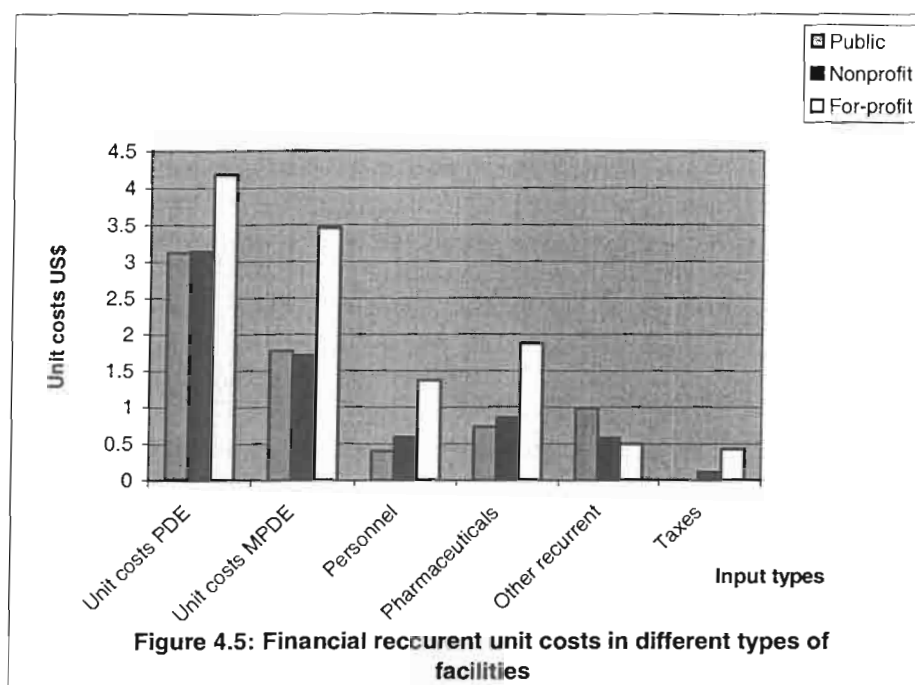
The patient exit interviews also revealed that clinical staff of private nonprofit health facilities always prescribed only what is needed for a course of malaria treatment rather than prescribing a whole package of drugs which a patient can hardly finish in a course of therapy. Clinical staff acting as agents have the right to choose what medical interventions they do or do not prescribe. Data from FGDs indicate that: *“... when facing a malaria illness and seeking treatment at either government hospitals or private clinics people always came out with lot of useless [antimalarial] drugs, which they can't finish even if they fully comply with the treatment regimen or recommended dosage (Men Foubot 2002). ...But at mission hospitals, patients came out rarely with few non-use [antimalarial] drugs especially in the case of inpatient visits as they only sold to patients the quantity of drugs needed to cure their illnesses, and if the drugs are not effective, doctors shifted to another drug without charging for the previous drugs patients did not use already”* (Women Fouban 2002). It very difficult for patients to cope with some of these prescription practices. This may happen because at public sector and private for-profit health facilities patients usually received a medical prescription to buy drugs from private pharmacies. This notwithstanding, even within the public sector health facilities, pharmacies operate as autonomous units where drugs are sometimes sold only in a package. During the course of treatment clinical staff may decide to change initially prescribed drugs to another regime, but the remaining drugs already purchased cannot be returned or exchanged for other drugs.

The respect for confidentiality serves as an instrumental factor in improving the quality of malaria services. Data from FGDs and patient exit interviews point out that when patients have confidence that the confidentiality of their personal health information will be protected, they are more likely to give important medical history information to clinical staff during the

consultation. As shown in Table 4.6, patient's perceived privacy was superior at private for-profit and nonprofit health facilities during the consultation with clinical staff than at public sector health facilities. This is in line with the structural quality of care data. Data from patient exit interviews indicate that the majority of patients who were satisfied with the degree of privacy had been consulted by specialists.

4.3.3 Costs and prices of health care at facilities

This section analyses the costs and prices of health care by ownership. Figure 4.5 focuses on the unit recurrent costs across facilities and variable inputs used in the process of care. To produce data in Figure 4.5, a detailed analysis of costs and performance was done for each health facility employing a 'step down' cost accounting approach and using a combination of data from expenditure reports and primary data collected at health facility level. While the expenditure reports provided recurrent cost data only, the analysis excludes capital costs and focuses on recurrent costs and estimates financial unit costs for a range of recurrent items and per patient day equivalent.



The unit financial recurrent costs per patient day equivalent (PDE) were much higher in the private for profit sector than in the private nonprofit sector, where these costs in turn were almost equal to the public sector. The unit costs per specific malaria patient day equivalent (MPDE) in the private for-profit sector were two times higher than in the public and private nonprofit sectors. Part of the explanation for this variation is concerned with the volume of work as measured by the PDE and MPDE which are related to outpatient visits, the bed occupancy rate, the average length of stay and the bed turnover in different health facilities. However, other factors affecting the cost patterns are concerned with the quantity and price of personnel and drugs. The remuneration of staff, expenditure for pharmaceuticals and taxes are important cost driving factors that can explain the differences between public sector, nonprofit and for-profit health facilities. It is clear that staffing, salary scale, drugs, and tax differences between types of facilities were reflected in unit financial recurrent costs. In addition, there are more staff relative to workload in private for-profit facilities. Some private facilities often dispense costly brand-

name and artemisinin based combination drugs to malaria patients. A similar finding emerged in another study where the recurrent cost per patient was slightly lower in public clinics, but the cost per treated patient was lower, on average in NGO clinics (Marek et al. 2005; Kuwab Business 2002). The actual prices charged to patients vary across health facilities as shown in Table 4.7 below:

Table 4.7: Prices charged to malaria patients at health facility
(in Dollar US: \$US1 = CFA Francs 550)

Unit Financial Costs and Average Prices Charged (in US Dollars)	Type of health facility			All types of facilities
	Public	Private Nonprofit	Private For-profit	
Average prices charged to malaria patients:				
Malaria services consultation:	0.48	1.11	2.32	1.41
Malaria laboratory diagnosis test:	0.56	0.81	2.34	1.38
Price of Paracetamol	0.66	0.74	0.95	0.78
Price of Amodiaquine	0.37	0.81	0.88	0.68
Price of sulfadoxine-pyrimethamine	0.73	0.84	0.97	0.85
Price of Quinine (7 days oral therapy)	2.85	3.55	3.31	3.23
Average full prices charged for a course of malaria treatment (consultation, diagnosis, drugs):				
Uncomplicated malaria with Amodiaquine	2.08	3.46	6.48	4.26
Uncomplicated malaria with sulfadoxine-pyrimethamine	2.43	3.50	6.58	4.43
Severe malaria with Quinine	4.56	6.21	8.92	6.69
Average full prices charged for a course of malaria treatment using artemisinin and its derivatives:				
Uncomplicated malaria with Artemisinin	2.59	3.83	9.32	5.64
Uncomplicated malaria with Artemether	5.16	5.42	9.84	6.98
Uncomplicated malaria with Artesunate	2.66	2.87	11.07	5.40
Severe malaria with Artemisinin and its derivatives	7.12	9.34	13.88	10.99

Source: Inventory Checklist

The average consultation fees charged to malaria patients were higher in private for-profit than private nonprofit and public sector health facilities. The average fees charged for a single laboratory or microscopic diagnosis test of malaria parasitaemia were higher in private for-profit, than private nonprofit and public sector health facilities. Apart from quinine, drug prices were also higher in private for-profit, than private nonprofit and public sector facilities. Nevertheless, the price charged per treatment rose significantly in all facilities after amodiaquine and

sulfadoxine-pyrimethamine, with the greatest prices charged for the likely third line drugs: quinine and combination therapies.

The average overall total prices charged for a course of uncomplicated malaria treatment were more expensive at private for-profit than at private nonprofit and public sector health facilities. The average total costs charged for severe malaria treatment were also more expensive at private for-profit than at private nonprofit and public sector health facilities. The relatively high average total costs charged for severe malaria treatment vary substantially across categories of antimalarial drugs used and ownership of health facilities.

These findings suggest that the private for-profit sector is more expensive in the delivery of health services, more specifically malaria treatment, than both the public sector and private nonprofit ones. The private for-profit sector charges higher fees for malaria services because it can sustain itself only by generating revenue. However, some private health facilities, especially those in the for-profit sector, were unlikely to fully disclose their financial information for fear of tax consequences. Thus, financial information they provided could have been underestimated, and therefore should be interpreted with a little caution.

The average total prices charged for the treatment of passive case detection and treatment of uncomplicated and severe malaria were relatively low at integrated public sector health facilities. This performance can be associated with the economies of scope gained from sharing a mix of inputs with other activities in integrated facilities (Hanson et al. 2004). However, these findings were based on actual prices charged to patients for malaria per visit or a course of treatment as

reported by health facilities. The total direct and indirect costs of malaria treatment paid by a patient per course of treatment depends not only on the price charged by the health facility for a standard treatment, but also on the travel time and other opportunity costs supported by the patient and his/her relatives. Consequently, the costs of malaria treatment estimated only from health facilities can be biased unless the analysis takes into account data from the patient's perspective.

Table 4.8 presents the average total costs patients reported to have spent for the treatment. Malaria patients provided information on the average total costs of seeking malaria treatment at formal health facilities. Data from Table 4.8 indicate that patients spent more for seeking either uncomplicated or severe malaria services at for-profit facilities following by nonprofit facilities than public facilities. However, the differences in costs to patients between different types of facilities were considerably lower than expected based on reported provider charges. The indirect costs explain the major differences between the prices charged by providers and the actual costs reported by patients.

The higher diagnosis costs at private for-profit facilities reflect the intensive use of microscopic tests for malaria confirmation and their high drug costs may be a function of brand-name and/or combination antimalarial drug therapy. Opportunity and transport costs constitute the major components of indirect costs with the transport costs being higher at nonprofit facilities than both public sector and for-profit facilities. This may result from the fact that many patients travelled long distances to seek health care at nonprofit facilities. The higher opportunity costs at public

sector facilities than private nonprofit facilities may be related to their higher average length of stay in the case of inpatient severe malaria services (see Table 4.2a).

Table 4.8: Average direct and indirect costs of malaria treatment from patient’s perspective
(in Dollar US: \$US1 = CFA Francs550)

Average total costs (in US Dollars)		Type of health facility			All types of facilities
		Public	Private		
			Nonprofit	For-profit	
Uncomplicated malaria:					
<i>Direct costs:</i>					
	Consultation costs	0.52	0.59	1.17	0.90
	Diagnostic costs	0.76	1.08	1.38	1.02
	Drug costs	1.64	2.11	3.58	2.56
<i>Indirect costs:</i>					
	Transport costs	0.84	1.36	0.28	0.78
	Food costs	0.24	0.30	0.16	0.20
	Opportunity costs	2.00	1.12	0.32	1.10
Average total direct and indirect costs		6.00	6.56	6.89	6.56
Severe malaria:					
<i>Direct costs:</i>					
	Consultation costs	0.76	1.22	1.61	1.28
	Diagnostic costs	1.42	1.48	4.08	2.34
	Drug costs	4.35	5.94	7.24	5.16
<i>Indirect costs:</i>					
	Transport costs	2.10	4.33	4.22	3.50
	Food costs	2.92	2.88	4.01	3.08
	Opportunity costs	9.45	8.19	14.17	9.05
Average total direct and indirect costs		21.00	24.08	35.33	24.41

Source: Patient exit interviews

In contrast, the highest opportunity costs at for-profit facilities are related to high income level of the malaria patients using these facilities. The financial accessibility to health care for patients is slightly better in the public sector followed by the private nonprofit health facilities. However, more expensive malaria services provided by for-profit health facilities seem to be of better perceived quality of care as the high price charged does not decrease the utilisation and in some case even increases it, especially from the high-income group. The likely price response seems to be an increase in the utilisation of health facilities if the higher price charged is associated with perceived better quality of malaria services.

4.3.4 Analysis of relative performance across types of facilities

This section provides a synthesis of the performance of facilities in terms of coverage, utilisation, structural and process quality of care, recurrent costs and price charged, and patient and community satisfaction across types of facilities. Table 4.9 compares the overall performance between public sector, private nonprofit and for-profit health facilities.

Coverage and utilisation. The comparison of performance in terms of coverage points out that, as the majority of the population is sparsely distributed in many remote rural communities, the performance of public sector facilities is much better, followed by nonprofit facilities and then for-profit facilities. These contrast with utilisation statistics that tend to indicate that the performance of nonprofit facilities is superior to public sector and for-profit facilities. The performance of public sector facilities is only superior for uncomplicated malaria cases and the distribution of ITNs which may be an indication that they are used by less severely ill people and when the illness is severe or complicated people seek care at alternative sources, particularly private nonprofit facilities.

Moreover, the public sector’s highest workload per staff may be related to understaffing that can also explain why the severely ill choose not to use public sector facilities. The level of both bed occupancy and bed turnover rates as well as average length of stay indicate that private nonprofit facilities followed by for-profit facilities are more technically efficient than public sector facilities.

Table 4.9: Comparison of overall performance between different types of facilities

Performance indicators	Ownership		
	Public sector	Private nonprofit	Private for-profit
Coverage	Fairly distributed with the majority located in rural communities.	Equal distribution between urban and rural communities.	Unfair distribution with the majority concentrated in urban communities.
Utilisation	- Equally serves both low and high income malaria patients. - Recorded highest cases of uncomplicated malaria, leading the distribution of ITNs. - Highest output/input mix in terms of number of both outpatient visits and inpatient admissions per clinical staff.	- Predominantly serves low income malaria patients. - Highest utilisation patterns in terms of total outpatient visits, inpatient admissions, severe malaria, chemoprophylaxis, ITNs sold/distributed, inpatient days, PDE, bed turnover rate, and bed occupancy rate.	- Predominantly attracts high income malaria patients. - Recorded lowest average length of stay (ALOS), outpatient visits and inpatient admissions per clinical staff - Second leading role for ITNs distributed, bed turnover rate, and bed occupancy rate.
Quality of care: Accessibility	Malaria services 7 days a week, higher average number of beds.	- Availability of ITNs, facility opened 24 hours a day. - Longer travel and waiting times.	- Availability of chemoprophylaxis, treatment for severe malaria and malaria in pregnancy. - Lowest travel and waiting times.
Structural quality	- Enough privacy, Paracetamol more available, enough SP. - Experienced more stock-outs of amodiaquine and quinine.	- Clean buildings with basic infrastructure, better equipped with sterilising equipment, fever thermometers, ITNs for patient's use, amodiaquine, SP, and quinine. - Experienced less stock-outs of amodiaquine, SP, and quinine.	- Relatively clean buildings with basic infrastructure, highest privacy, enough sterilising equipment, better equipped with fever thermometers, microscopes with their supplies, lab. with oxygen, microbiology, biochemistry, and haematology equipment, some ITNs for patient's use, enough amodiaquine, quinine and artemisinin based antimalarial drugs. - Experienced more stock-outs of paracetamol and SP.
Process quality	- Employment of experienced as well as newly trained clinical staff. - Long waiting times for microscopic confirmed malaria cases. - Good knowledge and ability to correctly diagnosis malaria on the basis of clinical symptoms. - Prescription according to national guidelines	- Use combination of well skilled and untrained clinical staff - Short waiting times for microscopic confirmed malaria cases. - Enough knowledge and ability to correctly diagnosis malaria on the basis of clinical symptoms. - Prescription broadly according to national guidelines.	- Use of experienced and well trained clinical staff and reliance on laboratory technicians. - Shortest waiting times for microscopic confirmed malaria cases. - Weak knowledge and ability to correctly diagnosis malaria on the basis of clinical symptoms. - Prescription of brand-names and combination therapy, generally do not adhere to national guidelines.
Perceived quality	Overall relatively low perceived quality of care in terms of staff attitudes, lack of equipment, prescription of ineffective drugs, etc.	The best perceived quality of care amongst patients and community members with the quality superior in terms of availability of drugs, courteous staff, affordability, location.	The second best perceived quality of care amongst patients and community members with the quality good in terms of the use of effective drugs, rapid recovery, convenient opening hours, waiting and consultation times, availability of equipment.
Costs and prices	- Low recurrent unit costs - Low price charged - Low costs for patients	- relatively low recurrent unit costs - relatively high price charged - relatively high costs for patients	- Highest recurrent unit costs - Highest price charged - Highest costs for patients

Source: Author's own design

The main findings arising from coverage and utilisation are that the private nonprofit facilities play the leading role for outpatient visits and inpatient admissions, chemoprophylaxis and severe malaria across districts. Both nonprofit and for-profit facilities provide the most technically efficient malaria services but while nonprofit facilities tend to be easily accessible in both urban and rural areas, for-profit facilities are frequently inaccessible to remote rural communities. While public sector facilities seem to be frequently accessible, they are mainly used for uncomplicated malaria and for the distribution of subsidised or free ITNs to children under five years and pregnant women. The issues of coverage and utilisation of appropriate health services tend to be much more pronounced where there is a low and/or more uneven distribution of facilities and where the population is more sparsely distributed (Hanson et al. 2004). The finding of this study indicates that Cameroon differs from many other LMICs where public sector malaria treatment is frequently inaccessible to patients living in remote rural areas (Hanson et al. 2004). However, while public sector facilities are accessible, in some rural communities patients may bypass them probably for perceived quality of care reasons (Akin and Hutchinson 1999).

Availability and accessibility of malaria services. Prior to considering structural, process and perceived quality of care, it is worthwhile to emphasise the first basic aspect of quality of care that is the availability of a functional range of health services at the service delivery unit. This study considers the availability of different aspects of malaria prevention and treatment in different types of facilities. On the delivery of preventive measures, while ITNs for sale/distribution were more available at nonprofit facilities followed by public facilities than for-profit facilities, malaria chemoprophylaxis was more available at for-profit facilities followed by nonprofit facilities than public facilities. This may be related to the fact that during the time of

this study, ITNs were supplied mainly by both philanthropic and government sources and distributed free of charge to children under five and pregnant women. Although government supports recurrent costs of free distribution, many for-profit facilities prefer to participate in the sale of ITNs through the social marketing channels in which the profit margin was estimated to vary between 5 to 10 percent per ITN that costs about US\$5.4 to the final consumer. Chemoprophylaxis is nothing more than preventive anti-malarial drugs for which private for-profit facilities can easily charge pregnant women attending their antenatal health care units. The public sector's higher performance in the sale/distribution of ITNs as well as chemoprophylaxis was related to the use of substantial donor funding as well as the ease of access to administrative network facilities including the government's budget for malaria control activities.

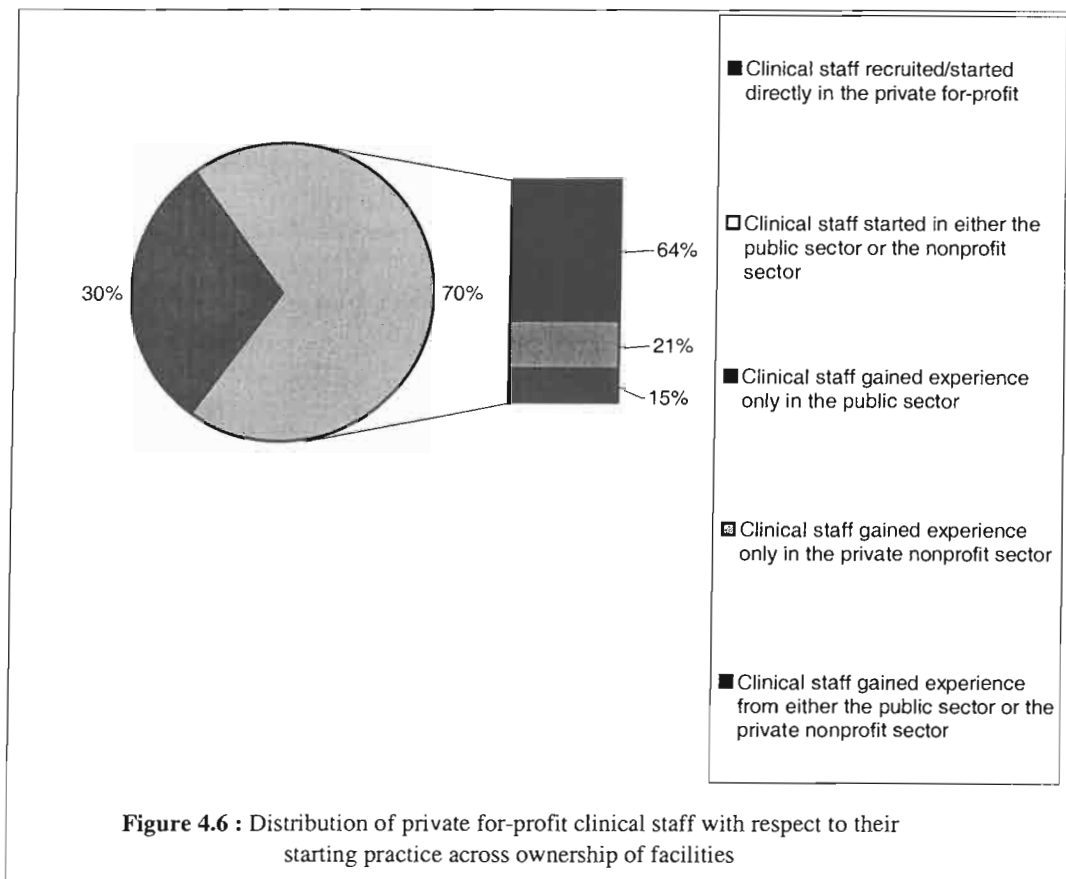
Treatment services including diagnosis were more available at for-profit facilities followed by the public facilities then nonprofit facilities. This indicates that for-profit facilities tend to make available the services for which they can easily charge patients and seek to maximise their profits. However, these findings contrast with the utilisation statistics which show that nonprofit facilities have higher performance in terms of seeing more patients, than public sector and for-profit facilities. On the issue of accessibility, the travel and waiting times were less than 31 minutes overall, with for-profit facilities having the shortest and nonprofit facilities the longest times. Although the travel and waiting times were longer in the private nonprofit sector, utilisation statistics indicate that people were willing to wait longer in order to receive what was perceived to be relatively better quality of care.

Structural quality of care. There are some differences in structural quality of care in different types of facilities. The private nonprofit facilities had the best working environment in terms of clean buildings with sufficient infrastructure such as electricity, piped running water, toilets, seats, refrigerators, and a telephone. It is followed by for-profit facilities which had a good working environment, while public sector facilities have the least good ones. The private for-profit facilities had the best privacy in the consultation rooms compared to public sector and nonprofit facilities. The nonprofit and for-profit facilities had sufficient fever thermometers and ITNs for patient's use, but sterilising equipment was more available at nonprofit facilities than for-profit and public sector facilities. In contrast, the private for-profit facilities were better equipped and furnished laboratories with microscopes and its supplies, oxygen, microbiology, biochemistry and haematology equipment than nonprofit and public sector facilities. The implications are that the private sector, particularly for-profit facilities invest more in structural aspects of care which are easily perceptible and may attract malaria patients.

The recommended first, second and third line antimalarial drugs were more available at nonprofit facilities than public sector and for-profit facilities. This can explain the good performance of nonprofit facilities in terms of utilisation statistics because patients always rank the availability of relatively affordable drugs as a key factor influencing their choice of provider. The private for-profit facilities tended to be stocked with the second and third lines as well as some combination antimalarial drug therapies. Manager interviews revealed that the use of combination antimalarial drugs was encouraged by the complaints and demand of malaria patients due to reported resistance to recommended antimalarial drugs in self-medication, but it may also be related to profit motives.

Process quality of care. The results from inventory, manager and staff interviews indicate that across health districts, a substantial proportion of qualified clinical staff (medical doctors, nurses, assistant-nurses, laboratory workers and other paramedics) work in the private for-profit health facilities. Data from the Figure 4.6 indicate that the majority of clinical staff working in private for-profit health facilities have gained substantial experience from either the public sector or the private nonprofit ones. This finding differs from that of Yesudian (1994) and Nittayaramphong and Tangcharoensathien (1994) who point out that the private hospitals may rely on unqualified, less costly, staff. In this study context, one explanatory factor is linked to the fact that the clinical staff that are employed in the public sector and nonprofit health facilities are retained through a ten-year compulsory practice scheme. It is unlikely that clinical staff that have not completed this compulsory ten-year contract will be granted a licence for private practice.

Data from staff interviews also show that only about 31 percent of clinical staff have received retraining or refresher courses on malaria during the last two years. Amongst clinical staff who received the malaria refresher courses, the majority (about 48 percent) work in the private for-profit sector, while 32 and 20 percent of them work in the private nonprofit and public sector health facilities respectively. Despite this training, the private for-profit staff's knowledge of malaria symptoms was poor as compared to the good knowledge of public sector staff. While the treatment of malaria cases at private for-profit facilities relies on microscopic confirmed diagnosis, public sector staff based their treatment on the clinical symptoms and nonprofit staff usually combined both clinical and microscopic diagnosis.



Overall both diagnosis and treatment behaviours were matched with the functional capacity in terms of availability of equipment and staff knowledge in respective individual facilities. This is also in line with the shortest waiting times to get confirmation of microscopic diagnosis of malaria at for-profit facilities. The finding of this study, however, differs from the finding of previous studies that in many developing countries, if a person is very ill, he or she may prefer to be treated in the public sector because of the presence of more sophisticated equipment and greater range of staff (Silva et al. 1997; Mutizwa-Mangiza 1997). This finding coupled with the higher number of over-diagnosed malaria cases, there is a need to improve the availability of definitive diagnosis tools in the public sector and private nonprofit facilities.

Perceived quality of care. The results of FGDs revealed that public sector facilities may be easily accessible to people in rural areas but they often bypass it to seek health care at private sector facilities or a referral public sector hospital. *"It is common in this village for many sick people to travel past the government local hospital [health centre] to go long distance to the catholic mission hospital or even another big government hospital at the nearby town. The problem is that doctors there charge too much and don't treat patients well. Wherever you go for seeking treatment doctors [nurses or nurse assistants] including doctor employed by protestant mission are just interested to collect much money from patients, they can even ask you to see them later at home where they are dispensing care [unofficial private practice]. At home they are charging for drugs that may be coming from hospitals [health centres] where they are employed. In this community, it is well known that both shop owners and drugs hawkers always bought some of drugs they are selling from doctors working at [formal] hospitals. The likely positive aspect of government hospitals here is the cheapest prices of health care, but people are more concerned with their long treatment duration and discourteous staff"* (Men Foubot 2002).

In many communities, clinical staff shortages, and the use of inexperienced nurses and nurse-assistants were also identified as common problems across public sector and private nonprofit health facilities. In the public sector, the community concerns with the delivery of malaria services are related to over prescription of generic antimalarial drugs by clinical staff and lack of some malaria related equipment/supplies. Data from the inventory questionnaire highlighted that in all three districts especially in urban areas, public sector health facilities had more generic antimalarial drugs available than private for-profit health facilities. In contrast, data from either FGDs or malaria patient exit interviews criticised the poor attitudes that public sector clinical

staff showed towards patients, and the lack of cleanliness and some basic malaria related equipment and supplies at public sector health facilities.

Costs and prices of health care. In a low income country like Cameroon, financial accessibility may constitute the primary preoccupation of many people. The cost of malaria services reported by health facilities depends on the type of treatment or antimalarial drugs used and the quality of care provided. The analysis of performance should match the cost of malaria treatment with the differences in the quality of malaria services. Data from both patient exit interviews and FGDs revealed that health seeking behaviour depends on a number of factors including prices of treatment alternatives, household incomes, access to alternative delivery sources, and patient preferences for different characteristics of malaria services available in the district.

Public sector facilities provide the least expensive malaria services, while private for-profit facilities provide the most expensive ones. However, the total cost of an episode of malaria may not follow the same pattern. Urban dwellers with a high proportion of well-educated and high income earners highlight the issues of treatment failure aggregate costs. FGD's participants declared that: *"city dwellers here in Bafoussam are always busy people, when you are not a business man, you may be a wage earner elsewhere. Given that status in this context of poverty, you should make an effective trade-off when you are seeking malaria treatment between cheaper long period of treatment from either the government hospitals and time saving expensive treatment from private [for-profit] clinics or polyclinics. You may choose the cheaper option of the treatment but if you are not lucky you will undergo several successive different treatments for which the cumulative costs are more expensive than the initial accurately diagnosed costly*

treatment from the private clinics. It is worthwhile for everyone to spend more on malaria treatment now in order to gain health and to save some of our business or productive working days. The city inhabitant's preference goes for the efficient use of clinically indicated, microscopic diagnosed expensive treatment of malaria from the private clinics rather than seeking usual presumptive cheaper treatment from the government hospitals" (Men Mifi 2002).

Multiple drug resistances leading to multiple treatment failures result in more expensive aggregate costs of seeking malaria treatment in public sector health facilities. However, the abovementioned view on ineffective public sector treatment may be based on perceptions (e.g. of the effectiveness of generic rather than branded drugs) and not on personal experience. This suggests that the MoPH should emphasise the provision of information – education – communication (IEC) to community members about government treatment guidelines and on the cost-effectiveness of affordable generic, relative to brand name, antimalarial drugs.

4.4 Conclusion

The evidence from this study demonstrates that there is a substantial public-private mix in the provision of malaria services across districts. The public and private sectors are all involved in the provision of preventive malaria services as well as immunisations. While public sector and private nonprofit facilities are frequently accessible to patients in remote rural communities, the private for-profit facilities provide malaria services to a substantial proportion of the urban population. The data also suggest that the private sector (nonprofit and for-profit) is growing in coverage and is being used slightly disproportional by all income groups. The performance of the nonprofit health facilities appears to be in line with the prediction of economic theory that they

will be more likely to target mission-related populations regardless of expected future profitability.

The structural aspects of malaria services indicate that the performance is not overall superior in a particular type of health facility. The private for-profit facilities were better equipped with microscopes and other laboratory equipment than the public sector and private nonprofit facilities. The private nonprofit facilities were better stocked with recommended antimalarial drugs than the public sector and private for-profit facilities. Data suggest no conclusive evidence on the ground of efficient provision of health services across types of health facilities. In some circumstances, the private sector facilities appear to be more efficient than public sector facilities, but the public sector is financially more accessible to patients across districts.

The process aspects of malaria services highlight the relative-reliance of for-profit staff on microscopic diagnosis while the public sector staff predominantly used clinical diagnosis alone and the nonprofit facility staff often combined both. The prescription behaviours of staff do not always comply with the national guidelines for malaria treatment. There is an emerging general trend of prescribing some combination antimalarial drug therapies.

The patient perceived quality of malaria services do vary according to residence. While rural patients perceived the quality of care to be superior at the private nonprofit facilities, the majority of urban patients appreciate the quality of care at private for-profit facilities. There is a common perception of the public sector providing relatively poor quality of care amongst patients and community members. The patient's behaviours appear to adhere to the contract failure and

nondistribution constraint hypothesises that where patients cannot observe the quality of services in advance, they are more likely to prefer to seek care at private nonprofit health facilities.

The overall finding of this chapter suggest that the private sector, especially nonprofit facilities, provision of malaria services contributes substantially to expanding the coverage, enhancing quality of care and permitting the public sector to improve equity in extending its own provision to remote rural areas. The collaboration between public and private sector can improve the performance of private nonprofit and for-profit facilities in the delivery of malaria services. Further detailed analysis of the performance of private health facilities in the delivery of malaria services is presented in appendix K, which is based on case studies of two private facilities. This state of performance suggests that there is room for improvement of public sector, private nonprofit and for-profit facilities. The performance of the private sector may be related to appropriate enabling and regulatory interventions for improving health service delivery in Cameroon.

Chapter 5

The enabling environment and regulation for the private health sector in Cameroon

5.1 Introduction

Creating an enabling environment and regulating the private health sector are both seen as the responsibility of governments. While enabling interventions are promotive policies, regulation is concerned with setting the rules and ensuring compliance in the health care market. Government policies that have been adopted in relation to private health sector reform are diverse: some are explicitly targeted at expanding private sector provision and some are targeted at regulating existing private sector provision (Bennett 1992 and 1994, Ensor and Weinzeirl 2006; Marek et al. 2005; Mills et al. 2001 and 2002, Saltman and Ferroussier-Davis 2000, Travis et al. 2002, World Bank 1987 and 1993; WHO 2000a). Performing these functions requires substantial financial, material and human resources, which may be mostly available in the government arena. An important reason for government involvement in these activities concerns its responsibility for achieving public health goals and protecting the public interest, while the private sector serves its own interest.

This chapter analyses the existing range of enabling and regulatory interventions that influence private sector provision of health care in Cameroon. The underlying rationale of this analysis is based on the need to adopt an innovative strategy for influencing the behaviour of the full range of private sector providers by emphasising the synergistic combination of enabling interventions with regulatory controls. This chapter focuses mainly upon formal private nonprofit and for-

profit health care providers, with a particular emphasis on the for-profit sector that is crucial within a New Public Management framework of stimulating diversity and sustainable competition in achieving public health goals. The analysis concentrates particularly upon enabling and regulatory interventions for private sector *provision* of health services. Where the analysis refers to financing issues or the informal private health sector, this is explicitly stated.

The next section analyses the enabling interventions that have so far been used to influence the development and behaviours of the private health sector. The third section critically reviews the existing regulation of the private health sector. The fourth section considers the balance of enabling and regulatory interventions for the private health sector. The conclusion describes the overall lessons that can be learned from the Cameroon experience. Special emphasis is given to examples related to malaria control activities.

5.2 Existing enabling interventions for the private health sector in Cameroon

The emerging health policy of enabling the private health sector is crucial as the country takes new steps in the changing context of public governance, where the government through the MoPH has the responsibility of ensuring effective stewardship of the national health system. This section analyses the existing enabling interventions aiming to influence the development and behaviours of private sector health service providers. The first subsection considers the nature of public policy objectives and the existing enabling interventions for the private sector provision of health services. The second subsection explores the perceived appropriateness of existing

enabling interventions. The conclusion to this section considers if the growth and behaviours of private sector providers are related to other factors outside the enabling framework.

5.2.1 The nature of public policy objectives and enabling interventions for private sector provision of health services in Cameroon

In many developing countries, “the poor performance of the public sector, increasing economic difficulties and changes in prevailing ideologies led to calls for a reduction in the role of the state and an increased role for the private sector” (Zwi and Mills 1995). Particularly in some African countries, health policy reforms focused on innovative New Public Management (NPM)-type enabling interventions to encourage private sector provision of health services. This occurred in Cameroon where policy emphasises the growth of the private sector as a complementary way of delivering health care. According to the MoPH, *“improving the operational capacity of the national health system constitutes one of the top priorities of the government. The greater emphasis that has been given to this sector accelerated since March 2001 with the ambitious health sector reforms defined as Health Sector Strategic Plan (HSSP). These institutional reforms instil a spring of the national health sector’s modernisation in search of complementary ways of financing and provision of health care. In this connection, enabling policies aim to create an environment that can contribute to :*

- *expand coverage through increasing the private sector provision of health care,*
- *enhance efficiency and quality of care through competition amongst providers, and*
- *improve equity and health status in order to achieve public health goals.*

... In partnership with the public sector, the participation of the private sector including: nonprofit (mission or NGO), for-profit and traditional sources of financing and provision of health care will lead to greater accessibility, efficiency, quality of care, and equity in the overall national health system” (MoPH 2001b, 2004). This suggests that enabling interventions for the development of the private sector have been a deliberate policy choice in the framework of health sector reforms in Cameroon. However, it must be recognised that this originated from the structural adjustment programme imposed by international financial institutions, which included a specific objective aimed at establishing an enabling environment for the private sector, so as to stimulate greater private financing and provision in a range of economic and social services areas (MINEFI 1998).

In many LMICs, there has been limited experience so far in using enabling interventions to influence the development and behaviours of private sector providers, and where piecemeal enabling efforts have been used there were few attempts to explore their appropriateness in line with the original policy objectives (Bennett et al. 1994; Mills et al. 2001). Perhaps a partial exception to this trend is the relatively increasing use of incentives in the contractual relationships between the government and private sector health care providers in developing countries (Broomberg et al. 2001; Gilson et al. 2001; Mills 2001; Palmer 2000; Palmer and Mills 2003, 2006; Sinanovic 2004, WHO 2000a). Similarly, there is a growing use of the social marketing approach that involves the use of incentives such as a targeted subsidy to encourage the private sector delivery of public health products (e.g. ITNs) in many developing countries (Conteh and Hanson 2003; Kikumbih et al. 2005; Mushi et al. 2003; WHO 2002).

The analysis here focuses on enabling interventions that are linked to public policy pronouncements and adhere to the principles of the NPM framework. The results of document reviews triangulated with in-depth interviews indicated that unlike many LMICs, Cameroon has designed and implemented a number of the most commonly supported enabling interventions. Although most of the enabling interventions were found to be initiated outside of the health sector and partially supported by donors, they were adopted and largely integrated into the MoPH activities. The private nonprofit sector’s long-standing ‘monopolistic’ relationships with the public sector have been broken and overtaken by the ongoing ‘competitive’ type-relationships which involve the private for-profit sector. Table 5.1 below presents an overview of the enabling interventions directed to both private nonprofit and for-profit health service providers in Cameroon.

Table 5.1: Existing enabling interventions for the private health sector in Cameroon

Areas of enabling interventions	Specific interventions identified in this study
Liberalisation of the health sector environment	• Political commitments exist for increasing the private sector role in health care; • Private medical practice has never been prohibited although the legal framework established since 1980 was updated in 1990 in order to take into account new challenges; • Government medical and paramedical personnel are implicitly permitted to do private practice outside public sector facilities and after their public service duties; • Private practitioners are allowed to refer patients to public sector health facilities; • Private traditional practice is being encouraged since 2002; • Private providers are permitted to purchase generic drugs and other commodities from the government owned National Central for Essential Drugs (NCED) and Provincial Centre for Essential Drugs' Supplying (PCEDS); • There is an emerging and vibrant local pharmaceutical industry producing generic drugs and other essential medical supplies in the cities of Douala and Yaoundé; • There is considerable autonomy for private sector service provision • Government personnel were given opportunities to quit the public sector in order to establish their own private practice since 1992/1993.
Information provision	• The MoPH established the National Management Information System which intends to cover the public sector, private nonprofit sector, and private for-profit sector. • The media are intensively used to disseminate enabling and regulatory information to different stakeholders through the MoPH's communication unit.
Non-financial incentives	• Most aspects of liberalisation policies already contribute to ease of entry into private practice and the legal requirements are relatively easy for professionals wishing to undertake private practice ; • The secondment of public sector staff to private nonprofit referral hospitals is common in many districts; • Technical supports through public sector training opportunities including basic, refresher courses, seminars and workshops are generally offered to private sector providers; • Career prospects exist and rewards for good practice are often offered to the best practitioners of the year; • Private sector providers are involved in almost all horizontally integrated public health programmes;
Financial incentives	• Private practitioners can obtain loans or credits from banks and other borrowing systems in the country; • External funders are permitted to invest in the private sector health care; • Government provides easy customs clearance and preferential customs tariffs for imports of medical equipment, supplies and pharmaceuticals; • Government provides tax-breaks, tax waivers, exemptions, and deductibles for investment in medical buildings, equipment, supplies, pharmaceuticals and other inputs; • Government provides subsidies for public health activities and for operating costs of targeted diagnosis and treatment services (e.g. malaria, tuberculosis, HIV/AIDS, onchocerciasis, etc.); • Government contracts out clinical services to the private sector • The establishment of private and mutual health insurance was encouraged in many districts since early 2000s.

Source: Document reviews and in-depth interviews

Malaria control activities are eligible for several aspects of existing enabling interventions. For example, public sector staff diagnose and treat malaria cases during their private practice sessions; private practitioners often refer severe malaria patients to public sector health facilities; private providers purchase generic antimalarial drugs and other malaria related supplies from the government owned National Central for Essential Drugs (NCED) and Provincial Centre for Essential Drugs' Supplying (PCEDS); and private providers have attended several public sector

training sessions on malaria prevention and treatment. Private sector procurement of antimalarial drugs, nets, malaria related supplies and equipment is eligible for reduced import duties, tax-breaks, and often full exemptions. The MoPH also supports private sector providers' operating costs for their involvement in the distribution of ITNs free of charge to children under five years and pregnant women in many districts. The antimalarial drugs and commodities distributed through government owned central stores are highly subsidised. In addition, amongst the 22 members of the powerful National Roll Back Malaria Committee headed by the Minister of Health, 8 were representatives of the private sector (3 members of religious-based NGOs, 2 members of local-based NGOs; 3 members of the for-profit sector). This suggests that private sector providers gain some places at the policy-making table as they are represented, informed, and can take advantage of opportunities that present themselves. While designing enabling interventions and ensuring their implementation are an important part of the process, the main policy concern for decision-making remains the understanding of their relative appropriateness in relation to strategic objectives.

5.2.2 Appropriateness of enabling policies for private sector provision of health services

This subsection explores the perceived appropriateness of enabling interventions that have been partially or fully implemented (see Table 5.1 above) in order to influence the development and behaviours of private sector providers of health services. It focuses on examining the extent to which each specific enabling intervention is perceived to be appropriate in terms of achieving the public policy objectives (as outlined in section 5.2.1). This evaluative work in the Cameroon context will shed light on the perceived relative appropriateness of enabling interventions to

influence the development and behaviours of private sector health care provision that is in line (at least partly) with the NPM framework and government's stewardship role. It must be recognised that a particular mechanism may be inappropriate just because it is not fully implemented in the current national health system. Nevertheless, the analysis focuses specifically on the current perceived appropriateness of enabling interventions given their level of implementation in the real world. The analysis of appropriateness of enabling interventions is based on the triangulation of both the theoretical and empirical literature and qualitative data from the stakeholders' in-depth interview and policy document reviews. This analysis is substantiated in the rest of this section on different enabling strategies including: liberalisation of the health sector environment, information provision, non-financial and financial incentives.

5.2.2.1 Liberalisation of the health sector environment

This section explores in more detail the perceived appropriateness of specific enabling interventions falling into the category of health sector liberalisation (as outlined in Table 5.1 above). Both the new public management and public interest theoretical literature emphasise the liberalisation of the health care market environment as a means of encouraging regulated competition in the provision of health services amongst private for-profit and nonprofit providers, thereby potentially improving coverage, efficiency, responsiveness, quality and equity of health services. The subsequent analysis explores the prospects for the liberalisation of the health sector environment in a low income country context, particularly by drawing on a theoretical exploration and relatively narrowly assessed empirical perceptions of key stakeholders.

Political commitment. By implementing the structural adjustment programme during the 1990s and the HSSP in early 2000s, the government demonstrated its political commitment to promoting private sector financing and provision of health care and indicated recognition of the potential role of the private sector in providing efficient and quality health care to patients. However, this political commitment appears to be largely influenced by a growing common awareness concerning the importance of the private sector in the provision of health services in many LMICs (Bennett et al. 1995; Bustreo et al. 2003; Marek et al. 2005; Mills et al. 2002; Travis and Cassels 2006).

The political commitment to malaria control activities involving the private sector dated back to 1995 with the establishment of an integrated horizontal National Programme for Malaria Control (NPMC). Law No. 96/03 (1996) ranked malaria control activities amongst the top five priorities of the MoPH. This was followed by the development and adoption in 1997 of the National Malaria Control Policy (NMCP). The National Technical Task Force on Malaria (NTTFM), created in 1998, was in charge of implementing the policy and particularly encouraged public-private partnerships in the delivery of malaria services. In 1999, Cameroon's government undertook to adhere to the Roll Back Malaria (RBM) initiative, then signed the 'Abuja Declaration' and launched RBM activities in 2000 with the participation of all stakeholders including the private sector. Moreover, malaria related inputs were declared tax-exempt and duty free in 2001. In 2002, Decision No. 0334 of the MoPH created the National Roll Back Malaria Committee (NRBMC) to replace the NTTFM and strengthened the role of the private sector within the NRBMC.

Although there appears to be a clear political commitment at national headquarters, most aspects of the HSSP have not yet been implemented at provincial and district levels of the national health system. The full range of liberalisation mechanisms were not widely disseminated at peripheral levels. The partial implementation of liberalisation policies was attributed to weak capacity (lack of funds and skilled staff) within the MoPH. Despite this, the 10 years preceding this study have seen an upsurge and substantial expansion of private sector provision of malaria services, particularly in urban areas. This growth of the private health sector appears to correspond to the implementation phase of ongoing enabling interventions that is suggested to be, at least partially, appropriate for influencing the development of formal private providers. However, apart from enabling interventions other determinants of private health sector growth can be related to the general macro-economic context and perceptions of inefficient and poor quality public sector health services (Bennett 1994; Bhat 1999; Kumaranayake 1998; Marek et al. 2005; Nittayaramphong and Tangcharoensathien 1994). A similar finding has emerged in a Zimbabwe study where the rapid private sector development was probably due partly to government policies, but also to poor quality in the public sector (Kumaranayake et al. 2000).

In addition to capacity constraints, there are also concerns around issues of power and authority. The theoretical private interest arguments predict that bureaucrats in charge of implementing enabling interventions may seek to maximise their utility, prestige, budget and private gains. This occurs in Cameroon, where MoPH officials seem to preserve their livelihood through obstructing the implementation of enabling interventions. This obstruction of enabling authority is also associated with the issue of multiple principal-agent problems that are prevalent in the national health system, where a substantial proportion of MoPH officials in charge of decision-

making and the implementation of health policies have some implicit private interests to defend. Qualitative data suggest that while the political commitment does exist, many bureaucrats appear to lack the administrative commitment for implementing enabling interventions. Amongst the reasons for the lack of administrative commitment, *“the most critical is related to the fear of losing the financial, political and social power and prestige over the existing public sector dominated health system. Many officials of MoPH in charge of enabling the private health sector are high ranking civil servants who are empowered by their positions in managing, co-ordinating and supervising the activities of public sector health facilities. But the effectiveness of the public policy’s willingness to grow the private sector health care is also hampered by the existing high level of bureaucracy, low transparency, fraud and corruption at the entry into health care market”* (Stakeholder interviews: for-profit sector, national level, 2002). This suggests that bureaucrats who defend private interests will tend to behave as imperfect agents by pursuing interests that commonly conflict with the official, explicit public interests the MoPH is supposed to pursue in order to achieve public health goals. This bureaucratic behaviour is such that public officials tend to be personalistic and lack institutional loyalty. This finding is consistent with the public choice’s theoretical prediction that decision-makers could seek to maximise their budget or prestige that would give rise to inappropriate enabling (and regulatory) interventions (Buchanan and Tullock 1975; Ogus 1994; Posner 1998). The international literature suggests that such abuses of authority to defend private interests are prevalent in the health sectors of developing countries (Mills et al. 2001). In Malawi, for example, most of the people who were threatened by health policy reforms were the ones who were expected to carry them out; government agencies and personnel were expected to co-operate in diminishing or dismantling their own power (Hirschmann 1993).

The prerequisites to enter private practice (considered in more detail in the section on regulations). The economic literature suggests that traditionally the most favourable prerequisites for entering private practice would be assigned to nonprofit providers as part of government welfare policy, based on the theoretical expectation that they are primarily motivated by a mission related social and humanitarian protection concerns. Indeed, while private for-profit providers had often been allowed to enter the health care market, it was theoretically expected that only the wealthy would be able and willing to use them and they could provide only clinical health services to their very small share of the market. The liberalisation of the health sector environment seeks to ease the requirements for entering private practice for both private for-profit and nonprofit providers. Although existing conditions of entry into the private health sector have been improved to limit major constraints on the development of the private sector, particularly with respect to for-profit providers, some remaining obstacles still favour the emergence of unregistered unofficial and informal practice. There is not a clear system of checks and balances, and many private sector stakeholders as well as professional organisations worry that this leaves the MoPH with monopolistic power over the control of entry. The registration process to enter the private sector is cumbersome in Cameroon because “*the attitudes of MoPH policy-making officials do not always emphasise the promotion of the private health sector, but often denial and suspicion constitute an important obstacle for the growth of private sector malaria services*” (Stakeholder interviews: for-profit division, Medical Council, 2003). This perception of for-profit stakeholders suggests that the prerequisites may be partially inappropriate to expanding coverage as they provide few opportunities for health professionals who wish to invest in registered private sector provision. However, this view appears to be relevant mainly for private informal providers who are currently discouraged or prohibited in the

existing enabling and regulatory framework. The formal private (for-profit and nonprofit) sector has a number of defined entry criteria (see Tables 5.5a and 5.5b) required for the establishment of a private practice. When these criteria are met, it appears unlikely that a private sector provider would be subject to any form of denial and suspicion from the enabling and regulatory officials.

The prerequisites appear to be partially appropriate in relation to encouraging the establishment of a competitive health market especially in urban areas where public and private providers compete for patients which could promote coverage, affordability and quality of care. But theoretical models of private providers' behaviours suggest extreme caution in relation to competition for individual patients with asymmetric information. The competitive pressures would make patients vulnerable to exploitation by providers who could take advantage of quality uncertainty and information differences about health services.

In general, interventions to achieve public health goals in both the public and private sectors will need to address any denial behaviour of the MoPH enabling officials that appear to constitute unnecessary barriers to entry into the health care market. It is suggested that there is a need for improving public information on enabling interventions targeted at all stakeholders including government officials, private sector providers, health professionals and the population.

Private practice of government staff. The most debated policy issue in Cameroon is concerned with the private practice of public sector employees, meaning that government's clinical staff commonly work in both the public and the private sectors, which is generally referred to as dual

practice. This dual practice can contribute to expanding coverage and improving access to qualified and experienced clinical staff, thereby contributing to achieving public health goals in the context of poverty. The growth of dual practice has been fuelled by low government salaries. Policy-makers acknowledged that “...*some clinical staff in private practice also hold public sector posts*” (Stakeholder interviews: public sector, national level, 2003). However, stakeholders from the private sector and consumers’ protection groups have complained that this practice hampers competition amongst providers and exacerbates the problems of opportunistic behaviours. “...*The public sector official positions are often used to direct more favourable enabling interventions to their own private clinics...*”(Stakeholder interviews: nonprofit sector, national level, 2003). “...*There is also the situation where public sector staff established a private practice or formed a consortia to run private facilities on the expectation of benefiting from potential enabling interventions they were developing themselves within the MoPH*” (Stakeholder interviews: for-profit sector, national level, 2003). This is suggested to be the case when the public sector officials engaged in private dual practice were also members of the management of government’s enabling interventions for private sector development.

The public interest approach predicts that more competition among providers, particularly on quantity supplied, would lead to rent-seeking behaviours related to profit motives, thereby raising prices and lowering quality of care. This occurs through the issue of self-referring and over-servicing of patients amongst public sector staff as highlighted by qualitative data “...*patients perceived to be able and willing to pay are screened and referred to their private practice for unnecessary repeat procedures*” (Stakeholder interviews: patient protection organisation, provincial level, 2003). These findings suggest that in the context of liberalisation

of dual practice, government staff appear to pursue their private interest more than the public interest.

Dual practice can lead to inefficient health care that is not in line with public policy objectives, as predicted by the theory of asymmetric information meaning that the information available to only one side of a market leads to market failure (Akerlof 1970; Arrow 1963, 1985; Musgrove 1996; Rice and Labelle 1989). This asymmetric information may make it particularly easy for government staff who also engage in private practice to use enabling measures for fulfilling their private interest thereby leading to government failure as well. These behaviours, also observed in other developing countries, have led to a number of complexities in the way in which the public and private sectors relate and exacerbated problems of conflicts between formal, articulated and informal, unarticulated interests (Bennett et al. 1994; Bennett 1992).

Referral of patients to public sector facilities. Private practitioners are permitted to refer or admit patients to public sector facilities. In many districts, the majority of district hospitals and leading health centres are publicly owned, and it is usual that private sector doctors and clinics refer or admit patients to such referral health facilities. For example, many private for-profit clinics refer/admit severe malaria cases to public hospitals for appropriate management. This contributes to improving the quality of malaria services through collaboration between public and private sectors thereby suggesting that this enabling intervention is partially appropriate in terms of accessibility to adequate health services. This can be particularly worthwhile in a relatively ill-functioning referral system where patients are free to choose whichever level (category) of health facilities they can afford. However, the possible concern with these referrals

of patients can be related to 'cream-skimming' (Bennett et al. 1997) whereby the medical/paramedical staff are likely to select the cheaper (but profitable) malaria cases to treat. Moreover, the skimming of patients can result to the provision of less than the optimal quantity of health services for any given clinical condition in both the public and private health facilities.

Private traditional sector. The involvement of traditional sector providers seems to promote competition between locally made products and western medicine in urban and rural areas. This is likely to expand in the foreseeable future because until recently, the government through the MoPH had been apparently uninterested in the traditional health sector. Consequently, the traditional health sector has expanded and operated for many years in a 'laissez-faire' environment with no regulatory mechanisms to ensure adequate location, pricing and quality of traditional medicines. For example, the code of medical ethics restricts and /or bans some forms of advertising of western medicine, but it is usual for traditional clinics or solo providers to advertise their products and services in the market place, main roads, travel agencies and local media (FM radios and newspapers). Qualitative data suggest that "*in many districts, a substantial proportion of patients with public health related illnesses such as reproductive health problems (sterility), sexually transmitted infections (chlamydia), uncomplicated malaria (fever), etc., have been reported to be successfully treated in traditional clinics or by traditional providers... The special unit of traditional medicine created in 2002 is in charge of promoting as well as regulating its activities...*" (Stakeholder interviews: public sector, provincial level, 2003). This suggests that traditional medicine appears to be partially appropriate for achieving public health goals. However, while the traditional clinics may have contributed to expanding coverage, the quality of care in these settings needs to be questioned. Since there are not standardised

traditional medical procedures for defined clinical conditions, medical-malpractice may occur in these private traditional clinics. The relative contribution of this traditional sector should be interpreted with caution, while the MoPH needs to evaluate and closely monitor the performance of this sector.

Procurement of generic drugs and basic supplies from NCED and PCEDS. Created in 1996 with financial support from donors, the government owned NCED (in French ‘CENAME’) and its provincial subsidiaries PCEDS (in French ‘CAPP’) supply about 80 percent of pharmaceuticals and basic supplies distributed in Cameroon. The strategy of NCED consists of substituting expensive brand name with cheaper generic drugs. For example, while a bottle of 1,000 tablets of generic Paracetamol costs about US\$4.5 at NCED, a bottle of 1,000 tablets of brand-name Paracetamol costs about US\$240 in private pharmacies. A complete dose of generic quinine for an episode of uncomplicated malaria costs about US\$1.4 at NCED, whereas the same dose of brand-name quinine costs about US\$9.8 at private pharmacies. About 300 of the pharmaceutical products supplied by NCED are heavily subsidised by the government. Initially targeted at only public sector and private nonprofit providers, the private for-profit sector has recently been allowed to purchase drugs and basic supplies from NCED and PCEDS. This strategy appears to be appropriate in expanding coverage, availability and affordability of antimalarial drugs in both the public and private sectors. This is suggested to be an appropriate way of improving the quality of drugs dispensed for malaria treatment in the private (particularly nonprofit) sector. In addition, subsidised antimalarial drugs appear to improve equitable financial access for poor malaria patients thereby contributing to achieving the goals of the national malaria control programme.

Local production of generic drugs and other basic supplies. Enabling interventions that are directed at the growth of the domestic pharmaceutical sector are likely to be important in Cameroon. Locally produced pharmaceuticals currently represent about 10 percent of the national pharmaceutical market. There is an urgent need to encourage the local establishment of joint-venture pharmaceutical companies for the production and distribution of generic drugs. This is a critical policy issue as the cost of pharmaceuticals represents more than 55 percent of health care spending, because about 90 percent of either brand-name or generic drugs are imported and patients rank the availability of drugs in the management of illnesses as the most important indicator of the quality of care (MoPH 2004). The liberalisation of the health sector environment also encourages the establishment of a private pharmaceutical industry to facilitate the local production of generic drugs, which could be more affordable to the majority of the population. “...*The MoPH is particularly aware that the local production of antimalarial drugs and insecticide-treated nets will contribute to a decrease in the costs of private procurement sources for all stakeholders*” (Stakeholder interviews: public sector, national level, 2003). While the development of locally made pharmaceutical products would improve the private sector drug’s procurement, these liberalisation policies appear to be heavily influenced by other ministries such as trade, finance, industrial development, as well as the global WTO’s General Agreement on Trade in Services (GATS) and Agreement on Trade-Related aspects of Intellectual Property rights (TRIPS).

Autonomy in service provision. This means that providers are relatively free to choose or decide on the types of services they should provide. This autonomy in service delivery is likely to be partially appropriate in expanding coverage by nonprofit (Catholic, Protestant and Muslim) and

for-profit providers in Cameroon. *“In many cities across the country, private providers offer a wide range of clinical services often at health centre level with accurate laboratory and radiology facilities, which otherwise can only be found at public sector referral hospitals. The availability of these clinical services, often in underserved middle-class and poor neighbourhoods, contributes to improved population coverage, easy accessibility, and patient satisfaction with malaria services. These clinical services actually reduce the total cost of health care because patients do not travel long distances to referral hospitals, they [patients] can even negotiate a discount in some elements of costs or delay the payment of the total health care costs if residing in the same neighbourhood”* (Stakeholder interviews: public sector, district level, 2002). Autonomy in service provision may contribute to the establishment of relative competition among providers and the achievement of public health goals. However, by negotiating a discount or the delay of payment, patients may receive a lower quality of care, but it is suggested that poor patients are likely to be satisfied because they could have been denied health care elsewhere if they could not afford the total costs of health services needed. In this specific context, autonomy in service provision tends to be partially appropriate in relation to providers’ autonomy to decide on the range of services to be delivered as well as in terms of patients’ freedom to choose their providers.

Early retirement to undertake private practice. Early retirement from the public sector appears to be partially appropriate in expanding coverage and improving the quality of health services, particularly when the retired staff establish their private practice in remote districts. In the early 1990s, the structural adjustment policies encouraged government employees who were willing to work in the private sector to quit the public sector by receiving a lump-sum defined as their early

retirement due, which may allow them to establish a private business. The results of interviews revealed that *“a relatively high number of the MoPH clinical staff adhered to the programme and they were given an early retirement from the public sector. Thereafter, very few of them went to establish or work for a formal private sector practice, while many voluntary retired staff joined the unofficial sector either nonprofit or for-profit health facilities”* (Stakeholder interviews: public sector division, Medical Council, 2003). There are concerns that most retired clinical staff from the public sector establish a private practice that is often unofficial and unregistered. This appears to be related to the difficulty of establishing a formal official private practice, thereby indicating that parts of enabling and regulatory interventions may be inappropriate for influencing the development and behaviours of private sector providers.

5.2.2.2 Provision of information to stakeholders

The public interest literature also emphasises the existence of information problems regarding private sector provision of health services, which are experience or trust goods of which the properties cannot be independently determined by ill-informed patients. In theory, when information about price is easier to obtain than information about quality, increasing the availability of the former might discourage quality competition and lead to a deterioration of quality in the health care market. While government interventions prohibit both price and medical practice advertising, they have tried to enable the provision of information using the Management Information System (MIS) to encourage voluntary disclosure of information on quality of health services. This is used particularly to gather epidemiological and clinical based performance data from public and private providers. Some stakeholders were concerned about

the appropriateness of the MIS in the health sector. *“The design of the MIS as it stands is not appropriate for key information needed in the enabling process... It does not even capture all necessary information for monitoring either structural and process aspects of health services provided in clinical settings... the media still remains the main support widely used for the dissemination of information to various stakeholders as well as the general public”* (Stakeholder interviews: nonprofit sector, provincial level, 2003). Although the MIS needs to be improved over time, it is suggested that there is a slight conflict of interest as most private providers would continue to prefer the use of media for dissemination as this may present an opportunity for indirectly publicising their medical practice. This suggests that the provision of information through both MIS and media appears to be inappropriate for monitoring the performance of private health providers.

The economic literature suggests that in the long term, the repeat buying mechanism may be an incentive to private providers to offer services of good quality and to voluntarily disclose information (Cave 1985; Shapiro 1983). It is generally argued that the effects of repeat buying will become larger if patients pass information about the quality of health services received from particular providers on to other patients, like relatives and friends across communities.

5.2.2.3 Non-financial incentives for private sector provision of health services

Most aspects of liberalisation policies already address issues related to non-financial incentives. The new public management literature suggests that health systems have varying cultural and economic contexts that shape private providers' expectations and responses to non-financial

incentives. In Cameroon while the health system is a large bureaucracy whose management is basically driven by guidelines, standards and reporting systems implemented through a decentralised health district administration, non-financial incentives offer strong prospects for influencing the development and behaviours of private sector providers. These non-financial incentives emphasise the technical problems facing private sector providers. Major elements of such enabling interventions are an effort to: encourage the secondment of public sector staff to private nonprofit facilities; provide training; and disseminate standards and guidelines for health services to private health providers. There is also a need to identify adequate ways of enhancing career prospects and encouraging good medical practice amongst private providers.

Secondment of staff. The mobility of human resources within the health sector may be critical for the development of the private sector. The secondment of staff to private facilities may contribute to maintaining reasonably close contact with the MoPH, and appears to have been one of the most important enabling interventions for many years. The implementation of the secondment policy can contribute to ensuring adequate quality of care by promoting a public sector professional ethos in the private health sector. The secondment of public sector staff appears to be partially appropriate in expanding coverage of private sector provision of health services in many remote districts. However, the secondment of staff may influence the performance of private nonprofit facilities only when the public sector staff involved are not also engaged in dual private for-profit practice as well.

Training opportunities constitute an important enabling factor for private health sector growth. Across the country, there are currently 48 training schools for nurses, midwives, assistant-nurses

and paramedical workers and four training schools for doctors (Faculty of Medicine and Biomedical Sciences of the University of Yaoundé I, Faculty of Health Sciences of the University of Buea, Faculty of Medicine and Pharmacy of the University of Douala and the private Medical School of the University of Montagne). These facilities facilitate the availability of health professionals through the training of a large group of clinical staff (physicians, nurses, midwives, and paramedical workers) for the health sector market.

The training of health professionals, especially retraining and refresher courses appears to be appropriate for improving the quality of care as well as the achievement of other public health goals. This is likely to happen because retraining actually upgrades the clinical knowledge of staff working across public sector, private nonprofit and for-profit health facilities to the same level. This allows them to compete on the same knowledge basis and can lead to the improvement of quality of care accordingly. Training can partly contribute to expanding coverage and improving equity in access to qualified clinical staff in the health sector. However, the argument about improving the quality of care is based on the assumption that the same level of clinical training will result in the similar process quality of care, which may not occur in reality and the outcome of actual health care provided by equally qualified medical personnel may be totally different in practice. Some existing enabling interventions for training appear to be largely supported by multilateral, bilateral and international NGOs to promote both the nonprofit and for-profit sectors' provision of specific public health services. Such donor-supported training has been categorised by the international literature as long-standing historical relationships and piecemeal efforts with little connection to the NPM as applied to the health sector (Mills et al. 2001).

Meanwhile government trains a large quantity of the full range of clinical staff, the majority of which cannot find a formal job in either the public or private sector. While such training ensures a constant supply of health professionals, it may also lead to an increase in unemployment (due to the limited number of public sector posts) as well as the development of unregistered private providers. This does not mean that the health sector is currently over-staffed. The ratios of population to all clinical staff (public and private) are one medical doctor for 10,083 inhabitants and one nurse for 2,249 inhabitants (MoPH 2004). These ratios are well below the WHO recommendation of one medical doctor for 1,000 people and one nurse for 300 people.

Career prospects. Professional incentives are highly ranked as the major enabling factor amongst private sector managers and policy-makers. The results of interviews highlight the fact that “*in many districts, health care is seen as a reputation service for which private sector providers including the informal part of the market compete to ensure the career prospects and reputation that would sustain their practice and prestige over time*” (Stakeholder interviews: for-profit sector, district level, 2002). These professional incentives can facilitate sustainable competition on the basis of quality as well as price charged to patients amongst providers and would contribute to achieving public health goals in terms of improving coverage, efficiency, quality of care and equity in the private sector. While these incentives can influence the behaviour of providers, given the fact that health services hold some characteristics of experience or trust goods, it is doubtful if they can eliminate opportunism in the delivery of health care.

Other issues: The perceived appropriateness of non-financial incentives are influenced by a number of factors. Private sector stakeholders raise concerns that the designers of technical

supports such as training programmes and developers of guidelines generally don't engage with private sector partners at an early stage for further refinement and integration of their experiences. *"...Medical practice is more technical than administrative; people from the national headquarters tend to impose some standards and guidelines of care which don't take into account some aspects of clinical conditions in the field. Attending the training sessions is a necessary condition but not sufficient to improve clinical practice. Staff from the field [district] need to be involved at an early stage of the design process for guidelines... The contexts of prescribing behaviours of private providers are partly influenced by advertising from pharmaceutical companies. Since private practitioners are not taking part in the process of designing the guidelines, how can they appreciate the appropriateness of the policy standards when facing the advertisement of pharmaceutical companies?"* (Stakeholder interviews: nonprofit sector, district level, 2003). This highlights the issue of authority in relation to technical stakeholders and the need to strengthen the capacity for co-ordinating technical support to private sector. This also suggests that existing enabling interventions appear to be inappropriate for dealing with the non-compliance with treatment guidelines. The MoPH needs to define an adequate framework for involving private providers in the development of malaria treatment guidelines.

5.2.2.4 Financial incentives

The theoretical literature predicts that private practice changes in response to financial incentives would result from both profit and utility maximisation behaviours of for-profit and nonprofit providers respectively. Indeed, institutional economics suggests that private providers would

behave rationally in response to financial incentives, whose purpose is to ease access to standardised medical buildings, equipment, supplies, drugs, qualified staff and other inputs for the delivery of health services. In practice, however, it appears that enabling policies based on financial incentives are multisectoral interventions. In Cameroon, the Economic and Finance, Trade, Planning and Development Ministries have advocated for greater private investment in health in line with overall economic liberalisation strategies. This suggests that enabling policies for greater private sector provision of health care are also promoted by governmental bodies other than the MoPH, and by private investors themselves. This is not unique to Cameroon as the international literature suggests that enabling policies such as financial incentives are usually developed by actors outside of the health sector and the links between private sector growth and the economic liberalisation framework have been observed in many LMICs (Bennett 1991; Berman 1995; Kumaranayake 1998; Marek et al. 2005; Mills et al. 2001; World Bank 1993).

Ease of access to (start-up) capital. The economic literature suggests that loan provision can be an appropriate mechanism for expanding coverage and for improving structural quality of care in the private sector. In practice, qualitative data revealed that “*access to (start-up) capital for private health investors is not relatively easy as the government does not provide specific public loans...The monetary policy, which is conducted by the Economic and Finance Ministry, places greater emphasis on the banking system’s financing of private investment. But unfortunately financial institutions do not tend to consider the private health sector a viable area of investment. The banks always require collateral before they can provide credit, and a substantial proportion of those who are starting private practice are either young professionals or people who are still employed in the public sector with little or no savings or low-paid public sector*

practitioners who have retired with an inadequate pension fund. Consequently, those private investors have no assets to serve as collateral for bank loans. When bank loans are accessible, the acquisition of medical infrastructure and equipment respectively for private for-profit providers becomes easy” (Stakeholder interviews: for-profit sector, national level, 2003).

This suggests that access to capital is difficult as direct public loans are actually not available for private sector investors. Private bank loans can be obtained, but it appears that there have been no explicit efforts to make these more accessible for the development of the private health sector. Almost all stakeholders were concerned that loans to finance substantial investment in the health sector are quite hard to obtain from financial institutions. Facing financial constraints, many professionals limit themselves to the opening of small-scale health centres or medical cabinets which usually require lower (start-up) capital. This suggests that the availability of capital to start-up or expand private practice remains a major constraint to the development of large formal private sector health facilities. The private for-profit sector generally appears to have more difficulties in accessing capital than the private nonprofit sector. Indeed, the economic theory of the nonprofit sector suggests that on the basis of its nondistribution constraint, its likelihood to satisfy the excess demand for public goods with beneficial externalities, the issue of contract failure as well as the existing partnership with government, the private nonprofit sector often benefits from diversified sources of financing, including public subsidies, donations, in-kind contributions, members’ financing, tax-breaks, etc.

The lack of direct government loans is however limited by general resource shortages and pressure on public funders to invest in other social services. The shortage of public and bank

loans can limit the development of the private sector. The international literature suggests that preferential loans at low rates have stimulated the rapid growth of the private sector in many developing countries (Bennett et al.1994; Bennett 1992). For example, in Sri Lanka, the implementation of an economic liberalisation framework had increased the availability of capital that makes the purchase of medical equipment and pharmaceutical imports much easier, and thus lowers barriers to private practice. Boards of Investment in Thailand and Sri Lanka had been very supportive of the development of the private health sector by providing subsidies and tax-breaks to private health facilities (ADB 1999).

External funding. In Cameroon, external funding from donors has provided financial support for the MoPH to involve private nonprofit and for-profit sectors in the delivery of free vaccines for maternal and child immunisation services, free ITNs for malaria prevention amongst children under five and pregnant women, free condoms for HIV/AIDS prevention, free vitamin A capsules for child growth and survival, and free ivermectin (mectizan) for river blindness control. According to policy-makers, “*external funding particularly through UN-agencies, bilateral co-operations and international non governmental organisations (NGO), are involved in financing the delivery of public health related services. Those external funds contribute to expanding the coverage and strengthen the quality of care in the public and private sectors. They contribute to improving the achievement of public health goals for the control of tropical diseases such as onchocerciasis, malaria, HIV/AIDS, tuberculosis, etc., as well as the reproductive health problems in many districts*” (Stakeholder interviews: public sector, national level, 2003). This suggests that external funding can be an appropriate instrument for scaling-up the coverage and accessibility, and improving quality of public health services. This finding is

consistent with the international literature which suggests that in India, for example, the size of the private sector, and its importance in service provision, has meant that many external investors have sought ways to enable the private sector in the delivery of better quality public health related services such as tuberculosis and HIV control and prevention (Floyd et al. 2006; Uplekar et al. 2001). However, while external funding appears to encourage the participation of the private sector in the delivery of specific public health services, they can constitute merely a short-term solution. The performance of private providers would be negatively affected when the external funding is phased-out thereby suggesting that relying on this enabling intervention may not sustain the achievement of the health policy objectives by the private health sector.

Tax incentives. Existing tax incentives appear to be relatively appropriate for expanding coverage, strengthening the efficiency and quality of health services and contributing to achieving public health goals. In 2001 the MoPH concluded an agreement with the Ministry of Finance for antimalarial drugs, commodities and other related supplies and equipment to be tax free in the country. According to stakeholders, *“all private sector providers involved in the delivery of ITNs are eligible for easy customs clearance and benefit from customs tariff and other tax exemptions. This contributes to the establishment of a relatively managed competition for a segment of the ITN market, with an affordable uniform market price of about US\$5.4 per ITN and about US\$0.77 per retreatment in all districts whoever the provider is, either a public or private (nonprofit and for-profit) facility. Other malaria related equipment, supplies and drugs benefit from preferential taxes. These tax incentives may not be enough for private providers, but they constitute an important move in the establishment of an enabling environment for influencing the development and behaviours of private sector providers of malaria services”*

(Stakeholder interviews: public sector, provincial level, 2003). As the incentives for the delivery of ITNs appear to be equally directed to both the nonprofit and for-profit providers, such enabling interventions may influence the growth of the private health sector.

In terms of other diseases and medical problems, the government's fiscal policy does not provide the same tax incentives to all private sector providers. Formal regulated nonprofit organisations benefit from import duty exemptions and tax-free status for their major imported medical equipment and supplies. While the private nonprofit sector is exempt from paying taxes, the private for-profit sector is subject to preferential business tax to be paid to Municipal Councils and income tax payable annually to the Tax Directorate of the Ministry of Finance. This taxation system has been criticised by the private for-profit stakeholders. According to in-depth interviews: *"the tax incentives unfairly favour the nonprofit providers and the preferential taxes are excessive because for-profit providers are also dealing with the welfare of people as do the nonprofit sector. These tax requirements encourage private for-profit practitioners with meagre resources to circumvent the regulations by establishing unofficial and unregistered private practice often with inputs that do not necessarily meet the regulatory standards"* (Stakeholder interviews: for-profit sector, provincial level, 2003). This suggests that some aspects of tax incentives may not influence the development and behaviours of the private sector providers in the way that is consistent with health policy objectives. However, the economic literature suggests that the nonprofit sector's favoured tax treatment rests on the assumption that it provides health services that would be materially different from, and would be preferred to, the health care that the private for-profit sector provides. Thus, the claims of private for-profit providers that tax incentives unfairly favour private nonprofit providers should be interpreted

with caution if they are not providing similar health services to patients with comparable characteristics. Theoretical economic models of providers' behaviour suggest that private nonprofit providers may often choose to offer quality health services free of charge or at highly subsidised prices as donations to poor, indigent, disabled, and vulnerable patients regardless of their ability and willingness to pay for the minimum standard of care for their given clinical conditions.

Despite some concerns, the tax-breaks directed to support private for-profit provision of health services appears to be an important enabling intervention. The international literature suggests that the most substantive experience of government enabling interventions were related to the implementation of tax-breaks that aimed at promoting private sector growth. However, there are implementation challenges associated with this intervention. In Thailand for example, there were concerns because criteria to determine who was eligible to receive tax-breaks were inappropriate to enforce in practice (Bennett 1994; Nittayaramphong and Tangcharoensathien 1994).

Subsidies. The theoretical economic literature suggests that the provision of subsidies would influence private providers to offer an optimal quantity of relative low cost and high quality targeted public health services in a way that protects the public interest. In practice, government financial subsidies for private sector provision of health services are the most long-standing enabling interventions. Financial subsidies, especially for pricing and by giving a lump-sum for general operating costs, appear to be relatively appropriate for expanding coverage, improving accessibility and equity in the Cameroon context. The prices of generic drugs distributed through

NCED are subsidised at more than 80 percent of their market prices. These subsidised prices are also applied to the private sector which can procure generic drugs from NCED and PCEDS.

Donor-driven programme-specific subsidies to private nonprofit and for-profit providers are largely integrated into several MoPH disease control programmes. Donors' financial support is always complemented by government contributions through the MoPH's operating expenditures and they are directly managed within the MoPH organisational structures. These types of subsidies appear to be appropriate for the provision of subsidised health services in Cameroon. According to stakeholders, *"... By using financial support from donors complemented with substantial contributions of government to subsidise private sector (nonprofit and for-profit) provision, the coverage of major public health problems has been expanded; efficiency, quality of care and equity have been particularly improved for subsidised family planning supplies, subsidised antimalarial drugs and ITNs, subsidised anti-tuberculosis drugs, and subsidised antiretroviral drugs for HIV positive patients, free immunization services for children under 60 months"* (Stakeholder interviews: public sector, district level, 2003). This suggests that government interventions through subsidies may be appropriate for ensuring the optimal provision of public health services and that, regardless of their ownership, providers will deliver the services they are rewarded for offering.

The international literature suggests that the introduction of lump-sum payments to physicians for achieving target levels of immunisation coverage and cervical smears led to a short-term increase in the number of smears being performed in the United Kingdom National Health System (Hughes 1993). The Chinese example further revealed that when Chinese (private)

doctors and hospitals were rewarded for providing high-tech services, they did exactly what U.S. doctors and hospitals have been doing for decades, with the same effects on use and costs (Blumenthal and Hsiao 2005; Eggleston et al. 2006; Mahmoudi et al. 2006). While this implies that targeted subsidies can contribute to achieving key public health policy objectives, the sustainability of these enabling measures cannot be ensured because donor-funded incentives will be terminated over time. In addition, the criteria for awarding financial subsidies appear to be less specific and the monitoring of subsidy programmes seems to be very weak for ensuring the desired behaviours of both implementers and private sector providers. This concern appears to be commonly observed in other LMICs as the evidence from Venezuela, suggests that subsidies for private nonprofit health care providers were distributed by politicians who had limited knowledge of the health sector and received no technical advice; their decisions were observed to be both erratic and frequently in favour of their own interests (Werna 1995).

Contracting out of clinical services. The new public management literature promotes using contractual agreements between funders, policy-makers and private providers as a means of improving coverage, efficiency, equity and quality of health service delivery in the private sector. Operationally, qualitative data revealed that “... *In many remote rural areas, it is usual to find that the private nonprofit health centre is often the only formal provider of health care. In this case, the MoPH identifies it to contract out clinical services to ensure coverage and accessibility. The government grants take various forms: lump-sum representing a proportion of the health facility’s operating expenditures, often this may be complemented by sending some experienced and specialist staff who are paid on the public service payroll*” (Stakeholder interviews: nonprofit sector, district level, 2003). It is suggested that the contracting out of

clinical services contribute to achieving public health goals. This is likely because many health facilities involved in this enabling intervention are currently playing the role of referral district hospitals or leading health centres in some remote districts of the country. The contracting out of clinical services is mainly directed to private nonprofit health facilities, although the MoPH often contracts out preventive health services (e.g. immunisation, distribution of ITNs) to private for-profit health facilities. For example, in the last three years almost all private sector (nonprofit and for-profit) providers were involved in the delivery of immunisation services and the management of a cholera epidemic that occurred in some districts (MoPH 2004). The contracting out of certain malaria services to private sector providers appears to be largely effective. Between 2003 and 2005, approximately 6,500,000 ITNs have been distributed free of charge to pregnant women attending prenatal consultations and children under five year seeking care at public, private nonprofit and private for-profit health facilities. For the private sector to adhere to and participate in the free distribution of such preventive measures, the MoPH has provided them with supporting logistics and paid for all related operating expenses (MoPH 2004).

However, the international literature on the issue of contracting out health services suggests that this enabling intervention is more likely to work when the contract can specify quantity and quality clearly, both can be monitored easily, and contracts can be enforced (Eggleston et al. 2006; World Bank 2004). The international experience also reveals some success with contracting out public health services, such as malaria control, nutrition and reproductive health activities (WHO 2000a). In contrast, there does appear to be limited evidence that contracting for curative clinical services can stimulate improvements in service utilisation and quality of care (Harding and Preker 2003; Palmer and Mills 2006).

Private and mutual health insurance. The HSSP elaborated in 2001 emphasises the development of mutual health insurance that seems to be partially appropriate in Cameroon. The results of manager interviews indicate that insurance coverage represents about 5.4 percent of patients seeking care at private for-profit facilities. Amongst insured patients, about 52 percent of them are covered under the contractual arrangements between owners of facilities and employers, while 48 percent of patients are covered under a mutual community financing scheme. Only about 2 percent of patients seeking health care at nonprofit facilities are covered by health insurance. The relative absence of an organised health insurance system reduces the opportunity for private health entrepreneurs to benefit from this source of financing.

The approved employer-based health benefits that provide for third-party payments for medical care presents several weaknesses. The manager interviews revealed that, in practice, contractual arrangements allow employees to be treated at private health facilities without having to make cash payments. The treatment bills for such employees are paid sometime afterwards by the employers on the basis of a negotiated contract with health facility owners. Given the fact that most private for-profit health facilities are located mainly in competitive urban areas, such contractual arrangements may be to the advantage of employers. However, these contractual arrangements not only guarantee financing but also provide the owners of private health facilities with a captive market at a time when competition for patients is apparent. In this area of contractual arrangements, there are some cases of contractual arrangements between public sector staff and private employers directly in contravention of regulations which do not allow public sector medical practitioners to have such contracts in settings where private for-profit practitioners operate.

The international literature suggests that in many developing countries the rapid growth of private health insurance has encouraged private health sector expansion. There is evidence that the growing number of people taking up social security or other forms of health insurance is amongst the dominant explanatory factors for private health sector growth. For example, in Thailand, the establishment of the Social Security Scheme, and rules under the scheme allowing beneficiaries to seek care from the private sector, considerably boosted demand at some private hospitals and encouraged further investment (Bennett et al. 1994). Governments should increase their support for the implementation of private and community mutual health insurance if they seek to facilitate the growth and use of private sector providers.

Summary: Overall, the perceived appropriateness of financial incentives suggests an influence on the private sector's behaviours in the direction predicted by economic and related theories. In Cameroon, financial incentives appear to be directed more to nonprofit than for-profit providers. The national economic context is one of low incomes and no savings for substantial investment in the health sector, and financial institutions do not tend to consider the private health sector a viable area of investment. There is also a problem of authority with some private for-profit practitioners circumventing the existing regulations while they benefit from tax incentives. The information on tax-exemptions and the duty free status of malaria related goods and equipment was not largely disseminated to all stakeholders.

5.2.2.5 Summary of enabling interventions for private sector provision of health services

The results of this section show that several enabling interventions do exist and appear to be in general at least partly appropriate for expanding the coverage, efficiency, quality of care and equity of private sector health service provision. The findings suggest that political commitment, technical supports, tax incentives, and subsidies seem to be well targeted to private sector provision of malaria and other key public health services. Most findings appear to be consistent with the direction predicted by economic and related theories. Enabling interventions appear to be more of a complement than a substitute in moderating the behaviours of private sector providers. Donor-funding based incentives may not be sustained in the long term as the donors will always phase out their funding over time. However, the degree of appropriateness of most enabling interventions appears to be constrained by a number of factors: poor design and low level of implementation, social and economic context such as financial capacity of government, and poor dissemination of information to stakeholders. While enabling interventions will encourage private providers to start, sustain and expand health services, the traditional lenders such as local banks alone are not able to address the need for capital as many private providers lack adequate collateral or may suffer cash flow problems. There is a need to invest in capacity in terms of resourcing government authorities in charge of designing and implementing enabling interventions.

However, the rapid growth of the private health sector may emerge independently of enabling interventions. It has been noted internationally that, in response to poor and inadequate public sector health services, there has been a rapid development of private sector provision of health

care in many low and middle-income countries (Bennett 1992; Bennett 1994; Kumaranayake 1998; Marek et al. 2005). However, it is unlikely that the development of the private sector is entirely spontaneous because the enabling environment is relatively broad and the interventions for influencing the development and behaviours of private providers are not restricted to the MoPH framework. The national political and economic contexts contribute to the development of locally based NGOs such as associations or Common Initiative Groups (CIGs) in health service delivery. The private CIG or associative providers involved in the delivery of malaria prevention measures, and often also diagnosis and treatment services, were promoted by the legislation relating to the freedom of association and CIG. This growth of private providers appears to result from the government's policy that promotes such civil society organisations.

5.3 Existing regulation of the private health sector in Cameroon

In the context of health sector reforms, the regulation of private sector health care has become a critical policy issue in Cameroon. This section analyses the major regulatory interventions for the private health sector, with special emphasis on malaria. The first sub-section briefly examines the role and structure of regulatory agencies. The subsequent subsections analyse the existing regulatory interventions directed at the entry and market structure, prices of health care, and quality of care provided in the private sector.

5.3.1 The role and structure of private health sector regulatory agencies

The regulation of private sector health care involves a wide range of different public and private agencies. However, the initiation of regulations originates from three pillars of the state. The executive (government) defines and develops the regulation and then forwards it to the legislature. The parliament enacts the legislation and then sends it back to the executive, which promulgates and forwards it to the judiciary for enforcement. Once the legislation is enacted and promulgated, it becomes law and the regulatory agencies can use it as it stands or can issue administrative decrees, decisions or acts that seek to implement the relevant regulations. Meanwhile the regulatory activity itself consists of implementing the laws, decrees, decisions or acts and ensuring compliance through administrative supervision, inspection, monitoring and evaluation, enforcement and judicial supervision. Different actors are involved in the regulatory activity according to the market variables to be regulated, the interests and level of authority of regulators. In the process of regulation, there are situations where official and unofficial business interests of regulatory actors are often conflicting because of multiple principal-agent relationships. In many LMICs, it appears relatively difficult to design and implement regulatory interventions which enable the actor to deal with multiple interests. Table 5.2 indicates that there is a well-established basic legislative framework but the effectiveness of this regulation is heavily reliant on implementation capacity.

Table 5.2: Market variables, actors involved and legislative framework towards private health sector in Cameroon

Market Variables	Actors involved	Legislative framework
Quantity & Distribution: - Market entry, - Market exit, - Competitive practices, - Market organisation.	Ministry of Public Health National Medical Council National Para-Medical Council Networks of Private Health Facilities Ministry of Territorial Administration and Decentralisation Ministries of Basic, Secondary and Higher Education Ministry of Labour and Social Protection Ministry of Defence Ministry of Agriculture	Law No. 92-252-PM of 6 th July 1992 Law No. 90-036 of 10 th August 1990 Law No. 84-009 of 5 th December 1984 Decree No. 92-266-PM of 22 July 1992 Decree No. 94/530-PM of 22 Oct. 1994 Law No. 90/053 of 19 th December 1990 Law No. 92/455/PM of 23 rd 1992 Act. No. 0413/D/MSP/CAB of 14 th April 1999 Decree No. 2002/209 of 19 th August 2002
Prices & Remuneration: - Costs of input factors, - Costs of health care.	Professional Trade Unions Ministry of Public Health Ministry of Labour and Social Protection Ministry of Trade	Law No. 76-154 of 15 th April 1976
Quality of Care: - Medical standards, - Quality assurance, - Safety of drugs, - Medical procedures.	National Medical Council National Paramedical Council Ministry of Public Health Networks of Private Health Facilities	Decree No. 83-166 of 12 th April 1983 Decree No. 2002/209 of 19 th August 2002

Source: In-depth interviews and Document reviews

Regulating the private health sector is an inherently complex process where policy-makers typically settle for reasonable approximations in terms of policy objectives (Table 5.3a) that can be managed appropriately in a given setting by different actors (Table 5.3b). Table 5.3a presents the structure and competencies of agencies regulating the private health sector in Cameroon. These regulatory agencies include public and private sector organisations as well as professional organisations. The variables to be regulated are quantity and distribution, prices and quality of care in the health sector market. Table 5.3b provides an overview of the health sector market supply's structure in Cameroon. It highlights the type of different providers in relation to ownership and regulatory authorities.

Table 5.3a: The structure and competencies of agencies regulating the private health sector

Structure	Private sector health care market's variables		
	<i>Quantity & distribution</i>	<i>Prices</i>	<i>Quality of care</i>
Inspectorate general for administrative services	Controlling the administrative organisation of health facilities	Controlling the administrative pricing of health care and staff remuneration	na
Inspectorate general for medical and paramedical services	na	Monitoring the pricing of medical/ paramedical consultations	Monitoring compliance with norms, standards and guidelines of health care as well as medical ethics
Inspectorate general for pharmaceutical services	Controlling the distribution of pharmacies, medical laboratories, and drugs	Monitoring the pricing of pharmaceuticals	Monitoring the availability and accessibility of drugs; Controlling the quality of drugs
Division of judiciary affairs	Technically advising on the licensing of private sector health facilities	na	Collaborating in the enforcement of health sector legislation
Division of co-operation	Processing the applications for contracting and partnership agreements with the private health sector	na	Co-ordinating and monitoring the contracting and partnership agreements with the private health sector
Directorate of health care organisation	Processing the applications for the creation and operating of private sector health facilities; Licensing of private medical practice; Licensing private paramedical practice; Developing alternative ways for the supply of health care	na	Defining and developing the standards, norms and guidelines for the quality of care; Defining the guidelines for the referral system; Defining the standards, monitoring the conformity of medical equipment; Promoting medical ethics
Directorate of pharmacy and drugs	Licensing of pharmaceutical products and drugs Control the distribution of pharmacies in the country	Authorised prices of pharmaceutical products	Controlling the quality of pharmaceutical products
National Quality Control and Valuation Laboratory	na	na	Controlling the quality of pharmaceutical products and drugs
Ministry of Territorial Administration and Decentralisation	Licensing national civil society organisations such as associations with interest in health	na	na
Ministry of Agriculture	Licensing common initiative groups (CIG) with interest in health	na	na
Ministry of Trade	na	Controlling the pricing of health services and pharmaceuticals	na
Ministry of Labour and Social Protection	na	Controlling the remuneration scale of health workers	na
Medical Council	Licensing medical staff; Advising the MoPH on the applications for private medical practice	Monitoring the compliance with medical ethics for socially pricing health care	Monitoring the compliance with medical ethics for the quality of care
Paramedical Council	Licensing paramedical staff; Advising the MoPH on the applications for private paramedical practice	Monitoring compliance with paramedical ethics for socially pricing of health care	Monitoring the compliance with paramedical ethics for the quality of care
Pharmacy Council	Licensing pharmacists; Advising the MoPH on the applications for pharmacy	Monitoring the compliance with pricing of pharmaceuticals	Monitoring the quality of pharmaceuticals
Network of private sector providers	Controlling the distribution of private health facilities	Setting the prices of health care	Monitoring the quality of care

Source: Document reviews and In-depth Interviews

na = non applicable

Table 5.3b: Health sector market structure and regulatory authorities in Cameroon

Table 3.36: Health sector market structure and Regulatory authorities in Cameroon

Health sector market supply's structure				Regulatory authority
Type of sector	Network	Ownership	Type of facility	
Public sector providers	Government	Ministry of Public Health	- Hospitals	Ministry of Public Health in collaboration with related-ministries and the Cameroon Medical Council
		Ministry of Labour and Social Protection	- Subdivision Health Centres	
		Ministries of Basic and Secondary Education	- Health Centres	
		Ministry of Higher Education	- Health Centres	
		Ministry of Defence	- Hospitals	
		General Delegation of Home Securities	- Subdivision Health Centres - Health Centres	
Private nonprofit providers	- Missions - Foundations	Catholic Church Health Services	- Hospitals - Subdivision Health Centres - Health Centres	- Ministry of Public Health (unit of private sector health facilities, committee of associations / NGOs) in collaboration with: - Board of Management of the related-organisation; - Cameroon Medical Council; - Ministry of Foreign Affairs for International NGOs - Ministry of Territorial Administration and Decentralisation for National NGOs - Ministry of Agriculture for CIG
		Evangelic Church Health Services	- Hospitals - Subdivision Health Centres - Health Centres	
		Islamic Church Health Services	- Hospitals - Subdivision Health Centres - Health Centres	
		Adlucem Foundation	- Hospitals - Subdivision Health Centres (SHC) - Health Centres	
	- NGOs - Associative	NGO/Association in Health	- Health Centres	
Private for-profit providers	- Entrepreneurs	Individual or Group of Private Entrepreneurs	- Polyclinics - Clinics - Medical Cabinets - Private pharmacies	Ministry of Public Health (Unit of private sector health facilities) in collaboration with: -Cameroon Medical Council; - Medical Trade Unions; - Board of Traditional Healers
	- Companies	Companies' Health Services	- Clinics - Medical Cabinets	
	- Individuals	Unofficial and Unregistered Providers	- Medical Cabinets - Home-shops	
		Traditional Private Provider		
		Informal Private Provider	- Medical Cabinets - Street-shops	Not applicable as not yet regulated

Source: In-depth Interviews and Document Reviews

5.3.2 Regulating the entry and market structure of private sector health care

The public interest literature emphasises the need for entry regulation such as licensing requirements to oblige private providers to meet certain predetermined conditions of medical inputs in order to guarantee fair distribution, cost containment and an adequate quality of care. But the theoretical literature also suggests that licensing requirements can be used as entry barriers by private interest groups and that they may incite some private providers to substitute licensed medical inputs by alternative unlicensed ones (Stigler 1971). Moreover, entry regulation may not necessarily lead to a welfare improvement, because in low income settings some patients would substitute the relatively expensive good quality of care from licensed private providers with cheaper alternative low quality of care from unlicensed (informal) private providers.

In practice, Cameroon has adopted a regulatory regime that aims at controlling the overall provision capacity of the national health system. The government empowers the MoPH to approve or block applications for the creation and operation of new health facilities. The relevant regulation uses formal control measures, which involve establishing conditions for entry into the private health care market. However, the licensing requirements vary according to the type of health organisation such as nonprofit (mission, associative, foundation), for-profit (individual practitioner, company), and public (government). There are two slightly parallel requirements for the creation and operation or opening of a health facility on a private basis, depending on the ownership. Tables 5.4a and 5.4b provide the requirement criteria for the creation and operation of a private health facility respectively in the context of existing regulation in Cameroon.

Table 5.4a: Requirements for the creation of a private sector health facility

Ownership	Requirements for the creation
For-profit	- Formal letter of application indicating names and surnames of the applicant or the company's denomination if it is a moral person, the nature of health facility to be created and the exact indication of the location; - Providing copies of birth certificates, certificates of nationality, judiciary personal datasheets of applicants which were certified within the last three months, and the constitution of the company; - Condition pre-requisite to registration of medical doctors or paramedics for private practice is to have at less five years work experiences in one or more approved health facilities; - Registration of national medical or paramedical staff with the medical or paramedical council and they must enjoy their civic rights; - Foreign medical or paramedical staff must be nationals of countries with a reciprocity with Cameroon and they should have been recruited on contract exclusively for an approved private for-profit health facility; - Producing of letters of discharge in principle when medical or paramedical staff are gainfully employed or assist a colleague who is practising on a private basis; - Endorsement of application by both district and provincial medical officers according to the compliance with the needs and the health map established by the ministry of public health; - Attestation of the propriety right including the ID of land's certificate for the building-up of facilities or a certified copy of the bail contract, a complete set of the plans for building approved by a registered architect; - List of main infrastructures, equipment, and supplies to be purchased for operating the health facility if the authorisation of the creation is granted.
Nonprofit	- Registration of national voluntary associations or NGOs according to the law No. 90/053 of 19th December 1990 relating to the freedom of association under the supervisory authority of the Ministry of Home Affairs; - Registration of local groups according to the law No. 92/455/PM of 23rd November 1992 relating to the freedom of common initiative groups (CIG) under the supervisory authority of the Ministry of Agriculture; - Registration of foreign religious bodies, associations or NGOs under the supervisory authority of both Ministries of Foreign and Home Affairs, and foreign staff or members must be nationals of countries with a reciprocity with Cameroon and they should have been recruited on contract or under a co-operation agreement exclusively for the administration, an approved religious body or benevolent association or non-governmental organisation.

Source: In-depth interviews and document reviews

Table 5.4b: Requirements for the opening or operation of a private sector health facility

Ownership	Requirements for the opening or operating
For-profit	- Certified true copy of a valid authorisation or license of creation a private health facility granted by the minister of public health; - Detailed list of both technical and recurrent available infrastructures, equipment, materials and supplies according to the status and level of care to be provided at the health facility; - Detailed list of available staff with certified copies of their medical degrees or diplomas and the medical or paramedical council authorisation for each clinical staff to practise medicine on a private basis corresponding to compulsory technical personnel who should provide health care in the health facility; - Producing letters of discharge agreement of the member's staff applying for the position of the director of a private health facility, when this is a salaried personnel; - Payment of taxes and business license at the municipal council and the divisional taxes office, an insurance policy covering occupational hazards, and membership fees to the medical or paramedical council; - Compliance with laws No. 84-009 of 5th December 1984, No. 90-036 of 10th August 1990, No. 92-252-PM of 5th July 1992, and other related regulations for the private health sector.
Nonprofit	- Certified true copy of a valid authorisation or license of creating a voluntary religious or benevolent association or NGO according to the article 6 of the law No. 90/053 of 19th December 1990 relating to the freedom of association; or a valid license authorising a foreign association or NGO to implement its activities in Cameroon according to regulations under the supervisory authority of both ministries of home and foreign affairs; or a valid authorisation or license of creating a common initiative group according to the law No. 92/455/PM of 23rd November 1992 relating to the freedom of Common Initiative Groups (CIG) under the supervisory authority of the ministry of agriculture; and copy of the constitution of the applicant's voluntary, benevolent or religious association or NGO; - Detailed information on the areas of intervention, specific objectives, the exact location, and commitment to abide by the goals of the ministry of public health; and the status of an NGO is subject to have been under the letter of collaborative agreement for not less than five years and to have an agreement-framework between an association and the ministry of public health (Collaborative Act No. 0413/D/MSP/CAB of 14th April 1999); - Commitment to abide by laws and regulations of the Republic of Cameroon; to present annually a strategic plan, activities report, and to carry out projects in partnership with the ministry of public health through the district health services where the association or NGO is located.

Source: In-depth interviews and document reviews

The authorisation of creation means that for a given location (e.g. district or health area), the MoPH actually allows an applicant for private practice to construct or rent a building, develop infrastructure, acquire relevant medical equipment and supplies and hire clinical staff. When the creation requirements are met, the MoPH grants the authorisation of operation that allows an applicant to open its health facility by practising on a private basis. While the two year duration for the validity of an authorisation of creation is long enough for building and equipping a new private health centre, for hospital based health care it may be difficult to meet the norms and standards within this timeframe in the context of the lack of access to start-up capital.

Compared with what has been reported in other developing countries (Kumaranayake et al. 2000), the pre-requisite requirements in Tables 5.4a and 5.4b indicate that Cameroon has in place a relatively substantial regulatory framework governing health care market entry for private nonprofit and for-profit practice. Within the MoPH, the Registrar is the head of the private sector unit. The Registrar processes applications and obtains clearance from both Medical and Paramedical councils. The Medical or Paramedical Council's clearance consists of verifying and confirming that every clinical staff listed to be employed in the new private health facility is currently registered as a medical doctor, nurse, assistant-nurse, midwife, or paramedical worker. This is in accordance with Section 2 of the law No. 90-036 of 10th August 1990 relating to the practice of medicine and article 19 of the decree No. 92-265-PM of 22nd July 1992 defining the criteria of its implementation, which stipulate that: *“persons engaged in the practice of medicine in Cameroon shall be subject to registration with the National Medical or Paramedical Council..., the practice of medicine on a private basis is authorised by a decision of the National Medical Council”*. This professional self-regulation is restricted to ensuring that all staff have

been appropriately trained before being admitted into the private health care market. Meanwhile *“the pre-requisite of having at least five years work experience before applying to register for private practice has been criticised by all private sector clinically trained managers as a restrictive factor for young and junior professionals to enter the market”* (Manager interviews: private for-profit facilities, 2002).

The two-step licensing procedures namely authorisation for the creation (see Table 5.4a) and authorisation the opening or operating (see Table 5.4b) of a facility appear to have hampered compliance with the existing regulation in terms of standards of staffing, medical infrastructure, equipment, supplies and facilities. *“...The difficulty arises when once the authorisation for the creation is granted; some health professionals or facilities just started their private practice in the absence of the compulsory second authorisation of opening. Consequently most private sector facilities were being operated outside the authorised premises and without adequate staff, infrastructure, standardised medical equipment and supplies...”* (Stakeholder interviews: nonprofit sector division, Medical Council, 2003). This finding suggests that unlicensed private providers would not meet predetermined conditions of structural and process standards of care. The situation becomes more complex when the regulatory powers are primarily delegated to health professionals. Self-regulation is heavily concentrated in the hands of health care professionals from the MoPH and Medical or Paramedical Councils. This highlights the issue of regulatory capture as predicted by theoretical models because powerful private interest groups may easily manipulate the self-regulatory officers particularly in areas of restricting the entry into the health care market, protecting practices of supplier-induced demand and concealing malpractice and negligence cases in the health sector.

Evidence in other countries suggests that although there were problems with regulatory frameworks, more serious weaknesses in performance were related to the implementation of regulation. Regulatory councils and Ministries of Health have performed poorly, particularly because of principal-agent problems and self-interest (Aljunid 1995; Bennett and Ngalande-Banda 1994; Bennett et al. 1994; Black 1996; Cumper 1990; Ensor and Weinzierl 2006; Hongoro and Kumaranayake 2000; Kumaranayake 1998; Kumaranayake et al. 2003; Mills et al. 2001).

In theory, a new private health facility can be created only according to the MoPH planning criteria. The main criterion for controlling market entry is compliance with the so-called “La Carte Sanitaire du Cameroun” or “The Health Map of Cameroon (HMC)” established by regulations. The Health Map is an expression of certificate-of-need laws used for controlling and monitoring the investment in medical inputs and expansion of special health services. However, public sector stakeholders complain that “...*the HMC is often inappropriate because of fraudulent behaviours through which unlicensed private clinics operate under the umbrella of ‘licensed clinics’ without fulfilling both creation and opening requirements of the regulation*” (Stakeholder interviews: public sector division, Medical Council, 2003). The certificate-of-need regulation requires private investors to obtain MoPH approval prior to constructing new facilities or acquiring new high technology medical equipment. The underlying rationale for such regulation is that uncontrolled expansion of health system capacity can lead to oversupply and supplier-induced demand and a waste of precious resources (Chinitz 2002). However, the success of certificate-of-need regulation in the US has been mixed, particularly because the criteria determining which investments should and should not be allowed are confusing and if

hospitals are banned from investing in one type of equipment then they are more likely to re-allocate resources into other types of medical capital inputs (Kumaranayake 1998).

In a specific geographical area, the Health Map bases the expansion of health facilities on the following main criterion: one health facility for a maximum of 5,000 people living within a distance of less than 1 kilometre. Secondary criteria of the HMC aim at improving the input/population ratios such as one medical doctor for 5,000 inhabitants, one nurse for 1,000 inhabitants, one bed for 500 inhabitants, etc. However, implementation of this regulation appears to be relatively inappropriate, particularly in urban areas. The results of interviews highlight that *“as the regulation of the entry and market structure is directly handled by administrative civil servants often medically trained, it is very difficult to use the HMC tools to control the growth of private sector health facilities in urban settings. For mainly economic reasons, almost all highly trained public sector medical doctors or specialists have an interest in the majority of newly created and operated polyclinics, clinics or medical cabinets. Such new private health facilities are often politically, administratively and economically well established in many urban neighbourhoods, but often their creation conflicts with the existing regulations. It is usually not easy for inspectors from the MoPH or professional council to control the growth of private health facilities in this context. More often, the MoPH’s attempts to enforce the regulation encounters resistance from owners, politicians, and others socially and administratively interested parties”* (Stakeholder interviews: public sector, provincial level, 2003). This finding suggests that the regulatory framework appears to be exposed to political pressures and lobbying by interest groups, but it also highlights that the existing enabling measures to enforce the compliance may be inappropriate. This behaviour of non-compliance with such regulation has

been experienced in other settings. For example in Norway, attempts by the central government to control the expansion of the hospital system according to 'technocratic' directives encountered resistance from local interests that encourage hospital expansion (Berg 1999). Some developing countries have encountered similar weaknesses in the implementation of regulation. For example, critics claimed publicly that the Medical Council of India had approved licences for medical colleges on the basis of 'personal favours' or hospitality offered by the owners despite the facilities clearly not meeting set standards (Bennett and Muraleedharan 1998; Jesani 1996; Mills et al. 2001).

Chinitz (2002) points out that regulation of entry into the health care market that is aimed only at this aspect of the private health sector may lead to a tendency for the unregulated parts of the system to expand in a way that is not consistent with the objectives of the regulation. Existing regulation particularly in relation to the relatively extensive and complex licensing requirements is primarily directed at the private for-profit sector. In contrast, nonprofit organisations face less onerous requirements. Indeed, most local health facilities have been created outside of health sector regulations and fall under the law No. 90/053 of 19th December 1990 relating to the freedom of association and the law No. 92/455/PM of 23rd November 1992 relating to the freedom of Common Initiative Groups (CIG). The results of interviews revealed that: *"most associative or CIGs health facilities have been created and operated for many months or years without any collaborative agreement with the Ministry of Public Health"* (Stakeholder interviews: nonprofit division, Medical Council, 2002). Most so-called NGO or CIG health facilities are simply unlicensed private associative health facilities. This has forced the MoPH to

set up the collaborative Act No. 0413/D/MSP/CAB of 14th April 1999 regarding the framework for collaboration with all associations or CIGs and NGOs in health.

The collaborative Act institutes three forms of partnership between the MoPH and an Association or CIG, which include a Letter of Collaborative Agreement (LCA), Agreement-Framework (AF), and Specific Agreement (SA). The LCA is a document by which the MoPH registers and recognises an Association, which wishes to support the improvement of the health status of the population. An Association, which has been granted a LCA five years previously and successfully carried out substantial projects in partnership with the MoPH, can apply for the AF of collaboration. Only the AF confers to an Association or CIG the status and quality of an NGO in the health sector. The SA between the MoPH and an Association is granted to holders of a LCA or AF for a partnership in the implementation of individual health projects.

In recent years, the regulation of entry into the private health sector has evolved from being relatively open to even more liberalisation. It also showed a consistent pattern in which the nonprofit (associative/NGO) health facilities operated in a more permissive environment than for-profit health facilities. This is because the application process is decentralised and less bureaucratic and nonprofit health facilities are exempted from the payment of taxes and the need for a business licence. The Collaborative Act regulating the opening of private associative/CIG health facilities presents some weaknesses in the sense that it does not require compliance with norms and standards for infrastructure, building, equipment, supplies, staffing, finance as well as location. The licensing procedure of the for-profit sector is very lengthy and highly centralised.

The estimated average waiting time to get feedback for the licensing application is about four months.

There is a considerable component of the private health sector that is unofficial in the sense that these providers have not even attempted to comply with the market entry regulations. The government may be unwilling to discourage the unofficial part of the private health sector because it constitutes the most important uncountable resources that are available and it actually contributes to greater ease of access amongst poor people, but it is in the meantime a very socially sensitive sub-sector in the context of poverty alleviation. It is generally estimated that households spent about 75 percent of their health care expenditures in the unofficial and informal private sectors (MoPH 2004). According to data from interviews, *“the unofficial private sector currently creates major transitional jobs for a large proportion of unemployed people such as newly trained nurses, midwives, assistant-nurses and paramedical workers. This can give slight relief to the government on social matters”* (Stakeholder interviews: public sector, national level, 2003).

5.3.3 The regulation of private sector health care prices

The economic literature suggests that while price regulation would use distorted fee schedules to affect the behaviour of private providers, these regulated prices would make health service available cheaper than they otherwise would be in the context where private providers can use their market power to charge prices that vary considerably from the actual cost of providing the services. The economic theory of the nonprofit sector highlights that providers' responses to

price regulation depend on their financial orientation whereby private nonprofit providers always depart from the profit maximisation behaviour of private for-profit providers (Steinberg and Weisbrod 1998). Thus, regulation may be used to address the prices of health services because private sector provision can also be inefficient and lead to cost escalation. Cost escalation may result from inflated prices, overcharging, oversupply and the use of unnecessarily high technology equipment and over-reliance on laboratory tests (Hongoro and Kumaranayake 2000; Kumaranayake 1998; Liu et al. 2000). In practice, however, very few of the regulatory interventions encountered in developing countries focused upon the price of private sector health services (Blumenthal and Hsiao 2005; Jegers et al. 2002; Liu et al. 2000; Mahmoudi et al. 2006; Mills et al. 2001).

The regulation of private sector health care becomes a complex policy issue because of concerns that price controls impede market operations. However, the market for health care is not perfectly competitive and market failures are prevalent. In this context, regulation emerges as an important means of containing costs and prices of health care. In Cameroon, Law No. 76-154 of 15th April 1976 provides the framework for setting prices of different health services. This framework stipulates that private sector providers should set their health care prices at the level that allows the recovery of essential recurrent input costs of staff and pharmaceuticals. Figure 5.1 below presents the uniform maximum fees' schedule that should be charged across health facilities according to specialities.

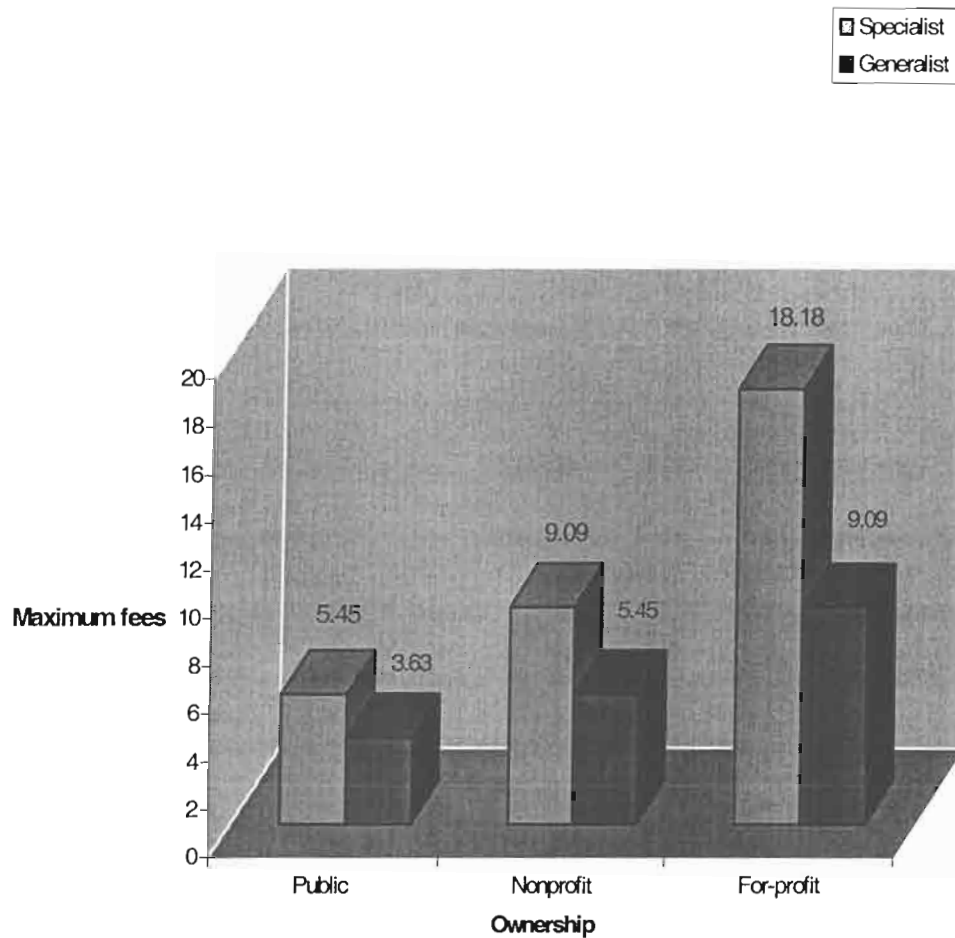


Figure 5.1: Uniform maximum consultation fees in public and private health facilities
(in US\$ for US\$1 = CFAFrancs 550)
Source: Medical Council

In Figure 5.1, the blue colour indicates the uniform maximum fees that can be charged by medical specialists (e.g. gynaecologists, paediatricians, etc.), while the purple colour shows the fees' schedule for all general practitioners across ownership. This price regulation emphasises the pricing of health care in accordance with the level of training and skills of providers, because the fee scale is a function of clinical specialities, but it also tends to be itemised or service based and thus easily accessible in order to inform the decisions of regulators, providers and patients. While this price regulation will reduce the level of price competition in the health care market, it does not affect competition in service quality. As predicted by various theories, however, it is

suggested that under price regulation (fixed fee schedule) the public and private (nonprofit and for-profit) sectors' providers use some combination of uniform pricing, sliding-scale pricing, voluntary pricing discrimination, intertemporal pricing discrimination, noncash payment as well as nonprice mechanisms in the delivery of malaria services. The type of price regulation used by a particular provider would depend therefore very much upon the specific malaria services, patient's characteristics and ownership.

As public sector health care prices are generally subsidised through the state budget, it is suggested that private sector providers would charge higher fees in order to recover the input costs to sustain their services. According to in-depth interviews, however, "*...the price levels are very heterogeneous and often above the regulated standardised threshold in the health care market*" (Stakeholder interviews: private for-profit trade union, national level, 2003). In these circumstances where providers appear to charge high prices, the price regulation cannot lead to a Pareto-improvement, because patients would substitute the relatively expensive malaria services with cheaper and lower quality alternative often informal health services. However, if patients do pay high prices even above the regulated threshold under any type of pricing discrimination based on their willingness and ability to pay, then social welfare can be improved in the health sector because the poor patients will still receive health care needed.

The fundamental criticism directed at legal controls of prices is that they usually try to treat the symptoms rather than the cause. The key policy issue is the total cost to patients rather than unit prices. When private (for-profit) providers cannot manipulate prices, they tend to increase the quantity of health services or engage in over-treatment that results in higher total costs to

patients. This could be categorised as ‘administrative medical malpractice’, which involves “... *fraudulent supplier-induced demand for laboratory tests and medical procedures, incorrect hospital invoices, corruption and overcharging of fees for health care services with patients being asked to pay for more than the standard threshold of health care needed for their given clinical conditions...*” (Stakeholder interviews: public sector, district level, 2003). This finding appears to support the theoretical prediction that when regulated prices are fixed below recurrent costs for services, providers cannot easily discriminate between patients and a number of undesirable behaviours occur in service delivery, particularly for rent-seeking motives. Private for-profit providers tend to use dumping, cream-skimming, demand-inducement, and the ‘quicker but sicker’ phenomenon meaning that patients are discharged/consulted sooner than appropriate thereby increasing the probability to be readmitted for the same medical condition. However, these misdemeanours appear to be more pronounced in the private for-profit sector due to contract failure than in the private nonprofit sector which faces the nondistribution constraint.

The evidence in other countries indicates that major asymmetries of information between regulators and regulatee have favoured opportunistic behaviours including over-servicing of patients, colluding with patients to fraudulently claim for drugs and visits, and unnecessary self-referrals for private financial interests (Hongoro and Kumaranayake 2000; Kumaranayake et al. 2003). In practice, it is difficult for the regulators to set standardised fee levels with which private sector health facilities will comply, as Bennett (1991: 43) points out: “one problem with this process is that physicians are renowned for the power that they wield and, even with regulatory intervention, the price setting process may protect private sector profit rather than consumer interests. This is particularly in situations in which the regulatory authorities have

limited data on underlying costs. In some developing countries it may be very difficult to ensure that physicians actually charge at the recommended levels”.

Price regulation is not simply an alternative to the market, but is a complementary tool for improving the health service transactions between providers and patients in the health sector (Chinitz 2002). Decision-making about such regulation is based upon relatively weak information in relation to the heterogeneity of input factors and the wide range of different health services provided. In the context of self-regulation, the alleviation of informational problems on prices often creates conflicts of interest amongst health care providers.

An important aspect of price regulation is concerned with uniform reference prices for various groups of generic drugs dispensed across public and private health facilities. For example, the uniform prices of a generic antimalarial drug, a tablet of quinine 200 mg and 300mg are US\$0.19 and UD\$1.89 respectively at the delivery point. This means that private providers who dispense quinine 300 mg to a malaria patient should not charge beyond US\$1.89 per tablet. The appropriateness of uniform-reference pricing may depend on compliance in the private sector setting. As Giuliani et al. (1998) point out, uniform-reference pricing rarely has a straightforward effect across all groups of drugs, but rather tends to vary in terms of reductions in price and utilisation. Prices and overall expenditure may decline for the uniform-price drugs, but this may be compensated for by increased expenditure on drugs not subject to uniform pricing or over-prescription of drugs. Uniform-reference pricing may contribute to transparency by erasing price differentials between similar products but, on its own, it is unlikely to contain expenditures on drugs.

Price regulation is often much weaker and less effective than other aspects of legal controls for health care market structure. In Cameroon, price regulation appears to be inappropriate simply because its implementation depends largely on detailed information of the cost structures of the private health sector being available. In practice, while capacity for enforcement is limited, private sector providers are reluctant to disclose the true structure of their financial data that can help to improve price regulation. However, even in countries with relatively high levels of resources, price regulation may have serious drawbacks in practice (Kumaranayake 1998).

Finally, there is always some kind of trade-off between prices of care and quality of care. Private sector providers substantially invest in high technology medical equipment and the attractive aspects of health care, which may lead to increased prices charged to patients. In the health sector, the assumption of perfect competition that markets trade in homogeneous products is deviated from because quality of care can be differentiated by different types of inputs used across providers (Bennett 1991).

5.3.4 The regulation of quality of private sector health services

The public interest literature emphasises the enforcement of minimum quality standards in the health care market that is characterised by asymmetric information between providers and patients (Ogus 1994). The theoretical literature suggests that if the quality of health services appears to be too low from the perspective of social welfare, regulating minimum quality standards may help to solve this problem associated with market failure (Shapiro 1983). But the private interest literature predicts that if quality of care is self-regulated in the presence of quality

uncertainty and asymmetric information, the minimum standards would be set too low/high and below/above the socially optimum level, thereby protecting the private interests of those private providers who already operate in the health care market (Gehrig and Jost 1995; Leland 1979).

Operationally, in Cameroon, the Medical and Paramedical Councils were empowered to monitor and enforce regulations on quality of care through the implementation and dissemination of the code of medical ethics across the country. The existing regulation emphasises minimum standards of quality of care, defined in terms of the level of care, skills, equipment, supplies and drugs which are recognised as medically acceptable and appropriate to properly treat disease. The HSSP further distinguishes between the technical and interpersonal aspects of quality as well as the amenities of care. In this regulatory framework, *“the technical quality of care refers to how well medical and biomedical sciences and knowledge are applied to the diagnosis and treatment of the clinical illness. The interpersonal quality of care simply refers to the responsiveness, friendliness, and attentiveness of the clinical staff in interacting with the patient. While the amenities of care are concerned with the appeal and comfort of health care facilities”* (MoPH 2001b). This regulation of health facilities and health professionals aims to increase the quality of their health services and thus to protect the public interest in the health care market.

From the perspective of ensuring quality of care, the statutory laws that establish the regulations define the functions of health care providers and limit the performance of these functions to licensed health facilities and/or health professionals. In Cameroon, a practical example is that *“the current regulation does not allow nurse practitioners to prescribe medication independently. This requirement effectively ties the services of nurse practitioners to the services*

of medical doctors and therefore reduces the ability of nurse practitioners to compete in the health care market with medical doctors” (Stakeholder interviews: public sector division, Medical Council, 2003). However, this restriction is suggested to be relatively more appropriate in public sector hospital-based health care than in the private polyclinics largely due to enforcement constraints. In addition, it is practically incompatible with the existing health care supply’s structure as the majority of health facilities are in the category of health centres, which are managed and staffed mainly by nurses, midwives, and paramedical workers who in practice prescribe a wide range of medications to patients. This finding is consistent with the current situation in some other African countries: for example, in Ghana, a proposed new regulation would formally allow nurses to own and operate a private practice; previously only medical doctors had been permitted to do so, although many had effectively been run by nurses (Asibuo and Ampofo 2001). The panoply of quality assurance regulations, even those which are made on purely ethical grounds, may be weak or unenforced (Bennett 1991; Havighurst 1986).

Given the background that depending solely upon self-regulation is unwise, Decree No. 2002/209 of 19th August 2002 empowers several units within the MoPH to complement the self-regulatory professional bodies in the control of quality of care. These government-based regulatory authorities carry out both registration and inspection duties, but their main inspection concerns relate to the structural and technical aspects of health care such as availability of relevant infrastructure, equipment, total number of clinical staff and their qualifications, workload per staff member, patient record keeping, type of services offered, and geographical location. MoPH inspections contribute to ensuring awareness and compliance with medical standards, quality assurance, safety of drugs and medical procedures.

In practice, it is very difficult to ensure that inspectors from the MoPH actually perform their regulatory duties better than professional self-regulatory officials. Policy-makers declared that: *“due to lack of funds, lack of equipment such as vehicles and limited number of inspectors, it is fair to acknowledge that the inspection units within the MoPH cannot inspect routinely all licensed private sector health facilities across the country. It may be true if some managers of private sector health facilities had told you that for a few months or years they had not been visited by an inspector from central and provincial levels of the MoPH”* (Stakeholder interviews: public sector, national level, 2003). This finding is consistent with the international literature as for example in Mumbai (India), the inspection authorities had admitted that they had not visited facilities in several wards for two to three years (India Today 1995). The regulatory functions may be more appropriate if the MoPH enhances the responsibility of district health authorities for carrying out supervision, monitoring, and evaluation tasks related to key inspection objectives and routinely forward their activity reports to provincial and central inspection units for final decision-making. This finding also suggests the need for allocating more resources to inspectorate units of the MoPH.

However, the recent adoption of the aforementioned decree indicated that the Cameroon MoPH had not strongly emphasised the regulation of private sector quality of care previously. As has been observed in other developing countries, private sector expansion occurred in a context of weak regulatory policies with no concurrent mechanisms to ensure adequate quality of care (Bennett 1994; Kumaranayake et al. 2003). The control of quality of care in the private sector of developing countries may be a critical problem as the number of ways in which the government can attempt to enforce minimum standards of care may be limited (Uplekar 1989a, 1989b). The

success of inspection-based regulation also depends on factors such as the availability of performance data and degree of providers' co-operation. In a number of countries, providers have argued that comparative data on hospital or physician performance are problematic in that they fail adequately to account for case mix (Edward et al. 1998).

In Cameroon, however, *“no accurate comparative quality of care data on health facilities and clinical staff are available; almost all private sector providers are too threatened to co-operate and they always seek to undermine quality of care monitoring because they have not complied fully with the required regulations”* (Stakeholder interviews: for-profit sector, district level, 2003). However, as predicted by the theoretical literature, for inspection agencies given the responsibility of implementing regulations, the rights associated with the implementation of regulation may be misused so that inspectors pursue their private interests (as when they accept a bribe in return for not reporting a substandard facility) rather than maintain quality standards (Savedoff 1998). Corruption may be further encouraged by the poor motivation of inspectors due to their low salaries. This has been found in other LMICs to have contributed to the ineffectiveness of inspectors who may not have reported some of the worst examples of malpractice or have prevented low standard facilities being closed (Kumaranayake et al. 2000; Mills et al. 2001).

The current regulation does not adequately prevent the misuse of privileges, medical malpractice and medical negligence amongst private health professionals/facilities. According to regulatory officials, *“there is quite widespread reported (technical) medical malpractice, which include: the delay or failure in diagnosing the disease, surgical error, the failure to gain the informed*

consent of the patient to do an elective surgical procedure, the failure to properly treat the disease process, and the misuse of a medical device. The regulation is not very effective on clinical grounds because of inadequate resources, but also everyone is familiar and it is often difficult to rule against guilty colleagues in an environment where patients don't know their rights as this will create personal problems between colleagues" (Stakeholder interviews: nonprofit division, Medical Council, 2003). This finding suggests that private providers would tend to lobby regulators to protect the reputation of their medical profession as predicted by the theoretical literature.

The Medical Council in Cameroon resists the involvement of government agencies in the increasing number of medico-legal problems involving health care providers. It particularly criticises the fact that there has been a tendency for certain law enforcement officers to go to health facilities in the case of an accident or the death of a patient and arrest the clinical staff without regard for legal procedures. *"If the medical malpractice is not checked it could complicate as well as destabilise some of the fundamental principles governing medical practice... Sometimes an invitation is given to a clinical staff member, who is then detained when he shows up at the police station"* (Stakeholder interviews: for-profit division, Medical Council, 2002). However, professional councils are themselves unwilling to deal with malpractice issues. This lack of enforcement is related to self-regulatory capture thereby necessitating the intervention of government's agencies.

The most successful strategy for improving the quality of care in Cameroon is the MoPH's primary health care policy, which determines a package of health services for all districts. This regulation

requires that all health centres provide the same minimum package of basic health services that emphasises the availability of affordable generic drugs across the district. Continuing education for clinical staff, particularly with respect to pharmaceutical prescribing practices are also emphasised for enhancing quality of care. This allows clinical staff, including physicians and nurses to stay abreast of changing practices and drug regimes.

The regulation of the production and distribution of drugs requires the technical and safety quality approval of the National Quality Control and Valuation Laboratory (NQCVL). In addition, the Inspectorate General in charge of pharmaceutical products and the Directorate of Pharmacy are empowered to regulate whether drugs can enter the market, the purposes for which the drug can be used and the diseases for which health personnel can prescribe the drug, and even the information contained in the drug package when it is sold to patients. This regulation of pharmaceutical products is a widespread requirement across African countries (World Bank 1993).

The regulation of pharmaceuticals is complemented by standard treatment protocols for common diseases of public health concern. The regulation of case management has resulted in malaria treatment policy guidelines that suit local incidence, distribution and degree of drug resistance. This regulation allows malaria service delivery only according to national guidelines and treatment protocols, and for uncomplicated malaria, the specified drugs are required to be available in every health centre in urban and rural areas as shown in Figure 5.2.

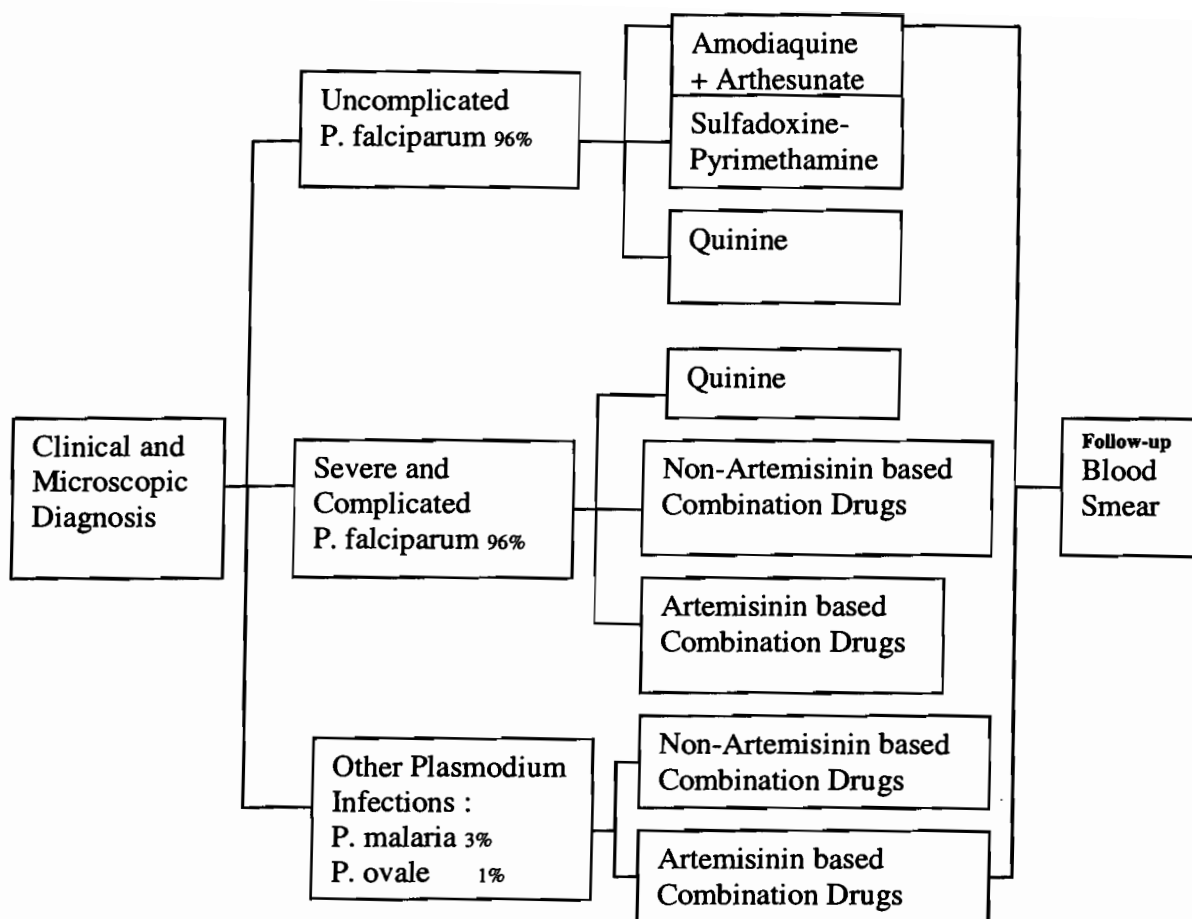


Figure 5.2: The malaria treatment policy guidelines for Cameroon in 2003

There is also a need to define and develop national patients' rights as a regulatory tool. Patients' rights regulation may function more effectively in guarding citizens' rights if sanctions can be applied to health facilities or clinical professionals that/who do not comply with the standards. It is worth strengthening consumer education and consumer organisations in order to have a widespread understanding of appropriate preventive and therapeutic measures. Well-organised consumer groups can take effective action to enforce standards through the judicial process.

In practice, there is already a slight expansion of several NGOs in health with the primary objective of protecting consumer interests. In the most recent example, AIDS activists through Cameroon's 'Réseau Ethique Droit et Sida', a local NGO on consumer rights and HIV/AIDS, has demanded that a clinical trial of an antiretroviral (ARV) drug on sex workers be suspended because it alleged that the rights of women volunteers taking part in the clinical trial were not sufficiently protected following allegations that sex workers were receiving inadequate counselling and medical care. These critics pushed the MoPH to launch an audit that has led to a temporary suspension of the clinical trial (Le Quotidien Mutations 2005).

The international literature indicates that civil society organisations such as NGOs can be powerful allies to government in ensuring effective regulation in the health sector. For example, consumer protection organisations can publicise cases where regulatory agencies have been captured, bring transgression of regulatory statutes to government regulatory bodies, support consumer claims, and educate consumers about consumer rights (Bhat 1999; Bennett et Ngalande-Banda 1994; Chinitz 2002; Mills et al. 2001).

5.3.5 Key issues in regulation

In summary, the regulatory framework and its enforcement appear to be important dimensions of context that influences private providers' behaviour. Most of the regulatory interventions used in the Cameroonian health care sector are in the form of legislated requirements some of which appear to be inappropriate just because part of them such as price regulation tends to be outdated or poorly enforced. The inappropriateness of regulation appears to be related to weak

institutional capacity of government to enforce and monitor legislated requirements. Regulation requires both staff and monetary resources for effective design, implementation, monitoring and enforcement. In Cameroon, there are several indications of regulatory failure including widespread corruption, dual practice, medical malpractice, unlicensed and unofficial medical practice, medical negligence, and the presence of a large number of informal and unqualified private providers as a result of low compliance with legislated requirements. In the presence of regulatory failure, private providers tend to pursue their private interests to the detriment of achieving public health policy objectives. Moreover, the nature of the regulatory interventions in place appears to depend on the way the health care system is organised, and how health care is produced and distributed. In the health system there are potentially many markets - for instance the market for supplies, for medical equipment, for health professionals, for pharmaceuticals and health care services all of which may require completely different regulatory interventions.

5.4 Integrating enabling and regulatory interventions for the private health sector

The experience so far from many low-income countries points out that regulation of the private health sector is ineffective, weak and outdated, particularly because of the government's lack of capacity including skills, financial, institutional, and information problems (Bennett and Ngalande-Banda 1994; Ensor and Weinzierl 2006; Hongoro and Kumaranayake 2000; Kumaranayake 1998; Kumaranayake et al. 2003; WHO 1993). Ministries of Health in many African countries have the "authority but not the capacity" to regulate (WHO 1991). Even self-regulation appears to have played a minimal role in controlling poor conduct of health professionals because medical and paramedical councils had tended to adopt a very passive

approach to regulation, failing to inform the general public of their role and waiting for consumers to bring complaints to them (Mills et al. 2001). The degree and nature of regulation of nonprofit providers will differ from that of for-profit providers to the extent that nonprofit providers have long-standing partnerships in working with the MoPH (Gilson et al. 1994; Mills et al. 2001; Salamon 2003). The existing experience suggests that the stick of regulatory mechanisms may be best tempered by the carrot of enabling measures or incentives (Bennett et al. 1994; Ensor and Weinzierl 2006; Vitale 2004; Walshe 2003). It is suggested that if there are no effective incentives for delivering quality services combined with missing penalties for non-compliance, it may be almost impossible to control the private medical sector (Asiwe et al. 1997).

The inappropriateness of regulation becomes apparent if viewed as a 'principal-agent problem' (Bennett et al. 1994; Gravelle et Rees 1992; Kumaranayake 1998; Kumaranayake et al. 2003; Laffont 2003; McGuire et al. 1989). From this perspective in Cameroon, the critical policy issues are concerned with the 'principal-agent relationship' where the government through the MoPH and/or self-regulatory bodies (acting as a principal) licenses the private sector and/or health professionals (acting as an agent) within the context of having a responsibility for ensuring the availability and provision of affordable, quality health services to all citizens in the country.

In practice, however, problems always arise in this 'principal-agent relationship' because the MoPH objective of universally equitable access to health care provision often conflicts with the private sector provider's objectives of generating higher levels of revenue or turnover through induced demand and related charges that contribute to increasing the level of either their profits

or surpluses. There is a need to balance enabling and regulatory interventions and look at what needs to be done in terms of the private sector; what the objectives of the interventions are and then critically assess whether an enabling or a regulatory intervention or a mix of both would best correct the market failure. This would be a strategic option because attractive incentives on the one side and manageable rules on the other side of the same strategy would make policy information more available about the private sector provider's decisions and the objectives of the MoPH. This is highlighted in this study by bringing together in a single conceptual framework both enabling and regulatory interventions in a way that can contribute to improving government's interventions to influence the development and behaviours of the private sector provision of health services.

Conceptually, designing enabling interventions that accommodate the health sector market's variables (quantity and distribution, prices and quality of care) is inherently complex. This complexity is partly due to the fact that appropriate enabling interventions should be related to the type and form of regulatory mechanisms. Findings from previous sections highlight that enabling interventions and regulation are two sides of the same policy, which ultimately attempt to improve coverage, access, efficiency, equity and quality of care provided by the private health sector. In practice, it appears that policy-makers cannot successfully implement one side without the other. This section addresses the need for greater understanding of enabling and regulatory activities by looking at whether they work together or conflict with each other in promoting and controlling private sector provision of health services in LMICs.

The analysis of appropriate interactions between enabling and regulatory interventions toward private sector provision of malaria services can shed light on the important role that integrated mechanisms can play in getting the interests of different actors in the health care market to converge. The evidence from this study suggests that enabling interventions can be used to influence the development and behaviours of private sector providers in ways that foster the achievement of public health goals of the country. It is suggested that by implementing simultaneously enabling and regulatory interventions, the substantial strengths of incentives would considerably reduce or compensate the key weaknesses of control mechanisms. Consequently, it appears that the integration of enabling and regulatory interventions may attempt to establish an environment conducive to the improvement of the private sector's performance in the delivery of malaria services even if health sector authorities adopt a very passive approach to regulation.

The liberalisation of the health sector environment can promote mutual trust and respect between public and private providers of health services. For example, public sector doctors can officially do private practice and private practitioners can refer/admit patients to a public hospital in case of severity or complications. Such interaction between public and private providers can strengthen their partnership in many aspects of clinical services. According to stakeholders, *“the liberalisation policies coupled with the political commitment at a high level of government, have substantially decreased some generally observed opportunistic behaviours such as self-referrals, over-prescription of diagnostic tests, fraudulent pricing of medical procedures amongst providers. They are now self-regulating themselves as in many districts, public and private practitioners are now in good partnership in almost all aspects of clinical and preventive health*

services ” (Stakeholder interviews: nonprofit sector, provincial level, 2003). While this appears to be the case in the existing partnership between government and nonprofit providers in the framework of the so-called third-party government (Salamon 1987, 2003), this self-regulatory behaviour may not necessarily occur in private for-profit settings. Technical support to the private sector through training opportunities adhere to a similar approach but from the perspective of expanding the choice and availability of clinical staff to the private health sector. Training (especially retraining or refresher courses) is a valuable input for enhancing the regulation of quality of care. This is because the existing regulatory frameworks have often been unable to restrain incompetent clinical staff who operate despite regular unethical behaviours such as “... *over-prescription of costly and powerful antimalarial drugs without parasitaemia blood confirmation, or unscrupulous prescription of well-know high parasite resistant chloroquine that has been withdrawn from the national malaria treatment guidelines...*” (Stakeholder interviews: public sector division, Medical Council, 2003). Although it is suggested that dispensing antimalarial drugs for microscopic confirmed cases is cost-effective, in many circumstances a microscope is not always available or functional at the delivery point, thereby highlighting the need to rely on clinical knowledge and diagnosis.

The mobility of health human resources drives trained and experienced clinical staff into the private health sector. Largely due to both secondment of clinical staff and early retirement from the public sector, many experienced staff have entered private practice thereby contributing to improving the quality of care in the private sector.

The emphasis on tax incentives in enabling frameworks appears to have influenced the regulation of the private health sector in Cameroon. Tax incentives are reported to be helping strengthen the ability of private health sector investors to meet the regulatory standards for building, infrastructure, medical equipment and supplies, procurement of pharmaceuticals, and staffing. Data from in-depth interviews revealed that: “... *Tax incentives have contributed to modernising many private health facilities as well as increasing their operating efficiency by decreasing prices of health care, increasing utilisation or market share and improving quality of care. With such positive incentives the regulatory mechanisms tend to be comprehensive and the level of compliance improves amongst private sector health facilities*” (Stakeholder interviews: nonprofit division, Medical Council, 2003). While the nonprofit health facilities generally commit themselves to operate in the direct interest of beneficiaries (Ben-Ner and Gui 2003; Krashinsky 2006; Rose-Ackerman 2003); their favoured tax exemptions and subsidies also rest on the belief that they are more likely to comply with existing regulations. This appears to give some advantages to nonprofit providers as compared to for-profit providers with respect to their ability to benefit from enabling measures or incentives for the delivery of malaria services. The contribution to covering recurrent costs through contracting out and subsidies may enhance the potential for private health facilities to expand their coverage and to improve equity and quality of health care to patients. Data from in-depth interviews highlighted that “...*in recent years, private nonprofit health facilities with contracting out agreements or subsidies, have provided a substantial volume of clinical services at affordable prices to underserved remote communities...*” (Stakeholder interviews: public sector, district level, 2003). But the nonprofit sector’s ability to provide health services at low costs and to align productive choices with the preference of their beneficiaries may also depend to a large extent on the nondistribution

constraint as well as trustworthiness (Anheier and Ben-ner 2003; Hansmann 2003; Vladislav 2006; Weisbrod 1998).

However, the available evidence based on different perceptions of stakeholders suggests that enabling interventions can adequately influence the behaviour of private health care providers as well as partially resolve the acute problems of weak capacity for the regulation of the health sector in Cameroon. The government can use its power over the legislation, the allocation of scarce resources and provision of public information to structure enabling interventions which are both in the interests of private sector providers and the public while also ensuring enforcement of regulation that is in line with national health system goals. Those enabling interventions can offer to private health providers a wide range of business opportunities and incentives: ease of entry requirements, basic training, refresher courses, career prospects, reputation and reward for good clinical practice, access to capital and tax incentives, contributions to recurrent costs (contracting out and subsidy agreements), etc.

Theoretical models suggests that private providers would compete for obtaining (non-) financial incentives, but in order to be eligible for such opportunities and incentives, a private health sector provider must run a registered official facility and must comply with and meet the standards of existing regulation in terms of geographical location, equity in pricing and providing a minimum quality of care. It is from this perspective that as an invisible hand in seeking to realise their private interest from enabling interventions, private sector providers self-regulate themselves and so indirectly achieve the regulatory objectives of protecting the public interest. As the results of interviews point out “... *the management of incentives for private sector*

providers appears to be more operational and adequate with our limited resources. It is up to private providers themselves to show and prove the consistency of their compliance to regulation and performance in the delivery of health care... Only when both compliance and performance are satisfactory can they expect to be a part of beneficiaries of our retraining programme, reward for good practice, contracting out clinical services, subsidies, other incentives, etc..."

(Stakeholder interviews: public sector, provincial level, 2003). According to district health officers, *"those private sector providers who had been awarded direct government subsidies or medical equipment tax-breaks, training, secondment of staff and donor-driven financial and in-kind supports were observed to behave in such a way that has improved coverage, access, quality of health services as well as relatively low price of care at the point of delivery"* (Stakeholder interviews: public sector, district level, 2003).

Qualitative data suggests that integrating enabling and regulatory interventions can contribute to achieving the objectives of different stakeholders including government bodies, donor organisations, professional organisations, the private sector, and consumer organisations. Thus enabling and regulatory interventions, when combined, appear to be the policy tools by which to address the principal-agent problems in the health sector. This is also in line with the international literature which suggests that appropriate incentives can be used to influence the behaviour of private sector providers in a way which promotes public health goals (Bennett et al. 2001; Blumenthal and Hsiao 2005; Chinitz 2002; Ensor and Weinzierl 2006; Preker, Harding and Girishanker 2000; WHO 2000a; Vitale 2004; World Bank 2004).

The available evidence from previous sections appears to support the argument for integrating enabling and regulatory interventions. Given that a relatively appropriate regulation requires substantial resources for gathering information and enforcement, the operational application of such integration would emphasise some specific enabling interventions the MoPH can use for influencing adherence to the regulatory variables in the health care markets. Although the analysis of integrated enabling and regulatory interventions will be substantiated in chapter 6, Table 5.5 summarises potential enabling interventions the MoPH should emphasise in order to self-regulate the health sector market within the context of weak capacity for enforcement.

Table 5.5: Potential enabling interventions that would influence adherence to key regulatory variables (quantity, prices and quality of health services)

Enabling interventions	Regulatory variables
• Ease requirements by reducing the number of years of experiences from 5 to 2 years for medical doctors and paramedical staff • Early retirement from the public sector to undertake private practice in underserved areas; • Permit public sector staff to undertake official private practice only in the defined evening hours, week-ends, and holidays; • Secondment of public sector staff to private sector health facilities • Government guarantees to financial institutions to ease loans for the private health sector. • Tax-based incentives: tax-breaks, tax-exemptions, preferential custom tariffs or duty free status on purchased and / or imported malaria related equipment, supplies, and other basic medical commodities for private sector facilities in poor urban neighbourhoods and remote rural communities. The criteria for benefiting should include specific restrictions for not charging patients the full replacement costs of inputs • Direct government loans, subsidies, and contracting out clinical malaria services to private sector health facilities located in poor urban neighbourhoods and remote rural communities • Government direct financing of start-up capital for the establishment of mutual health insurance schemes in rural and urban communities • Ease the accessibility of private providers to government highly subsidised generic antimalarial drugs and other essential medical supplies and commodities • Government supports to locally-based pharmaceutical companies for the production of generic antimalarial drugs, ITNs and other basic medical equipment and supplies. • Government support for private sector admissions/referrals of malaria patients to public sector through rewards for best practice (early admissions or referrals) • Regular public sector training and refresher courses involving private sector clinical staff • Dissemination of malaria control guidelines to private sector providers in poor urban neighbourhoods and remote rural communities • Government dissemination of information to all stakeholders in the health sector through media, MIS, direct correspondence, seminars and workshops • Government supports to establish national patient's rights through consumer protection organisations.	• Quantity and distribution of private sector health facilities • Quantity and distribution of trained and experienced clinical staff in the private sector • Quantity and distribution of medical structural inputs: buildings, infrastructure, and equipment in the private sector • Quantity and distribution of medical process inputs: drugs, supplies and other basic commodities in the private sector • Amount and sustainability of medical financial resources in the private sector • Costs and prices of health services in the private sector • Structural and process quality of care in the private sector • Perceived quality of care in the private sector • Awareness and compliance with regulations amongst stakeholders • Role of patients for dealing with medical malpractice in the private sector

Source: Author's own design

The available evidence suggests that enabling and regulatory interventions are somewhat aligned at the moment, but could be strengthened by further restricting access to enabling incentives not only to formal compliance with regulatory interventions (such as being officially registered) but also by assessing actual performance in relation to coverage and distribution, price levels, and quality of care. Thus, enabling interventions by self-regulating the key health care market variables (quantity, prices and quality) would approximate the objectives of the MoPH and the private sector providers. This can resolve the 'principal-agent problem' at low transaction cost for government. This can occur because in the process of interaction between enabling and regulatory interventions, some costs can be reduced, self-contained and/or transferred from the principal (government) to the agent (private provider), particularly when private providers become responsible for ensuring adherence to key regulatory variables. Enabling interventions provide some relatively appropriate incentives for private providers to behave like this as they allow them to maintain good partnerships, professional cohesiveness and to some extent achieve their private interests. As the integration of enabling and regulatory interventions can elicit greater adherence to regulatory variables amongst private providers, this may have considerable advantages in terms of reducing the level of resources (skills, finance, equipment, etc) and information needed for effective enforcement of regulation of the private health sector.

Meanwhile, this study has also demonstrated that there are a number of challenges to assessing the appropriateness of integrated enabling and regulatory interventions. The same interventions can produce different outcomes in different settings. Theoretical models predict that there can be conflicts and contradictions between enabling interventions and regulatory mechanisms; and between these and the public health goals of the national health system they are supposed to

support. Some aspects of enabling interventions can constrain the performance of the regulation of private health sector. The most likely negative outcomes of enabling interventions include the conflict between public and private interests of some stakeholders that can jeopardise the implementation of regulation. This indicates that there may not be definitive and static answers to the appropriate integration of enabling and regulatory interventions. The integration needs to be considered on the basis of each specific context of the health sector where enabling and regulatory interventions are implemented.

The potential for capture of enabling interventions also constrains the effectiveness of regulation. For example, public sector staff members who are permitted to do private practice can lobby the implementation process and secure strong enabling incentives for themselves and can use such advantages to promote their low standard private clinics. Those unexpected outcomes of enabling interventions may result from weak integration with regulation. Enabling interventions need to be accompanied by regulations that specify the rules of the game for different stakeholders. For example, these regulations may stipulate certain types, quantity and distribution of preventive health services to be offered in private clinics alongside curative services, recommended standards of medical inputs and procedures, maximum level of prices for given clinical conditions and a standardised guide for the prescription of subsidised pharmaceuticals. In addition, for enabling interventions to be appropriate in terms of equity, the regulations accompanying them might need to instruct private providers on compulsory access to health services for the poor. Anecdotal evidence suggests that unless the regulations clearly provide a framework for private (for-profit) providers to treat the poor or indigent, access to malaria services may continue to remain limited by people's ability to pay (Njoumeme 1997).

Moreover, the issues of post-contractual opportunism related to moral risk caused by the potential non-observability of certain behaviours and practice, which allows the private (nonprofit and for-profit) sector charged with providing public health services to pursue its private interests at the expense of public interest. Although integrated enabling and regulatory interventions appear to provide the framework for dealing with non-compliance such as punishments, in practice the likelihood of being caught and punished may be very low thereby limiting the relative effectiveness and efficiency of carrot-stick based integration of government's interventions. This suggests the need to still invest in the capacity of government to appropriately design, manage, supervise and monitor the integrated enabling and regulatory interventions for influencing the behaviours of private sector health providers.

While enabling interventions and regulatory mechanisms can differ from each other conceptually, they must be designed to fit together if a government is to have a coherent and sustainable environment for the development of the private health sector. Implementing enabling interventions alone is not sufficient to obtain the desired health policy outcomes. Integration appears to be a better way forward for appropriate enabling and regulatory interventions in the private health sector. Operationally, the MoPH might benefit from considering the following 'rules for integrating enabling and regulatory interventions':

- enabling and regulatory interventions are synergetic strategies of working with the private health sector for achieving the public health goals of the country. This indicates that enabling and regulatory interventions require systematic integrated implementation, co-ordination, supervision, monitoring, evaluation, and enforcement.

- enabling and regulatory interventions may conflict with each other but there should be no enabling interventions without linked regulatory mechanisms. This means that enabling and regulatory interventions are complementary amongst themselves and they can only be successfully implemented simultaneously in low-income countries.

In the health sector of many LMICs, the degree of relative appropriateness for enhancing performance may guide policy to change some aspects of the enabling and regulatory environment facing private providers in order to improve their responsiveness to those interventions. Thus, given the weak capacity of the MoPH and despite the existence of some conflicting issues and contradictions the key rule to successful integration is ‘no enabling interventions without regulatory mechanisms’. This integration is suggested to improve the national health system as a whole because the synergetic approaches undertaken will help strengthen the ability of the MoPH to achieve the national public health objectives.

The challenge is the understanding of an appropriate relationship between enabling interventions and health sector regulation because they involve multidimensional tools from often competing academic disciplines. Above all, the most complicated issues for the successful integration of enabling and regulatory interventions are concerned with the ability of the MoPH to perform synergistic co-ordination, supervision, evaluation and enforcement given the lack of resources in many developing countries.

5.5 Conclusion

The theoretical economic literature suggests a range of desirable and undesirable effects most of which appear to be empirically observed in the context of this study. Enabling and regulatory interventions can contribute to increasing the quantity and fair distribution of health facilities; to lowering the prices charged to patients; and to improving the quality of care in a way that meets people's expectation of the national health system. The constraints include enabling and regulatory overlap problems, lack of capacity for monitoring and enforcement, financial difficulties, ineffective decentralisation of activities, and resistance to enforcement of interventions. There is no coherent framework for the current fragmented enabling activities and no automatic formula to ensure successful implementation of enabling and regulatory policies as different partners appear to bring different strengths and weaknesses to the implementation of enabling and regulatory interventions. Enabling interventions that can influence the performance of private providers require regulatory mechanisms that can minimise commonly observed market failures. There is also an outstanding managerial problem related to the empowerment of the same officials simultaneously for designing and granting incentives as well as for setting and supervising the implementation of rules governing the health sector. These context specific constraints appear to limit the relative appropriateness of enabling and regulatory interventions for different types of (nonprofit sector and for-profit sector) health providers in Cameroon.

Chapter 6

Enabling and regulatory interventions and the performance of private sector facilities, with particular reference to malaria services

6.1 Introduction

In Cameroon, while private sector health facilities play a significant role in the delivery of malaria services (see Chapter 4), are enabling and regulatory interventions appropriate for influencing their performance? The available evidence indicates that there are substantial enabling and regulatory interventions which aim to promote and control the private sector provision of health services (see Chapter 5). This chapter substantially explores the extent to which enabling and regulatory interventions are appropriate for influencing the performance of private sector health facilities.

Given that there are many ‘confounding’ factors that can influence performance, this analysis does not attempt to establish direct causal relationships between enabling and regulatory interventions and health service performance, but instead it uses a mix of theoretical and empirical literature and qualitative data to consider whether or not parts of the enabling and regulatory interventions could be better shaped for influencing the performance of private providers. There are some instances where the limited evidence suggests that current enabling and regulatory interventions are appropriate for influencing the performance of private providers, which will be discussed where relevant.

The next section presents an overview of the state of the performance of private facilities which operate under the context of enabling and regulatory interventions. The subsequent sections examine: whether or not enabling and regulatory interventions are appropriate for influencing coverage and access (6.3); quality of care (6.4); costs and prices of health services (6.5); and key areas where it is critical to ‘influence’ the poor performance and undesirable behaviours of private sector providers (6.6). The last section draws conclusions arising from the analysis.

6.2 Overview of the state of performance of private sector health facilities under enabling and regulatory interventions

This section outlines the state of performance of private providers given the existing enabling and regulatory interventions under which they operate. It uses the available data from previous chapters to suggest an analytical overview of the performance of private sector providers. Performance is measured in terms of coverage and access, quality of care, costs and prices of malaria services. Tables 6.1a and 6.1b below provide a summarised analytical overview of the performance of private sector facilities by ownership. Two trends emerge in terms of relative performance of private sector health facilities. Table 6.1a suggests some good performance where enabling and regulatory interventions may be appropriate to sustain these desirable behaviours of private health facilities. Table 6.1b highlights a range of poor performance whereby suggesting that parts of enabling and regulatory interventions may be better shaped to address these undesirable behaviours of private health facilities.

Table 6.1a: Overview of relative good performance of private sector health facilities under enabling and regulatory interventions

State of good performance of private sector health facilities in the delivery of malaria and other public health services		
Ownership	Coverage and accessibility of services	Quality of services
The for-profit sector	• Good utilisation patterns and reasonable workload per clinical staff • Relatively good average (61 percent) and median (57 percent) bed occupancy rates. • High average and median volume of immunisation services provided • Management of severe malaria in about 88 percent of facilities • Management of malaria in pregnancy in about 94 percent of facilities • Microscopes with enough supplies in about 75 percent of facilities • Lowest travel and waiting times • Location in underserved middle-class urban neighbourhoods • Delivery of free condoms for HIV/AIDS prevention, free vitamin A capsules for child growth and survival, free ivermectin (mectizan) for river blindness (onchocerciasis) control • Delivery of subsidised family planning products, subsidised anti-tuberculosis, and subsidised antiretroviral for HIV positive patients	• Relatively good structural aspects of care • Less experience of stock-outs for amodiaquine and quinine • Lab confirmed microscopic diagnosis of malaria within two hours of request in about 94 percent of facilities • Use of experienced and trained clinical staff and laboratory technicians • Low over-diagnosis rate and improved process management of malaria cases • Good ability to manage severe malaria cases thereby reducing the risk of complications and deaths
	• Fairly good distribution between urban and rural areas • Serving low income (poor and indigent) patients • Highest utilisation patterns and workload per clinical staff • High average (72 percent) and median (63 percent) bed occupancy rates. • Sale/distribution of ITNs in about 77 percent of facilities • High volume of immunisation services provided • Microscopes with enough supplies in about 62 percent of facilities • Management of severe malaria services in about 69 percent of facilities • Sterilising equipment in about 77 percent of facilities • Location in underserved poor neighbourhoods • Delivery of free condoms for HIV/AIDS prevention, free vitamin A capsules for child growth and survival, free ivermectin (mectizan) for river blindness (onchocerciasis) control • Delivery of subsidised family planning supplies, subsidised anti-tuberculosis, and subsidised antiretroviral for HIV positive patients	• Free or subsidised low prices of ITNs and insecticides for pregnant women and children under five • Reliance on low cost clinical consultation for malaria diagnosis and treatment • Prescription of low cost and use of standardised generic antimalarial drugs • Relatively low prices charged to poor and indigent through cross-subsidised and discriminated pricing • Relatively low uniform market price of about US\$5.4 per ITN and about US\$0.77 per retreatment • Free or subsidised low prices of family planning products, anti-tuberculosis for DOTs, antiretroviral for HIV/AIDS patients
The nonprofit sector		• Good structural aspects of care • Relatively good clinical knowledge of malaria • Use combination of well skilled and untrained clinical staff • Lab confirmed microscopic diagnosis of malaria within two hours of request in about 92 percent of facilities • Prescription of generic antimalarial drugs in adherence to treatment guidelines • High reliance on clinical diagnosis of malaria

Source: Findings from Chapters 4 &5 triangulated with Manager interviews.

Table 6.1b: Overview of poor performance of private sector health facilities under enabling and regulatory interventions

Ownership	State of poor performance of private sector health facilities in the delivery of malaria services and other public health services		
	Coverage and accessibility of health services	Quality of health services	Costs and prices of health services
The for-profit sector	• Duplication and concentration of medical facilities and inputs in urban areas and low coverage in rural areas • Attracting high income (rich) patients • Sale/distribution of ITNs in about 50 percent of facilities • Sterilising equipment in about 44 percent of facilities • Procurement of generic antimalarial drugs from PCEDS by about 42 percent of facilities • Lab with oxygen equipment in about 31 percent of facilities • Lab with microbiology, biochemistry and haematology equipment in about 44 percent of facilities • Self-referral of patients from public sector to about 75 percent of facilities as a result of dual practice • Development of unofficial, unregistered and informal providers • Increased supplier-induced demand for diagnosis and treatment of malaria services • Some facilities operate outside the authorised premises and without adequate staff, infrastructure, standardised medical equipment	• Poor knowledge of clinical symptoms of malaria services • Lack of a written copy of national guidelines for malaria prevention and treatment in about 88 percent of health facilities • Prescription of non-recommended brand-name antimalarial drugs that are not in compliance with treatment guidelines • Experienced more stock-outs of paracetamol and SP • Dumping and cream-skimming of patients for profit motives in the self-referral cycle • cross-subsidisation of services • Low compliance with quality standards • Existence of technical or medical malpractice • Prescription behaviour influenced by advertising and marketing of pharmaceutical companies • Unusual working hours • Lack of involvement of district staff at an early stage of guidelines' elaboration	• High costs and prices charged for microscopic diagnosis • High costs of brand-name antimalarial drugs • Over-charging and over-servicing of patients in many urban neighbourhoods • High costs and prices arising from supplier-induced demand for rent-seeking motives • High direct and indirect costs to malaria patients in the process of self-referral circle • Heterogeneous price levels and often above the regulated threshold • Demand inducement for laboratory tests and medical procedures
The nonprofit sector	• Management of malaria in pregnancy in about 54 percent of facilities • Lab with oxygen equipment in about 15 percent of facilities • Lab with microbiology, biochemistry and haematology equipment in about 39 percent of facilities • Procurement of generic antimalarial drugs from PCEDS by about 36 percent of facilities • Self-referral of patients from the public sector to about 69 percent of facilities • Longer travel and waiting times. • Lack of awareness and compliance with Collaborative Act led to unlicensed local based associative and CIG health facilities • Locally made antimalarial drugs available in about 12 percent facilities	• High over-diagnosis rate of malaria cases • Lack of a written copy of national guidelines for malaria prevention and treatment in about 62 percent of health facilities • Low compliance with quality standards • Existence of technical or medical malpractice • Prescription behaviour influenced by advertising and marketing of pharmaceutical companies • Unusual working hours • Lack of involvement of district staff at an early stage of guidelines' elaboration	• High costs and prices charged for rich patients through discrimination and cross-subsidisation • High direct and indirect costs to malaria patients in the process of self-referral circle • High costs and prices arising from supplier-induced demand for rent-seeking behaviours through engaging in commercial activities

Source: Findings from Chapters 4 &5 triangulated with Manager interviews.

The private sector's good performance consists of, in some cases, expanding coverage and access, improving quality of care, and lowering costs and prices of malaria services. These desirable behaviours can be sustained by enabling and regulatory interventions. The theoretical literature suggests that appropriate enabling and regulatory interventions can enhance the private sector's service delivery capacity which encompasses the quantity and quality of buildings, infrastructures, equipment, supplies, drugs, trained clinical staff, financial and other resources.

The private sector's poor performance is concerned with low coverage and duplication of facilities in urban areas, over-diagnosis and over-servicing, unnecessary self-referral, demand-inducement, dumping-creaming-skimming, 'quicker but sicker' phenomenon, over-charging and high total costs, cross-subsidisation of services, poor structural and process quality of care, and development of unlicensed private practices. Parts of enabling and regulatory interventions can be better shaped for influencing the behaviours of private sector providers in these critical areas of concerns. The performance of private sector facilities does vary by ownership of providers. Detailed analysis of these trends are substantially developed in subsequent sections.

6.3 Enabling and regulating private providers for improving coverage and accessibility

Data available for this study suggest that in recent years, there has been a substantial growth of the private health sector, particularly the formal for-profit sector, in many urban neighbourhoods, some of which are poor and underserved, and in some remote rural communities. By using data from districts, the differences in age of operating health services between public sector, nonprofit

and for-profit health facilities were assessed with the purpose of shedding light on the recent development of the private health sector as shown in Table 6.2 below.

Table 6.2: Differences in age of operating between public sector, private nonprofit and for-profit health facilities in the three districts

Age of operating (years)	Public vs Nonprofit		Public vs For-profit		Nonprofit vs For-profit	
	Public Sector n = 16	Nonprofit n = 13	Public Sector n = 16	For-profit n = 16	Nonprofit n = 13	For-profit n = 16
Mean	22.3	13.2	22.3	4.9	13.2	4.9
SD	18.6	8.5	18.6	3.8	8.5	3.5
Minimum	2.02	4.02	2.02	1.0	4.02	1.0
Maximum	52	28	52	13	28	13
t value	1.51		3.68		2.54	
p value	< 0.141		< 0.000		< 0.017	

Source: Inventory questionnaire

Data from Table 6.2 suggest that the for-profit sector had on average been operating health services during the last 5 years, while the average age of operating was about 13 years for the nonprofit sector and about 22 years for the public sector. The difference in average age of operating is particularly significant between the public sector and the for-profit sector. Although the development of the private health sector can be related to multiple determinants such as macro-economic context, demand heterogeneity, unmet demand for public health services, contract failure and trustworthiness, the existing enabling and regulatory interventions appear to be appropriate for sustaining the growth of the private health sector. Indeed, the initiative of establishing an enabling environment for greater private sector provision of health services dates back to the structural adjustment programme imposed by donors in the early 1990s. The enabling environment for the private health sector has been substantially enhanced in Law No. 96/03 of 1996 which emphasised public-private partnerships in malaria control activities and subsequently through the Health Sector Strategic Plan (2001) and Decision No. 0334/MSP/CAB/29JUL 2002.

These committed national enabling policies appear to be consistent with the international literature that suggests a global awareness concerning the importance of the private sector provision of priority public health services (Bustreo et al. 2003; Marek et al. 2005; Mills et al. 2002).

Unlike many LMICs, Cameroon currently maintains a relatively complete database on the number and distribution of all formally registered private health facilities (674), including 408 nonprofit facilities and 266 for-profit facilities. Initiated in 1996 as a baseline component of the Health Map criteria under Law No. 90-036 of 10th August 1990, the first nation-wide list of private sector health facilities was established in 1999 and updated in 2002. This can contribute to overcoming the isolation under which many private sector providers operated as the MoPH can use the database for supervising and monitoring the private sector provision of malaria services. The lack of databases of private sector health facilities is one of the key factors limiting the appropriateness of regulations in many LMICs. For example, data on the number and distribution of formal private health providers were highly incomplete in Ghana, India, Sri Lanka and Zimbabwe (Mills et al. 2001).

The public interest literature suggests that private providers may respond positively to enabling and regulatory interventions which can be used to achieve health policy objectives such as coverage and accessibility. The liberalisation of the private practice environment as well as licensing requirements would expand coverage through increasing the quantity and distribution of practising private health providers thereby establishing the possibility for patient choice and improvement in physical/geographical accessibility. The maintenance of the database can be

sustained by further restricting access to enabling interventions not only to formal compliance with regulatory interventions (such as being officially registered) but also by assessing actual performance in relation to coverage, distribution and accessibility of the private sector health services. Enabling and regulatory interventions can improve the quantity, distribution and quality of clinical staff in the private sector.

The Cameroonian experience suggests that the early retirement from the public sector initiative and permitting dual practice coupled with training and experience requirements (spelt out in Law No. 90-036 and Decree No. 92-265-PM) to enter private practice, make available a greater number of trained and experienced clinical staff to private sector health facilities. These interventions appear to be appropriate for limiting the use of untrained, unlicensed and inexperienced staff in the private sector. Data on the distribution of clinical staff in three districts showed that about 63 percent of clinical staff (n= 127) work in facilities located in urban areas. Amongst staff who practice in urban health facilities, the highest proportion (50 percent) work in the private for-profit sector, the second highest proportion (34 percent) work in the private nonprofit sector and the smallest proportion (16 percent) work in the public sector ($P < 0.000$). While this may or may not reflect the picture of staff and other medical inputs in many similar districts of the country, it is clear that the existing enabling and regulatory interventions can enhance the staffing capacity of private sector facilities in urban areas. Moreover, this also suggests that the availability of trained and experienced staff in the private sector can improve both the utilisation and case management of malaria services in many previously underserved urban neighbourhoods. The results of in-depth interviews revealed that: “... *the availability of trained and experienced staff in the private sector led to their substantial involvement in early*

detection of diseases, particularly through many small private laboratory centres. These private laboratories have improved access to microscopes for definitive diagnosis of malaria cases, particularly in urban areas whereby improving utilisation of private sector facilities by many busy employed people ...” (Stakeholder interviews: private for-profit sector, district level, 2003).

Although expanding coverage and access to malaria services through private sector growth may depend on several factors, financial incentives appear to be particularly influential for improving the performance. The results of manager interviews revealed that: “... *Access to bank loans, tax-breaks and custom duty free status has permitted the construction of private medical buildings of recommended standards including laboratories equipped with basic infrastructure, sterilising, oxygen, microbiology, haematology and biochemistry facilities as well as the acquisition of microscopes, balances, fever thermometers and other essential supplies required for better management of malaria cases... Moreover, the private sectors’ procurement of ITNs, insecticides and generic antimalarial drugs was substantially linked to their access to government owned NCEDS and PCEDS, Malaria Tax-Breaks and Custom Duty Free, subsidies and external funding and local pharmaceutical industry’s sources”* (Manager, for-profit sector, 2002). This suggests that parts of the existing enabling interventions are appropriate for addressing the challenge of the lack of access to capital and other resources to expand and sustain quantitatively and qualitatively health services provided by the private sector. Some of these health services can be made accessible to populations in previously underserved communities.

Nevertheless, the availability of capital inputs is still a major constraint to the growth of the private health sector, although the magnitude of this constraint varies by ownership. The

common perception among stakeholders is that the private nonprofit health facilities appear to have fewer problems getting (start-up) capital, while access to investment capital remains relatively difficult for larger scale private for-profit health facilities. Indeed, the most rapid growth has been amongst urban based small scale private for-profit health facilities, which started as individual practitioner practices with not much start-up capital. It is suggested that while bank loans and health insurance benefited private for-profit health facilities more, most aspects of enabling interventions including tax-breaks, preferential customs tariffs, subsidies of generic drugs and clinical services, training support, and secondment of staff were more targeted to private nonprofit health facilities. This is consistent with the theoretical literature which suggests that nonprofit health facilities are traditionally favoured for public subsidies, tax exemptions, tax deductible donations and other public and private financing privileges (Anheier and Ben-Ner 2003; Weisbrod 1998).

The ease of obtaining non-financial and financial incentives appears to influence the utilisation of health services. The available evidence suggests that the private nonprofit sector performs better than the private for-profit sector in terms of total annual outpatient visits, uncomplicated and severe malaria cases, and the volume of chemoprophylaxis administered to pregnant women attending antenatal care units. However, the unique resource that can also improve the performance of private nonprofit health facilities in terms of high utilisation levels is a privileged link with patients particularly where they may enjoy a captive market, due to special links with community's associations, churches and social movements (Steinberg 2003). In addition, another possible explanation for the performance of private nonprofit facilities can be related to the "contract failure" argument (Hansmann 1980) which states that if patients cannot observe the

quality of health services in advance, they may rationally prefer to seek care at nonprofit facilities because of “nondistribution constraints”.

These findings suggest that while relatively easy access to a range of enabling interventions may be contributing to the performance of the private nonprofit facilities, these interventions should be better designed to influence the private for-profit sector provision of health services. Government should also improve the clearance procedures for imported medical equipment and commodities, provide a preferential rate of medical import duties, and address the issue of business and income taxes of private sector providers if it seeks to use the private for-profit sector to expand coverage and access to malaria and other priorities public health services. The limited evidence available for (subsidised) immunisation services (see chapter 4, Tables 4.2a and 4.2.b) suggests that ownership probably does not matter as private for-profit and public sector providers are just as likely as one another to deliver preventive services. It even appears that private for-profit providers deliver more immunisation services than private nonprofit ones. This appears to be consistent with the prediction of the theory of incentives that motivated private providers would offer an optimal volume of public health services at subsidised (low or free) prices thereby increasing coverage and utilisation. This finding resonates with the international literature argument that private providers will confer the services they are rewarded for offering (Blumenthal and Hsiao 2005; Mahmoudi et al. 2006; Yip and Eggleston 2004).

The private interest literature suggests that while private for-profit providers would tend to locate and duplicate their medical inputs in rich catchment areas, private nonprofit providers would tend to locate and concentrate in areas with more mission-related activities. This is in line with

the current situation in Cameroon where enabling interventions appear to be appropriate for sustaining the development of the private health sector, while the growth of the private sector does not necessarily evolve in compliance with existing regulations. It is suggested that most private sector facilities, particularly but not exclusively for-profit facilities, did not adhere to the Health Map based regulation that is an expression of certificate-of-need laws. The creation and opening of some private health facilities did not comply with the Health Map based requirements on the location, number of communities and population served, distance from the nearest health facility, staffing and other inputs. Findings from chapter 4 reported the problems of duplication and over-capacity with a tendency amongst well-established private for-profit facilities to be concentrated in urban areas.

Moreover, there is also a tendency amongst unregistered private facilities – often under the umbrella of an association or common initiative group – to expand in a way that does not avoid the duplication of facilities across districts. In addition, there is a growing number of unofficial private practices where a few health facilities use the same name, same labels, and same license. According to in-depth interviews, “... *if the licensing requirements were strictly applied, then the quantity and distribution of private health facilities would reduce considerably. Some private health facilities around the country open up several health facilities under a single license ...*” (Stakeholder interviews: nonprofit division, medical Council, 2003). During the fieldwork, there was little or no evidence that most private health facilities were actually being supervised by the Medical Doctors whose names appeared on the main entrances. Moreover, the lack of awareness and compliance with the Collaborative Act No. 0413/D/MSP/CAB led to the development of unlicensed and informal private sector providers. Findings from this study also suggest that most

locally based NGO and CIG health facilities were not registered with the MoPH. Moreover, a database on the number and location of informal pharmaceutical retailers and traditional health practitioners was highly incomplete across districts of the country. Thus existing enabling and regulatory interventions appear not to be sufficiently effective for monitoring and enforcing the use of licenses granted for private medical practice.

The overall findings suggest that in implementing enabling and regulatory interventions for private practice, the MoPH should emphasise the equitable location of capital and recurrent inputs across urban and rural districts. The MoPH should base any enabling interventions directed at encouraging private sector provision of health services on a solid evaluation of their potential for improving the compliance with regulations deemed most useful to the overall performance in relation to coverage, distribution and accessibility of the private sector provision of health services.

6.4 Enabling and regulating private providers for improving quality of care

This section briefly provides an overview of quality of care issues. It then analyses the appropriateness of enabling and regulatory interventions for improving specific aspects of structural and process quality of care. The theoretical literature suggests that where private providers are subject to enabling and regulatory interventions, then they would tend to provide relatively comparable high quality of specific public health services to both poor and rich patients in either rural or urban areas.

Overview of quality of care issues. The available data for this study (see Table 6.1a) suggest that private health facilities perform better than public facilities for some aspects of quality of care. Regulatory interventions such as licensing laws and other pre-requisites appear to be appropriate for enforcing the minimum standards of medical personnel, buildings, infrastructure, equipment, drugs, and other essential supplies in the private sector. For example, the existing regulation requires that “...*The clinical staff to be employed must have completed the minimum levels of education and experience required for private practice...*” (spelt out in Laws No. 90-036 of 10th August 1990 and No. 92-252-PM of 5th July 1992). The results of clinical staff interviews indicate that the vast majority of respondents in the private nonprofit and the private for-profit sector were of the view that by complying with the existing licensing and minimum standard requirements, the quality of care can be improved in their clinical settings.

Agency theory suggests that by competing to obtain (non-) financial incentives private providers would tend to behave as near perfect agents thereby addressing the problems of asymmetric information and post-contractual opportunism of moral risk in the provision of quality health services. Several aspects of enabling interventions can encourage the private sector to meet the required standards of medical inputs necessary for the improvement of quality of care. This can occur where conditions for benefiting from enabling interventions can be restricted to compliance with existing regulations. For example, the early retirement from the public sector to undertake private practice, secondment of public sector staff to private sector health facilities, government training and refresher courses involving private sector clinical staff appear to be appropriate for meeting the standardised skills required by regulations. Data from manager interviews revealed that in seeking to attend training sessions funded by government and external

donors, clinical staff had to be registered with their respective professional associations. This registration with the national Medical or Paramedical Councils constitutes an important step for self-enforcing compliance with regulations relating to the code of ethics about quality of care.

The public interest literature suggests that while licensed private providers would meet predefined conditions of structural and process standards of care, patient welfare would be further improved by enforcing minimum standards as private providers may have no incentive to offer high quality health services in the presence of quality uncertainty and differences in information. It is suggested that it would be very difficult for the Medical or Paramedical Council to successfully exercise control over non-members. A manager of a well-established private for-profit clinic in the city of Bafoussam (Health District of Mifi) declared that: “... *There is a general lack of law enforcement in the private health market, with the current regulatory requirements. Unauthorised even lower-level paramedical staff particularly nurses and medical assistants, have been able to enter the private health care market by claiming to be licensed by approved regulatory agencies, and unqualified people are now managing health facilities contrary to existing laws. Professional ethics do not seem to be an effective means of controlling the provision of quality health care to the communities...*” (Manager, for-profit sector, 2002). In general, these findings suggest that in the context of limited resources for enforcement which often causes the failure of regulations, the MoPH can use some specific enabling interventions (See Table 5.5) for enforcing compliance with the regulatory variables in health care markets.

Structural and process quality of care. The results of manager interviews revealed that: “...*with access to tax-breaks and custom’s duty free status, the management committee required*

the acquisition of most basic infrastructure and particularly malaria related equipment and commodities including fever thermometers, microscopes with enough supplies, laboratories with oxygen, microbiology, biochemistry and haematology equipment, and ITNs for sale or patient's use in this [private] clinic..." (Manager, nonprofit sector, 2002). This appears to be consistent with findings (see Table 4.4) which suggest that private sector facilities have demonstrated better availability of structural aspects of care. For example, access to tax-breaks, custom's duty free status and other financial incentives appear to be appropriate for facilitating the acquisition of microscopes that are generally imported from abroad. This, coupled with the availability of trained technicians, results in definitive microscopic diagnosis being more available and rapid in private settings. The use of microscopic diagnosis has led to a low rate of over-diagnosis and adequate management of malaria cases in the private sector. Anecdotal evidence also suggests that the regulatory requirements for recruiting skilled and experienced staff in private practice play a role in creating an awareness of the risk of over-diagnosis on clinical grounds alone and this appears to influence diagnostic behaviours in the private sector. In addition, permitting private providers to refer severe cases to public sector referral hospitals appear to be appropriate for improving the process quality of malaria case management.

The following analysis focuses mainly on the treatment of symptomatic malaria cases through dispensing antimalarial drugs according to the nationally recommended standards and guidelines. Data from manager interviews suggest that *"... The private sector's procurement of generic antimalarial drugs from NCEDS and PCEDS has reduced the likelihood of experiencing regular stock-outs and improved some degree of compliance with recommended guidelines..."* (Manager, nonprofit sector, 2002). This can explain the availability of recommended antimalarial drugs in

the private sector, particularly at nonprofit facilities. Findings from chapter 4 highlight that the private nonprofit sector was better stocked with amodiaquine, sulfadoxine-pyrimethamine and quinine than the private for-profit sector. But for-profit facilities had experienced fewer stock-outs for amodiaquine and quinine than public sector facilities (see Figure 4.3). These findings suggest that some specific enabling and regulatory interventions appear to be appropriate for both structural and process quality of malaria services in the private sector.

However, there was poorer knowledge of clinical symptoms amongst private sector, particularly for-profit, staff than amongst public sector staff. This evidence tends to be consistent with performance in terms of availability of malaria control guidelines across types of health facilities as shown in Figure 6.1 below. In general, if clinical staff pay attention to standards and guidelines of care, the systematic availability of guidelines for malaria services in health facilities can be potentially amongst the most appropriate ways of improving quality of care.

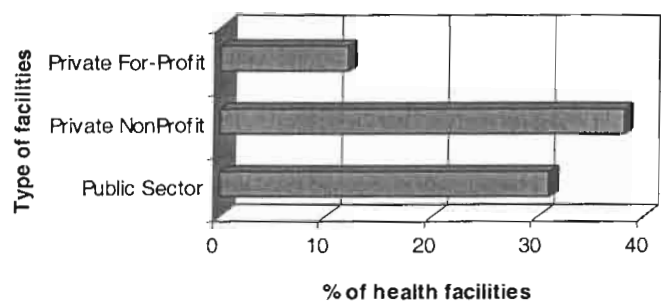


Figure 6.1: Percent of health facilities with a written copy of national guidelines for malaria prevention and treatment

Improving knowledge of clinical symptoms of malaria amongst private for-profit staff appears to be an important option for preventing the overuse of microscopic diagnostic tests. This is suggested to enhance the ability of clinical staff to more accurately identify which patients are likely to have malaria and should undergo definitive diagnostic tests. This could be promoted by improved access to the national guidelines as well as training directed at improving clinical diagnosis skills.

Data from staff interviews suggested that public sector staff were more likely to comply with recommended first, second and third line antimalarial drugs followed by private nonprofit staff than their private for-profit counterparts (see Table 4.5 Chapter 4). The finding arising from this analysis suggests that the availability of national guidelines for malaria treatment does markedly improve the level of compliance with the prescription of recommended antimalarial drugs across types of health facilities. However, the results of stakeholders interviews revealed that: *“while it is commonly accepted that the MoPH has the responsibility of setting standards and guidelines of health care, this policy often fails to fully achieve its objectives because the MoPH encounters difficulties in terms of limited amount of resources available for large dissemination, co-ordination, supervision, inspection, monitoring and evaluation particularly in the private health sector. In addition, the relatively strong influence of medical technology and pharmaceutical companies often leads to disagreement over the relevance of actual standards elaborated by the MoPH amongst health professionals. The advertising and marketing carried out by the so-called ‘medical delegates’ who are in fact local representatives of pharmaceutical companies usually have a large influence on many clinical staff prescribing practice because they always gave them free samples of advertised drugs which clinical staff often sell to their private patients to make*

money” (Stakeholder interviews: public sector, district level, 2003). This finding is consistent with the prediction of the private interest literature that where conflicts of interests exist and, this can lead to low compliance with recommended standards and guidelines. The stakeholders from the pharmaceutical industry substantially influence prescription patterns in the private health sector. This requires the attention of the MoPH in that pharmaceutical industry representatives should be included amongst key actors in the process of regulating quality of care, if it seeks to appropriately influence prescription behaviours in the private health sector.

Moreover, the evidence of clinical staff prescription behaviour suggested the rapid change to combination antimalarial drug therapies, with most clinical staff in all types of facilities currently prescribing either non-artemisinin based combinations (amodiaquine plus sulfadoxine-pyrimethamine, mefloquine plus sulfadoxine-pyrimethamine, and quinine plus tetracycline or doxycycline) or artemisinin-based combinations (artesunate plus amodiaquine, artesunate plus sulfadoxine-pyrimethamine, artesunate plus mefloquine, and artemether-lumefantrine). This prescription behaviour of combination antimalarial therapies was more pronounced in the private for-profit sector followed by the public sector and then the private nonprofit sector (See Table 4.5, Chapter 4).

Data from in-depth interviews revealed that: “... *Malaria case management across health districts in the West province has been greatly affected by the emergence and spread of antimalarial drug resistance. The treatment option generally reported by most clinical staff in improving efficacy and delaying the development of resistance was to prescribe the combination therapy for malaria treatment particularly at private health facilities ...*” (Stakeholder interviews: public sector, district level, 2002). This finding suggests that while at the time of the

study, the official treatment policy was that of monotherapy with recommended first-line drug (amodiaquine), second-line drug (sulfadoxine-pyrimethamine) and third-line drug (quinine) to be used, the private sector ignores this on the legitimate basis that there was some degree of resistance to those antimalarial drugs. However, other reasons for prescribing antimalarial combination therapies may be related to profit motives, patient demand, and lobbying from pharmaceutical companies. This evidence suggests that aspects of existing enabling and regulatory interventions aiming to make available generic antimalarial drugs through NCEDS and PCEDS, as well as training and dissemination of malaria treatment guidelines, appear not to be wholly effective in influencing prescription behaviours in the private sector.

In recent months, however, combination therapy has been introduced and advocated as an effective means of preserving the efficacy of antimalarial drugs and prolonging their useful therapeutic life. However, combination therapy may be widely unavailable and even unaffordable for a substantial proportion of poor malaria patients across districts. This requires the attention of the MoPH to direct enabling interventions, particularly financial incentives, to encourage the availability and use of combination antimalarial drugs. In fact, new grants from the Global Fund have enabled the MoPH to require both NCEDS and PCEDS to adapt their procurement of generic drugs to artemisinin based combination therapies as from February 2007 (Le Quotidien Mutations 2007). Nevertheless, there is still a need for mutual health insurance schemes to provide cover for combination antimalarial drugs, while government should direct subsidies to supporting the recurrent costs of combination antimalarial drugs for the private sector.

6.5 Enabling and regulating private providers with respect to service costs and prices

This section examines how enabling and regulatory interventions can encourage and require private providers to sustain affordable low service costs and prices charged to malaria patients thereby improving access and utilisation of formal health services. In theory, private providers may respond differently to enabling and regulatory interventions on the basis of their financial orientation. While private for-profit providers may seek to maximise profits, private nonprofit providers may pursue other forms of utility-maximisation as they are exposed to the nondistribution constraint associated to practice ownership and mission related activities as well as price and non-price allocation mechanisms.

The available data suggest that while permitting private providers to admit patients to referral public facilities appears to increase access to low prices charged in the public sector setting, the secondment of staff can reduce the recurrent costs of personnel in the private nonprofit sector. The rules for the secondment of public sector staff require that such staff continue to be paid on the government payroll while working in the private sector.

The procurement of highly subsidised generic antimalarial drugs from government owned NCEDS and PCEDS appears to be appropriate for lowering costs and prices charged to patients in the private sector. Access to NCEDS and PCEDS was restricted to compliance with regulation of maximum uniform-reference prices charged to patients by private providers. The results from manager interviews revealed that “... *The availability of locally made antimalarial products and access to malaria tax-breaks and custom duty free status have substantially reduced import and*

purchase costs thereby lowering the recurrent costs as well as costs and prices of antimalarial drugs, ITNs, insecticides and other basic supplies... In addition, the inflow of substantial external funding for malaria coupled with government contribution to recurrent costs has led to the large distribution of ITNs and insecticides for retreatment either free of charge to pregnant women and children under five or at fixed standardised low unit costs to the general population across private for-profit and nonprofit health facilities..." (Managers, nonprofit and for-profit sectors, 2002). This trend will continue as since February 2007, the generic artemisinin based combination therapies (artesunate+amodiaquine and artemether+lumefantrine) were subsidised for about 85% of their market prices (Le Quotidien Mutations 2007).

However, given the relatively high total costs (see Tables 4.7 and 4.8) observed in the private sector, it does appear that subsidised antimalarial drugs make uncomplicated malaria services more affordable than severe malaria services thereby leading to low access to complex needed care for poor patients. This denotes the private sector providers' departure from government subsidies' objectives of universal affordability and accessibility to uncomplicated and severe malaria services for the whole population. It suggests that private providers either over-prescribe drugs, use some kind of cross-subsidisation between uncomplicated and severe malaria and/or prescribe unauthorised brand-name drugs which are expensive but profitable. The triangulation of data from pricing policy document reviews, checklists, manager and patient interviews suggests that private providers have tended to comply with regulated prices by charging low fees for uncomplicated malaria as recommended by government, but they do charge high fees often above the authorised ceiling for severe malaria. This can permit private providers to earn substantial profits or surplus margins on the more expensive severe malaria services. This falls in

line with the international literature suggesting that price regulation can result in private providers generating demand for expensive health services with high-tech diagnostics, while affordable basic health services tend to be under-provided thereby leading to concerns about low – often falling - coverage of key public health activities (Eggleston et al. 2006; Jin et al. 2002; Liu et al. 2000; Mahmoudi et al. 2006). In addition, Meng et al. (2005) pointed out that in China the new drug-pricing policy did not work in controlling drug expenditures, because hospitals could maintain high drug revenues by increasing drug utilisation and shifting utilisation from drugs whose prices had been reduced to high-price drugs.

Cross-subsidisation can improve equity if poor patients who need uncomplicated malaria service receive it at low price, while (rich) patients who want more expensive severe malaria service pay enough for it to enable private providers to cross-subsidise the uncomplicated malaria service from their profits or surpluses on more expensive severe malaria service. The economic literature suggests that the nonprofit sector's pricing policies under a regulated fee schedule, particularly price discrimination, may result in a target population of deserving consumers is charged lower prices or nothing at all, while richer persons are charged higher prices. This can be used not simply to generate revenue, but to achieve the nonprofit's distributional mission (Steinberg and Weisbrod 1998).

Access to training and retraining activities may encourage some private nonprofit providers to rely on low cost clinical consultations and treatment with low prices recommended generic antimalarial drugs. Health insurance coverage of about 2 and 5 percent of patients in private nonprofit and for-profit sectors respectively can reduce the out-of-pocket payments required by

those insured malaria patients. This suggests that parts of enabling and regulatory interventions appear to be appropriate to facilitate the lowering the costs and prices of malaria services in the private sector. But the performance of private nonprofit providers in terms of charging low prices can also be influenced by trustworthiness, contract failure, and the nondistribution constraint as predicted by the economic theory of the nonprofit sector.

The economic theory of regulation suggests that under enabling and regulatory interventions, private providers would not use their market power to charge prices that vary markedly from the cost of providing the services. However, data available for this study highlights many situations where private providers appear to charge high prices for health services. This may occur for several reasons; for example, where private providers have access to bank loans to finance capital investment, they may be more likely to charge high prices of malaria services to recover the costs of acquisition, depreciation and bank interests. The results of clinical staff interviews revealed that experienced staff who retired from the public sector to join private practice were charging high consultation fees given their seniority and experience level. In addition, those experienced staff appeared to rely on microscopic diagnosis and brand-name drugs which are an important cost driver for malaria patients. The dual practice of public sector staff is suggested to increase the direct and indirect costs of malaria services for patients caught in public-private self-referral practices (See the next section of this chapter). The lack of compliance with the Collaborative Act No. 0413/D/MSP/CAB/99 results in the development of unlicensed NGOs which also engage in the provision of some commercial-like health services.

The evidence from this study also suggests that price regulation (Law No. 76-154 of 15th April 1976) appeared to be unsuccessful in keeping costs and fees low in the private health sector. The unit financial recurrent costs per patient day equivalent (PDE) as well as unit costs of personnel and pharmaceuticals were much higher in the private for-profit sector, followed by the private nonprofit sector, than in the public sector. Prices charged to malaria patients as well as the reported average total direct and indirect costs to patients were also higher in the private for-profit sector, followed by the private nonprofit sector, than in the public sector. Thus, parts of enabling and regulatory interventions need to be better shaped to improve the efficiency as measured by unit costs and prices charged to patients. This suggests that enabling and regulatory interventions do not provide adequate incentives to stimulate efficient costing and pricing of health services in the private sector. But theoretical models suggest that it is necessary to be cautious about the issue of cost containment as private providers can use it to economise on the quantity, type and quality of health services thereby undermining public health goals. The high total costs in the private sector also suggest that there is probably a weak relationship between enabling interventions and the resources required or the actual costs for delivering health services.

The MoPH needs to reconsider and seek ways of enforcing the strategy of enabling and regulating the prices of health services in the private sector. It may be that the most likely strategy in relation to reducing prices is to promote competition. One interviewee noted that “... *Given the level of competition for patients between private and public sectors, some private for-profit health facilities were forced by market structures to decrease their prices as low as marginal cost levels*” (Manager, for-profit sector, 2002). However, there are considerable, both

theoretical and empirical, disagreements over using competitive models for health service delivery. Theoretical models suggest that competition is likely to exacerbate existing problems as private providers are more likely to be opportunistic by manipulating prices as well as volume of services. In a market for experience goods like health services, competitive pressures make patients vulnerable to exploitation by asymmetrically well-informed providers (Eggleston et al. 2006). Since the regulation emphasises uniform pricing, it is unlikely that price competition can be sustained, but instead it is suggested that private providers would be more likely to focus their competition on service quality (Shapiro 1983). In addition, private nonprofit providers are more likely to price-discriminate and to choose the lowest prices, that may sometimes even be below the marginal costs of serving their patients, in order to fulfil their redistributive mission and social objectives (Areson 1986; Sloan 1998; Steinberg and Weisbrod 1998).

The MoPH can still use the NCEDS and PCEDS to deal with the direct costs of antimalarial drugs across health facilities. In practice, the MoPH should identify several broad groups of antimalarial drugs categorised as most essential for primary health care. Those essential antimalarial drugs which are distributed through the governmental supply network should be subject to administrative controls of wholesale and retail prices at health facility level. Uniform maximum retail pricing of generic antimalarial drugs should be clearly enforced by NCEDS and PCEDS. However, the structures of uniform retail pricing should take into account the profit or surplus margins according to ownership: public sector, nonprofit and for-profit health facilities.

The MoPH can also link financial-incentives to some aspects of exemption policies and price discrimination between poor and wealthier patients. This study also looked at understanding

whether private sector pricing practices took into account the ability of people to pay fees. Data from interviews suggest that about 45 percent of managers informally assessed their patients' ability to pay and charged them according to this subjective judgement. Amongst managers who assessed the patient's ability to pay, about 64 percent were from the nonprofit sector; about 30 percent were from the for-profit sector; and only 9 percent were from the public sector. Most managers of nonprofit facilities declared that patients were not usually turned away because they could not pay the fixed prices charged; further they offered an affordable treatment with the opportunity for low income patients to defer payment. If patients were subjectively judged to be too poor to pay, then they were sometimes asked to pay in kind with their labour by helping to clean the health facilities. This study did not provide data that can be used to investigate the potential problems of price discrimination whereby very poor patients may be given an alternative inappropriate low quality treatment for the equivalent lowest prices or in-kind payment. The literature suggests that the private nonprofit providers often use voluntary pricing discrimination where they can charge different fees, while they provide almost the same health services to all categories of (rich, poor, indigent, disable, etc.) patients (Ben-Ner 1986; Steinberg and Weisbrod 1998).

6.6 Key areas of poor performance and undesirable behaviours of private providers

This study identifies at least three key areas which appear to be critical for influencing the poor performance and undesirable behaviours of private providers. In general, the available data suggest that opportunistic rent-seeking behaviours by private providers are prevalent, the dual

practice of public sector staff tends to exacerbate the problems of unnecessary self-referral of patients, and the issues of informal providers of health services are unresolved.

Opportunistic rent-seeking behaviours. Some analysts argue that if the primary objective is to maximise their profits, then private for-profit providers would not behave for the good of citizens and cannot contribute much to achieving the public health goals of the national health system (Roemer 1984). Similarly, if the scope of commercial activities is dominant, then private nonprofit providers become merely 'for-profits in disguise' thereby supporting the fundamental criticism that neither market nor government failures can be overcome by nonprofit providers as they are transformed into rent-seeking entities (Ravichandran 2006; Weisbrod 1998). While it is commonly accepted that profits or surpluses are the difference between revenue and the cost of the health care, private providers can maximise profits or surpluses by lowering costs and/or increasing the quantity or prices of malaria services (Bennett et al. 1994). The extent to which these rent-seeking behaviours occur is challenging the opportunities of using the private sector to improve health service delivery in LMICs.

The theoretical literature suggests that a competitive health care market would under-provide health services which have external benefits thereby raising prices and diluting quality in the presence of excess demand for public health services. Indeed, both the private interest and agency theories suggest that poor performance and undesirable behaviours would result from opportunistic rent-seeking and private providers as imperfect agents would take advantage of their asymmetric knowledge, power and responsibility in the delivery of experience goods-like medical services.

As indicated earlier, the costs and prices of malaria services can be lowered by using some aspects of enabling interventions. An adequate quantity and quality of malaria services can be maintained by enabling private sector provision and enforcing compliance with treatment guidelines and a code of medical ethics. From this perspective, the role of enabling and regulatory interventions is preventing opportunistic rent-seeking behaviours such as excessive prices and/or over-supply and induced demand of malaria services across different types of health facilities. As predicted by theoretical private interest models based on regulatory capture, however, the evidence from this study suggests that private providers were seeking to protect their own interests at the expense of patients by resisting enabling and regulatory interventions that tend to limit their revenue. Indeed, opportunistic rent-seeking behaviours are still prevalent as many providers manipulate the quantity of care as well as prices to increase their revenue. This can be categorised as ‘administrative medical malpractice’.

The results of FGDs with pregnant women confirm this so-called ‘administrative medical malpractice’, particularly in urban areas and not restricted to the private sector. The experience of a young pregnant woman in the city of Bafoussam is an illustration, as described in Box 6.1. Data in the box suggest that public sector and private for-profit providers are just as likely as one another to induce-demand and over-charge patients for health services. The evidence from Box 6.1 below appears to be consistent with the common concerns about supplier-induced demand, often driven by profit motives (Bennett 1997; McGuire 1985; Rice and Labelle 1989). This has been identified as a critical problem in low income countries where the profit motives of providers increase the likelihood that the most economically profitable, sometimes ineffective, malaria treatment services may be dispensed to poorly informed patients (Hanson et al. 2004).

Data from in-depth interviews revealed that the rent-seeking behaviours may not be limited to private for-profit and public sector health facilities: “... nowadays the nonprofit health facilities sell every single health service often at higher user fees that let people to think that they act more like private for-profit health facilities... You will even find some purely private [potentially highly profitable] expensive individual admission rooms and medical procedures in the private nonprofit settings... For instance, the behaviours of some nonprofit health facilities keep away at least unintentionally some people who suspect that pricing and servicing are not reflecting the traditional mission’s goals...” (Stakeholder interviews: consumer protection organisation, provincial level, 2003).

Box 6.1: Fraudulent overpricing of health care amongst providers in Cameroon

“My dear sisters do we think that we can solve this problem of fraudulent overpricing of health care amongst providers! Let me tell you my story of seeking malaria related prenatal care at both public and private hospitals in this city. In fact, when I was pregnant for about three months, I went twice for a prenatal visit at a public referral hospital, as usual during my first visit I paid maybe the normal consultation fees and then I was consulted by a medical doctor who certainly opened my new medical record for all period of my prenatal visit. Arriving the date of the second visit, I went to the same public hospital, but this time I was consulted in the same ward but by another medical doctor, but the surprise was that my previous record which was kept at the hospital has not been found, therefore I was asked to pay all user fees as a new visitor, which I did, and another second new record was opened for all prenatal consultation visits. During my third visit, I was sick of fever maybe simple [uncomplicated] malaria, I went to the same public hospital and in the same ward, the repeated surprise was that any of my two previous records was not available, I was asked to open my third new medical record by paying all user fees relating to new visitors. I turned down their request of repaying the same user fees twice, and I decided to quit this public hospital. I can remember that during these three visits, no single diagnosis test was recommended by any provider. Then, I moved to a referral private [for-profit] polyclinic, of course at private polyclinic, doctor received and consulted me with courtesies, I was complaining of fever and nausea, the clinical diagnosis was conducted, several diagnosis tests were performed in the laboratory of this polyclinic. However, my surprise was concerned about the likely overcharging of patients, how can you explain the fact that with my simple malaria, I paid US\$18.20 for consultation fees, US\$72.30 for laboratory tests. My blood was taken in the laboratory [blood smear for parasitaemia was performed] and three hours later while at home I received the phone call from the doctor of the polyclinic telling me that the result was positive and necessitated hospitalisation. I realised that he wanted me [induced the demand] for hospitalisation, but I feared that neglecting any medical advice could complicate the delivery in the future, I accepted to be hospitalised. Anyway I was feeling better and not vomiting, instead of giving me orally administrated drugs, but he preferred the intravenous drugs administration. He did not give any prescription to pay the antimalarial drugs outside the polyclinic, so that I cannot have any control over the drugs that were used for the treatment. But more surprises had to come, the hospitalisation fees were too expensive, for five days of hospitalisation I was charged to pay US\$256.93 divided as follows: bed fees per night US\$18.46, and antimalarial drugs US\$32.92 per day. I totally paid about US\$347.43 for simple malaria treatment, for me this is immoral, unethical and unacceptable” (Women Mifi).

These opportunistic rent-seeking behaviours can have important side effects, whereby manipulated user fees or volume of service may price out some malaria patients seeking adequate formal health services, while engaging in commercial sales' activities may distract the private nonprofit facilities from serving the mission-related public interest. Similar findings have been highlighted in other developing countries. For example, in Bombay, researchers observed both overcharging and over-provision of care (Yesudian 1994), while in Uganda, private clinics were motivated to dispense injections and other drugs to patients, regardless of medical appropriateness (Asiimwe and Lule 1993).

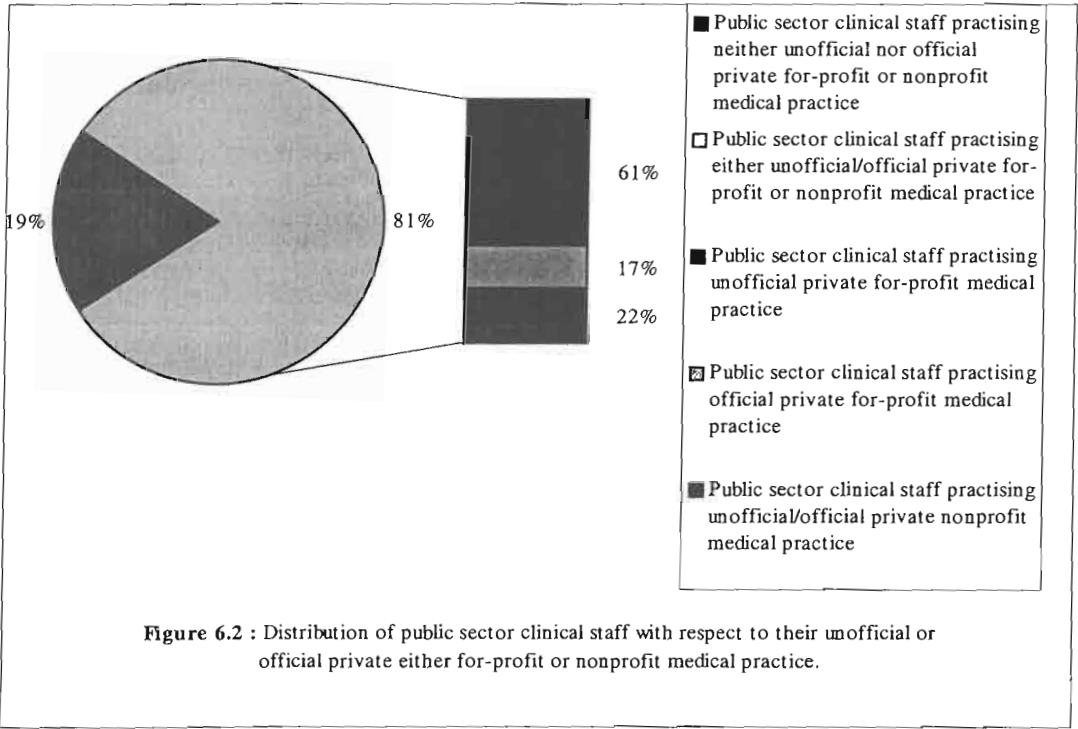
However, it is unclear whether this is the case in many health facilities in Cameroon, not least of all because private sector health facilities are reluctant to provide true financial information relating to the exact health service pricing policy. In addition, other available evidence for this dissertation suggests that private nonprofit and for-profit facilities may behave in systematically different ways as the nonprofit health facilities can price discriminate in an attempt to support their social-service mission of providing health services below marginal cost levels or even free of charge to indigent sick people in communities. Thus, the MoPH would need to improve the design of enabling and regulatory interventions to take account of the different opportunistic practice patterns and financial orientation of for-profit and nonprofit health facilities.

Private practice of public sector staff. In many LMICs, one of key health policy concerns remains the development of dual practice, where public sector staff undertake private practice in addition to their public sector activities. This occurs in Cameroon where according to both manager and staff interviews, most public sector staff engage in either official or unofficial

private practice. While conducting private practice after public sector duties can improve access to malaria for many people who prefer to seek care during evening hours, week-ends and holidays, dual practice may be very problematic for the achievement of national public health goals. The theoretical literature suggests that dual practice would result in poor performance and undesirable behaviours as it may make patients vulnerable to exploitation in the context of quality uncertainty and asymmetric information.

The existing regulation stipulates that *“subject to special enactment, civil servants and government contracted employees who are in active service or employed persons in general shall not be authorised to practise medicine on a private basis”* (Law No. 90-36 of 10th August 1990, Art. 13). This indicates that dual practice is not explicitly authorised, but public sector staff do not comply with this regulation. However, the general framework of rules related to civil service and the enabling environment arising from structural adjustment programmes are more permissive. In the early 1990s, the macroeconomic reforms under structural adjustment programmes led to a decrease of salaries in the public sector of about 50 percent. Given the low level of salaries, government enacted the Decree No. 94/199 of 7th October 1994 relating to general rules of civil service to implicitly permit public sector staff to top-up their income from part time unofficial private business in other social and economic sectors. Data from in-depth interviews revealed that *“health authorities implicitly authorise dual practice. Although top officials within the MoPH may not know the true proportion, at least they are aware that public sector staff undertake private practice. The economic crisis that led to the implementation of the structural adjustment policies considerably contributed to the decline of civil servants’ salaries. Given these conditions, government clinical staff are involved in part time private practice either*

at home or clinics. This private practice allows them to complement their low salaries from the government payroll...” (Stakeholder interviews: public sector, national level, 2003). Figure 6.2 presents the distribution of private practice amongst public sector staff. These data suggest that there are widespread dual practices with about 81 percent of public sector clinical staff engaging in private, either for-profit or nonprofit, medical practice.



Data from Figure 6.2 appear to be consistent with evidence from the international literature. Similar patterns of private practice have been observed in Thailand where about 90 percent of clinical staff who work in the public sector also work in private practice (Nittayaramphong and Tancharoensenthien 1994). Nevertheless, low paid staff are less motivated and when this combines with shortages of drugs and essential supplies in the public sector, have led to the development of unofficial and uncontrolled private sector health care activities (Lewis and Miller

1987, Bennett 1991). While dual practice has some advantages, there are also concerns particularly when this behaviour may result in the neglect of public sector duties thereby jeopardising coverage and accessibility for the majority of people.

These findings suggest that the current reality of dual practice needs to be addressed in the general context of health sector development in the country. In 2000, government enacted Decree No. 2000/287 of 12th October 2000 which emphasised special status with respect to career prospects for medical and paramedical civil servants working in the MoPH. This enabling intervention aims to encourage appropriate engagement and ethical behaviours amongst clinical staff working in the public sector. However, the availability of career prospects does not limit dual practice and opportunistic rent-seeking behaviour amongst public sector staff. According to in-depth interviews *“some medical doctors with privileges in high-level public sector facilities still maintain a private practice. They are able to provide medical consultations for their private patients within or outside these facilities, earning private fees for themselves. Such arrangements may be an important factor attracting underpaid medical doctors to affiliate with public sector health facilities”* (Stakeholder interviews: nonprofit sector, national level, 2003).

The most complex outcome of public sector staff dual practice can be categorised as ‘public-private practice self-referral’ where public sector clinical staff refer to their own private practice some patients who have the ability to pay for costly private health care. Figure 6.3 presents the public-private self-referral framework in Cameroon.

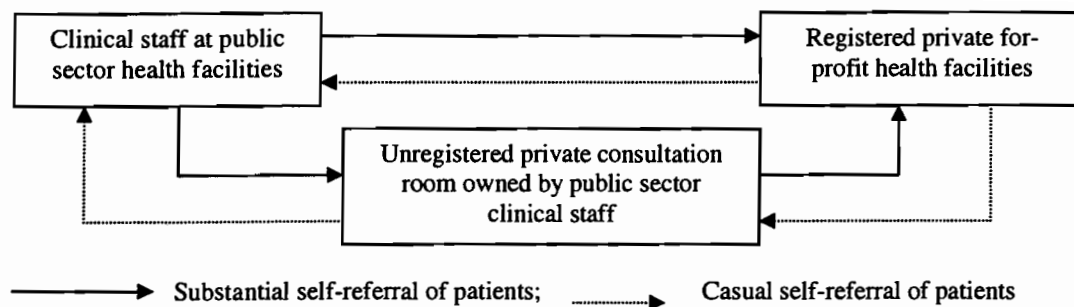


Figure 6.3: Public-private self-referral private practice circle of government clinical staff

Referral patterns in Figure 6.3 suggest that the ‘quicker but sicker’ phenomenon is occurring whereby patients can be discharged sooner than appropriate with an increased probability of being readmitted. It is suggested that this behaviour can be partly encouraged by the informal practice of paying back a percentage of the fees to the referring clinical staff if patients were not referred to her/himself in the private sector. This is an indication that while officially formal regulations commonly prohibit doctors, to whom referrals are made, from paying a portion of the fee back to the referring doctor, in certain contexts informal norms widely support this practice (Yesudian 1994).

The evidence from this study also suggests that many government medical personnel can only be consulted at public sector facilities in the morning as they proceed to their private practice in the afternoon and consult there until the evening. Data from FGDs revealed that “... *from the afternoon, many patients who attended public sector facilities did not meet a doctor and they were turned away and asked to come back the next day in the morning*”. FGD’s participants also reported the situation where “*government doctors practice [unofficially] at their [unregistered] home’s consultation-rooms early in the morning often up to 8:30 a.m. , then went for the government work where they usually started at 9:00 a.m. up to 1:00 p.m. and then proceeded to*

their private practice in the clinics” (Men Mifi). This is consistent with evidence from other developing countries which pointed out that government doctors were reported to refer the wealthier patients whom they saw in the public sector to their private practice and only work in the public sector for a few hours. For example, in India many doctors will work only a couple of hours in the government facility in the morning before proceeding to their private practice whereas in Thailand, government doctors tended to practice privately in evening hours and there was not the same abuse of government position (Mills et al. 2001). It was also found that government employed doctors in Brazil would meet patients in the public sector and then persuade them to seek any further care in the private sector – despite the considerable under – utilisation of public hospitals (McGreevey 1988).

Dual practice by government employees appears to be one of the main sources of the regulatory capture occurring in the health sector. Evidence from other developing countries indicates that regulation was not enforced often for fear of confrontation with public sector employees. In Sri Lanka for instance, the Government Medical Officers Association called all government consultants out on strike in protest against a proposal to prohibit dual practice by making doctors choose between working in the public or private sector (Mills et al. 2001).

Dual practice, particularly when clinical staff use their advantages and status to recruit patients for their private practice may have a significant negative impact on the performance of the public sector as well as the appropriateness of regulation in the private sector. While dual practice may encourage clinical staff to skimp on their public sector activities, to pilfer supplies, and to induce demand for their private practice (Bir and Eggleston 2003).

This evidence suggests that it is especially important for the appropriateness of enabling and regulatory interventions that the MoPH should seek to develop an explicit legislative framework to counteract the problem of dual practice. The strategic approach to deal with dual practice should be based on enabling interventions such as incentives rather than regulatory mechanisms of controlling the behaviour of public sector staff. This means that the MoPH will need to introduce and co-ordinate some specific enabling interventions across public and private health facilities. For example, financial incentives may include a 'non-private practice' allowance and an 'extra-payment' based on the number of patient consulted in the public sector. The financial incentives may be permanent and of sufficient size to make them worthwhile for influencing dual practice behaviours. These financial incentives coupled with existing opportunities for career prospects and promotion structures would contribute to retaining public sector staff. However, some challenges would remain in relation to developing, implementing and monitoring criteria for benefiting from such incentives and sanctioning non-compliance in the public sector. Hence, from the perspective of this challenge alone, it is an important area for further research.

Issues of informal providers of health services. The private interest literature suggests that licensed private providers would lobby enabling and regulatory authorities to erect barriers to limit the quantity and distribution of providers as well as to protect the reputation of the medical profession by not publicising medical malpractice. Consequently, licensed providers can maximise their private gains by charging high service prices which results in poor patients substituting licensed providers with alternative – often informal - private providers. In many districts of Cameroon, anecdotal evidence suggests that the informal private sector provides first contact, basic health care to many people. In recent years, the increasing number of unregistered,

informal, often untrained, private for-profit providers of health care has increased. The health professionals express their concerns that *“in Cameroon, there is free entry into the health care market and the government implicitly allows the unregulated establishment of informal private practices. Nowadays, we are witnessing a large increase in the scale of informal private sector providers of health care everywhere in the country. The government authorities do nothing to stop these unregulated providers who operate publicly in the market place”* (Stakeholder interviews: for-profit division, Medical Council, 2003). However, the phenomenon of unregistered private sector providers is not unique to Cameroon. They are widespread in many developing countries, where a high proportion of patients prefer to use private for-profit providers, ranging from qualified private medical practitioners to informal providers, despite higher fees than the official charges in the public sector (Brugha and Zwi 1998).

In practice, the services of informal providers are generally related to the sale and dispensing of drugs from street pharmacies and unqualified static and itinerant drug sellers. It is in this area of pharmaceutical distribution that the official and formal private, particularly for-profit, sector often collaborates with informal providers. Data from the facility inventory indicate that about 8 percent of formal private sector facilities purchased their antimalarial drugs from informal pharmaceuticals procurement sources. Amongst those who purchased antimalarial drugs from informal procurement sources, the majority (about 67 percent) were for-profit facilities, while the remaining 33 percent were nonprofit facilities. Informal suppliers, who generally use fraudulent channels for their procurement and distribution, may provide cheaper antimalarial drugs than the government owned essential drug procurement bodies and other philanthropic sources.

The MoPH appears to have difficulties in designing regulation for informal retail drug distribution. Indeed, the informal private health sector appears to be currently unregulated. The existing, largely unenforced, regulation consists of discouraging, prohibiting and banning the informal distribution of pharmaceuticals. Data from interviews indicate that “... *Antimalarial drugs that should be available only with a clinical staff prescription are often easily obtainable on the streets and in shops. Therefore, drug manufacturing quality standards are difficult to enforce and unregistered as well as counterfeit drugs are often widely available in the community*” (Stakeholder interviews: public sector, district level, 2003). When drug hawkers touring the villages sell the same drugs to people as patients are used to buying from formal health facilities, the community’s perception of the quality of care can be damaged forever. FGD’s participants declared that “... *I do really think that private clinic doctors now purchase their cheapest drugs from the street vendors. If not, why do they always provide for fever treatment the same amodiaquine or quinine like our drug hawker? (Women Foumban)*. In a separate FGD held in another community a woman declared that: “... *I was very unfortunate with my last visit at the private clinic as the doctor prescribed and provided for my sick daughter exactly the same drugs I bought and used for self-medication a day before my husband decided for her to seek care at this private clinic. I could have continued my self-medication with lowest prices of drugs bought from the street vendors...*” (Women Mifi).

The evidence about the use of informal providers appears to be consistent with research findings in other countries. For some high priority diseases, e.g. malaria, tuberculosis and sexually transmitted infections, in countries where the public infrastructure is limited, prevention and treatment cannot be substantially scaled up without considering how best to make use of contacts

with the private sector (Bustreo et al. 2003; Mills et al. 2002). The use of the informal sector for malaria treatment is very common throughout sub-Saharan Africa, where the majority of malaria episodes are initially treated by private providers, mainly through the purchase of drugs from shops and drug peddlers (Hanson et al. 2004; McCombie 1996; Deming et al. 1989). The key challenge should be to ensure that the practices of informal health providers contribute to, rather than defeat, public health objectives (e.g. promoting appropriate drug therapy to minimise the growth of parasite resistance).

The results of interviews also suggest that the MoPH can work better with the informal part of the private health sector by enabling and regulating its integration into a community-directed treatment strategy. This strategy presents more advantages than threats for the control of diseases of public health significance such as malaria and onchocerciasis. *"...We are not very much concerned with health care being provided by individuals in communities through community-directed treatment. If we consider the onchocerciasis control, the treatment is successfully provided within the community by community members, usually non-clinically trained; this is informal but under the supervision of the health centre. For malaria control, we are now moving from formal health facility-based care to informal home management of uncomplicated malaria. An episode of uncomplicated malaria will be directly treated in the household or community. If by chance a community member has (basic) clinical skills and is available to provide health care to other members or to supervise the home management, this constitutes an asset to capitalise. You may call that informal private community provision of health care, but overall it is a practical strategy of public health in a poor country, which can contribute to the successful*

control of some endemic diseases in our specific context” (Stakeholder interviews: public sector, district level, 2003).

This finding is in line with a recent policy trend that seeks to incorporate malaria control activities into the community-directed treatment strategy, thereby taking advantage of existing community based distribution networks. The community-directed treatment strategy, is the predominant intervention used by the African Program for Onchocerciasis Control (APOC) to control Onchocerciasis in meso- and hyper-endemic areas across sub-Saharan Africa. Community-directed treatment activities are sustainable when they continue to function effectively for the foreseeable future, with high treatment coverage, integrated into available health care services, with strong community ownership, using resources mobilised by the community and the government (McFarland et al. 2005; Ransome-Kuti O et al. 2000). Thus the use of enabling and regulatory interventions to integrate informal providers into community-directed treatment appears to be a strategic option for low income African countries. The MoPH should seek operational strategies including training prospects, subsidies for antimalarial drugs, ITNs, insecticides and other incentive measures to integrate informal providers into the community-directed treatment strategy. Integration of this nature can promise a number of benefits – multiplication of the public health benefits of informal provision, greater efficiency resulting from economies of scope, and the possibility of attracting new funding for enabling and regulatory interventions.

6.7 Conclusion and recommendations

The analysis in this chapter suggests that there are some instances where existing enabling and regulatory interventions appear to be appropriate for influencing the performance of private sector health facilities. The restriction of access to (non-) financial incentives to formally complying with licensing requirements such as being officially registered and where location is based on the health map criteria can contribute to the maintenance of a provider database, and thereby facilitate inspection and supervisory visits, and promote coverage and accessibility of private sector health facilities.

Access to financial incentives can enhance the acquisition of functional malaria related inputs such as microscopes thereby resulting in definitive microscopic diagnosis being more available and rapid in private sector health facilities. The availability of microscopes combined with the employment of experienced clinical staff is likely to improve the private sector's performance in terms of reducing over-diagnosis of malaria relative to the public sector. Moreover, access to financial incentives appears to be appropriate for lowering costs and prices charged to malaria patients in some private health facilities. However, it is also suggested that financial incentives should be better targeted at improving the operational capacity of private sector laboratories with sterilising, oxygen, microbiology, biochemistry and haematology equipment, as well as the procurement of subsidised antimalarial drugs from PCEDS. However, the theoretical literature suggests that performance is not only related to financial incentives. In particular, the performance of private nonprofit health facilities can also be influenced by the nondistribution constraint, contract failure, partnership as well social and economic mission-related activities.

Most parts of enabling and regulatory interventions should be better shaped for addressing the critical issues of: fraudulent overcharging and supplier-induced demand amongst providers resulting from rent-seeking behaviours; unnecessary self-referral resulting from dual practice of public sector staff; and lack of integration of unlicensed and informal private providers with the formal health system. Opportunistic rent-seeking behaviours where private providers manipulate the quantity of care as well as prices to increase their profits or surpluses are very problematic for efficiency in the health sector. Dual practice, particularly when clinical staff use their advantages and status to self-refer patients for their private interests, may have a significant negative impact on the performance of the private sector and/or the public sector thereby limiting the achievement of national public goals. The quality of antimalarial drugs distributed on the streets and in shops cannot be adequately influenced or monitored by the existing regulation. Consequently, a substantial quantity of unregistered as well as counterfeit drugs can be dispensed to patients in many communities thereby increasing the development of drug resistance and wastage of limited resources.

The MoPH should base any enabling and regulatory interventions offered to encourage and require appropriate behaviour amongst private providers on a solid assessment of the likely improvement in coverage and accessibility, structural and process quality of care, and costs and prices of malaria services.

The MoPH needs to address the critical issue of supplier-induced demand and overcharging by improving the financial environment facing the private sector, particularly for-profit, health facilities. The MoPH should promote access of private health facilities to subsidised antimalarial

drugs and other basic medical supplies from PCEDS, but with limits on the mark-ups permitted on these drugs. Policies for providing financial incentives should improve the ease of obtaining direct government subsidies and other public financing of operating costs, and preferential tax-breaks for medical inputs should be targeted more evenly toward both private for-profit and nonprofit health facilities. The MoPH should co-ordinate both the medical procedures and pricing strategy used across different types of providers thereby ensuring that the volume and prices for health services in the private sector are in line with recommended standards of current enabling and regulatory interventions.

The MoPH should address dual practice by focusing on enabling interventions such as incentives rather than regulatory mechanisms for controlling the behaviour of public sector staff. The MoPH will need to introduce and co-ordinate financial incentives to discourage private practice amongst public sector staff. These financial incentives may include a 'non-private practice' allowance and an 'extra-payment' based on the number of patients consulted in the public sector. These financial incentives should be permanent and sufficient in size, and when coupled with existing opportunities for career prospects and promotion structures should contribute to retaining public sector staff.

The MoPH should assess the feasibility and potential benefits of using non-financial and financial incentives including training prospects, subsidies for antimalarial drugs, ITNs, insecticides and other incentive measures to integrate informal providers into the community-directed treatment strategy.

In summary, this chapter concludes that given the state of performance of private providers, it may become important to restrict access to enabling interventions to compliance with regulatory mechanisms. Enabling interventions would always need to be accompanied by regulations specifying the rules for different stakeholders. In so doing the 'principal-agent problem' would be diminished along with the challenge arising from opportunistic behaviours, dual practice and informal providers in the health sector. Enabling and regulatory interventions appear to be a strategic policy option that can be helpful in influencing the performance of private providers if approached in an integrated manner, adequately resourced, implemented and monitored accordingly. Enabling interventions neither compete with nor negate traditional regulations in the health sector but seek to complement regulatory mechanisms by adding value from the perspective of influencing the private sector's behaviours.

Chapter 7

Conclusions and Recommendations

7.1 Introduction

This study aimed to improve knowledge on the use of enabling and regulatory interventions to influence the performance of private sector provision of public health services in low and middle income countries, with particular reference to malaria services in the three districts in Cameroon. Based on the study's objectives, this chapter draws general conclusions, highlights the main findings and thesis contribution to the advancement of knowledge, and makes recommendations regarding strategies for enabling and regulating private sector provision of malaria services in low income endemic countries, particularly in Cameroon. It also makes suggestions for future research in the area of enabling and regulating private sector provision of public health services.

7.2 Conclusions and findings on enabling and regulatory interventions and their appropriateness for improving the performance of private sector provision of malaria services in Cameroon

This study provides insights into the appropriateness of existing enabling and regulatory interventions for private sector provision of health services in low and middle income countries. The study has highlighted some findings that are somewhat unique to Cameroon and others that may be common to other LMICs strategies of working with the private sector in the delivery of public health services.

In general, the performance in malaria service delivery suggests two trends in terms of desirable and undesirable private sector provider behaviours that can potentially be influenced by enabling and regulatory interventions. First, desirable behaviours appeared to suggest that enabling and regulatory interventions could be a strategic policy tool for influencing the performance of private sector providers in terms of expanding coverage and access, strengthening quality of care, and lowering costs and prices of malaria services. Second, some undesirable behaviours still exist in private health sector settings thereby suggesting that parts of enabling and regulatory interventions should be better shaped for addressing market, voluntary and government failures.

The evidence from this study suggests that while there is a substantial public-private mix in the provision of malaria services, the private sector provides a more substantial proportion of malaria services than may have been realised. This important contribution of the private sector in the provision of malaria services could be enabled and regulated with committed efforts from government. Existing enabling interventions include several aspects of liberalisation policies, information provision, and financial and non-financial incentives. There is also a substantial legislative framework for regulating the quantity and distribution, quality and prices of private sector health services. Many of existing enabling and regulatory interventions appear to be appropriate – at least to some degree - for influencing the performance of private health facilities, but key areas exist where these public health policy tools should be better shaped for moderating the behaviours of private providers.

In general, findings of this study suggest that enabling and regulatory interventions appear to be a strategic option that the Ministry of Public Health (MoPH) can use to enhance the role of the

private sector in expanding coverage, strengthening efficiency and quality of care, and improving equity in the provision of public health services. In Cameroon, most of the private sector providers involved in the delivery of public health related services were eligible for a wide range of enabling measures and subject to regulatory interventions. There has been a substantial expansion of private sector provision of health services. In many districts across the country, private providers offer a wide range of clinical services often at health centre level with well-equipped laboratory and radiology facilities, which otherwise can only be found at public sector referral hospitals. The availability of these clinical services, often in underserved middle-class and poor urban neighbourhoods appear to contribute to improving population coverage, accessibility, and patient satisfaction. The private sector (nonprofit and for-profit) has made a substantial contribution to the provision of major public health services including subsidised family planning, subsidised antimalarial treatment and ITNs, subsidised tuberculosis treatment, subsidised antiretroviral treatment for HIV positive patients, and free immunisation services for children under 60 months. However, the location of health facilities is not always in line with the distribution of the population but instead it tends to be influenced by both the economic and social orientations of facility ownership. While public sector and private nonprofit facilities are frequently accessible to patients in remote rural communities, private for-profit facilities provide malaria services to a substantial proportion of the urban population. The location of different types of health facilities, particularly private facilities, is suggested to be in line with the prediction of the economic theories as well as existing empirical evidence from other countries.

The utilisation statistics indicate that while the majority of uncomplicated malaria cases were treated at public sector facilities, the highest proportion of severe malaria patients were admitted

to nonprofit facilities. The performance of for-profit facilities in relation to severe malaria was similar to that of public sector facilities.

In terms of structural quality of care aspects of malaria services, the performance was not in overall terms superior in a particular type of health facility. However, private nonprofit facilities have the best building and basic infrastructure, followed by for-profit facilities and lastly public sector facilities. Private for-profit facilities are better equipped with microscopes and other laboratory equipment than public sector and private nonprofit facilities. Private nonprofit facilities were better stocked with recommended antimalarial drugs than public sector and private for-profit facilities. Despite this relative performance, private sector health facilities still face a range of structural quality of care related challenges including insufficient medical infrastructure, equipment, supplies, recommended antimalarial drugs and other structural items, whose absence can reduce the quality of care and can drive up the cost of health services. This suggests a need to emphasise those enabling and regulatory interventions that can enhance the structural related aspects of health services in private health facilities.

The process quality of care aspects of malaria services indicate that while private for-profit facilities employ more experienced staff, knowledge of the full range of clinical symptoms is superior in public sector and private nonprofit facilities. Thus, private for-profit staff have less knowledge of malaria signs and symptoms which translates into less ability to make an accurate clinical diagnosis. The evidence from this study also highlights a relative reliance by for-profit staff on microscopic diagnosis while public sector staff predominantly use clinical diagnosis alone and nonprofit staff often combined both forms of diagnosis. Training prospects including

basic, retraining and refresher courses exist for the private sector, which are largely supported by multilateral, bilateral and international NGOs, to promote both nonprofit and for-profit sector provision of specific public health services. However, attending the training sessions was perceived to be a necessary but not sufficient condition for improving the clinical practice of trained providers. In particular, the prescription behaviour of staff did not always comply with the national guidelines for malaria treatment. Indeed, a written copy of the national guidelines for malaria treatment was not available in many private sector health facilities. Private sector, particularly for-profit, staff were frequently prescribing combination antimalarial drug therapies before this was adopted as the official treatment policy. The prescribing behaviour of private providers appears to be influenced by antimalarial drug resistance, patient's demand and rent-seeking motives. In addition, the relatively strong influence of medical technology and pharmaceutical companies often led to disagreement amongst health professionals over the appropriateness of standards recommended by the national malaria control programme. This suggests that while training can improve health providers' performance, enabling and regulatory interventions would be more appropriate if clinically trained staff face some targeted internal incentives that are intended to achieve a specific change in their behaviour. From this perspective, these targeted incentives refer to "all rewards and punishments that clinical staff face as a consequence of the organisations in which they work, the institutions under which they operate and the specific health service they provide" (WHO 2000a).

The evidence also suggests that self-regulatory bodies such as the Medical and Paramedical Councils as well as inspectorate units within the Ministry of Public Health have failed to monitor the quality of health services adequately. Many managers of health facilities, particularly in the

private sector, confirmed that for several months or years they had not been visited by an inspector or medical council staff member for purposes of quality control in the clinical setting. This suggests that while enabling and regulatory interventions to influence private providers' behaviours can help to reduce the service burden placed on government, they may be inappropriate where government lacks the capacity (e.g. resources) to oversee incentive measures supported by regulatory controls.

The performance in terms of costs and prices of malaria services suggests that while public sector facilities appeared to be the most financially accessible to patients across districts, private for-profit facilities were more expensive than the private nonprofit sector ones. The regulation of prices of health services appears to be relatively outdated as the current legislation on health care pricing was developed in April 1976. Moreover, the potential impact of this regulation can be hampered by the rent-seeking behaviour of those providers who increase the quantity of health services provided or engage in over-treatment that results in higher total costs to patients. This includes fraudulent supplier-induced demand for laboratory tests and medical procedures, incorrect hospital invoices, corruption and overcharging of fees for health care services with patients being asked to pay for more than the standard threshold of health care needed for their given clinical conditions. This suggests that enabling and regulatory interventions should be better shaped for moderating the high-pricing and over-servicing behaviour of some private (for-profit) health facilities.

Patient perceived quality of malaria services varied according to place of residence. While rural patients perceived the quality of care to be superior at private nonprofit facilities, the majority of

urban patients rate the quality of care at private for-profit facilities more highly. This study suggests that the population appears to be willing to pay the higher prices charged by private sector health facilities when they perceive the malaria services provided to be of higher quality. Across health districts it appears that the availability of private health facilities, which people perceive to provide higher quality malaria services, has drawn patients away from the public sector. The community's satisfaction with, and patients' acceptance of, a health service appears to be more a function of quality of care, than the prices charged to patients at health facilities. The health seeking behaviour of patients appears to be consistent with the contract failure and nondistribution constraint hypotheses.

The available data for this study also suggests that existing enabling and regulatory interventions appear not to be addressing the problems of opportunistic rent-seeking behaviours, self-referring and over-servicing of patients often resulting from dual practice, targeting the wealthier members of the community with strong willingness and ability to pay for expensive malaria services, etc. For example, most of the Ministry of Public Health officials in charge of decision-making and the implementation of health policies appear to have some implicit private interests to defend, but such private interests commonly conflict with the explicit official public interests that the Ministry of Public Health was supposed to pursue in order to achieve the public health goals of the country. Moreover, the two-step licensing procedures of a facility appear to have hampered compliance with the existing regulation in terms of standards of staffing, medical infrastructure, equipment, supplies and facilities. Once the authorisation for the creation is granted, some health professionals or facilities just start their private practice in the absence of the compulsory second authorisation for opening. The Ministry of Public Health's attempts to enforce regulation often

encounters resistance from owners, politicians, and other socially and administratively interested parties. In addition, the majority of so-called local Non Governmental Organisation or Common Initiative Group (CIG) based-health facilities were simply unlicensed private associative health facilities. Private informal providers, particularly retail drug distributors, are still largely unregulated.

The performance of the private sector appears to be more likely to be influenced by enabling interventions than by specific regulatory mechanisms. Although it is suggested that enabling and regulatory interventions can be more appropriate when they are used in combination or integrated into a single framework. Consequently, the integration of enabling and regulatory interventions is suggested as a strategic option for establishing an appropriate health system environment where decision-makers can successfully pursue public health goals, such as improving coverage, access, efficiency, equity, quality and user's satisfaction, even if health sector authorities adopt a very passive approach to regulation. The available evidence suggests that enabling and regulatory interventions in Cameroon are somewhat aligned at the moment. However, this could be strengthened by further restricting access to enabling measures or incentives not only to formal compliance with regulatory interventions (such as being officially registered) but also by assessing actual performance in relation to coverage, price levels, and quality of care.

7.3 Thesis contribution

This study contributes to the advancement of knowledge by exploring some of the current research gaps and unanswered questions in the area of enabling and regulating private sector provision of malaria services in low and middle income countries in the following four respects:

First, this study offers the first detailed exploration of the appropriateness of enabling and regulatory interventions aimed at influencing the development and behaviour of private sector providers of malaria services in Cameroon. It provides a set of data about the nature and appropriateness of existing enabling and regulatory interventions directed to private providers of malaria services within the national health sector. These data improve the understanding that interaction between enabling and regulatory interventions can approximate the objectives of multiple stakeholders (e.g. MoPH, Medical Council, consumer's protection organisations, patients, management of private health facilities and clinical staff) thereby contributing to addressing the widespread principal-agent problems in the health sector. Thus, enabling and regulatory interventions are suggested as a strategic policy option for influencing the development and behaviour of private providers of malaria services in low income countries.

Second, the study presents the only comparative empirical data on the performance of the public and private sectors in the delivery of malaria services in Cameroon. This analysis shows that the growing private sector provides a more substantial portion of malaria services than may have been realised previously. It also highlights that the private sector can contribute to expanding coverage, enhancing efficiency and quality of care and improving equity of priority public health

services in low income countries, if enabling and regulatory interventions are adequately resourced, implemented and enforced.

Third, the study contributes to understanding the interaction between enabling and regulatory interventions for improving the performance of private sector provision of malaria services in Cameroon. It suggests that enabling and regulatory interventions can broadly enhance the private sector's service delivery capacity which encompasses the quantity and quality of buildings, infrastructure, equipment, supplies, drugs, trained clinical staff, financial and other resources. The availability of these inputs can improve to some degree structural and process quality of care as well as the affordability of malaria services in the private health sector. However, the study also highlighted some areas where existing enabling and regulatory interventions have proved inappropriate in addressing market, voluntary and government failures. From this perspective, this study suggests that when it comes to undesirable behaviours, ownership is not the most important determinant as private for-profit, public sector and nonprofit providers perform similarly to one another in terms of: low coverage, concentration and duplication of medical inputs in areas with a captive market, over-diagnosis and over-servicing, unnecessary self-referral, demand-inducement, dumping, cream-skimming, the 'quicker but sicker' phenomenon, over-charging and high total costs, cross-subsidisation of services for private gain, over-prescription of drugs and shifting prescription to expensive brand-name but non-recommended drugs, poor structural and process quality of care, and the development of unlicensed private practices. However, undesirable behaviours appear to be more pronounced in private for-profit practices. The behaviour of nonprofit health facilities also appeared to be influenced by both the

nondistribution constraint and contract failure as predicted by the economic theory of nonprofit organisations.

Fourth, the study marks a step forward in thinking and knowledge about enabling and regulating the performance of private providers in a strategic way that can serve the public interest in the health sector. More specifically, it highlights the potential synergies between enabling and regulatory interventions. Enabling interventions neither compete with nor negate traditional regulations in the health sector but seek to complement regulatory mechanisms by adding value from the perspective of influencing private sector providers' behaviour. By implementing enabling and regulatory interventions simultaneously, the substantial strengths of incentives appear to considerably reduce or compensate for the key weaknesses of regulatory control mechanisms. The performance of the private sector appears to be more influenced by enabling interventions than by specific regulatory mechanisms. Thus, given the weak capacity or limited resources of low income countries to regulate the private sector, it appears to be inappropriate for the MoPH to try to influence the performance of the private sector provision of health services through regulatory mechanisms alone. This is implied because the resources needed for enforcement of regulations cannot be substantially strengthened in the short term, while enabling and regulatory interventions can be designed and implemented in such a way that it can be in the interests of the private sector to comply with regulations and to provide efficient, quality, equitable and affordable health services to populations. This can considerably reduce the level of capacity or resources (skills, finance, equipment, etc) and information needed for effective enforcement of regulation amongst private sector providers of health services in low income countries. However, government's stewardship role appears to be essential for appropriate

enabling and regulatory interventions and it is there is thus also a need to invest in the ability of government to oversee these enabling and regulatory interventions.

7.4 Recommendations

The following recommendations for operational health policies arise from the findings arising from this study:

Government needs to invest in its ability - improving capacities and governance, providing resources and logistics – to oversee the ongoing development, implementation, monitoring and revision of enabling and regulatory interventions for the private health sector. Investing in the capacity of enabling and regulatory authorities, particularly the MoPH and the Medical or Paramedical Councils, would be an important first step to promote the feasibility of subsequent recommendations leading to more appropriate enabling and regulatory interventions for influencing the private sector provision of health services.

The MoPH should adopt an integrated approach to enabling and regulatory interventions, with a guiding principle of having no enabling interventions without linked regulatory mechanisms.

This synergistic approach should be strengthened by:

- restricting access to enabling interventions, particularly financial and non-financial incentives, not only to formal compliance with existing regulations but also to performance improvements in relation to coverage, price levels, and quality of care. This can considerably reduce the level of resources (finance, skills, equipment, logistics, etc.) needed as well as

address informational problems which appear to limit the potential for regulating the private health sector in many low and middle income countries.

The MoPH should improve and update the existing enabling environment by:

- updating licensing and registration requirements for granting authorisation of creation and opening of private health facilities on a regular basis. For example, it may be appropriate to decentralise decision-making on licensing and registration to the provincial level, and to adjust the prerequisites for working in the private sector of five years effective practice to two years.
- increasing the proportion of private sector, particularly for-profit, facilities that procure subsidised antimalarial generic drugs and other basic medical supplies and malaria commodities from NCED or CENAME and PCEDS or CAPP (e.g. by making private for-profit providers more aware that they can procure antimalarial drugs from CAPP).
- providing sufficient incentives to private sector facilities to deliver ITNs and curative malaria services at the health district level. Since most private sector hospitals and health centres provide malaria treatment services without incentives from the MoPH, there is potential for the private sector to expand and relieve the government of some of the responsibility for these services and to help absorb the increasing demand for malaria services in many districts.
- developing adequate training, retraining and refresher courses and improving access of private sector (nonprofit and for-profit) clinical staff to government funded training and seminar opportunities within the country.

- exploring different options for the establishment of a direct system of public sector financing (e.g. government loans, lump sum subsidies, contracting out clinical services) to influence private sector facility's location and provision of affordable quality health services in underserved, poor rural and urban communities.
- collaborating and liaising with the Ministry of Finance for increased support in terms of tax-breaks, tax waivers, tax exemptions, preferential custom tariffs and duty free status for both locally produced and imported essential medical equipment, supplies, commodities and drugs used for the control of major public health diseases including malaria, tuberculosis, HIV/AIDS, onchocerciasis, schistosomiasis, leprosy, etc. as well as other public health challenges such as immunisation, vitamin A deficiency, reproductive health, etc.
- supporting the establishment of mutual health insurance schemes by providing start-up capital (funding, equipment, staff, etc.) to different districts in the country. This could start with a small number of selected districts by piloting community health card or voucher schemes for primary health care in a sample of communities

The MoPH should develop an explicit and detailed legislative framework for private practice by public sector staff, with specific targeted incentives and guidelines for limiting the unnecessary self-referral of patients between public and private health facilities. The issue of monetary incentives should be given serious consideration as a mechanism for retaining staff working on a full time basis in the public sector. The growth of private sector health facilities has attracted clinical staff away from the public sector because of the need to complement low public sector salaries. This study found evidence that about 81 percent of public sector staff were also engaged in part-time practice in private sector health facilities. While the introduction of a 'non-

private practice allowance' may represent a reasonable short-term solution, other alternatives are probably needed in the long-term. It was beyond the scope of this study to collect information that would help to resolve the issue of clinical staff incentives in the public sector.

The MoPH should carefully assess and monitor the provision of (non-) financial incentives to encourage the delivery of malaria services by private sector health facilities. The provision of specific incentives (such as loans, subsidies, tax-breaks, etc.) for the private sector delivery of malaria services could be linked to the acquisition of malaria related inputs (such as microscopes, oxygen equipment, basic supplies, antimalarial drugs, etc) and to detailed standardised performance indicators (e.g. quantity, prices, quality) and to target populations which are currently underserved. It is suggested that priority be given to financial incentives that are more likely to influence private nonprofit health facilities, as opposed to those appropriate to for-profit health facilities.

The MoPH should improve and update the existing regulatory framework for the private health sector in relation to quantity and distribution, costs and prices, and quality of health services by:

- redefining criteria for licensing new private health facilities that combine the requirements of creation with the conditions of opening in order to replace the existing two step procedures. The criteria should specify the quantity and standards of different types of inputs (buildings including laboratory specifications, equipment, staff and skills, supplies, and other basic commodities for primary health care). It would also be worthwhile to regularly review the health map criteria in order to improve coverage in terms of the ratio of population to health care inputs. Meanwhile, if the MoPH continues to use the existing two

step procedures, there is also a need to distinguish between applications for a health centre and hospital in order to extend the duration for the validity of a license for the creation of a hospital as it requires more substantial capital investment, and hence time to secure the necessary capital, than a health centre.

- harmonising the requirements for the creation of locally-based non governmental organisations, particularly associations and common initiative groups, with an interest in running health facilities. This requires strong co-ordination between the Ministry of Territorial Administration and Decentralisation, the Ministry of Agriculture and the Ministry of Public Health. The pre-requisites for the creation of an association and a common initiative group which specifically intends to engage in the health sector should include a compulsory clearance by health authorities or their applications should be forwarded to health authorities for review. Given the widespread development of uncontrolled local NGOs in health, the Ministry of Public Health should request the amendment of laws relating to freedom of association and common initiative groups to incorporate the requirements for its clearance, and some technical conditions for entry into the health care market in the country.
- updating the legislative framework for pricing health services across health facilities by developing pricing guidelines that take into account the standardised medical expertise and other medical inputs needed for different defined and standardised clinical malaria conditions, and differentiated profit margins between the public sector, the private nonprofit sector and the private for-profit sector.
- considering the introduction of Rapid Diagnostic Tests before providing malaria treatment in all health facilities. The study suggested a critical need for significant improvements in

diagnostic techniques and skills in order to reduce or eliminate the over-diagnosis of malaria cases in both public and private health facilities.

- disseminating on a large scale the national guidelines and treatment protocols for malaria prevention and treatment services to different types of health care providers including the public sector, the private nonprofit sector, and the private for-profit sector.
- developing simplified and organised medical complaints and resolution systems for facilitating, recording, tracking, and resolving complaints and appeals of medical malpractice across health facilities.
- improving the co-ordination roles of enabling and regulatory authorities (inspectoral and co-operation units, professional organisations such as the Medical Council, etc.) by strengthening their capacities in terms of finance, equipment (vehicles and computers), skills (including experienced health economists and/or policy analysts, legal experts, etc.), and other logistical support necessary for the supervision and monitoring of enabling and regulatory activities.
- integrating the informal distribution of antimalarial drugs and other basic medical commodities into the community-directed treatment strategy by providing incentives such as training prospects and mandating inspectoral and regulatory institutions to control informal providers.
- completing the task of compiling a comprehensive and accurate list of all private health facilities in the country including unregulated and unauthorised informal private health facilities, not only to regularise the registration process but also to facilitate appropriate monitoring of licensing and quality assurance. This list should be updated on an annual basis.

- conducting a regular comparative study of quality of care in public and private health facilities in order to assess the need for training and for strengthened, ongoing supervision and regulatory monitoring. This could lead to soliciting partnerships with private sector health facilities in training public sector clinical staff in areas where private facilities excel such as interpersonal communication, management of antimalarial drug supplies and accountability to users. Conversely, the public sector could consider including private health facilities in their in-service training programmes in clinical practices and procedures. Incentive subsidies could be offered to encourage participation by these private health facilities if necessary, for example, free training or per diem payments.

7.5 Future research directions

The research reported in this thesis reveals a wide range of issues that require further investigation. The most important and urgent of these future research areas include the following:

The research in this thesis has collected data from national headquarters, West Province headquarters and three districts. There is a need to expand such an operational evaluation, in a multi-setting form (including other provinces and districts), to appreciate the potential of enabling and regulatory interventions to improve the performance of private sector provision of health services. More operational evaluative research will allow a greater range of specific targeted enabling and regulatory interventions to be investigated as drivers of performance and the multi-setting findings will allow more generalisable conclusions to be drawn with greater

confidence. Most importantly, such operational evaluative research will be able to explore alternative enabling and regulatory interventions under different circumstances that will better guide policy for integrated disease control activities. These endeavours should be rigorously evaluated so as to allow judgements to be made about the appropriate balance between enabling interventions and regulatory mechanisms which are most compatible and which hold the greatest promise for promoting private sector provision of public health services.

The nature of motivations of private nonprofit providers are still not sufficiently well understood. Thus, operational evaluative research is also needed to investigate differentiated, integrated enabling and regulatory interventions appropriate to private nonprofit and for-profit health facilities respectively.

Operational research is also needed to address issues related to the dual practice of public sector staff. There is very little empirical evidence on the impact of dual practice on public sector performance and on how public sector staff will react to the introduction of incentives for not engaging in private practice. More operational evaluative work on dual practice and the success or failure of targeted incentives in the public sector may provide valuable lessons for the performance of the whole health sector.

There is a lack of empirical evidence on the cost-effectiveness of Rapid Diagnostic Tests and alternative combination antimalarial drug therapies in the Cameroon context. Thus, operational research is also needed in these areas to assist decision-making by the national malaria control programme.

The use of enabling and regulatory interventions for integrating informal providers into the community-directed treatment strategy may be a promising approach to overcoming their isolation and improving the quality of care they provide. For these reasons, operational research should be undertaken to inform policy in this regard.

The research agenda highlighted above constitutes the concluding contribution that this thesis makes to promoting further national and international debates about enabling and regulating the performance of private sector providers of public health services in LMICs.

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APPENDIX A:

Public Sector's Stakeholders

In-depth Interview Guide for Stakeholders involved in the Process of Enabling and Regulatory Interventions for the Private Sector Provision of Health Care in Cameroon

Statement of Research Purpose:

- The purpose of this study is to better understand the factors that influence the development, behaviour and performance of the private sector provision of health care, with particular reference to malaria services in Cameroon. Based on the information collected and analysed, the study aims to assist the Ministry of Public Health in the elaboration of policy options for enhancing the roles of public and private sectors in order to improve their performance in terms of coverage, accessibility, efficiency, equity, quality of care, and community satisfaction.

- The purpose of this semi-structured interview is to understand the stakeholders' perceptions of existing enabling and regulatory interventions that may influence the development and behaviour of the private sector provision of health care. Stakeholders will be asked about the effectiveness of existing enabling interventions in a way that supports public policy objectives, and about their ideas regarding the regulation of private sector providers in line with the legal provisions relating to the organisation and practice of medicine in Cameroon.

Question 1: Ask and describe the following general information

- 1.1. Nature of the stakeholders' organisation (Ministry, professional organisation).
- 1.2. Level of intervention (national/central, regional/provincial, communal/district).
- 1.3. What are the characteristics of private health sector in Cameroon?
- 1.4 Do you think the private health sector has appropriate resources for the delivery of health care?
- 1.5. How do you describe the current collaboration between public and private sector?

Question 2: Enabling interventions for the private sector provision of health care

Awareness to the government's health policy objectives for enabling the private sector provision of health care, particularly malaria services in Cameroon.

- 2.1. Are you aware of the nature of public policy objectives and enabling interventions for the private sector provision of health services in Cameroon? Probe for:
 - expanding coverage through increasing private sector provision of health care;
 - enhancing efficiency and quality of care through competition amongst providers;
 - improving equity and health status in order to achieve public health goals.
- 2.2. What are existing enabling interventions for the private sector provision of health care? What is the level of their implementation? Who is the main beneficiary: for-profit or nonprofit sector? Probe for:
 - specific measures on the liberalisation of the health sector environment;
 - specific measures on the provision of information to stakeholders;
 - specific measures on non-financial incentives;
 - specific measures on financial incentives.
- 2.3. What are the actors and their roles in the enabling processes of private sector provision of health care in Cameroon?

2.4. Effectiveness of existing enabling interventions for the private sector provision of health care.
I am going to go through a list of specific enabling measures or interventions you have mentioned earlier and I am interested in your perception of whether each enabling measure is strongly, moderately or weakly effective in relation to public policy objectives.

- 2.4.1.** Are specific measures on the liberalisation of the health sector environment effective? *(Probe for each liberal measure mentioned earlier as well as comments and justification of the perception).*
- 2.4.2.** Are specific measures on the provision of information to stakeholders effective? *(Probe for each informational measure mentioned earlier as well as comments and justification of the perception).*
- 2.4.3.** Are specific measures on non-financial incentives effective? *(Probe for each non-financial measure mentioned earlier as well as comments and justification of the perception).*
- 2.4.4.** Are specific measures on financial incentives effective? *(Probe for each financial measure mentioned earlier as well as comments and justification of the perception).*

Question 3: Regulatory interventions for the private sector provision of health care

- 3.1.** Are you aware of existing regulatory interventions for the private sector provision of health care, particularly malaria services in Cameroon?
- 3.2.** What type of variable is being regulated? *(Probe for quantity, price and quality of care).*
- 3.3.** What are specific regulatory mechanisms for the private sector provision of health care provision in Cameroon? What types of information are usually required for each specific regulatory mechanism you have mentioned?
- 3.4.** What are the actors and their roles in the regulatory processes of private sector provision of health care in Cameroon?
- 3.4.** Do regulatory interventions for the private sector provision of health care work?
- 3.5.** What are the main constraints for an effective regulation of the private sector provision of health care in Cameroon?

Question 4. Performance and challenges of enabling and regulatory interventions in Cameroon.

- 4.1.** What are the current performance of the private sector provision of public health related services such as malaria in Cameroon? *(Probe for coverage, utilisation, accessibility, efficiency, quality of care, equity, community satisfaction).*
- 4.2.** What are the common challenges for the effectiveness of enabling and regulatory interventions for the private sector provision of health care in Cameroon?
- 4.3.** Does the Ministry of Public Health have the capacity to enable and regulate the private sector provision of public health related services such as malaria?
- 4.4.** Are enabling and regulatory interventions vertically (separation) or horizontally (integration) implemented in the national health system? What should be the best approach of implementing both enabling and regulatory interventions for the private sector provision of public health related services such as malaria?

Question 5. Overall what are most critical potentialities, problems and challenges of enabling and regulatory interventions for private sector provision of malaria services in Cameroon?

End of the interview:

(Please, feel free to ask any question, and/or to add further detailed information and comments).

Thank You Very Much for Your Collaboration.

APPENDIX B:

Private For-profit Sector's Stakeholders

In-depth Interview Guide for Stakeholders involved in the Process of Enabling and Regulatory Interventions for the Private Sector Provision of Health Care in Cameroon

Statement of Research Purpose:

- The purpose of this study is to better understand the factors that influence the development, behaviour and performance of the private sector provision of health care, with particular reference to malaria services in Cameroon. Based on the information collected and analysed, the study aims to assist the Ministry of Public Health in the elaboration of policy options for enhancing the roles of public and private sectors in order to improve their performance in terms of coverage, accessibility, efficiency, equity, quality of care, and community satisfaction.
- The purpose of this semi-structured interview is to understand the stakeholders' perceptions of existing enabling and regulatory interventions that may influence the development and behaviour of the private sector provision of health care. Stakeholders will be asked about the effectiveness of existing enabling interventions in a way that supports public policy objectives, and about their ideas regarding the regulation of private sector providers in line with the legal provisions relating to the organisation and practice of medicine in Cameroon.

Question 1: Ask and describe the following general information

- 1.1. Nature of the stakeholders' organisation (private for-profit sector facilities, private for-profit professional organisations).
- 1.2. Level of intervention (national/central, regional/provincial, communal/district).
- 1.3. What are the characteristics of private for-profit health sector in Cameroon? What are their motivations and incentives?
- 1.4. Do you think that the private for-profit health sector has enough resources (finances, buildings, infrastructure, equipment, trained staff, drugs, essential supplies, etc.) to provide appropriate health care, particularly malaria services in Cameroon?
- 1.5. How would describe the current collaboration with the Ministry of Public Health?

Question 2: Enabling interventions for the private sector provision of health care

Awareness to the government's health policy objectives for enabling the private sector provision of health care, particularly malaria services in Cameroon.

- 2.1. Are you aware of the nature of public policy objectives and enabling interventions for the private sector provision of health services in Cameroon? Probe for:
 - expanding coverage through increasing private sector provision of health care;
 - enhancing efficiency and quality of care through competition amongst providers;
 - improving equity and health status in order to achieve public health goals.
- 2.2. What are existing enabling interventions for the private for-profit sector provision of health care?
 - specific measures on the liberalisation of the health sector environment:
Do you think that there a political commitment for involving the private health sector?
Do you think that it is relatively easy to create and operate a private sector facility?
What are other existing liberalisation measures for private health practice?
 - specific measures on the provision of information to stakeholders:
Where do you get or disseminate information on the private health practice?

Is there any management information system involving private providers?

- specific measures on non-financial incentives:

Are there training opportunities for private providers?

Are private for-profit involved in the national malaria control activities?

Do private for-profit providers receive any rewards for good clinical practice?

- specific measures on financial incentives:

Is it easy to obtain bank loans for investment in the private for-profit health sector?

Does the private for-profit sector receive any direct government financing or subsidies for the provision of health services, particularly malaria control activities?

Does government provide any preferential tariffs or duty free to private for-profit sector's imported medical equipment, pharmaceuticals, supplies, and other inputs?

Does government provides any tax-breaks, exemptions for investment in medical buildings, equipment, staffing, pharmaceuticals, and other inputs in the private for-profit sector?

Does government contract out clinical services to private for-profit sector?

Does the private for-profit sector benefit from any health insurance co-payment?

- Is there any other aspect of enabling measures you would like to describe?

2.3. What are the actors and their roles in the enabling processes of private for-profit sector provision of health care in Cameroon?

- Actors involved in the liberalisation of the health sector environment?
- Actors involved in the provision of information?
- Actors involved in the process of non-financial incentives?
- Actors involved in the process of financial incentives?

2.4. Effectiveness of existing enabling interventions for the private for-profit sector provision of health care.

I am going to go through a list of specific enabling measures or interventions you have mentioned earlier and I am interested in your perception of whether each enabling measure is strongly, moderately or weakly effective in relation to public policy objectives.

2.4.1. Are specific measures on the liberalisation of the health sector environment effective? *(Probe for each liberalisation measure mentioned earlier as well as comments and justification of the perception).*

2.4.2. Are specific measures on the provision of information to stakeholders effective? *(Probe for each informational measure mentioned earlier as well as comments and justification of the perception).*

2.4.3. Are specific measures on non-financial incentives effective? *(Probe for each non-financial measure mentioned earlier as well as comments and justification of the perception).*

2.4.4. Are specific measures on financial incentives effective? *(Probe for each financial measure mentioned earlier as well as comments and justification of the perception).*

Question 3: Regulatory interventions for the private sector provision of health care

3.1. Are you aware of existing regulatory interventions for the private for-profit sector provision of health care, particularly malaria services in Cameroon?

3.2. What type of variable is being regulated? *(Probe for quantity, price and quality of care).*

3.3. What are specific regulatory mechanisms for the private sector provision of health care provision in Cameroon?

- Regulation of quantity and distribution of facilities, equipment, staff, etc. in the private for-profit sector?
- Regulation of prices of health services in the private for-profit sector?
- Regulation of quality of care in the private for-profit sector?

3.3.a. What types of information are usually required for each specific regulatory mechanism you have mentioned?

3.4. What are the actors and their roles in the regulatory processes of private sector provision of health care in Cameroon?

- Actors in the regulation of quantity and distribution of facilities, equipment, staff, etc. in the private for-profit sector?
- Actors in the regulation of prices of health services in the private for-profit sector?
- Actors in the regulation of quality of care in the private for-profit sector?

3.5. Do regulatory interventions for the private for-profit sector provision of health care work?

3.6. What are the main constraints for an effective regulation of the private for-profit sector provision of health care in Cameroon?

Question 4. Performance and challenges of enabling and regulatory interventions in Cameroon.

4.1. What are the current performance of the private for-profit sector provision of public health related services such as malaria in Cameroon? (*Probe for coverage, utilisation, accessibility, efficiency, quality of care, equity, community satisfaction*).

4.2. What are the common challenges for the effectiveness of enabling and regulatory interventions for the private for-profit sector provision of health care in Cameroon?

4.3. Does the Ministry of Public Health have the capacity to enable and regulate the private for-profit sector provision of public health related services such as malaria?

4.4. Are enabling and regulatory interventions vertically (separation) or horizontally (integration) implemented in the national health system? What should be the best approach of implementing both enabling and regulatory interventions for the private for-profit sector provision of public health related services such as malaria?

Question 5. Overall what are most critical potentialities, problems and challenges of enabling and regulatory interventions for private for-profit sector provision of malaria services in Cameroon?

End of the interview:

(Please, feel free to ask any question, and/or to add further detailed information and comments).

Thank You Very Much for Your Collaboration.

APPENDIX C:

Private Nonprofit Sector's Stakeholders

In-depth Interview Guide for Stakeholders involved in the Process of Enabling and Regulatory Interventions for the Private Sector Provision of Health Care in Cameroon

Statement of Research Purpose:

- The purpose of this study is to better understand the factors that influence the development, behaviour and performance of the private sector provision of health care, with particular reference to malaria services in Cameroon. Based on the information collected and analysed, the study aims to assist the Ministry of Public Health in the elaboration of policy options for enhancing the roles of public and private sectors in order to improve their performance in terms of coverage, accessibility, efficiency, equity, quality of care, and community satisfaction.

- The purpose of this semi-structured interview is to understand the stakeholders' perceptions of existing enabling and regulatory interventions that may influence the development and behaviour of the private sector provision of health care. Stakeholders will be asked about the effectiveness of existing enabling interventions in a way that supports public policy objectives, and about their ideas regarding the regulation of private sector providers in line with the legal provisions relating to the organisation and practice of medicine in Cameroon.

Question 1: Ask and describe the following general information

- 1.1. Nature of the stakeholders' organisation (private nonprofit sector facilities, private nonprofit professional organisations, specify if mission, local based association or common initiative group).
- 1.2. Level of intervention (national/central, regional/provincial, communal/district).
- 1.3. What are the characteristics of private nonprofit health sector in Cameroon? What are their motivations and incentives?
- 1.4. Do you think that the private nonprofit health sector has enough resources (finances, buildings, infrastructure, equipment, trained staff, drugs, essential supplies, etc.) to provide appropriate health care, particularly malaria services in Cameroon?
- 1.5. How would describe the current collaboration with the Ministry of Public Health?

Question 2: Enabling interventions for the private sector provision of health care

Awareness to the government's health policy objectives for enabling the private sector provision of health care, particularly malaria services in Cameroon.

- 2.1. Are you aware of the nature of public policy objectives and enabling interventions for the private sector provision of health services in Cameroon? Probe for:
 - expanding coverage through increasing private sector provision of health care;
 - enhancing efficiency and quality of care through competition amongst providers;
 - improving equity and health status in order to achieve public health goals.
- 2.2. What are existing enabling interventions for the private nonprofit sector provision of health care?
 - specific measures on the liberalisation of the health sector environment:
Do you think that there a political commitment for involving the private nonprofit health sector?
Do you think that it is relatively easy to create and operate a private nonprofit sector facility?
What are other existing liberalisation measures for private health practice?

- specific measures on the provision of information to stakeholders:
Where do you get or disseminate information on the private health practice?
Is there any management information system involving private nonprofit providers?
- specific measures on non-financial incentives:
Are there training opportunities for private nonprofit providers?
Are private nonprofit involved in the national malaria control activities?
Do private nonprofit providers receive any rewards for good clinical practice?
- specific measures on financial incentives:
Is it easy to obtain bank loans for investment in the private nonprofit health sector?
Does the private nonprofit sector receive any direct government financing or subsidies for the provision of health services, particularly malaria control activities?
Does government provide any preferential tariffs or duty free to private nonprofit sector's imported medical equipment, pharmaceuticals, supplies, and other inputs?
Does government provides any tax-breaks, exemptions for investment in medical buildings, equipment, staffing, pharmaceuticals, and other inputs in the private nonprofit sector?
Does government contract out clinical services to private nonprofit sector?
Does the private nonprofit sector benefit from any health insurance co-payment?
- Is there any other aspect of enabling measures you would like to describe?

2.3. What are the actors and their roles in the enabling processes of private nonprofit sector provision of health care in Cameroon?

- Actors involved in the liberalisation of the health sector environment?
- Actors involved in the provision of information?
- Actors involved in the process of non-financial incentives?
- Actors involved in the process of financial incentives?

2.4. Effectiveness of existing enabling interventions for the private nonprofit sector provision of health care.

I am going to go through a list of specific enabling measures or interventions you have mentioned earlier and I am interested in your perception of whether each enabling measure is strongly, moderately or weakly effective in relation to public policy objectives.

2.4.1. Are specific measures on the liberalisation of the health sector environment effective? *(Probe for each liberalisation measure mentioned earlier as well as comments and justification of the perception).*

2.4.2. Are specific measures on the provision of information to stakeholders effective? *(Probe for each informational measure mentioned earlier as well as comments and justification of the perception).*

2.4.3. Are specific measures on non-financial incentives effective? *(Probe for each non-financial measure mentioned earlier as well as comments and justification of the perception).*

2.4.4. Are specific measures on financial incentives effective? *(Probe for each financial measure mentioned earlier as well as comments and justification of the perception).*

Question 3: Regulatory interventions for the private sector provision of health care

3.1. Are you aware of existing regulatory interventions for the private nonprofit sector provision of health care, particularly malaria services in Cameroon?

3.2. What type of variable is being regulated? *(Probe for quantity, price and quality of care).*

3.3. What are specific regulatory mechanisms for the private sector provision of health care provision in Cameroon?

- Regulation of quantity and distribution of facilities, equipment, staff, etc. in the private nonprofit sector?
- Regulation of prices of health services in the private nonprofit sector?
- Regulation of quality of care in the private nonprofit sector?

3.3.a. What types of information are usually required for each specific regulatory mechanism you have mentioned?

3.4. What are the actors and their roles in the regulatory processes of private sector provision of health care in Cameroon?

- Actors in the regulation of quantity and distribution of facilities, equipment, staff, etc. in the private nonprofit sector?
- Actors in the regulation of prices of health services in the private nonprofit sector?
- Actors in the regulation of quality of care in the private nonprofit sector?

3.5. Do regulatory interventions for the private nonprofit sector provision of health care work?

3.6. What are the main constraints for an effective regulation of the private nonprofit sector provision of health care in Cameroon?

Question 4. Performance and challenges of enabling and regulatory interventions in Cameroon.

4.1. What are the current performance of the private nonprofit sector provision of public health related services such as malaria in Cameroon? (*Probe for coverage, utilisation, accessibility, efficiency, quality of care, equity, community satisfaction*).

4.2. What are the common challenges for the effectiveness of enabling and regulatory interventions for the private nonprofit sector provision of health care in Cameroon?

4.3. Does the Ministry of Public Health have the capacity to enable and regulate the private nonprofit sector provision of public health related services such as malaria?

4.4. Are enabling and regulatory interventions vertically (separation) or horizontally (integration) implemented in the national health system? What should be the best approach of implementing both enabling and regulatory interventions for the private nonprofit sector provision of public health related services such as malaria?

Question 5. Overall what are most critical potentialities, problems and challenges of enabling and regulatory interventions for private nonprofit sector provision of malaria services in Cameroon?

End of the interview:

(Please, feel free to ask any question, and/or to add further detailed information and comments).

Thank You Very Much for Your Collaboration.

APPENDIX D:

Consumer Protection's Stakeholders

In-depth Interview Guide for Stakeholders involved in the Process of Enabling and Regulatory Interventions for the Private Sector Provision of Health Care in Cameroon

Statement of Research Purpose:

- The purpose of this study is to better understand the factors that influence the development, behaviour and performance of the private sector provision of health care, with particular reference to malaria services in Cameroon. Based on the information collected and analysed, the study aims to assist the Ministry of Public Health in the elaboration of policy options for enhancing the roles of public and private sectors in order to improve their performance in terms of coverage, accessibility, efficiency, equity, quality of care, and community satisfaction.

- The purpose of this semi-structured interview is to understand the stakeholders' perceptions of existing enabling and regulatory interventions that may influence the development and behaviour of the private sector provision of health care. Stakeholders will be asked about the effectiveness of existing enabling interventions in a way that supports public policy objectives, and about their ideas regarding the regulation of private sector providers in line with the legal provisions relating to the organisation and practice of medicine in Cameroon.

Question 1: Ask and describe the following general information

1.1. Nature of the stakeholders' organisation

1.2. Level of intervention (national/central, regional/provincial, communal/district).

1.3. What are the characteristics of private health sector and consumer protection organisations in Cameroon?

1.4 Do you think the private health sector has appropriate resources for the delivery of health care?

1.5. How do you describe the current collaboration between civil society, public and private sector?

Question 2: Awareness and effectiveness of enabling and regulatory interventions for the private sector provision of health care

2.1. Are you aware of the nature of enabling and regulatory interventions for the private sector provision of health services in Cameroon?

2.2. What are the actors and their roles in the enabling and regulatory processes of private sector provision of health care in Cameroon? Do consumer protection organisations involve in the process?

2.4. Are existing enabling and regulatory interventions effective for protecting the right of patients as consumers in the private sector setting?

2.5. What are critical potentialities, problems and challenges of protecting the right of patients as consumers in the private sector setting and the health sector as a whole?

End of the interview:

(Please, feel free to ask any question, and/or to add further detailed information and comments).

Thank You Very Much for Your Collaboration.

APPENDIX E:

Inventory or Check-list Questionnaire of Health Facilities

Questionnaire number {ICID}: / / / /

Instructions to Field Work Assistant: This inventory or check-list survey questionnaire should be completed by observing the facilities, equipment, supplies, services provided and statistics that are available and through discussions with the staff in charge of malaria services on the days of the visit. In all cases you should verify that the items exist by actually observing them yourself – if you are not able to observe them, then code accordingly. Remember that you should be cautious while reporting statistics as the objective is to assess the performance in terms of quantity, quality and costs (particularly to patients) of health care services that currently exist at the health facility. For each question, circle the response or describe, as appropriate.

Section 1: Cover page and general information

Q. No.	Questions and Variable's names	Responses and Codes	Skip to
Q1.1.	Health facility visited name {HFName}:		
Q1.11	Health facility code {HFCode}:	/ / /	
Q1.2.	Health District Name {HDName}		
Q1.21	Health District Code {HDCCode}	/ / /	
Q1.3.	Village/Town Name {TownName}		
Q1.31	Village/Town Code {TownCode}	/ / /	
Q1.4.	Date of visit {DateV}	/ / // / // /	
Q1.5.	Type of health facility {TypeHF}	District/Ref. Hospital = 1 Hospital/Polyclinic = 2 Health Center/Clinic = 3 Laboratory/health post = 4 Pharmacy = 5 Other(specify).....= 6	
Q1.6.	Type of sector {SectType}	Private = 1 Public = 2	Q1.7.
Q1.6a	Type of private sector {PrivatType}	Private for-profit = 1 Private not-for-profit = 2	
Q1.7.	Locality of health facility {LocHF}	Urban = 1 Rural = 2	
Q1.71	Type of location area {LocArea}	Commercial area = 1 Residential area = 2	
Control and validation of the questionnaire during the field work			
Q1.8.	Field Work Assistant Name {FWAName}		
Q1.81	Field work Assistant Code {FWACode}	/ / /	
Q1.9.	Field work team leader name {TLName}		
Q1.91	Field work team leader code {TLCode}	/ /	
Q1.92	Signature of team leader {Sign} _____	Sign/validate = 1 No sign/no validate = 2	

Section 2: Accessibility/Services Available

Q. No.	Questions and Variable's names	Responses and Codes	Skip to
Q2.1.	What is the official opening time for this health facility? {OpenTime}	/ / / / /AM/PM/ Open 24/24 hours = 8888	Q2.3.
Q2.1a	At what time did this health facility open today? {OpenToday}	/ / / / /AM/PM/ Not observed = 9999	
Q2.2.	What is the official closing time for this health facility? {CloseTime}	/ / / / /AM/PM/ Open 24/24 hours = 8888	
Q2.2a	At what time did this health facility close today? {CloseToday}	/ / / / /AM/PM/ Not observed = 9999	
Q2.3.	Is there sign that announcing that health facility is available? {SignHFAv}	Outside building = 1 Inside building = 2 Both out/Inside building = 3 Not sign visible = 4	
Q2.3a	How long has this health facility been operating there?	/ / / /Year(s) No response = 99	
Q2.4.	What health services are usually available to patients at this health facility(Q2.4a – Q2.4)	Yes = 1 No = 2	
Q2.41	Prevention and treatment of malaria {MaPT}	1 2	2 Q2.42
Q2.41a	Personal protection measures: impregnated bednets {IbednetServ}	1 2	
Q2.41b	Malaria chemoprophylaxis for pregnant women {MchemoPW}	1 2	
Q2.41c	Malaria chemoprophylaxis for children under five years {MchemoCUFY}	1 2	
Q2.41d	Clinical diagnosis of malaria {Diaclin}	1 2	
Q2.41e	Microscopic diagnosis of malaria {MaLab}	1 2	
Q2.41f	Treatment of uncomplicated malaria in children {MaITreat}	1 2	
Q2.41g	Treatment of uncomplicated malaria in adults {TreatUnMal}	1 2	
Q2.41h	Treatment of severe malaria in children {TreatSevMal}	1 2	
Q2.41i	Treatment of severe malaria in adults {TreatSevMal}	1 2	
Q2.41k	Management of malaria in pregnancy {Mapregnant}	1 2	
Q2.41l	Treatment of non-Plasmodium Falciparum infections {TreatNonPFMal}	1 2	
Q2.42	Other primary health care {OPHC}	1 2	2 Q2.43
Q2.42a	Maternal and child health {MCH}	1 2	
Q2.42b	Antenatal care {AnteCare}	1 2	
Q2.42c	Maternity care {MateCare}	1 2	
Q2.42d	Postnatal care {PostCare}	1 2	
Q2.42e	Child immunization {ChildEPI}	1 2	
Q2.42f	Child nutrition and growth monitoring {CNutGrowth}	1 2	
Q2.42g	Oral rehydration therapy {ORT}	1 2	
Q2.42h	Family planning and infertility services {PF}	1 2	
Q2.42i	STDs/HIV/AIDS services {HIV}	1 2	
Q2.42k	TB {TB}	1 2	
Q2.43	Outpatient services	1 2	
Q2.44	Inpatient services	1 2	
Q2.45	How many days per week are Malaria services offered at this health facility? {DWMalariaS}	/ / / days per week	
Q2.45a	Is there sign that announcing those malaria services are available? {SignMalAv}	Outside building = 1 Inside building = 2 Both out/Inside building = 3 Not sign visible = 4	

Section 3: Infrastructure and medical examination facilities

Q. No.	Questions and Variable's names	Responses and Codes	
Q3.1	What is the number of beds available at this health facility? (888 = Not applicable, and 999 = No response)	/_/_/_/_/ beds	
Q3.2.	On the day of the visit, does the health facility have the following:	Yes = 1	No = 2
Q3.2a	Piped running water	1	2
Q3.2b	Electricity	1	2
Q3.2c	Working toilets/latrines available for patients	1	2
Q3.2d	Sufficient seating for patients	1	2
Q3.2e	Functioning communication: 1 -Telephone, Fax-machine 2 - Radiophone	1	2
Q3.2f	Emergency kit available	1	2
Q3.2g	Functioning refrigerator	1	2
Q3.3	Are the following conditions present in the examination areas	Yes = 1	No = 2
Q3.3a	Auditory privacy {AudPriv}	1	2
Q3.3b	Visual privacy {ViPriv}	1	2
Q3.3c	Cleanliness {Clean}	1	2
Q3.3d	Adequate light {AdeLight}	1	2
Q3.3e	Adequate water {AdeWater}	1	2

Section 4: Malaria related equipment inventory

Q. No.	Questions and Variable's names	Responses and Codes		
Q4.1	Are the following types of equipment available and working in the health facility and/or in the stockroom for malaria services.	Yes = 1	No = 2	If Yes = 1: (specify) Quantity
Q4.1a	Sterilizing equipment	1	2	/_/_/_/_/
Q4.1b	Stethoscope	1	2	/_/_/_/_/
Q4.1c	Balance	1	2	/_/_/_/_/
Q4.1d	Fever thermometer, electronic	1	2	/_/_/_/_/
Q4.1e	Tea spoons	1	2	/_/_/_/_/
Q4.1f	Microscope, binocular, w. illumination	1	2	/_/_/_/_/
Q4.1g	Microscope, monocular	1	2	/_/_/_/_/
Q4.1h	Microhaematocrit centrifuge, electric	1	2	/_/_/_/_/
Q4.1i	Microhaematocrit centrifuge, hand-operated	1	2	/_/_/_/_/
Q4.1j	Tally counter	1	2	/_/_/_/_/
Q4.1k	Hair dryer (for humid areas and seasons)	1	2	/_/_/_/_/
Q4.1l	Laboratory timer	1	2	/_/_/_/_/
Q4.1m	Slide box, for vertical storage	1	2	/_/_/_/_/
Q4.1n	Slide box, for horizontal storage	1	2	/_/_/_/_/
Q4.1o	Slide tray, cardboard	1	2	/_/_/_/_/
Q4.1p	Drying rack, wood for slides	1	2	/_/_/_/_/
Q4.1q	Staining jar, Coplin or horizontal	1	2	/_/_/_/_/
Q4.1r	Bottle, screw-cap, plastic, 500 ml	1	2	/_/_/_/_/
Q4.1s	Bottle or jerrican, screw-cap, plastic, 5 l	1	2	/_/_/_/_/
Q4.1t	Measuring cylinder, plastic, 500 ml	1	2	/_/_/_/_/
Q4.1u	Measuring cylinder, plastic, 10 ml	1	2	/_/_/_/_/
Q4.1v	Dropping bottle, plastic or glass, 50 ml	1	2	/_/_/_/_/
Q4.1w	Glass rod, 50 cm, for quick staining	1	2	/_/_/_/_/
Q4.1x	Clipboard	1	2	/_/_/_/_/
Q4.1y	File jacket, stiff carton	1	2	/_/_/_/_/
Q4.1z	Transport box, norm size 0.2 m'	1	2	/_/_/_/_/

Section 5: Malaria related supplies and commodities inventory

Q. No.	Questions and Variable's names	Responses and Codes		
Q5.1.	Are the following types of supplies available and working in the health facility and/or in the stockroom for malaria services.	Yes = 1	No = 2	If Yes = 1: (specify) Quantity
Q5.1a	Antipyretic drugs for ancillary treatment (e.g. Aspirin, Paracetamol, etc.)	1	2	/ / / /
Q5.1b	First Line drugs (e.g. Chloroquine, Amodiaquine, Pyrimethamine-Sulfadoxine, etc.)	1	2	/ / / /
Q5.1c	Second Line alternative drugs (e.g. Mefloquine, Quinine, Artemisinin derivatives, etc.)	1	2	/ / / /
Q5.1d	Quinine for i.m. injection	1	2	/ / / /
Q5.1e	Cotrimoxazole	1	2	/ / / /
Q5.1f	Paracetamol	1	2	/ / / /
Q5.1g	Amoxicillin	1	2	/ / / /
Q5.1h	Injection syringes, sterile, disposable, 2ml	1	2	/ / / /
Q5.1i	Injection syringes, sterile, disposable, 5ml	1	2	/ / / /
Q5.1j	Injection needles for above, disposable, no. 12 or 14	1	2	/ / / /
Q5.1k	Spare battery, for electronic thermometer	1	2	/ / / /
Q5.1l	Sweets(bon-bons), pkg of 100	1	2	/ / / /
Q5.1m	Biscuits, pkgs of ~ 50	1	2	/ / / /
Q5.1o	Sugar	1	2	/ / / /
Q5.1p	Plastic cups	1	2	/ / / /
Q5.1q	Microscope slides, frosted edge, pkg of 100	1	2	/ / / /
Q5.1r	Lens tissue, pkg of 100	1	2	/ / / /
Q5.1s	Haemolancets, pkg of 100	1	2	/ / / /
Q5.1t	Swabs, alcohol (70%), pkg of 100	1	2	/ / / /
Q5.1u	Haematocrit tubes, pkg of 100	1	2	/ / / /
Q5.1v	Haemoglobinometer or measuring chart	1	2	/ / / /
Q5.1w	Sealant for heamatocrit tubes, pad	1	2	/ / / /
Q5.1x	Paper strips for heamoglobin testing, pkg of 100	1	2	/ / / /
Q5.1y	Rubber gloves, disposable, medium size	1	2	/ / / /
Q5.1z	Rubber gloves, disposable, large size	1	2	/ / / /
Q5.1aa	Pipettes, transfer, disposable, 5ml, pkg of 100	1	2	/ / / /
Q5.1ab	Pipettes, transfer, disposable, 1ml, pkg of 100	1	2	/ / / /
Q5.1ac	Glass writing pen, permanent, xylene-proof	1	2	/ / / /
Q5.1ad	Plasticine	1	2	/ / / /
Q5.1ae	Buffer tablets, pH 7.2	1	2	/ / / /
Q5.1af	Immersion oil, bottle of 50 ml	1	2	/ / / /
Q5.1ag	Xylene, bottle of 500 ml	1	2	/ / / /
Q5.1ah	Methanol, bottle	1	2	/ / / /
Q5.1ai	Giemsa stain stock solution, Merck, bottle of 500 ml	1	2	/ / / /
Q5.1aj	Distilled water	1	2	/ / / /
Q5.1ak	Cotton wool, pkg 500g	1	2	/ / / /
Q5.1al	Syringe, plastic, 10 ml	1	2	/ / / /
Q5.1am	Log book, DIN A4, 100pp	1	2	/ / / /
Q5.1an	Note pad, DIN A4	1	2	/ / / /
Q5.1ao	Ball pen, black/blue	1	2	/ / / /
Q5.1ap	Ball pen, red	1	2	/ / / /
Q5.1aq	Cellotape, roll – 30 m	1	2	/ / / /
Q5.1ar	Toilet paper, roll	1	2	/ / / /
Q5.1as	Patient forms	1	2	/ / / /
Q5.1at	Patient cards	1	2	/ / / /
Q5.1au	Laboratory form (microscopy and haematology)	1	2	/ / / /

(Continued Section 5) Availability and provision of antimalarial drugs at the health facility

Q. No.	Questions and Variable's names	Responses and Codes			
Q5.2	Does this health facility usually provide each of the following antimalarial drugs? (read 5.2.1-5.2.4)	Drugs usually available?	Physically check if drugs are available today Yes = 1 No = 2	Has there been any stock-out in the last 6 months? Yes = 1 No = 2	
Q5.2a	Antimalarial drugs used for chemoprophylaxis?	Chloroquine = 1 Proguanil = 2 Mefloquine = 3 Doxycycline = 4 No Available = 9	1 2 1 2 1 2 1 2	1 2 1 2 1 2 1 2	
Q5.2b	Antimalarial drugs used for the treatment of P.f. uncomplicated malaria?	Sulfadoxine- Pyrimethamine = 1 Quinine = 2 Chloroquine = 3 No Available = 9	1 2 1 2 1 2	1 2 1 2 1 2	
Q5.2c	Antimalarial drugs used for the treatment of P.f. severe and complicated malaria?	Sulfadoxine-Pyrimethamine = 1 Quinine = 2 Doxycycline = 3 Halofandrine = 4 Mefloquine = 5 Artemisinin = 6 No Available = 9	1 2 1 2 1 2 1 2 1 2 1 2	1 2 1 2 1 2 1 2 1 2 1 2	
Q5.2d	Antimalarial drugs used for the treatment of non-Plasmodium falciparum malaria?	Chloroquine and Primaquine = 1 No Available = 9	1 2	1 2	

(Continued Section 5) Management of antimalarial drugs at the health facility

Q. No.	Questions and Variable's names	Responses and Codes			
Q5.3	Is there a written inventory for the following antimalarial drugs?	A written inventory available Yes = 1 No = 2	If Yes = 1, Is it up-to-date, legible, and complete? Yes = 1 No = 2	Are drugs stored by expired date or 'first expiry first out'? Yes = 1 No = 2	Are the storage facilities protected from rain, sun, adverse temperatures, rats, and pests?
Q5.3a	Antimalarial drugs used for chemoprophylaxis?	1 2	1 2	1 2	1 2
Q5.3b	Antimalarial drugs used for the treatment of P.f. uncomplicated malaria?	1 2	1 2	1 2	1 2
Q5.3c	Antimalarial drugs used for the treatment of P.f. severe and complicated malaria?	1 2	1 2	1 2	1 2
Q5.3d	Antimalarial drugs used for the treatment of non-P.f. malaria?	1 2	1 2	1 2	1 2

Section 6: Staffing

Q. No.	Questions and Variable's names	Responses and Codes		
Q6.1.	How many staffs are assigned to work full time at this health facility? (read 6.1a-6.1g)	Total?	Working today?	How many are involved on malaria control activities?
Q6.1a	Medical doctor?	/ / / /	/ / / /	/ / / /
Q6.1b	Senior nurse?	/ / / /	/ / / /	/ / / /
Q6.1c	Nurse-midwife?	/ / / /	/ / / /	/ / / /
Q6.1d	Nurse assistant?	/ / / /	/ / / /	/ / / /
Q6.1e	Administrative staff?	/ / / /	/ / / /	/ / / /
Q6.1f	Finance staff?	/ / / /	/ / / /	/ / / /
Q6.1g	Other(specify)	/ / / /	/ / / /	/ / / /
Q6.2	How many staffs are assigned to work part time at this health facility? (read 6.2a – 6.2g)			
Q6.2a	Medical doctor?	/ / / /	/ / / /	/ / / /
Q6.2b	Senior nurse?	/ / / /	/ / / /	/ / / /
Q6.2c	Nurse-midwife?	/ / / /	/ / / /	/ / / /
Q6.2d	Nurse assistant?	/ / / /	/ / / /	/ / / /
Q6.2e	Administrative staff?	/ / / /	/ / / /	/ / / /
Q6.2f	Finance staff?	/ / / /	/ / / /	/ / / /
Q6.2g	Other(specify)	/ / / /	/ / / /	/ / / /

(Continued Section 6): Part time staffing of public sector employed personnel in the private sector

Q. No.	Questions and Variable's names	Responses and Codes	Skip to
Q6.3	ASK: Did public sector employed staff usually work on the part time basis at this health facility?	Yes = 1 No = 2	2 → Q7.1
Q6.3a	What is the professional profile of the majority of the part time staff of public sector employed working at this health facility?	(Rank in order of importance) Medical doctor = ... Senior nurse = ... Nurse-midwife = ... Nurse assistant = ...	
Q6.3b	For medical doctors involved in this part time private practice, what are their specializations?	(Rank in order of importance) General practitioner = ... Paediatrician = ... Gynaecologist = ... Surgeon = ... Obstetrician = ... Anaesthetist = ... Dentist = ... Other = ...	
Q6.3c	What are the types of health care provided by the part time private practice of public sector employed at this health facility?	(Rank in order of importance) Preventive services = ... Curative services-adults = ... Curative services-child = ... General PHC = ... Treatment of malaria = ... MCH services = ...	

(Continued Section 6): **Part time staffing of public sector employed personnel in the private sector**

Q. No.	Questions and Variable's names	Responses and Codes	Skip to
Q6.3d	How do the part time private practice of public sector employed see their patients at this health facility? (Rank in order of importance)	Appointment = ... Without appointment = ... Both = ...	
Q6.3e	What are the working hours of the part time private practice of public sector employed at this health facility? (Rank in order of importance)	Early in the morning = ... Between 7.30am-11.59am = ... At lunch time = ... Between 1.30pm-4.30pm = ... Later in the afternoon = ... Evening hours = ...	
Q6.3f	(If private health facility): Do the part time private practice staff of public sector employed usually refer patients from their public facilities to this health facility? (Rank in order of importance)	Never = ... Occasionally = ... Frequently = ... Most often = ... In all cases = ... Not Applicable = 9	
Q6.3g	(If public health facility): Do the part time private practice staff of public sector employed usually refer patients from this health facility to their public health facility? (Rank in order of importance)	Never = ... Occasionally = ... Frequently = ... Most often = ... In all cases = ... Not Applicable = 9	

Section 7: Malaria IEC materials and activities in the health facilities

Q. No.	Questions and Variable's names	Responses and Codes	Skip to
Q7.1	OBSERVE : Which IEC materials on the following subjects are available in the health facility?	Yes = 1 No = 2	2 → Q7.2
Q7.1a	Malaria prevention	Flip chart = 1 Brochure/pamphlet = 2 Posters = 3 Not IEC materials = 4	4 → Q7.1c
Q7.1b	Information disseminated through IEC materials for malaria prevention?	Impregnated bednets = 1 Chemoprophylaxis = 2 Indoor residual spraying = 3 Larval control/environmental management = 4	
Q7.1c	Malaria treatment	Flip chart = 1 Brochure/pamphlet = 2 Posters = 3 Not IEC materials = 4	4 → Q7.2
Q7.1d	Information disseminated through IEC materials for malaria treatment?	Causes of malaria = 1 Symptoms/complications = 2 Appropriate drug/dosage = 3 Sources of treatment = 4 Dangers of self-medication = 5	
Q7.2	Was a "health talk" (group lecture or discussion with patients) held today?	Yes = 1 No = 2 Don't know = 3	2 or 3 → Q8.1
Q7.2a	Which topics did the health talk include?	Malaria prevention = 1 Malaria treatment = 2 General PHC = 3 MCH/PF - HIV/AIDS = 4	

Section 8: Management of the record keeping, reporting and supervision at the health facilities

Q. No.	Questions and Variable's names	Responses and Codes	Skip to
Q8.1	ASK : How are the patients' record cards maintained at the health facility?	Kept in clinic = 1 Kept by patients = 2 Kept in double by both = 3 No cards = 4 Other (specify)..... = 5	If 2 or 4 → Q8.2
Q8.1a	In what condition is the record-card system?	Well ordered = 1 Partially ordered/still usable = 2 Disordered, not usable = 3	
Q8.2	Is there a common daily activity register for all the PHC services provided by this health facility?	Yes for all PHC services = 1 Yes for some of the PHC services = 2 Separate register for each of the PHC services = 3 No daily activity register for of the PHC services = 4	
Q8.2a	Are service statistics reports for the following services sent to a supervisor or higher unit?	Malaria services = 1 MCH = 2 PHC in general = 3 Immunization services = 4	
Q8.2b	How many times in the last six months has a supervisor come to this health facility for supervisory purposes?	/ / / times	
Q8.2c	ASK: When visiting this facility, what does the supervisor do? (Do not read, but probe by asking, "Any other actions?")	Observe delivery of different services = 1 Observe only service he/she is responsible for = 2 Inquire about malaria services provided = 3 Inquire about services problems = 4 Examine the records = 5 Make suggestions for improvements = 6 Offer praise for good work = 7 Other..... = 8	
Q8.3	Does this health facility have a written copy of national or local guidelines for malaria prevention and treatment?	Yes = 1 No = 2	
Q8.4	Does this health facility play a role of referral health facility for other clinics?	Yes = 1 No = 2	
Q8.5	Is it possible for malaria confirmation by microscopy within two hours of request?	Yes = 1 No = 2	

Section 9: Services statistics at the health facilities

Compile rigorously statistics for the number of patients served in a continuous period of 12 months in any of the last 24 months. In those cases where a continuous 12-month period is not available, use the longest continuous period for which there are statistics, and record the number of months in column 4.

Q. No.	Questions and Variable's names	Responses and Codes				
Q9.	How many patients received the following services in the past 12 months at this health facility? (88888 = Not applicable) (99999 = no data available)	Total	Based on number of months of continuous records.	Number of adults	Number of Pregnant women	Number of children under 5 years
Q9.1	Total outpatient visits	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.1a	Outpatient visits with acute febrile illness	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.1b	Outpatient febrile illnesses confirmed as malaria	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.1c	Outpatient P. falciparum malaria	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.1d	Outpatient Non-falciparum malaria	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.2	Total inpatient admissions	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.2a	Inpatient admissions with febrile illness	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.2b	Inpatient febrile illnesses confirmed as malaria	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.2c	Inpatient P. Falciparum malaria	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.3	Total microscopically confirmed severe/complicated malaria	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.3a	Microscopically confirmed severe anaemia	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.3b	Microscopically confirmed cerebral malaria	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.3c	Microscopically confirmed respiratory distress	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.3d	Microscopically confirmed Hypoglycaemia	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.3e	Microscopically confirmed renal failure	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.3f	Microcopy confirmed placental infection	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.4	Total number of fetal complications	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.4a	Number of low birth weight	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.4b	Number of prematurity	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.4c	Number of abortion and stillbirth	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.4d	Number of fetal anaemia	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.5	MCH	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.5a	Antenatal services	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.5b	Maternity & Paediatric services	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.5c	Postnatal services	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
Q9.5d	Immunization services	/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /
		/ / / / /	/ / /	/ / / / /	/ / / / /	/ / / / /

Section 10: Costs charged for obtaining health care at the health facility

Q. No.	Questions and Variable's names	Responses and Codes		
Q10.	What are costs charged for obtaining each of the following health services at this health facility? (9999 = No response)	Consultation costs	Laboratory testing costs / medical procedures	Drugs costs for a single completed treatment or commodity fees
Q10.1	Malaria prevention with impregnated bednets	na	na	/ / / / /
Q10.2	Malaria chemoprophylaxis with: Chloroquine = Proguanil = Mefloquine = Doxycycline =	/ / / / / na na na na	/ / / / / na na na na	/ / / / / / / / / / / / / / / / / / / /
Q10.3	Treatment of P.f. uncomplicated malaria with: Chloroquine = Sulfadoxine-Pyrimethamine = Quinine = Mefloquine =	/ / / / / na na na na	/ / / / / na na na na	/ / / / / / / / / / / / / / / / / / / /
Q10.4	Treatment of P.f. severe and complicated malaria with: Sulfadoxine-Pyrimethamine = Quinine = Doxycycline = Halofandrine = Mefloquine = Artemisinin =	/ / / / / na na na na na na	/ / / / / na na na na na na	/ / / / / /
Q10.5	Treatment of non-Plasmodium falciparum malaria with: Chloroquine and Primaquine =	/ / / / / na	/ / / / / na	/ / / / /
Q10.6a	Antenatal services	/ / / / /	/ / / / /	/ / / / /
Q10.6b	Maternity services	/ / / / /	/ / / / /	/ / / / /
Q10.6c	Postnatal services	/ / / / /	/ / / / /	/ / / / /
Q10.6d	Immunization services	/ / / / /	/ / / / /	/ / / / /
Q10.6e	Paediatric services	/ / / / /	/ / / / /	/ / / / /
Q10.6f	Oral rehydration therapy	/ / / / /	/ / / / /	/ / / / /
Q10.6g	Child growth/nutrition monitoring	/ / / / /	/ / / / /	/ / / / /
Q10.7	Outpatient visit	/ / / / /	/ / / / /	/ / / / /
Q10.8	Inpatient admissions	/ / / / /	/ / / / /	/ / / / /
Q10.9	Are patients, who present at this facility without a referral letter from outside the immediate catchment area, charged a clinic by-pass costs? Outpatient rate = Inpatient rate =	Yes = 1 No = 2 / / / / / / / / / /	Yes = 1 No = 2 / / / / / / / / / /	Yes = 1 No = 2 / / / / / / / / / /
Q10.10	Are these costs waived for referred patients? Outpatient = Inpatient =	Yes = 1 No = 2 1 2 1 2	Yes = 1 No = 2 1 2 1 2	Yes = 1 No = 2 1 2 1 2
Q10.11	Are the costs charged waived for poor patients who are unable to pay at this health facility? Outpatient = Inpatient =	Yes = 1 No = 2 1 2 1 2	Yes = 1 No = 2 1 2 1 2	Yes = 1 No = 2 1 2 1 2
Q10.12	Is the health care costs fixed at this health facility?	Yes = 1 No = 2 1 2	Yes = 1 No = 2 1 2	Yes = 1 No = 2 1 2
Q10.13	How is exemption status determined in this health facility?			

Section 11: Finance information

Q. No.	Questions and Variable's names	Responses and Codes		
Q11.	Remember to ask again the following question about financial staffing:	Financial officers and Accountants?	Bookkeepers?	Clerks?
Q11.1	How many financial staffs are assigned to work at this health facility? (9999 = No response)	/ / / / /	/ / / / /	/ / / / /
Q11.2	Is any financial information on malaria services kept and/or analyzed on a computer at this health facility?	Yes = 1 No = 2	If No = 2, where is this information kept? _____ GOTO that unit/service/place (skip to Q11.3)	
Q11.2a	If yes, what program is used for financial analysis?	(specify) _____		
Q11.3	Does this health facility prepare an annual budget by disease-based activity?	Yes = 1 No = 2		
Q11.4	How often does this health facility reconcile expenditure to budget?	Monthly = 1 Bimonthly = 2 Quarterly = 3 Other = 4		
Q11.5	What is this health facility expenditure for the following lines (88888 =NA, 999999 =No response)	Year 1 2000/2001	Year 2 2001/2002	
Q11.5a	Total expenditure in CFA Francs?	/ / / / / / / / / /	/ / / / / / / / / /	
Q11.5b	Capital/Investment spending (total): Buildings = Equipment = Vehicles = Start-up training = Consultancies =	/ /	/ /	
Q11.5c	Recurrent spending (total): Personnel = Drugs or pharmaceuticals = Supplies = Operation and maintenance = Short-term consultancies = Other recurrent items =	/ /	/ /	
Q11.5d	How much of the total expenditure is spent on malaria control activities in this health facility?	/ / / / / / / / / / or / / / / %	/ / / / / / / / / / or / / / / %	
Q11.5e	What are the major sources of financing of this health facility as a percentage of the total spending: Government or Public Financing = Private or NGO Financing =	/ / / / / % / / / / / %	/ / / / / % / / / / / %	
Q11.6	What is the revenue collected? Outpatients = Inpatients =	/ /	/ /	
Q11.6a	How much of the revenue is retained at this health facility?	/ / / / / %	/ / / / / %	

Section 12:
Basic enabling and regulatory information

Q. No.	Questions and Variable's names	Responses and Codes	Skip to
Q12.	ASK: Is this health facility operating privately?	Yes = 1 No = 2	If 2 ➡ Q12.5
Q12.1	Did the regulatory body or the MoPH license this health facility?	Yes = 1 No = 2 Don't know = 3	
Q12.2	How many years has this health facility been licensed?	/ ___ / ___ / Years	
Q12.3	Is this health facility a member of any medical network?	Yes = 1 No = 2	
Q12.4	If yes, name it?	-----	
Q12.5	Is this health facility benefiting from any enabling interventions (liberalisation measures, non-financial and financial incentives)?	Yes = 1 No = 2	If 2 ➡ End of inventory
Q12.6	If yes, for each enabling intervention mentioned, summarise the nature and check for what this has been used in the health facility environment (e.g. construction of buildings, infrastructure, acquisition of equipment, training of staff, procurement of drugs and supplies, delivery of particular services at subsidised prices, etc.)		
Q12.6a	Liberalisation measures (list all measures mentioned and use additional separate pages if necessary): _____ _____ _____ _____		
Q12.6b	Non-financial incentives (list all elements mentioned and use additional separate pages if necessary): _____ _____ _____ _____		
Q12.6c	Financial incentives (list all incentives mentioned and use additional separate pages if necessary): _____ _____ _____ _____		
Q12.6d	General comments on enabling interventions at health facility: _____ _____ _____		

Read greeting:

We are carrying out a survey of health facilities that provide malaria services to find ways of improving services. We would be interested to know about your experiences so far with managing and running a health facility. Could I ask you some questions about this? Please be assured that this interview is strictly confidential, and your name and the name of your health facility will not be recorded. Also, you are not obliged to answer any question you don't want to, and you may withdraw from the interview at any time. May I continue?

(If the manager agrees to continue, ask if she/he has any questions. Respond to questions as appropriate, then ask M2.1. If the manager does not agree to continue, thank her/him and go to the next interview.)

Section 2: Manager training experience in the health sector

Q. No.	Questions and Variable's names	Responses and codes	Skip to
M2.1	What is your professional specialization?	General Practitioner = 1 Paediatrician = 2 Gynaecologist = 3 Surgeon = 4 ENT Sp. Orthopaedic = 5 Obstetrician = 6 Anaesthetist = 7 Public health = 8 Pharmacist = 9 Nurse/Midwife = 10 Nurse/Laboratory Assistant = 11 Other..... = 12 No applicable = 99	
M2.2	How many years have you been working here at this health facility?	/ / / years 00 = Less than six months 99 = Don't know	
M2.3	How many years ago did you finish your basic training?	/ / / years 00 = Less than six months 98 = No basic training 99 = Don't know	
M2.31	Did your basic training cover (read P25.1-P2.5.).	Yes = 1 Non = 2	
M2.31a	Malaria prevention and treatment	1 2	
M2.31b	Maternal and child health	1 2	
M2.31c	PF including STDs/HIV/AIDS + TB	1 2	
M2.31d	Management and Financing of health sector	1 2	
M2.4	Have you ever attended any refresher or post-basic training courses specifically on health sector management and malaria clinical skills?	Yes = 1 No = 2 Don't know = 3	if 2 or 3 go to M2.7
M2.41	If yes at P2.6, did that training include (read P2.611 – P2.616..)	Yes = 1 No = 2	How long ago was that training? 00 = Less than 1 year 98 = Don't know
M2.31a	Malaria case management (treatment)	1 2	/ / / Year(s)
M2.31b	Laboratory diagnosis of malaria	1 2	/ / / Year(s)
M2.31c	Malaria prevention	1 2	/ / / Year(s)
M2.31d	Maternal and child health	1 2	/ / / Year(s)
M2.31e	PHC in general	1 2	/ / / Year(s)
M2.31f	PF including STDs/HIV/AIDS + TB	1 2	/ / / Year(s)
M2.31g	Financial management/ Resources Allocation	1 2	/ / / Year(s)
M2.31h	Decentralized district health management	1 2	/ / / Year(s)
M2.31i	Basic health economics/policy and planning	1 2	/ / / Year(s)
M2.31k	Supervision	1 2	/ / / Year(s)
M2.31l	Recordkeeping	1 2	/ / / Year(s)
M2.31m	Stockkeeping	1 2	/ / / Year(s)

Section 3: Experience in the management of the health facility

Q. No.	Questions and Variable's names	Responses and codes	Skip to
M3.1	Are you usually working on full time or part time basis in the private sector health care?	Yes, formal full time employee = 1 Yes, formal part time employee = 2 Yes, informal private practice = 3 No at all, I am a public servant = 4 Not response = 9	4 or 9 → M3.3
M3.2	Why did you decide to start working in the private sector health care?	(rank in order of importance: 1 to 6) Independence = ... Entrepreneurial initiative = ... No scope in public sector = ... Financial pay-off higher = ... Low public sector salary = ... Other(specify) = ...	
M3.3	Is the private sector health care market growing?	Yes = 1 No = 2	2 → M3.4
M3.3.1	If yes, what are the reasons?:	(Rank in order of importance: 1-10):	
M3.3.1a	Demand for health care has increased	/ / /	
M3.3.1b	Lack/limitation of public facilities in the district	/ / /	
M3.3.1c	Health facility having specialised medical skills and high technology equipment	/ / /	
M3.3.1d	Health facility having staff with years of experience	/ / /	
M3.3.1e	Availability of enabling measures (liberalisation and incentives)	/ / /	
M3.3.1f	Effective regulatory mechanisms	/ / /	
M3.3.1g	Overall social and economic development	/ / /	
M3.3.1h	Quality of care provided	/ / /	
M3.3.1i	Contracting out of health services from public sector	/ / /	
M3.3.1j	Epidemiological patterns in the district	/ / /	
M3.3.1k	Lower costs for obtaining health care	/ / /	
M3.3.1L	Other (please specify)	/ / /	
M3.4	What is the average range for the number of outpatient visits per day in this health facility?	Minimum / / / Maximum / / /	
M3.5	What is the average range for the number of inpatient visits per week in this health facility?	Minimum / / / Maximum / / /	
M3.6	Do other facilities or doctors refer patients to this health facility?	Never = 1 Occasionally = 2 Frequently = 3 Most often = 4 In all cases = 5	
M3.7	Do staff providing health care see patients by appointment in this health facility?	Appointment = 1 Without appointment = 2 Both = 3	
M3.8	How long do patients have to wait in this health facility (in minutes)?	Less than 15mns = 1 15mns - 30mns = 2 30mns - 60mns = 3 More than 60mns = 4	

Continued - Section 3: Experience in the management of the health facility

Q. No.	Questions and Variable's names	Responses and codes	
M3.9	Is this health facility consultation fee fixed?	Yes = 1 No = 2	2 M3.15
M3.10	If yes, is it based on:	(rank in order of importance: 1 to 4)	
M3.11	The costs incurred (including costs of medical equipment and facilities)	/ / /	
M3.12	What other providers/facilities are charging	/ / /	
M3.13	Price regulation	/ / /	
M3.14	Other (please specify)	/ / /	
M3.15	If no, is it based on:	(rank in order of importance):	
M3.16	Specific medical procedures	/ / /	
M3.17	Specific health services provided	/ / /	
M3.18	Time spent with the particular patient	/ / /	
M3.19	Others	/ / /	
M3.20	Does this health facility charge different fees for old cases or follow-up cases and specific procedures?	Yes = 1 No = 2	
M3.21	What percent of your patients have coverage under reimbursement schemes?	/ / / %	
M3.22	Which type of reimbursement schemes are they covered under?	Employer supported Insurance = / / / % Private Medical Insurance = / / / % Community Mutual Insurance = / / / %	
M3.23	What is the age group profile of majority of your patients?	All age groups = 1 Mostly children = 2 Mostly pregnant women = 3 Pregnant women & Children = 4 Adults Old = 5	
M3.24	What is the socio-economic profile of majority of your patients?	Rich = 1 Middle = 2 Lower = 3 All Classes = 4	
M3.25	How often does this health facility recommend malaria patients for routine and/or special investigations?	Never = 1 Occasionally = 3 Frequently = 4 Most often = 5 In all cases = 6	
M3.26	Does this health facility refer patients to a particular diagnostic centre?	Yes = 1 No = 2	1 M3.29
M3.27	If no then, how patients with febrile illness attending this facility are usually diagnosed for malaria disease?	Use Clinical symptoms only = 1 Diagnostic Laboratory Available = 2 Both clinical and laboratory = 3	
M3.28	The recommendation of diagnostic centre is based on (rank in order of importance):	Quality / / / Distance/Proximity / / / Patients ability to pay / / / Other: / / /	
M3.29	Does this health facility dispense antimalarial drugs to patients?	Yes = 1 No = 2	2 M3.
M3.30	If yes does it usually have brand name, and/or generic drugs?	Brand name = 1 Generic drugs = 2 Both = 3	
M3.31	Is the decision to dispense the aforementioned drugs based on the following criteria? (Rank in order of importance):	Efficacy/Sensitivity / / / Availability / / / Price/costs / / / Patient willingness to pay / / / Patient ability to pay / / / Other / / /	

Section 4: Characteristics of medical profession and awareness of enabling and regulatory interventions

Q. No.	Questions and Variable's names	Responses and codes
M 4.1	Which of the following factors do you think define and/or influence "good quality of care" for malaria services and PHC in general?	Rank in order of importance (from 1 to 15)
M4.1a	Availability of basic infrastructure facilities, working equipment and supplies	/ / /
M4.1b	Availability of Competency-based trained staff	/ / /
M4.1c	Availability and accessibility of the doctor during emergencies	/ / /
M4.1d	Rational prescription of investigations/diagnostic tests	/ / /
M4.1e	Rational prescription of drugs/medicines	/ / /
M4.1f	Maintenance of adequate standards of hygiene and sanitation	/ / /
M4.1g	Availability of latest medical equipments	/ / /
M4.1h	Regulation of quality of care (medical ethic, inspection)	/ / /
M4.1i	Refinement, communication and availability of standards and guidelines for disease management	/ / /
M4.1k	Availability of IEC materials on disease prevention, treatment and patient's counselling	/ / /
M4.1l	Costs charged for obtaining health services	/ / /
M4.1m	Availability of financial incentives	/ / /
M4.1n	Problem solving in the health settings	/ / /
M4.1o	Record keeping and health information system	/ / /
M4.1p	Awareness and protection of patient's right	/ / /
M4.2	Do you think that medical practice has become highly capital intensive (i.e., requiring more funds)?	Yes = 1 No = 2
M4.21	If yes then, is it because of (rank in order of importance):	Location = / / Medical equipment/technology = / / Manpower = / / Maintenance = / / Pharmaceuticals/drugs = / / Weakness of enabling actions = / / High regulatory standards = / / Other: = / /
M4.22	Is this health facility/unit registered as?	For-profit = 1 Nonprofit (Mission) = 2 Nonprofit (Association or CIG) = 3 Nonprofit (Foundation) = 4 Not registered = 5 Any other = 6
M4.23	What is the percentage of the following sources in financing the total investments in this health facility?	Government budget / / / / % Loans from Banks / / / / % Other / / / / % Partner/sole owner's capital / / / / % Not idea/don't know = 99 or 999%
M4.23a	What is the average rate of interest on the borrowings?	/ / / / % Don't know = 99%

C'nued 1 - Section 4: Characteristics of medical profession and awareness of enabling and regulations

Q. No.	Questions and Variable's names	Responses and codes	
M4.24	Do you think that following risks in the medical profession have increased in the years you have been working at this health facility?	Yes 1 No 2 Not relevant 3	
M4.24a	Less returns (poor recovery of cost)	/ _ /	
M4.24b	Increase in operating and capital costs	/ _ _ /	
M4.24c	Low patient flow	/ _ _ /	
M4.24d	Seasonal fluctuations in patient flow	/ _ _ /	
M4.24e	Increase in awareness of patient rights	/ _ _ /	
M4.24f	Decrease in awareness of regulatory mechanisms	/ _ _ /	
M4.24g	Decrease in compliance to standards and guidelines	/ _ _ /	
M4.25	What do you think the impact of high technology and latest medical equipment will have on the following? (1 = Increase significantly; 2 = Increase moderately; 3 = Remain the same; 4 = Decrease moderately; 5 = Decrease significantly; 6 = Don't know)	Cost of care = / _ / Quality of care = / _ / Demand for technology based procedures = / _ / Inappropriate use = / _ / Any other = / _ /	
M4.26	Do you think that the physical location of clinics or health facility in residential areas is beneficial?	Yes = 1 No = 2	
M4.26a	If yes then, it because of (rank in order of importance):	Reduction in transport cost / _ / Reduction in waiting time / _ / Speedy emergencies care / _ / Any other / _ _ /	
M4.27	In your opinion, what are the adverse consequences of having a clinic/health facility in a residential area?	_____ _____ _____ _____	
M4.28	Is it a problem to get trained staff to work in private clinics ?	Yes = 1 No = 2	
M4.28a	If yes then is it because of (rank in order of importance):	(rank in order of importance):	
M4.28b	Shortage of supply of paramedical staff	/ _ _ /	
M4.28c	It is expensive to hire them	/ _ _ /	
M4.28d	They do not have exposure to latest procedures and equipment	/ _ _ /	
M4.28e	Inadequate training	/ _ _ /	
M4.28f	Other (please specify)	/ _ _ /	
M4.3	How prevalent do you think the following practices are? (1 = Highly prevalent; 2 = Moderately Prevalent; 3 = Marginally Prevalent; 4 = Not Prevalent; 5 = Don't know)		
M4.31a	Cut medical practice	/ _ _ /	
M4.31b	Over prescription of drugs	/ _ _ /	
M4.31c	Over prescription of diagnostics	/ _ _ /	
M4.31d	Inadequate measures for sterilisation of medical equipments	/ _ _ /	
M4.31e	Inadequate measures for disposal of medical waste	/ _ _ /	
M4.31f	Inadequate fulfilment or compliance of standards, during pre-operative, operative and post-operative care	/ _ _ /	
M4.31g	Inappropriate use of medical technology	/ _ _ /	
M4.31	Break down of trust in the doctor-patient relationship	/ _ _ /	
M4.31	Inadequate information given to patients	/ _ _ /	
M4.31a	Misuse of privileges given to honorary doctors of facilities in public health facilities	/ _ _ /	
M4.31	Government employed medical personnel or public hospitals' doctors practising privately	/ _ _ /	
M4.31	Lack of accessibility to doctors during emergencies care	/ _ _ /	
M4.31a	Provider-induced-demand for health care	/ _ _ /	
M4.31b	Low awareness of regulatory mechanisms	/ _ _ /	
M4.31c	Informal distribution of pharmaceuticals/drugs by street pharmacists, shopkeepers and hawkers.	/ _ _ /	

C'nued 1 - Section 4: Characteristics of medical profession and awareness of enabling and regulations

Q. No.	Questions and Variable's names	Responses and codes	
M4.32	Are you aware of existing enabling and regulatory interventions that exist for the private medical practice in Cameroon?	Aware = 1 Not Aware = 2	
M4.32a	Please list the name of interventions and annexed in separate pages if possible?		
M4.32b	1. _____ _____ _____ _____		
M4.32c	2. _____ _____ _____ _____		
M4.32d	3. _____ _____ _____ _____		
M4.33	Do you think that enabling and regulations that you are aware about are effective in protecting the interests of:	1 = Highly effective 2 = Moderately effective 3 = Not at all effective 4 = Don't know	
M4.33a	Public medical sector professionals	/___/	
M4.33b	Private medical sector professionals	/___/	
M4.33c	Both public and private medical sectors' professionals	/___/	
M4.33d	Patients and community as users of health services	/___/	
M4.34	Are you a member of a local or national medical professional association?	Yes =1 No = 2	
M4.34a	If yes, please name it here: _____		
M4.34b	Again, if yes, what are its main activities? _____ _____ _____ _____		

C'nued 1 - Section 4: Characteristics of medical profession and awareness of enabling and regulations

Q. No.	Questions and Variable's names	Responses and codes		
M4.35	How do you keep abreast of the latest knowledge or developments in your medical profession? (Rank in order of your main important source)	Journals/Books / Conferences/seminars / Medical drug companies / Continuing medical education / MoPH public information / Medical Association Meetings / Regulatory bodies Info. Syst. / Other: /		
M4.36	In the years you have been practising how do you see the medical and health environment changing in terms of the following: (1 - Increased substantially; 2 - Increased moderately; 3 - Has remained the same; 4 - Decreased moderately; 5 - Decreased substantially)	1 = Increased substantially; 2 = Increased moderately; 3 = Has remained the same; 4 = Decreased moderately; 5 = Decreased substantially		
M4.36a	Provider awareness and compliance to regulations	/	/	
M4.36b	Patient demand and awareness	/	/	
M4.36c	Role of the government in enabling and regulating the sector	/	/	
M4.36d	Role of the pharmaceutical industry	/	/	
M4.36e	Role of the technology	/	/	
M4.36f	Role of medical professional associations	/	/	
M4.36g	Irrational prescription of drugs	/	/	
M4.36h	Irrational prescription of investigations/diagnostic tests	/	/	
M4.36i	Costs of medical care	/	/	
M4.36k	Availability of trained medical personnel	/	/	
M4.36l	Role of the private sector	/	/	
M4.36m	Informal medical practices	/	/	
M4.36n	Provider-induced-demand	/	/	
M4.36o	Ethical behaviour	/	/	
M4.36p	Limited private practice by government employed staff	/	/	
M4.37	Which of the following views about medical practice in the future do you agree or disagree with?	Yes 1	No 2	No opinion 3
M4.37a	Role of technology will increase	/	/	
M4.37b	Costs of care will skyrocket	/	/	
M4.37c	There will be a significant increase in competition	/	/	
M4.37d	There will be excessive reliance on investigations and procedures	/	/	
M4.37e	Quality of care will improve	/	/	
M4.37f	Patient demand and awareness will increase	/	/	
M4.37g	Ethical behaviour will improve	/	/	
M4.37h	Regulations will become stringent	/	/	
M4.37i	Regulations will be enforced to a greater extent	/	/	
M4.37k	Access to medical care will be more equitable	/	/	
M4.37l	Provider awareness and compliance to regulations will increase	/	/	
M4.37m	Role of the government in enabling and regulating the health sector will improve	/	/	
M4.37n	There will be an increase in the availability of trained medical personnel	/	/	
M4.37o	Limited private practice by government employed staff will increase	/	/	
M4.37p	Role of medical professional associations will improve	/	/	
M4.37q	The role of the private sector will increase	/	/	
M4.37r	Informal private medical practice will decrease	/	/	
M4.37s		/	/	
M4.3t	Any comments? 			

Section 5: Access to enabling interventions and compliance with existing regulations of the health sector

No.	Questions and responses
M5.1	Does your private health facility have access to any specific enabling interventions (liberalisation measures, non-financial and financial incentives)? Please for each intervention mentioned, describe and specify how effective it is used for malaria control activities (coverage, quality and prices) in your health facility. Feel free to use additional separate pages for detailed description.
M5.1a	Liberalisation policies for the health sector : _____ _____ _____
5.1b	Non-financial incentives : _____ _____ _____
5.1c	Financial incentives : _____ _____ _____
5.2	Does your private health facility comply with any specific regulatory mechanisms (licensing and registration the quantity and distribution of inputs, quality assurance and pricing of health care)? Please for each mechanism mentioned, describe and specify how effective it is used for malaria control activities (coverage, quality and prices) in your health facility. Feel free to use additional separate pages for detailed description.
5.2a	Regulation of quantity and distribution of medical inputs: _____ _____ _____
5.2b	Regulation of quality of care: _____ _____ _____
5.2c	Regulation of prices of health care: _____ _____ _____
5.3	What are potentialities and constraints in operating private health facilities? _____ _____ _____
5.4	Further comments about organisational and managerial structures of private facilities: _____ _____

Section 6: Socio-demographic characteristics			
Q. No.	Questions and Variable's names	Responses and codes	
M6.1	To end with, I would like to ask a few questions about yourself. How old are you?	/___/___/ Years 99 = Don't know	
M6.2	What is your current marital status?	Married/monogamous = 1 Married/polygamous = 2 Cohabiting/living together = 3 Single, never married = 4 Divorced/separated = 5 Widowed = 6	
M6.3	How many living children of your own do you have?	/___/___/ Children 99 = No response	
M6.4	What is your religion?	Protestant = 1 Catholic = 2 Moslem = 3 African Spiritual = 4 Animist = 5 Other:..... = 6 Don't know = 99	
M6.5	Gender?	Female = 1 Male = 2	

End of the interview:
 (Please, feel free to ask any question, and/or to add further detailed information and comments on separated papers here included).

Thank You Very Much for Your Collaboration.

APPENDIX G:

Questionnaire for Staff Providing Malaria Services at Health Facility

Questionnaire number {PID}: /_/_/_/_/

Instructions to Field Work Assistant: All health facility staff who are responsible for providing malaria services should be interviewed individually and in private at the end of the working day. It should be made clear that you are seeking their assistance in finding ways of improving the functioning and quality of the services offered by facilities in general. For each question, circle the response or describe, as appropriate.

Section 1: Cover page and general information

Q. No.	Questions and Variable's names	Responses and Codes	Skip to
P1.1.	Health facility visited name {HFName}:	_____	
P1.11	Health facility code {HFCode}:	/_/_/_/	
P1.2.	Health District Name {HDName} -	_____	
P1.21	Health District Code {HDCode}	/_/_/_/	
P1.3.	Village/Town Name {TownName}	_____	
P1.31	Village/Town Code {TownCode}	/_/_/_/	
P1.4.	Date of visit {DateV}	/_/_/ /_/_/ /_/_/	
P1.5	Type of health facility {TypeHF}	District/Ref. Hospital = 1 Hospital/Polyclinic = 2 Health Center/Clinic = 3 Laboratory/health post = 4 Pharmacy = 5 Informal health unit = 6 Other(specify).....= 7	
P1.6.	Type of sector {SectYpe}	Private = 1 Public = 2	SP1.7.
P1.61	Type of private sector {PrivatYpe}	Private for-profit = 1 Private not-for-profit = 2 Informal medical practice = 3	
P1.7.	Locality of health facility {LocHF}	Urban = 1 Rural = 2	
P1.71	Type of location area {LocArea}	Commercial area = 1 Residential area = 2	
P1.8	Designation of staff member {Sdesig}	Medical doctor = 1 Senior nurse = 2 Nurse-midwife = 3 Nurse-assistant = 4 Non-medical personnel = 5 Other = 6	
Control and validation of the questionnaire during the field work			
P1.9.	Field Work Assistant Name {FWAName}	_____	
P1.91	Field work Assistant Code {FWACode}	/_/_/_/	
P1.10	Field work team leader name {TLName}	_____	
P1.10a	Field work team leader code {TLCode}	/_/_/	
P1.10b	Signature of team leader {Sign}	Sign/validate = 1 No sign/no validate = 2	

Read greeting:

We are carrying out a survey of health facilities that provide malaria services to find ways of improving services. We would be interested to know about your experiences so far with providing malaria services at this health facility. Could I ask you some questions about this? Please be assured that this discussion is strictly confidential, and your name is not being recorded. Also, you are not obliged to answer any question you don't want to, and you may withdraw from the interview at any time. May I continue?

(If the provider agrees to continue, ask if she has any questions. Respond to questions as appropriate, then ask P2.1. If the provider does not agree to continue, thank her/him and go to the next interview.)

Section 2: Experience and training in malaria services

Q. No.	Questions and Variable's names	Responses and codes	Skip to
P2.1	How many years ago did you finish your basic training?	/ _ / _ / years 00 = Less than six months 98 = No basic training 99 = Don't know	
P2.2	How many years have you been working here at this health facility?	/ _ / _ / years 00 = Less than six months 99 = Don't know	
P2.3	Did your basic training cover the following malaria services? (read P2.31 - P2.36)	Yes = 1 Non = 2	
P2.3a	Clinical diagnosis of malaria	1 2	
P2.3b	Microscopic diagnosis of malaria	1 2	
P2.3c	Diagnosis and treatment of malaria in children	1 2	
P2.3d	Diagnosis and treatment of malaria in adults	1 2	
P2.3e	Management of malaria in pregnancy	1 2	
P2.3f	Malaria preventive services	1 2	
P2.4	Have you ever attended any refresher or post-basic training courses specifically on malaria treatment clinical management skills, counselling and prevention?	Yes = 1 No = 2 Don't know = 3	If 2 or 3 go to P2.5
P2.41	If yes at P2.4, did that retraining include (read P2.41a – P2.41f)	Yes = 1 No = 2	How long ago was that training? 00 = Less than 1 year 98 = Don't know
P2.41a	Clinical diagnosis of malaria	1 2	/ _ / _ / Year(s)
P2.41b	Microscopy diagnosis of malaria	1 2	/ _ / _ / Year(s)
P2.41c	Diagnosis and treatment in children	1 2	/ _ / _ / Year(s)
P2.41d	Diagnosis and treatment in adults	1 2	/ _ / _ / Year(s)
P2.41e	Malaria management in pregnancy	1 2	/ _ / _ / Year(s)
P2.41f	Malaria preventive services	1 2	/ _ / _ / Year(s)
P2.5	In the last 3 months, have you yourself actually provided malaria services to patients?	Yes = 1 No = 2 Don't know = 3	
P2.51	(if yes) Which malaria services have you yourself actually provided in the last 3 months?	Yes = 1 No = 2	
P2.51a	Clinical diagnosis of malaria	1 2	
P2.51b	Microscopy diagnosis of malaria	1 2	
P2.51c	Diagnosis and treatment in children	1 2	
P2.51d	Diagnosis and treatment in adults	1 2	
P2.51e	Malaria management in pregnancy	1 2	
P2.51f	Malaria preventive services	1 2	

Continued1 Section 2: Experience and training in malaria services

Q. No.	Questions and Variable's names	Responses and codes	Skip to
P2.6	What is the average range for the number of patients you see per day?	Minimum / / / Maximum / / /	
P27	Do other doctors refer patients to you?	Never = 1 Occasionally = 2 Frequently = 3 Most often = 4 In all cases = 5	
P2.8	Do you see your patients by appointment?	Appointment = 1 Without appointment = 2 Both = 3	
P2.9	How long do patients have to wait (in minutes)?	Less than 15mns = 1 15mns - 30mns = 2 30mns - 60mns = 3 More than 60mns = 4	

Section 3:
Knowledge and Practices in Microscopic Diagnosis of Malaria

Q. No.	Questions and Variable's names	Responses and codes					Skip to
P3.1	What are the main ways to measure the prevalence of malaria infection in human?	Yes = 1 No = 2					
P3.1a	Basic reproductive rate	1 2					
P3.1b	Parasite rate	1 2					
P3.1c	Human biting rate	1 2					
P3.1d	Spleen rate	1 2					
P3.2	What is the meaning of the following malaria-related epidemiological terms?	Parasite Rate	Spleen Rate	Basic Reproductive Rate	Mosquito Population Density	Not Applicable	
P3.2a	Patient's parasite count	1	2	3	4	5	
P3.2b	Malaria parasite per µl of blood	1	2	3	4	5	
P3.2c	Percentage of the population with malaria parasitaemia	1	2	3	4	5	
P3.2d	Number of cases of malaria arising from each infection person per day	1	2	3	4	5	
P3.2e	Number of mosquito bites per infected person per night	1	2	3	4	5	
P3.2f	Number of Anopheles mosquitoes per person	1	2	3	4	5	
P3.2g	Number of bites on humans per mosquito per night	1	2	3	4	5	
P3.2h	Number of feeds per mosquito per night	1	2	3	4	5	
P3.2i	Number of mosquitoes secondarily infected from each infections mosquito	1	2	3	4	5	
P3.2j	Number of infectious mosquitoes that survive sporogony	1	2	3	4	5	
P3.2k	Lifespan of each mosquito after sporogony	1	2	3	4	5	
P3.2l	Total number of 'infectious mosquito-days	1	2	3	4	5	
P3.2m	Number of bites on humans per infectious mosquito per night	1	2	3	4	5	
P3.2n	Fraction of bites on humans that cause malaria	1	2	3	4	5	
P3.2o	Percentage of the population with an enlarged spleen	1	2	3	4	5	
P3.2p	Number of days that infection lasts	1	2	3	4	5	

Continued| **Section 3:**
Knowledge and Practices in Microscopic Diagnosis of Malaria

Q. No.	Questions and Variable's names	Responses and codes			Skip to
P3.3	What is the role of microscopy in making a definitive diagnosis of malaria case among the following combined procedures?	Yes = 1	No = 2		
P3.3a	Full history of a malaria patient	1	2		
P3.3b	Clinical examination of a malaria patient	1	2		
P3.3c	Detection of malaria parasites through the results of blood films	1	2		
P3.3d	Providing the results of antimalarial drug therapy	1	2		
P3.4	What type of blood film must be preferred for the routine diagnosis of malaria?	Thick 1	Thin 2	Don't know 3	
P3.41	Why the response provided in P3.4?	Yes = 1	No = 2		
P3.41a	Can detect low level parasitaemia	1	2		
P3.41b	Take about then times shorter to study and is too fast for everyday clinical use	1	2		
P3.5	What type of blood film must be preferred for the preservation of parasite morphology?	Thick 1	Thin 2	Don't know 3	
P3.51	Why the response provided in P3.5?	Yes = 1	No = 2		
P3.51a	Parasite morphology cannot be distorted in the drying process	1	2		
P3.51b	The parasites appear bigger in the film	1	2		
P3.51c	The identification of the species can be made easily	1	2		
P3.6	What type of blood film must be preferred for the characteristic host cell features?	Thick 1	Thin 2	Don't know 3	
P3.61	Why the response provided in P3.6?	Yes = 1	No = 2		
P3.61a	Features of infected erythrocytes for species identification	1	2		
P3.61b	Red cell 'ghosts' are more helpful in this regard.	1	2		
P3.7	What are the processes in the preparation of a specific blood film?	Thick film 1	Thin film 2	Not Applicable 3	
P3.7a	A large drop of blood (3-5µl) is placed on a slide	1	2	3	
P3.7b	A small drop of blood (1µl) is placed on a slide	1	2	3	
P3.7c	A second slide is brought down on the drop at an angle of 45° and the blood is run along the angled slide edge	1	2	3	
P3.7d	Blood is spread over a small area (1 cm2) with the corner of a second slide	1	2	3	
P3.7e	The slide is dried in a air for 15-60 minutes	1	2	3	
P3.7f	Blood is spread by pushing the angled slide away from the drop	1	2	3	
P3.7g	The film is stained unfixed with typically Field's stain	1	2	3	
P3.7h	The film is air dried, fixed and stained, typically with Giemsa stain	1	2	3	

Continued2 Section 3:
Knowledge and Practices in Microscopic Diagnosis of Malaria

Q. No.	Questions and Variable's names	Responses and codes			Skip to
P3.8	What type of stain is characterized by each of the following dry slide processes?	Field's Stain 1	Giemsa Stain 2	Not Applicable 3	
P3.8a	Stained in solution A for 2-3 seconds	1	2	3	
P3.8b	Fixed in absolute methanol for 3 seconds	1	2	3	
P3.8c	Stained for 20-30 minutes in 5 ml of the absolute methanol mixed with 95 ml of buffered water	1	2	3	
P3.8d	Washed in tap water and dried	1	2	3	
P3.8e	Dipped in buffered water to remove excess blue	1	2	3	
P3.8f	Stained in solution B for 1 second	1	2	3	
P3.9	What are the features of three blood stages : trophozoites, schizonts and gametocytes?	Trophozoites 1	Schizonts 2	Gametocytes 3	NA 4
P3.9a	Single (or double) small chromatin bead	1	2	3	4
P3.9b	Two to 32 chromatin beads	1	2	3	4
P3.9c	Single chromatin bead	1	2	3	4
P3.9d	Rounded or crescent shaped solid cytoplasm	1	2	3	4
P3.9e	Typically irregular amoeboid cytoplasm	1	2	3	4
P3.9f	Cytoplasm as a ring, uniform or fragmented mass	1	2	3	4
P3.9g	Pigment in early and late forms	1	2	3	4
P3.9h	Pigment absent from young forms	1	2	3	4
P3.10	What are the features of infected red cells or ghosts and parasite morphology?	Infected Red Cells 1	Parasite Morphology 2	NA 4	
P3.10a	Changes in overall size, shape and colour	1	2	4	
P3.10b	Shape and size of cytoplasm	1	2	4	
P3.10c	Single or multiple infection of each cell	1	2	4	
P3.10d	Number and size of chromatin beads	1	2	4	
P3.10e	Degree of pigmentation within cytoplasm	1	2	4	
P3.10f	Presence Schüffner's stippling and Maurer's clefts	1	2	4	
P3.10g	Stages of parasite seen together	1	2	4	
P3.11	How can a medical personnel estimate the parasitaemia from thick and thin films and what threshold's values can be expected from each film?	Thick film 1	Thin film 2	Not Applicable 3	
P3.11a	Counting the number of infected red blood cells per 100 red cells	1	2	3	
P3.11a	Counting parasites and leucocytes in the film field until 200 leucocytes have been seen	1	2	3	
P3.11a	Assuming that there are 8,000 leucocytes in each μ l of blood	1	2	3	
P3.11a	Repeating for 10 of the considered film fields, counting a multiply infected cell as one	1	2	3	
P3.11a	Multiplying the parasite total from 1 by 40 to give the parasite count per μ l.	1	2	3	
P3.11a	A threshold of 100 parasites / μ l for the film	1	2	3	
P3.11a	A threshold of 10 - 20 parasites / μ l for the film	1	2	3	

Section 4:
Practical Experience in Malaria Diagnosis and Treatment in Children and Adults

Q. No.	Questions and Variable's names	Responses and codes	Skip to
P4.1	What are your usual provisional diagnoses of clinical features in a child from this district health during the malaria season?	Yes = 1 No = 2	
P4.1a	Patient with an acute fever of any pattern	1 2	
P4.1b	Patient with or without other symptoms	1 2	
P4.2	What are other diseases suspected for differential diagnoses of fever in children?	Yes = 1 No = 2	
P4.2a	Septicaemia	1 2	
P4.2b	Acute respiratory infection	1 2	
P4.2c	Otitis media	1 2	
P4.2d	Urinary tract infection	1 2	
P4.2e	Meningitis	1 2	
P4.2f	typhoid fever	1 2	
P4.2g	Brucellosis	1 2	
P4.2h	Influenza and other viral infections	1 2	
P4.3	What are your usual diagnostic investigations where microscopy is not immediately available for a definitive diagnosis of malaria?	Yes = 1 No = 2	
P4.3a	A peripheral blood film is prepared for microscopy elsewhere	1 2	
P4.3b	Malaria is treated from the clinical diagnosis only	1 2	
P4.4	What are the clinical symptoms or signs of an uncomplicated malaria in children?	Yes = 1 No = 2	
P4.4a	- Fever	1 2	
P4.4b	- Headache	1 2	
P4.4c	- Vomiting	1 2	
P4.4d	- Myalgia	1 2	
P4.4e	- Watery diarrhoea	1 2	
P4.4f	- Tachypnoea	1 2	
P4.4g	- Cough	1 2	
P4.4h	- Febrile convulsions	1 2	
P4.4i	- Anaemia	1 2	
P4.5	What are the clinical signs of severe malaria defined as asexual parasitaemia in children?	Yes = 1 No = 2	
P4.5a	- Coma (cerebral malaria)	1 2	
P4.5b	- Respiratory distress	1 2	
P4.5c	- Hypoglycaemia	1 2	
P4.5d	- Severe anaemia	1 2	
P4.5e	- Repeated and generalized convulsions	1 2	
P4.5f	- Metabolic acidosis	1 2	
P4.5g	- Shock	1 2	
P4.5h	- Impaired consciousness other than coma	1 2	
P4.5i	- Prostration or extreme weakness	1 2	
P4.5j	- High parasite count (hyperparasitaemia)	1 2	
P4.5k	- Jaundice	1 2	
P4.5l	- Rectal temperature above 40°C (hyperpyrexia)	1 2	
P4.6	What are the additional clinical symptoms or signs of severe malaria in adults?	Yes = 1 No = 2	
P4.6a	- Acute renal failure	1 2	
P4.6b	- Pulmonary oedema including adult respiratory distress syndrome (ARDS)	1 2	
P4.6c	- Spontaneous bleeding	1 2	
P4.6d	- Haemoglobinuria ('blackwater fever')	1 2	

Continued1 **Section 4:**
Practical Experience in Malaria Diagnosis and Treatment in Children and Adults

Q. No.	Questions and Variable's names	Responses and codes					Skip to
P4.7	Do you usually follow your clinical diagnosis of severe malaria with the following diagnostic procedures?	Yes = 1 No = 2					
P4.7a	- Peripheral blood film to confirm the diagnosis of falciparum malaria	1	2				
P4.7b	- Peripheral blood film to provide a baseline parasite count for treatment	1	2				
P4.7c	- Peripheral blood film to determine the stages of the parasites present	1	2				
P4.7d	- Measurement of haemoglobin (Hb) level to define the degree of anaemia	1	2				
P4.7e	- Measurement of blood glucose to test for hypoglycaemia	1	2				
P4.7f	- Lumbar puncture if there is a history of repeated convulsions, impaired consciousness and coma	1	2				
P4.7g	- Arterial or venous blood gases - to assess acid-base balance and determine the severity of respiratory complications	1	2				
P4.7h	- Blood culture - to detect bacterial infection	1	2				
P4.7i	- Plasma electrolyte levels - to assess the degree of dehydration and detect renal impairment	1	2				
P4.8	What are the major complications of severe malaria in district health?	Yes = 1 No = 2					
P4.8a	- Cerebral malaria	1	2				
P4.8b	- Respiratory distress	1	2				
P4.8c	- Hypoglycaemia	1	2				
P4.8d	- Severe anaemia	1	2				
P4.9	What are the clinical features of each of the four major complications of severe malaria?	Cerebral malaria	Respiratory distress	Hypogly-caemia	Severe anaemia	NA	
P4.9a	- Sudden Coma often after a generalized convulsion	1	2	3	4	5	
P4.9b	- Gradual coma in the sequence of initial drowsiness, confusion and disorientaion, delirium or agitation and unconsciousness.	1	2	3	4	5	
P4.9c	- Pallor of the conjunctiva of the lower eyelid, tongue and inside of the lower lip, fingernail beds and palms.	1	2	3	4	5	
P4.9d	- Dysconjugate gaze	1	2	3	4	5	
P4.9e	- Pouting of the mouth	1	2	3	4	5	
P4.9f	- A history of dyspnoea reported by the parent or guardian	1	2	3	4	5	
P4.9g	- Hypertonia - increased muscular tone	1	2	3	4	5	
P4.9h	- Flaring of the nostrils	1	2	3	4	5	
P4.9I	- Lethargy and breathlessness	1	2	3	4	5	
P4.9k	- Deep breathing or Kussmaul's respiration	1	2	3	4	5	
P4.9l	- Altered mental state: restlessness, aggressive behaviour, drowsiness, coma.	1	2	3	4	5	
P4.9m	- Partial or generalized convulsions	1	2	3	4	5	
P4.9n	- Chest indrawing	1	2	3	4	5	
P4.9o	- Convulsions	1	2	3	4	5	
P4.9p	- Tachypnoea	1	2	3	4	5	
P4.9q	- Sweating	1	2	3	4	5	
P4.9r	- Extensor posturing	1	2	3	4	5	

Continued2 Section 4:
Practical Experience in Malaria Diagnosis and Treatment in Children and Adults

Q. No.	Questions and Variable's names	Responses and codes		Skip to
P4.10	What are your major general principles of treatment of malaria in this health facility?	Yes = 1 No = 2		
P4.10a	Severity of malaria diagnosed	1	2	
P4.10b	Local resistance of P. falciparum to drugs	1	2	
P4.10c	Level of care available in the health facility	1	2	
P4.11	What is your usual antimalarial chemotherapy provided or prescribed to patients in this health facility?	Yes = 1 No = 2		
P4.11a	Oral drugs for uncomplicated malaria	1	2	
P4.11b	Parenteral drugs for severe malaria	1	2	
P4.11c	Ancillary treatment only	1	2	
P4.12	What are drugs available for treatment of falciparum malaria in this health facility and/or district health?	Available at Health facility level Yes = 1 No = 2	Available at District health level Yes = 1 No = 2	Not Available Yes = 1 No = 2
P4.12a	Chloroquine	1 2	1 2	1 2
P4.12b	Amodiaquine	1 2	1 2	1 2
P4.12c	Pyremethamine-Sulphadoxine (PM-SD)	1 2	1 2	1 2
P4.12d	Quinine	1 2	1 2	1 2
P4.12e	Mefloquine	1 2	1 2	1 2
P4.12f	Artemisinin	1 2	1 2	1 2
P4.12g	Proguanil	1 2	1 2	1 2
P4.12h	Doxycycline	1 2	1 2	1 2
P4.12i	Halofandrine	1 2	1 2	1 2
P4.12k	Primaquine	1 2	1 2	1 2
P4.13	What are your usual indications for providing or prescribing a particular chemotherapy to malaria patients?	Yes = 1 No = 2		
P4.13a	Clinical diagnosis of malaria	1	2	
P4.13b	Malaria parasitaemia	1	2	
P4.13c	Cost of treatment	1	2	
P4.13d	Drug efficacy	1	2	
P4.13e	Compliance	1	2	
P4.13f	Adverse effects	1	2	
P4.13g	Age of patient	1	2	
P4.13h	Pregnancy status for a woman	1	2	
P4.14	What are your usual first line and second line drugs for malaria in children?	First Line Drugs Yes = 1 No = 2	Second Line Drugs Yes = 1 No = 2	Not Applicable Yes = 1 No = 2
P4.14a	Chloroquine	1 2	1 2	1 2
P4.14b	Amodiaquine	1 2	1 2	1 2
P4.14c	Pyremethamine-Sulphadoxine (PM-SD)	1 2	1 2	1 2
P4.14d	Quinine	1 2	1 2	1 2
P4.14e	Mefloquine	1 2	1 2	1 2
P4.14f	Artemisinin	1 2	1 2	1 2
P4.14g	Proguanil	1 2	1 2	1 2
P4.14h	Doxycycline	1 2	1 2	1 2
P4.14i	Halofandrine	1 2	1 2	1 2
P4.14k	Primaquine	1 2	1 2	1 2

Continued3 Section 4:
Practical Experience in Malaria Diagnosis and Treatment in Children and adults

Q. No.	Questions and Variable's names	Responses and codes			Skip to
P4.15	What are your usual first line and second line drugs for malaria in adult patients?	First Line Drugs Yes = 1 No = 2		Second Line Drugs Yes = 1 No = 2	Not Applicable Yes= 1 No= 2
P4.15a	Chloroquine	1	2	1	2
P4.15b	Amodiaquine	1	2	1	2
P4.15c	Pyremethamine-Sulphadoxine (PM-SD)	1	2	1	2
P4.15d	Quinine	1	2	1	2
P4.15e	Mefloquine	1	2	1	2
P4.15f	Arthemisinin	1	2	1	2
P4.15g	Proguanil	1	2	1	2
P4.15h	Doxycycline	1	2	1	2
P4.15i	Halofandrine	1	2	1	2
P4.15l	Primaquine	1	2	1	2
P4.16	What oral dose did you usually prescribe or provide to child and adult patients with uncomplicated malaria?	Child	Adult	Both C & A	Don't Know
P4.16a	Chloroquine: 25mg base/kg in 3 doses over 3 days	1	2	3	4
P4.16b	PM-SD: 1.25 mg/kg PM, 25mg/kg SD a single dose	1	2	3	4
P4.16c	PM-SD: 1 mg/kg PM, 20mg/kg SD a single dose	1	2	3	4
P4.16d	Mefloquine: 20mg base/kg in single dose or in two doses over 8 hours	1	2	3	4
P4.16e	Mefloquine: 15 mg base/kg in single dose	1	2	3	4
P4.16f	Amodiaquine: 25 mg base/kg over 3 days in 3 doses	1	2	3	4
P4.16g	Quinine: 10 mg salt/kg every 8 hours for 5-7 days	1	2	3	4
P4.16h	Artesunate or artemether: 10-12 mg/kg over 2-3 days with 20 mg/kg mefloquine	1	2	3	4
P4.17	How did you usually assess the response to malaria treatment?	Yes = 1 No = 2			
P4.17a	Clinical examination	1	2		
P4.17b	Peripheral blood film	1	2		
P4.17c	Haemoglobin assay	1	2		
P4.18	What are the major problems to distinguish resistance to antimalarial drugs?	Yes = 1 No = 2			
P4.18a	Failure to comply fully with medication	1	2		
P4.18b	Prescription of inadequate regimen due to lack of appropriate drug	1	2		
P4.18c	Reinfection with malaria in an area of high transmission	1	2		
P4.18d	Symptoms not due to malaria	1	2		
P4.19	What did you include in an ancillary treatment of malaria?	Yes = 1 No = 2			
P4.19a	Antipyretics (e.g. Paracetamol, Aspirin)	1	2		
P4.19b	Fanning	1	2		
P4.19c	Removal of clothing	1	2		
P4.19d	Sponging with tepid water	1	2		
P4.19e	Oral iron supplementation	1	2		
P4.19f	Rehydration	1	2		

Continued4 Section 4:
Practical Experience in Malaria Diagnosis and Treatment in Children and Adults

Q. No.	Questions and Variable's names	Responses and codes			Skip to
P4.20	When facing with a case of severe malaria at the peripheral health centre, what are your usual treatment principles?	Yes = 1 No = 2			
P4.20a	Providing available antimalarial drugs only	1	2		
P4.20b	Referring patients to high level health care	1	2		
P4.20c	Not applicable	1	2		
P4.21	What do you include in the supportive care for a patient with severe malaria at this Clinic or Hospital?	1	2		
P4.21a	Setting up intravenous access	1	2		
P4.21b	Giving maintenance infusion of fluids for shock or respiratory distress	1	2		
P4.21c	Management of convulsions and hypoglycaemia	1	2		
P4.21d	Insertion of a nasogastric tube	1	2		
P4.21e	Recording fluid intake and urine output	1	2		
P4.21f	Nursing patient on its side with frequent turning	1	2		
P4.21g	Giving antipyretics	1	2		
P4.21h	Regular monitoring	1	2		
P4.21i	Peripheral blood film	1	2		
P4.21k	Haemoglobin or packed cell volume assay	1	2		
P4.21l	Blood glucose assay	1	2		
P4.21m	Lumbar puncture	1	2		
P4.22	What is your usual treatment of severe malaria with complications in children and adults?	Children 1	Adults 2	Both C & A 3	Don't Know 4
P4.22a	Respiratory distress (Hb>5g/dl): Intravenous infusion with 20 ml/kg normal saline over 30 minutes.	1	2	3	4
P4.22b	Respiratory distress (Hb<5g/dl): Intravenous infusion with 20 ml/kg whole blood over 1.5 – 4 hours, including a bolus of 10 ml/kg over the first 30 minutes	1	2	3	4
P4.22c	Hypoglycaemia: Intravenous 50% glucose 1.0 ml/kg diluted in an equal volume of sterile water as a bolus injection over 2 minutes	1	2	3	4
P4.22d	Slow intravenous infusion of 10% glucose for recurrent hypoglycaemia	1	2	3	4
P4.22e	Severe anaemia: Blood transfusion with 20 ml/kg whole blood over 4 hours	1	2	3	4
P4.22f	Severe anaemia: Blood transfusion with 20 ml/kg whole blood over 1.5 – 4 hours, including a bolus for 10 ml/kg over the first 30 minutes	1	2	3	4
P4.22g	Renal failure: Infusion of isotonic saline to maintain venous pressure at 0 – 5 cm H2O	1	2	3	4

Continued5 **Section 4:**
Practical Experience in Malaria Diagnosis and Treatment in Children and Adults

Q. No.	Questions and Variable's names	Responses and codes	Skip to
P4.23	What are epidemiological conditions influencing the clinical effects of <i>P. falciparum</i> in pregnancy?	Yes = 1 No = 2	
P4.23a	Maternal acquired immunity to malaria	1 2	
P4.23a	Level of malaria transmission	1 2	
P4.23a	Gravity in areas with endemic malaria	1 2	
P4.23a	Coexistent infection with other diseases	1 2	
P4.24	What are major control measures of malaria in pregnancy from your experiences in medical practice?	Yes = 1 No = 2	
P4.24a	Diagnosis and treatment of uncomplicated malaria and mild to moderate anaemia	1 2	
P4.24a	Malaria chemoprophylaxis	1 2	
P4.24a	Management of severe malaria, including severe anaemia	1 2	
P4.24a	Health education and attendance for antenatal care	1 2	
P4.24a	Prevention of vector contact in advising the use of mosquito nets	1 2	
P4.25	How often do you recommend your pregnant women patients for routine and/or special malaria control measures?	Never = 1 Occasionally = 2 Frequently = 3 Most often = 4 In all cases = 5	
P4.26	Do you refer pregnant women patients to a particular health centre, clinic or hospital?	Yes = 1 No = 2	➡ P4.28
P4.27	Your recommendation of health centre, clinic or hospital is based on (rank in order of importance):	Quality of care /_/ Distance/Proximity /_/ Services available /_/ Patients ability to pay /_/ Referral system in place /_/ Other: /_/ _____	➡ P4.29
P4.28	If no in P4.26 then, how often do you provide to pregnant women the information regarding which malaria control measures they should undertake?	Never = 1 Occasionally = 2 Frequently = 3 Most often = 4 In all cases = 5	
P4.29	What are the factors influencing your decision to recommend the chemoprophylaxis for malaria to pregnant women?	Yes = 1 No = 2	
P4.29a	Risk from malaria	1 2	
P4.29b	Adverse effects of prophylaxis on mother and fetus	1 2	
P4.29c	Easy of drug delivery and likely compliance	1 2	
P4.29d	Drug costs and availability	1 2	
P4.29e	Drug efficacy and parasite resistance	1 2	

Continued6 **Section 4:**
Practical Experience in Malaria Diagnosis and Treatment in Children and Adults

Q. No.	Questions and Variable's names	Responses and codes			Skip to
P4.30	What are the major maternal and fetal complications of malaria in semi-immune women from your experiences in this health facility?	Maternal Complications	Fetal Complications	Don't Know	
P4.30a	High fever	1	2	3	
P4.30b	Severe anaemia	1	2	3	
P4.30c	Cerebral malaria	1	2	3	
P4.30d	Hypoglycaemia	1	2	3	
P4.30e	Pulmonary oedema	1	2	3	
P4.30f	Acute renal failure	1	2	3	
P4.30g	Placental infection	1	2	3	
P4.30h	Puerperal sepsis	1	2	3	
P4.30i	Low birth weight	1	2	3	
P4.30j	Prematurity	1	2	3	
P4.30k	Abortion and stillbirth	1	2	3	
P4.30l	Congenital malaria	1	2	3	
P4.30m	Fetal anaemia	1	2	3	
P4.31	In your usual practice, do you prescribe or dispense on the basis of brand name, generic name or both?	Brand name = 1 Generic drugs = 2 Both = 3			
P4.32	Is your decision based on the following (Rank in order of importance):	Efficacy/Sensitivity /_/_ Availability /_/_ Price/costs /_/_ Patient willingness to pay /_/_ Patient ability to pay /_/_ Other /_/_ Chloroquine = 1 Proguanil = 2 Mefloquine = 3 Doxycycline = 4 Don't Know = 5 No response = 9			
P4.33	What are those antimalarial drugs you regularly prescribe for chemoprophylaxis in pregnancy?	Chloroquine = 1 Proguanil = 2 Mefloquine = 3 Doxycycline = 4 Don't Know = 5 No response = 9			
P4.34	Do you think that pharmaceutical companies influence the prescribing behaviour of doctors?	Yes = 1 No = 2			
P4.35	Do you give information and explain to your malaria patients regarding: (Fill in the appropriate response)	Always = 1 down to /X/ Frequently = 2 (P4.35a-P4.35d) Rarely = 3 When asked = 4			
P4.35a	Dosage and administration of antimalarial drugs prescribed/provided	/_/			
P4.35b	Side effects of antimalarial drugs prescribed/provided	/_/			
P4.35c	When to come back for follow-up visit	/_/			
P4.35d	What food to take	/_/			
P4.36	What type of information do patients usually request?	Yes = 1 No = 2			
P4.36a	Ask for a copy of prescription and diagnosis	1 2			
P4.36b	How much the treatment will cost	1 2			
P4.36c	Which diagnostic centre to approach	1 2			
P4.36d	Recovery time	1 2			
P4.36e	Prognosis	1 2			
P4.36f	Date of follow-up visit	1 2			
P4.36g	Other (please specify) _____	1 2			
P4.37	How comfortable are you discussing malaria prevention and treatment with patients? Would you say you are very comfortable, somewhat uncomfortable, comfortable, or very comfortable?	Very uncomfortable = 1 Somewhat comfortable = 2 Comfortable = 3 Very comfortable = 4 No response = 9			

Section 5:
Provider's perception of medical practice, quality of care
and enabling and regulation in the health sector

Q. No.	Questions and Variable's names	Responses and codes	
P5.1	How prevalent do you think the following practices are?	1 = Highly prevalent; 2 = Moderately Prevalent; 3 = Marginally Prevalent; 4 = Not Prevalent; 5 = Don't know :	
P5.1a	Cut medical practice	/ _ /	
P5.1b	Over prescription of drugs	/ _ _ /	
P5.1c	Over prescription of diagnostics	/ _ _ /	
P5.1d	Inadequate measures for sterilization of medical equipments	/ _ _ /	
P5.1e	Inadequate measures for disposal of medical waste	/ _ _ /	
P5.1f	Inadequate fulfillment or compliance of standards, during pre-operative, operative and post-operative care	/ _ _ /	
P5.1g	Inappropriate use of medical technology	/ _ _ /	
P5.1h	Break down of trust in the doctor-patient relationship	/ _ _ /	
P5.1i	Inadequate information given to patients	/ _ _ /	
P5.1j	Misuse of privileges given to honorary doctors of facilities in public health facilities	/ _ _ /	
P5.1k	Government employed medical personnel or public hospitals' doctors practicing privately	/ _ _ /	
P5.1l	Lack of accessibility to doctors during emergencies care	/ _ _ /	
P5.1m	Provider-induced-demand for health care	/ _ _ /	
P5.1o	Low awareness of regulatory mechanisms	/ _ _ /	
P5.1p	Informal distribution of pharmaceuticals/drugs by street pharmacists, shopkeepers and hawkers.	/ _ _ /	
P5.2	Are you aware of existing enabling and regulatory interventions that exist for the private medical practice in Cameroon?	Aware = 1 Not Aware = 2	
P5.2a	Please list the name of interventions and annexed in separate pages if possible?		
P5.2b	1. _____ _____ _____ _____		
P5.2c	2. _____ _____ _____ _____		
P5.2d	3. _____ _____ _____ _____		

Continued I Section 5:
Provider's perception of medical practice, quality of care
and enabling and regulation in the health sector

Q. No.	Questions and Variable's names	Responses and codes	
P5.3	Do you think that enabling and regulations that you are aware about are effective in protecting the interests of:	1 = Highly effective 2 = Moderately effective 3 = Not at all effective 4 = Don't know	
P5.3a	Public medical sector professionals	/ /	
P5.3b	Private medical sector professionals	/ /	
P5.3c	Both public and private medical sectors' professionals	/ /	
P5.3d	Patients and community as users of health services	/ /	
P5.4	Are you a member of a local or national medical professional association?	Yes =1 No = 2	
P5.4a	If yes, please name it here: _____		
P5.4b	Again, if yes, what are its main activities? _____ _____ _____ _____		
P5.5	How do you keep abreast of the latest knowledge or developments in your medical profession? (Rank in order of your main important source)	Journals/Books / / Conferences/seminars / / Medical drug companies / / Continuing medical education / / MoPH public information / / Medical Association Meetings / / Regulatory bodies Info. Syst. / / Other: / /	
P5.6	In the years you have been practicing how do you see the medical and health environment changing in terms of the following: (1 - Increased substantially; 2 - Increased moderately; 3 – Has remained the same; 4 – Decreased moderately; 5 - Decreased substantially)	1 = Increased substantially; 2 = Increased moderately; 3 = Has remained the same; 4 = Decreased moderately; 5 = Decreased substantially	
P5.6a	Provider awareness and compliance to regulations	/ /	
P5.6b	Patient demand and awareness	/ /	
P5.6c	Role of the government in enabling and regulating the sector	/ /	
P5.6d	Role of the pharmaceutical industry	/ /	
P5.6e	Role of the technology	/ /	
P5.6f	Role of medical professional associations	/ /	
P5.6g	Irrational prescription of drugs	/ /	
P5.6h	Irrational prescription of investigations/diagnostic tests	/ /	
P5.6i	Costs of medical care	/ /	
P5.6k	Availability of trained medical personnel	/ /	
P5.6l	Role of the private sector	/ /	
P5.6m	Informal medical practices	/ /	
P5.6n	Provider-induced-demand	/ /	
P5.6o	Ethical behaviour	/ /	
P5.6p	Limited private practice by government employed staff	/ /	

Continued2 Section 5:
Provider's perception of medical practice, quality of care
and enabling and regulation in the health sector

Q. No.	Questions and Variable's names	Responses and codes		
P5.7	Which of the following views about medical practice in the future do you agree or disagree with?	Yes 1	No 2	No opinion 3
P5.7a	Role of technology will increase	/___/		
P5.7b	Costs of care will skyrocket	/___/		
P5.7c	There will be a significant increase in competition	/___/		
P5.7d	There will be excessive reliance on investigations and procedures	/___/		
P5.7e	Quality of care will improve	/___/		
P5.7f	Patient demand and awareness will increase	/___/		
P5.7g	Ethical behaviour will improve	/___/		
P5.7h	Regulations will become stringent	/___/		
P5.7i	Regulations will be enforced to a greater extent	/___/		
P5.7k	Access to medical care will be more equitable	/___/		
P5.7l	Provider awareness and compliance to regulations will increase	/___/		
P5.7m	Role of the government in enabling and regulating the health sector will improve	/___/		
P5.7n	There will be an increase in the availability of trained medical personnel	/___/		
P5.7o	Limited private practice by government employed staff	/___/		
P5.7p	Role of medical professional associations will improve	/___/		
P5.7q	The role of the private sector will increase	/___/		
P5.7r	Informal private medical practice will decrease	/___/		
P5.7s		/___/		
P5.7t	Any comments?			

Section 6: Socio-demographic characteristics

Q. No.	Questions and Variable's names	Responses and codes	
P6.1	To end with, I would like to ask a few questions about yourself. How old are you?	/___/___/ Years 99 = Don't know	
P6.2	What is your current marital status?	Married/monogamous = 1 Married/polygamous = 2 Cohabiting/living together = 3 Single, never married = 4 Divorced/separated = 5 Widowed = 6	
P6.3	How many living children of your own do you have?	/___/___/ Children 99 = No response	
P6.4	What is your religion?	Protestant = 1 Catholic = 2 Moslem = 3 African Spiritual = 4 Animist = 5 Other:..... = 6 Don't know = 99	
P6.5	Gender?	Female = 1 Male = 2	

End of the interview:
(Please, feel free to ask any question, and/or to add further detailed information and comments on separated papers here included).
Thank You Very Much for Your Collaboration.

APPENDIX H:

Malaria patient exit interview questionnaire

Questionnaire number {PEXID}: / / / /

Instructions to Fieldwork Assistant: You must always obtain the consent of patient or caretaker before proceeding to the interview. Read the greeting on the next page to the patient, and continue only if he/she gives his/her consent. For each question in the rest of the interview, circle the response or describe as appropriate.

Section 1: Cover page and general information

Q. No.	Questions and Variable's names	Responses and Codes	Skip to
PX1.1.	Health facility visited name {HFName}:		
PX.1a	Health facility code {HFCode}:	/ / /	
PX1.2.	Health District Name {HDName}		
PX1.2a	Health District Code {HDCode}	/ / /	
PX1.3.	Village/Town Name {TownName}		
PX1.3a	Village/Town Code {TownCode}	/ / /	
PX1.4.	Date of visit {DateV}	/ / / / / /	
PX1.5.	Type of health facility {TypeHF}	District/Ref. Hospital = 1 Hospital/Polyclinic = 2 Health Center/Clinic = 3 Laboratory/health post = 4 Pharmacy = 5	
PX1.6.	Type of sector {SectYpe}	Private = 1 Public = 2	➡ PX1.7.
PX1.6a	Type of private sector {PrivatYpe}	Private for-profit = 1 Private nonprofit = 2	
PX1.7.	Locality of health facility {LocHF}	Urban = 1 Rural = 2	
PX1.7a	Type of location area {LocArea}	Commercial area = 1 Residential area = 2	
PX1.8	Patient's details	Children = 1 Adults = 2 Pregnant women = 3	
PX1.8a	Purpose of the visit at health facility	Uncomplicated malaria = 1 Severe malaria = 2 Chemoprophylaxis = 3	
Control and validation of the questionnaire during the field work			
Q1.9.	Field Work Assistant Name {FWAName}		
Q1.9a	Field work Assistant Code {FWACode}	/ / / /	
Q1.10	Field work team leader name {TLName}		
Q1.10a	Field work team leader code {TLCode}	/ / /	
Q1.10b	Signature of team leader {Sign} _____	Sign/validate = 1 No sign/no validate = 2	

Read greeting:

Hi or Hello Ms/Mrs/Mr. My name is, I am a Fieldwork Assistant working for an academic research project in Public Health. The Ministry of Public Health in collaboration with the University of Yaounde II (Cameroon) and the University of Cape Town (South Africa) would like to improve the services provided by health facilities in this district/community. I would be interested to find out about your experience today. I would like to ask you some questions about the visit you have just had with the health facility staff and would be very grateful if you could spend some time answering these questions. I will not write down your name, and everything you tell me will be kept strictly confidential. Also, you are not obliged to answer any question you don't want to, and you may withdraw from the interview at any time. May I continue? (If the patient agrees to continue, kindly ask if he/she has any questions. Respond to questions as appropriate, then ask PX2.1. If the respondent does not agree to continue, thank her/him and go to the next interview.)

Section 2: Patient/respondent awareness of the causes, symptoms and prevention of malaria in the household/community

Q. No.	Questions and Variable's names	Responses and Codes				Skip to
PX2.1	Identification of the respondent	Patient = 1 Mother = 3 Caretaker = 2 Father = 4				
PX2.2	What is the local name of malaria illness in your community					
PX2.3	Has malaria been a major health problem for people particularly pregnant women and children's common illness in your household/community?	Yes = 1 No = 2 Don't know = 8 No response = 9				
PX2.4	What is the major cause of malaria in human?	Mosquitoes bite = 1 Other: = 2 Don't know = 8 No response = 9				
PX2.5	Can you distinguish between an uncomplicated and severe malaria	Yes = 1 No = 2				
PX2.5a	What malaria services do you receive today at this health facilities? (verify with patient medical card)	Uncomplicated = 1 Severe = 2 Chemoprophylaxis = 3 Other..... = 4 Don't know = 8				
PX2.6	What are the symptoms or signs of an uncomplicated malaria in children and adults?	Children Signs 1	Adults Signs 2	Both Signs 3	Don't Know 4	
PX2.6a	Not able to drink or breastfeed	1	2	3	4	
PX2.6b	Vomiting, nausea , dizziness	1	2	3	4	
PX2.6c	Unable to sit, stand up or to play/malaise	1	2	3	4	
PX2.6d	Fever	1	2	3	4	
PX2.6e	Anorexia/loss of appetite	1	2	3	4	
PX2.6f	Coca-Cola-like/Yellow Urine	1	2	3	4	
PX2.6g	Slight jaundice	1	2	3	4	
PX2.6h	Hot bodies, sweating	1	2	3	4	
PX2.6i	Troublesome cough	1	2	3	4	
PX2.6k	Chill, tiredness, rigors,	1	2	3	4	
PX2.6l	Headache	1	2	3	4	
PX2.6m	Anaemia	1	2	3	4	
PX2.6n	Myalgia	1	2	3	4	
PX2.6o	Watery diarrhoea	1	2	3	4	
PX2.6p	Abdominal pains	1	2	3	4	
PX2.6q	Orthostatic hypotension	1	2	3	4	
PX2.6r	Bitterness in the mouth	1	2	3	4	
PX2.6s	Drowsiness	1	2	3	4	
PX2.6t	Enlarged liver and spleen	1	2	3	4	

Continued1 - **Section 2: Patient/respondent awareness of the causes, symptoms and prevention of malaria in the household/community.**

Q. No.	Questions and Variable's names	Responses and Codes			Skip to
		Children Signs 1	Adults Signs 2	Both Signs 3	
PX2.7	What are the symptoms or signs of a severe malaria in children and adults?				Don't Know 4
PX2.7a	Severe anaemia	1	2	3	4
PX2.7b	Prostration and extreme weakness	1	2	3	4
PX2.7c	Hypoglycaemia	1	2	3	4
PX2.7d	Circulatory collapse and chock	1	2	3	4
PX2.7e	Lethargy/impaired of consciousness	1	2	3	4
PX2.7f	Pulmonary oedema	1	2	3	4
PX2.7g	Jaundice	1	2	3	4
PX2.7h	Rectal temperature above 40°C	1	2	3	4
PX2.7i	Convulsions	1	2	3	4
PX2.7k	Disorientation/disturbances in speech	1	2	3	4
PX2.7l	Malarial haemoglobinuria	1	2	3	4
PX2.7m	Methabolic acidosis	1	2	3	4
PX2.7n	Paralysis of a limb or half the body	1	2	3	4
PX2.7o	Excessively high fevers	1	2	3	4
PX2.7p	Spontaneous bleeding	1	2	3	4
PX2.7q	Collapse and occasionally renal failure	1	2	3	4
PX2.7r	Unrousable Coma (cerebral malaria)	1	2	3	4
PX2.7	What do you do for the prevention of malaria disease in your household/community?	Use of bed nets for personal protection = 1 Indoor residual spraying = 2 Larval control & environmental management = 3 Chemoprophylaxis = 4 Nothing = 5 Don't know = 8 No response = 9			
PX2.8	Do you or any member of your household use the bednet?	Yes = 1 No = 2 No response = 9			2 PX2.12
PX2.9	Does everybody in your household sleep under a net?	Yes = 1 No = 2 Not applicable = 3 No response = 9			
PX2.10	How many bednets do you have in your household?	/ / / No response = 99			
PX2.11	Can you tell me from where the bednets were acquired?	NGO Project = 1 Private shop = 2 Community-based outlets = 3 Health facility = 4 Other: = 5 Don't know = 8 No response = 9			
PX2.12	How much does an impregnated bednet cost in this area/community?	/ / / / / / / /CFAFrCs			

Section 3: Patient Health Seeking Behaviour and Satisfaction at Health Facility

Q. No.	Questions and Variable's names	Responses and Codes	Skip to
PX3.1	Before you came to this health facility, what was your usual first treatment seeking behaviour when you or your child experienced malaria illness?	Self-medication and ancillary treatment = 1 Sought care from traditional healer = 2 Nothing = 3 Came directly to health facility = 4 Other: = 5	
PX3.1a	If self-medication and ancillary treatment, what antimalarial drugs had been used; what else had been done to patient?	Chloroquine = 1 Paracetamol, Fansidar, Aspirin = 2 Sponging with tepid water = 3 Removal of clothing = 4 Rehydration = 5 Oral iron supplementation = 6 Fanning = 7 Other: = 8 No response = 9	
PX3.1b	Where did you buy the antimalarial drugs used in self-medication?	Street pharmacy/ drug's hawker = 1 Shopkeeper = 2 Community-based pharmacy = 3 Formal/official pharmacy = 4 Health facility = 5 Other: = 6 No response = 9	
PX3.1c	How much did you pay for the antimalarial drug used in self-medication?	/ / / / / CFA francs	
PX3.1d	If traditional healer, how much did you pay for obtaining malaria treatment?	In kind Monetary: / / / / / CFA francs	
PX3.2	What is the main purpose of your visit at this health facility today?	New visit for malaria services = 1 Follow-up visit for malaria services = 2 Visit for other PHC services = 3	
PX3.3	Overall, would you say you were satisfied with your visit to the facility today?	Satisfied = 1 Dissatisfied = 2 Other = 3	1→ PX2.4 1→ PX2.4
PX3.3a	Why were you dissatisfied with your visit today?		
PX3.4.	As far as you know, what types of medical services are usually available to malaria patients at this health facility? (Do not read, but probe by asking, "Any other services?")	Yes = 1 No = 2	PX3.41 Did you receive any of the following services today? Yes = 1 No = 2
PX3.4.a	Personal protection measures: impregnated bednets {IbednetServ}	1 2	1 2
PX3.4.b	Malaria chemoprophylaxis for pregnant women {MchemoPW}	1 2	1 2
PX3.4.c	Malaria chemoprophylaxis for children under five years {MchemoCUFY}	1 2	1 2
PX3.4.d	Clinical diagnosis of malaria	1 2	1 2
PX3.4.e	Microscopic diagnosis of malaria	1 2	1 2
PX3.4.f	Diagnosis and treatment of uncomplicated malaria in children	1 2	1 2
PX3.4.g	Diagnosis and treatment of severe (complicated) malaria in children	1 2	1 2
PX3.4.h	Diagnosis and treatment of uncomplicated malaria in adults	1 2	1 2
PX3.4.i	Diagnosis and treatment of severe (complicated) malaria in adults	1 2	1 2
PX3.4.j	Diagnosis and treatment of uncomplicated malaria in pregnancy	1 2	1 2
PX3.4.k	Diagnosis and treatment of severe (complicated) malaria in pregnancy	1 2	1 2

Continued1 - Section 3: Patient Health Seeking Behaviour and Satisfaction at Health Facility

Q. No.	Questions and Variable's names	Responses and Codes	Skip to
PX3.5	Do you feel that you received the information and services that you wanted today?	Yes = 1 No = 2 Partially = 3 Don't know = 9	
PX3.6	Do you feel that malaria services consultation with the clinical staff was too short, too long, or about the right amount of time?	Too short = 1 Too long = 2 About right = 3 Don't know = 9	
PX3.7	During this visit, did you have any concerns about malaria services or other health issues that you wanted to discuss with the provider?	Yes = 1 No = 2	
PX3.7a	(If yes) Did the provider listen to your concerns to your satisfaction?	Yes = 1 No = 2	
PX3.8	During this visit, did you have any questions you wanted to ask?	Yes = 1 No = 2	
PX3.8a	(If yes) Did the provider let you ask the questions?	Yes = 1 No = 2	
PX3.8a1	(If yes) Did the provider respond to your questions to your satisfaction?	Yes = 1 No = 2	
PX3.9	During this visit, did the provider conduct any health examinations or procedures?	Yes = 1 No = 2	
PX3.9a	(If yes) Did the provider explain the examinations or procedures before they were performed?	Yes = 1 No = 2	
PX3.10	Did the provider explain the results of the health examinations or procedures?	Yes = 1 No = 2	
PX3.11	In your opinion, did you have enough privacy during your consultation with service provider?	Yes = 1 No = 2	
PX3.12	During the consultation, did you feel that the provider was easy to understand when explaining things to you, or did you feel that the provider was difficult to understand?	Easy to understand = 1 Difficult to understand = 2 Don't know = 9	
PX3.13	If you could suggest one improvement to the services provided, what would it be?		
PX3.14	During this visit, were you given or did you take any brochure or educational material to bring home?	Yes = 1 No = 2 Don't know = 9	
PX3.15	(If yes) What was the subject (s) of that material? (Do not read, but probe by asking, "Any other services?")	Yes = 1 No = 2	
PX3.15a	Personal preventive measures of malaria	1 2	
PX3.15b	Diagnosis and treatment of malaria in children	1 2	
PX3.15c	Diagnosis and treatment of malaria in adults	1 2	
PX3.15d	Diagnosis and treatment of malaria in pregnancy	1 2	
PX3.15e	Non-drug preventive measures of malaria	1 2	
PX3.15f	Reproductive health issues + HIV/AIDS	1 2	
PX3.15g	Other: (specify)	1 2	

Continued2 - Section 3: Patient Health Seeking Behaviour and Satisfaction at Health Facility

Q. No.	Questions and Variable's names	Responses and Codes	Skip to
PX3.16	Did you attend a group talk (s) at the facility today?	Yes = 1 No = 2 Don't know = 9	2 → PX3.17 9 → PX3.17
PX3.16	(If yes) what topics were covered in the group talk(s)? (Do not read, but probe by asking, "Any other services?")	Yes = 1 No = 2	
PX3.16a	Personal preventive measures of malaria	1 2	
PX3.16b	Diagnosis and treatment of malaria in children	1 2	
PX3.16c	Diagnosis and treatment of malaria in adults	1 2	
PX3.16d	Diagnosis and treatment of malaria in pregnancy	1 2	
PX3.16e	Non-drug preventive measures of malaria	1 2	
PX3.16f	Reproductive health issues + HIV/AIDS	1 2	
PX3.16g	Other: (specify)	1 2	
PX3.17	Did any service provider tell you when to come back for another visit?	Yes = 1 No = 2 Don't know = 9	
PX3.18	Are the hours this facility is open convenient for you?	Yes = 1 No = 2 Don't know = 9	
PX3.18a	(If no) What time would be most convenient to you?	Early in morning = 1 Over lunch hour = 2 Afternoon = 3 Evening / night = 4 Weekends / holidays = 5 Other : = 6 Don't know = 9	
PX3.19	Have you ever been turned away from this facility during official working hours?	Yes = 1 No = 2 No previous experience with facility = 3 Don't know = 9	
PX3.20	About how long did you have to wait between the time you first arrived at this facility and the time you began receiving the services that you came for?	/_/_/_/minutes 999 = Don't know	
PX3.21	Do you feel that the wait between the time you first arrived at this facility and the time you began receiving the services you came for was reasonable or too long?	Reasonable = 1 Too long = 2 Don't know = 9	
PX3.22	How long did it take you to come here today?	/_/_/_/minutes 999 = Don't know	
PX3.23	What was the main means of transport that you used to get here?	Walked = 1 Donkey cart = 2 Bus / Combi = 3 Bicycle = 4 Private car = 5 Other: = 6	
PX3.24	Apart from this facility, is there any other place near your home where you can go for seeking malaria services?	Yes = 1 No = 2 Don't know = 9	

Continued3 - Section 3: Patient Health Seeking Behaviour and Satisfaction at Health Facility

Q. No.	Questions and Variable's names	Responses and Codes	Skip to
PX3.25	(If yes) What type of facility is it?	Health center = 1 Laboratory/ health post = 2 Hospital = 3 Pharmacy = 4 Other: = 5 Don't know = 9	
PX3.26	What would you say are the main reasons you bypassed (did not go there) that health facility for seeking malaria services? (Do not read, but probe by asking, "Any other services?")	Yes = 1 No = 2	
PX3.26a	Inconvenient opening times	1 2	
PX3.26b	Takes too long to be consulted	1 2	
PX3.26c	Poor quality services	1 2	
PX3.26d	Fewer services available	1 2	
PX3.26e	Want to be anonymous	1 2	
PX3.26f	Prefer private health facility here	1 2	
PX3.26g	More expensive there	1 2	
PX3.26h	Prefer particular provider here	1 2	
PX3.26k	Severity of the illness	1 2	
PX3.26l	Drugs not available there	1 2	
PX3.26m	Willingness and ability to pay here	1 2	
PX3.26n	Other:	1 2	
PX3.26o	Don't know	8	
PX3.26p	No response	9	
PX3.27	During your visit today, how did the medical staff diagnose your illness	Clinical examination = 1 Microscopic blood film = 2 Both = 3	
PX3.28	What are antimalarial drugs prescribed or dispensed for your illness? And what dosage did the provider recommend to you? (Please, verify carefully this information in the handout patient's medical card)	Chloroquine = 1 (.....) Amodiaquine = 2 (.....) Sulfadoxine-Pyrimethamine = 3 (.....) Quinine = 4 (.....) Artemisinin = 5 (.....) Mefloquine = 6 (.....) Proguanil = 7 (.....) Holofandrine = 8 (.....) Primaquine = 9 (.....) Antipyretics (e.g. paracetamol) 10 (.....)	
PX3.29	Do you usually comply with the medications prescribed or dispensed for the treatment of your illness?	Never comply = 1 Often comply = 2 Always comply = 3	

Section 4: Costs of Obtaining Malaria Services at Health Facility

Q. No.	Questions and Variable's names	Responses and Codes	Skip to
PX4.0	Now I would like to ask you about the cost of travel and services that you have received from this facility.	Local currency units = CFA Francs 99999 = Don't know	
PX4.1	How much did you pay for your malaria services consultation?	/ / / / / / CFA Francs 99999 = Don't know	
PX4.2	How much did you pay for malaria diagnosis test?	/ / / / / / CFA Francs 99999 = Don't know	
PX4.3	How much did you pay for antimalarial drugs/medicines?	/ / / / / / CFA Francs 99999 = Don't know	
PX4.4	How much did you pay for other items such as cotton, gloves, antiseptic, or syringes?	/ / / / / / CFA Francs 99999 = Don't know	
PX4.5	How much did you pay for registration card / membership?	/ / / / / / CFA Francs 99999 = Don't know	
PX4.6	How much did you pay for travel or how much did you estimate your travel costs?	/ / / / / / CFA Francs 99999 = Don't know	
PX4.7	How much did you pay for special diet?	/ / / / / / CFA Francs 99999 = Don't know	
PX4.8	How did you pay for any other services or fees?	/ / / / / / CFA Francs 99999 = Don't know	
PX4.9	Total official or formal costs for seeking malaria services at this health facility?	/ / / / / / CFA Francs 99999 = Don't know	
PX4.10	Please, did you have any past experience of informal (under-the-table or bribe) payment of unofficial fees for obtaining health care?	Yes = 1 No = 2	2 ➡ PX4.12
PX4.10a	If yes, did you pay these unofficial fees in either monetary or non-monetary forms?	Monetary = 1 Non-monetary = 2 Both = 3	
PX4.11	Today, do you have to bribe or pay unofficial fees to any medical staff at this health facility?	Yes = 1 No = 2	2 ➡ PX4.12
PX4.11a	Is the payment of unofficial fees today being made in monetary or non-monetary forms?	Monetary = 1 Non-monetary = 2 Both = 3	
PX4.11b	How much do you pay unofficially in monetary terms (CFA Francs)?	/ / / / / / CFA Francs 99999 = Don't know	
PX4.11c	What do you pay unofficially in non-monetary terms and how much do you estimate the market price of the gift?	Name: _____ = / / / / / / CFA Francs 99999 = Don't know	
PX4.11d	Total unofficial or informal costs for seeking malaria services at this facility?	/ / / / / / CFA Francs 99999 = Don't know	
PX4.12	Overall, do you feel that the total costs , including unofficial fees of obtaining services is much too expensive, a little too expensive, or acceptable to you?	Much too expensive = 1 A little too expensive = 2 Acceptable = 3 Cheap = 4 Don't know = 9	
PX4.13	Overall, how much working times do you loss for seeking malaria services in this health facilities? (day or hour or minute)	/ / / / Days / / / / Hours / / / / / Minutes	

Section 5: Socio-economic, malaria prevalence and demographic characteristics

Q. No.	Questions and Variable's names	Responses and codes	
PX5.1	To end with, I would like to ask a few questions about you and/or the patient. Age1: How old is the patient?	/___/___/ Years 99 = Don't know	
	If the patient/caretaker is still child (0-9 years) or adolescent (10 – 19 years), ask directly the questions about the head of the household where she/he comes from.		
PX5.2	Age2: How old are you? (If and only if the respondent is not patient his/herself)	/___/___/ Years 99 = Don't know	
PX5.3	Gender1? Sex of patient	Female1 = 1 Male1 = 2	
PX5.4	Gender2? Sex of respondent if and only if patient is not respondent his/herself	Female2 = 1 Male2 = 2	
PX5.5	What is your current marital status?	Married/monogamous = 1 Married/polygamous = 2 Cohabiting/living together = 3 Single, never married = 4 Divorced/separated = 5 Widowed = 6	
PX5.6	How many people normally live and eat their meals together in your household or dwelling since the last twelve months? "Those who were absent more than nine of the last twelve months should be excluded, except for the head of the household and children less than three months old".	Household size /___/___/ People 99 = No response N.B. Please specify the following: Children aged 0-15 years /___/___/ Children under 5 years old /___/___/ Women aged 15-49 years /___/___/ Pregnant women last 12 months /___/___/ Employed households' members /___/___/	
PX5.7	How many members of your household experienced malaria illness at least once during the last 12 months?	/___/___/ people Don't know = 98 No response = 99	
PX5.8	Among members of your household who experienced malaria illness during the last 12 months, how many of them were children and pregnant women?	/___/___/ Children < 5 years /___/___/ Children 5< 10 years /___/___/ Adolescent 10< 19 years /___/___/ Pregnant women /___/___/ Other Adults Don't know = 98 No response = 99	
PX5.9	What is your religion?	Protestant = 1 Catholic = 2 Moslem = 3 African Spiritual = 4 Animist = 5 Other:..... = 6 Don't know = 9	

Continued 1 – Section 5: Socio-economic, malaria prevalence and demographic characteristics

Q. No.	Questions and Variable's names	Responses and codes	
PX5.10	What is the highest level of school you attended?	Did not attend formal school = 1 Lower primary school = 2 Upper primary school = 3 Lower secondary school = 4 Upper secondary school = 5 Higher Education/University = 6	
PX5.11	Can you read and understand a letter or a newspaper easily, with difficulty, or not at all	Easily = 1 With difficulty = 2 Not at all = 3	
PX5.12	Which languages can you read and understand?	English = 1 French = 2 Both English/French = 3 Local dialect = 4 Other: = 5	
PX5.13	What is the main professional activity of the head of your household?	Senior civil servant = 1 Middle ranking civil servant = 2 Public service worker = 3 Senior employee private company = 4 Worker private company = 5 Self-employed formal business/trade = 6 Farmer/agriculture = 7 Self-employed Informal sector/trade = 8 Other: = 9	
PX5.14	What is the minimum monthly wage in your professional sector?	/ / / / / / / / CFA Francs 999999 = Don't know	
PX5.15	How do you rank the annual income of your household during the last 12 months?(in CFA Francs)	0 – 100,000 = 1 100,005 – 300,000 = 2 300,005 – 600,000 = 3 600,005 – 1,000,000 = 4 1,000,005 – 1,500,000 = 5 1,500,005 – 2,000,000 = 6 More than 2,000,000 = 7 Don't know = 8 No response = 9	

End of the interview:
(Please, feel free to ask any question, and/or to add further detailed information and comments on separated papers here included).

Thank You Very Much

APPENDIX I:

FOCUS GROUP INTERVIEW WITH COMMUNITY'S MEMBERS A GUIDE FOR QUALITATIVE DISCUSSION

Objectives:

- 1 - To understand the people's knowledge, perception and health seeking behaviour for malaria in order to improve the public awareness of :
 - the personal protection and other preventive measures;
 - the need to seek appropriate treatment and compliance with drug regimens;
 - the dangers of fake drugs on the market and;
 - the seriousness of malaria disease in the community.
- 2 - To identify the people's expectations from the health system, their satisfaction with the quality of care, and patterns of constraining factors affecting the use of both private and public health facilities providing malaria prevention and treatment in the community

Section 1:

Knowledge, perception and health seeking behaviour for malaria in the community

- 1.1 - What are the main diseases in this community?
 - What is the local name for "MALARIA"?(Please, substitute 'malaria' with the appropriate local term for the remainder's questions)
 - What is the people's perception of malaria in this community?
- 1.2 - Has malaria been a major health problem for people particularly pregnant women and children's common illness in this community?
 - Are there different types of malaria in this community?
 - Are there similarities and differences between malaria and other illnesses?
- 1.3 - What causes malaria in human for this community?
 - (Please, check that there are no other causes)
 - (Please, check the frequency and seasonality)
- 1.4 - What are the symptoms or signs of malaria in children?
 - What are the symptoms and signs of malaria in adults?
 - Do people distinguish malaria in terms of uncomplicated and severe?
- 1.5 - Can Malaria be prevented? How?
 - Do people use ITNs in this community? Why?
 - How and where acquired the ITNs for use in this community?
 - How much cost an impregnated ITNs in this community?
- 1.6 - How do people treat malaria in this community?
 - What is the usual first treatment seeking behaviour of people in this community?
 - What are the patterns of self-treatment with over the counter drugs, home therapies, health facilities and traditional healers?

- Why do people seek malaria treatment from traditional practitioners, drug sellers and other retailers?
- What antimalarial drugs are usually used in self-medication? Why?
- Do people have any information about the dangers of fake drugs?

Section 2:

People's expectations from the health system, their satisfaction with the quality of care, and constraining factors affecting the use of formal private and public health facilities

- 2.1 - What are the people's expectations from the health system for malaria prevention and treatment in the community?
- 2.2 – Are people aware of the need to seek appropriate treatment and comply with drug regimens and the seriousness of malaria as disease?
- 2.3 - What types of formal health services are available in this community? Specify by ownership?
 - What types of malaria services are usually available to people in health facilities?
 - Do people have preferences and satisfaction for seeking malaria services in specific type(ownership) of health facilities? Why?
 - How are provider/patient interactions when seeking malaria treatment?
- 2.4 - What are the main constraining factors affecting the people use of both private and public health facilities in the community?
- 2.5 – How do people perceive the geographical access to various health facilities? How to improve access to appropriate malaria treatment?
- 2.6 – Do people afford to pay for the costs of seeking formal malaria treatment?
 - How much does an episode of uncomplicated and/or severe malaria treatment cost?
 - Are people who are unable to pay exempted from the user fees at health facility?
 - Do you know any patient who had been denied treatment at health facility? Why?
 - Is there any pre-payment or community based insurance for health care?
 - Are people willing and able to pay for better quality of care?
 - Do people have any experience of informal (under-the-table) payment of unofficial fees for obtaining health care in either monetary and non-monetary forms to medical staff ?
 - Why do people feel that they have to bribe or pay unofficial fees to medical staff in addition to the normal official user fees at health facility?

End of FGD

Thank you very much to all participants

APPENDIX J:

SAMPLE OF INFORMED CONSENT FORM # 001

STATEMENT OF INFORMATION FOR STAKEHOLDERS INVOLVED IN THE PROCESS OF ENABLING AND REGULATING THE PRIVATE SECTOR PROVISION OF HEALTH CARE

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Purpose of the study: This is an academic study leading to a Doctoral Degree (Ph.D.) in Public Health., specialising in Health Economics. The Universities of Yaoundé I&II and the University of Cape Town in collaboration with the Ministry of Public Health are undertaking this study with the aim of understanding the government role in enabling and regulating the private sector provision of health care with particular reference to malaria services in Cameroon. New challenges to the Ministry of Public Health are created by the growth in the scale of private health care provision and financing. Public health policies to improve the performance of the health system require an understanding of an effective enabling and regulatory mechanisms, the health sector market structure, including the relationship within and between the public and private sectors and the differentiation between private mission/NGO or “nonprofit” and private commercial or “for-profit” health facilities. The coverage of malaria control (prevention and treatment) by the existing public sector health facilities may not be the predominant sources of health care to patients at the district level. Control programme therefore needs to assess therapy practices, costs of obtaining malaria services, performance, quality of care and patient satisfaction in the private sector and ensure that private providers become partners in health services delivery. Thus, to the extent that government seeks to assure the availability and affordability of quality health care to groups less able to pay on grounds such as poverty, location, gender, social merit and externalities. This study will provide recommendations of public health policies which are likely to be most successful to the design of enabling environment, legislative and regulatory mechanisms, enforcement, expanding coverage, enhancing efficiency, improving equity and quality of care in malaria control activities in the private sector in Cameroon. To do this, we are carrying out a study in which the research questions are addressed to health sector stakeholders (including public sector, private for-profit sector, private nonprofit sector and consumer protection groups), managers of health facilities, malaria patients, staff providing malaria services, and community members. Information obtained from this study will be used by policy makers to design appropriate policies and to develop health services activities to improve the quality of care and the management of malaria and performance of the health system.

Procedures: We would like you to participate in an interview, which will take about one hour. Your participation is completely voluntary. If you do not want to participate in this study, you will still receive health care services as usual at all health facilities. Participation in this study will not cost you, your family or your organisation anything. Procedures for minimising risk and discomfort from this interview include using a trained, culturally appropriate fieldworkers to establish rapport with you and to place you at ease

during the interview. You will be able to skip questions you do not want to answer and you may also withdraw from the interview at any time for any reason. If you agree to participate in this study, I will be asking you questions related to the following: Government health policy objectives of enabling and regulatory mechanisms, actors and their roles in the processes of enabling and regulatory mechanisms, resources needed for enabling and regulating private sector, effectiveness of enabling and regulatory interventions, impact of enabling and regulatory interventions on the private sector provision of health care with particular reference to malaria services. There are no correct answers to these questions. You are free to answer or not.

Risks and discomforts: No risks are known for your participation in this study. However, some discomforts may exist for you in relation to the issues that may be discussed about a personal and sensitive nature. If at any time you do not want to answer questions you are not obliged to do so.

Benefits: Your participation in this study will not benefit you directly, but it may benefit other people in your community or organisation in the future. After the interview we can discuss any questions you may have related to the issues discussed.

Confidentiality: The confidentiality of all participants enrolled in this study will be protected to the full extent possible. We do not intend to ask you about your own private matters, and you should not feel under any obligation to answer all these questions. On the other hand if you do wish to share your personal experiences the research team will ensure absolute confidentiality. Your name will not be mentioned on any written document. The questionnaires, including all research records will be identified by a study number only. All data collected will be coded and entered into a computer data base using study identifiers. Consent forms, contact information, and other identifying information will be stored in a locked safe located in Universities of Yaoundé I&II. Only limited study staff will have access to the files and the computer database. Nobody will be able to trace anything we discuss back to you.

Right to refuse or withdraw: Before being interviewed or participating in the study, please I would like you to understand that your participation is voluntary. You do not need to answer questions or to participate in this study if you do not want to. You can stop participating in this study at any time.

Do you have any questions?

Do you agree to participate in the study? No /___/ Yes /___/

If YES: Date: /___/___/ - /___/___/ - /___/___/ and Signature: _____

Organisation: _____ Title/Name _____

If at any time following this interview you have any questions or would like to speak to someone involved in this study, please feel free to contact Mr. Njournemi Zakariaou, or Prof. Aloyis Ajab AMIN, Health Economics Research and Evaluation Group (HEREG), Faculty of Economics and Management, University of Yaoundé II, P.O. Box 8119 Yaoundé, Cameroon. Tel: 21-45-74 Fax: 22-18-73. Or Prof. Jean Meli, Department of Public Health, Faculty of Medicine and Biomedical Sciences, University of Yaoundé I, P.O. Box 1364 Yaoundé, Tel. 22-09-460/987-17-28.

Thank you very much.

Appendix K:

Collaboration between Public and Private Sectors: two experiences from a nonprofit and a for-profit health facility

1. Introduction

The collaboration between public and private sectors can often be very sensitive given the double role holding of the MoPH, which is a owner of public sector health facilities as well as a regulator of private sector health facilities. The collaboration with the private sector can help achieve a number of policy objectives and allow the MoPH to better target its limited resources to the most needed vulnerable groups of the population.

In the West Province of Cameroon, throughout most of recorded utilisation statistics as aforementioned in the previous chapters, many people especially malaria patients have gone to private health facilities when they were ill. Across all three health districts included in this study, both provincial delegation of public health and district health services must strive to achieve the most efficient balance of the public and private sector in the delivery of malaria services. However, data from in-depth interviews with provincial and district health officers revealed that *“...Generally, policy-makers at central, provincial and district levels who are empowered to make decisions on public and private sector working together in the delivery of health care are usually well-informed about public sector options through regular innumerable activity reports and their own experiences, but know relatively little about what the private sector has to offer in the delivery of public health services. Yet all too often the policy-makers are unaware that during the last 10 years and around the country, especially in urban areas, private health facilities have developed a wide range of strategies for delivering public health services, particularly malaria services to the population...”* (Stakeholders’ Interviews 2003).

It is by now widely argued that it is important to find ways to collaborate with private nonprofit and for-profit health facilities. In an effort to contribute to growing

understanding of an effective public and private sector collaboration, this section briefly describes two examples of collaboration with private nonprofit and for-profit health facilities. These examples report findings regarding managers and clinical staff views about several issues surrounding public and private collaboration that arose from detailed inventory, manager and clinical staff surveys conducted for this study. However, collaborative approaches may change with circumstances and over time, from central, provincial to district level, and for geographical locations and different ownership of health facilities.

2. Collaboration with the nonprofit sector: case of the King-Palace Hospital in the health district of Foumban

The survey site is King-Palace Hospital (KPH) a 22-bed nonprofit health facility in the historic city of Foumban. The main hospital's building was constructed in 1997. The hospital serves about 23,968 inhabitants in the health area of Foumban-West, but some patients come from other health areas within and outside the health district of Foumban. Operating 24/24 hours a day for both outpatient and inpatient care, the facility provides various ranges of mother-and-child health care: antenatal care, maternity care, postnatal care, immunisation, nutrition and child growth monitoring, oral rehydration therapy, family planning and infertility services, sexually transmitted infection including HIV/AIDS, and *P. falciparum* malaria services. Indeed, malaria services available includes: distribution of insecticide-treated nets, chemoprophylaxis for pregnant women, clinical and microscopic diagnosis, treatment of uncomplicated and severe malaria, management of malaria in pregnancy. Malaria services are offered seven days per week, however, there is no sign announcing that those services are available either outside or inside the building. KPH is representative of medium size health facilities in the West Province of Cameroon, but it was selected because of its reputation as a functioning nonprofit health facility.

The King-Palace Hospital was equipped with piped running water, working toilets/latrines, functioning telephone and fax machines, emergency kit, functioning refrigerator. The clean consultation rooms have adequate light and water, and sufficient auditory and visual privacy. Various quantity of functioning malaria related inputs including sterilising equipment, stethoscopes, balances, fever thermometers, microscopes, microhaematocrit centrifuges, etc. were available in the King-Palace Hospital.

Data from inventory questionnaire revealed that the KPH serves on average about 1,800 outpatients including 1,080 uncomplicated malaria and 780 inpatients including 270 severe malaria cases per year. Despite the availability of a closer large public sector district hospital in Foumban, some malaria patients were referred to the King-Palace Hospital from several public sector health centres. However, there was a good collaboration with the public sector (health district services and district hospital) as confirmed by this declaration of the King-Palace Hospital manager: *"We are confident on the future growth of the King-Palace Hospital... one critical observable indicator is the perfect collaboration we have with the Ministry of Public Health through the provincial delegation, the district health services and particularly the district hospital. A high level of trust and respect exists between our public sector counterparts and us. We collaborate in assuring good ethical medical practices in Foumban, minimising either conflicts of interest or tensions between public and private clinical staff, improving management information systems for better quality of care and patient satisfaction, and monitoring and reporting performance to the MoPH. All our public health promotion activities in the city of Foumban are generally conducted in close partnership with officers from either district health services or district hospital. In case of emergency the KPH usually had easy access to the district hospital ambulance to facilitate the transportation of either critical patients or qualified staff to or from one hospital to another "* (Managers' Interviews 2002).

The KPH occupancy rate was 70 percent but with some ward occupancies over 80 percent not uncommon during the malaria season. The overall average length of stay for malaria treatment was estimated to 5 days particularly for severe malaria alone.

According to a hospital manager, about 55 percent of antimalarial drugs were purchased from the public sector owned Provincial Centre for Essential Drugs' Supplying (Centre d'Approvisionnement Provincial- CAPP). This has considerably improved the availability of antimalarial drugs in the King-Palace Hospital.

The KPH had a total number of 10 full time staff including: medical doctor (1), nurses (4), assistant-nurses (2), laboratory assistants (1), and other non-medical staff (2). Because medical doctor-nurse ratio of 0.25 is relatively good as it is better than the national (0.22) and provincial (0.15) average. This ratio alone constitutes an important measure of process quality of malaria services.

The annual operating budget is fully managed and under the control of the hospital. In 2001/2002 the hospital annual operating budget was US\$104,538. The non-salary portion of the annual budget was US\$56,328. Various drugs supplied at the hospital amount to 27 percent of the total annual operating budget, while salaries amount to 46 percent the first larger share of the operating budget. However, a brief description of earnings of staff highlights that the salaries were set with differences across specific categories of staff. The average annual salaries are: medical doctor (US\$5,169.23), nurse (US\$2,815.38), assistant-nurse (US\$1,107.69), laboratory assistant (US\$830.77), administrative/financial staff (US\$738.46), and other non-medical staff (US\$369.23). Clinical staff receive no fringe benefits outside of free health care in the hospital. But the relative rigidity observed in salary scales may prevent adjustments for clinical staff training and experience. The lack of rewards or incentives presents the biggest obstacles to effective hospital performance. These findings highlight that the salary of clinical staff with four years of practising experience was almost identical to that of a newly recruited medical or paramedical graduate. In addition, there were no reward schemes for good performance either through bonuses or promotion under the ongoing management system of the hospital. In fact, no monetary incentives exist for the productivity and/or performance of the hospital. Therefore even if the issue of staffing is related to both hospital productivity and quality of care, the good performance is not yet rewarded at the king-palace hospital. The experiences of the KPH do not differ so much from that of other medium size

nonprofit hospitals in the three districts visited and are similar to observations for many health facilities in other districts of Cameroon. Indeed, however, data from interviews with other managers of hospitals to these findings revealed that they were relief and their concerns and perceptions pointed out that:

“Managing the hospital is not difficult, because clinical staff do report to the manager regularly. The clinical staff are assigned and deployed weekly to different wards with possibility of mobility in relation to the burden of work in each ward; hospital manager has good control over staff performance or location. But shortages exist in qualified staff (needs of retraining), new quality equipment for diagnosis and treatment, effective antimalarial drugs and insecticide-treated nets, and reliable supplies are few. Maybe much of the shortage is due to the inadequacy of the current operating budget, as well as insufficient subsidies or limited funds donated from either the public sector or philanthropic sources” (Mangers’ Interviews 2002).

In conclusion, the current enabling interventions and regulations of private sector have the significant impact on the nonprofit health facilities, which are likely to be responsive to needs or to meet standards of malaria services. However, the concerns regarding financing, staffing, equipment, supplies, and availability of drugs that underlie the performance in the delivery of quality malaria services are well founded, given the findings of the KPH. Indeed the management control over staff improves the level of accountability for medical doctor and nurse performance, but the lack of returns for efficient management and no rewards for good clinical practices may reduce the overall performance of nonprofit health facilities.

The regulatory and enabling interventions should help to develop basic elements of malaria services delivery that improve performance. Amongst the most important areas for improving efficiency within the KPH are the following:

- to address the issue of low staff productivity, the hospital manager should be allowed for setting wage scales more flexible which take into account the rewards of seniority and

performance of each category of personnel in order to attract and maintain adequate qualified staff.

- to improve the efficiency in the delivery of malaria services, the hospital budget should allow the acquisition of basic malaria related infrastructure, equipment, supplies and commodities. Also developing simple measures such as antimalarial drug dosages, regular ordering and inventorying of antimalarial drugs, appropriate prescription guidelines for antimalarial drugs, and establish support and training of clinical staff. Prices charged, efficiency, quality and performance could be monitored and improved through the effective design and use of management information systems.

3. Collaboration with the for-profit sector: case of clinic Christ-Roi in the health district of Mifi

The Clinic Christ-Roi (CCR) is a 32-bed for-profit health facility which started to operate in 1994. The clinic is located in the largest provincial city of Bafoussam it served about 150,000 inhabitants. The clinic provides both outpatient and inpatient health services including mother-and-child health care: antenatal care, maternity care, immunisation, nutrition and child growth monitoring, oral rehydration therapy, and *P. falciparum* malaria services. Malaria services includes preventive measures with insecticide-treated nets and chemoprophylaxis, both clinical and microscopic diagnosis, and treatment of uncomplicated and severe malaria. Malaria services are provided on the continuous basis seven days per week. The CCR is representative of functioning medium size private for-profit health facilities in the west province of Cameroon.

The CCR is equipped with piped running water, working toilets/latrines, functioning telephone and fax machines, emergency kit, functioning refrigerator and clean consultation rooms that have adequate light and water, and sufficient auditory and visual privacy. The available basic malaria related inputs include sterilising equipment, stethoscopes, balances, fever thermometers, microscopes, microhaematocrit centrifuges, etc.

Utilisation statistics indicated that in average the CCR provides annually about 2,563 outpatient visits including 736 uncomplicated malaria and 948 inpatient admissions including 143 severe malaria cases. Despite the availability of other clinics and a large public sector provincial hospital in Bafoussam. There was a good collaboration with the public sector health facilities in the delivery of malaria services. A substantial proportion of malaria patients were referred to the CCR from mainly several public sector health centres. According to the Mifi health district officers:

“The private for-profit health facilities, especially clinics, are involved in the delivery of not only the curative care, but in collaboration with their government counterparts, clinics in Bafoussam are very much active and effective in the delivery of preventive health services in the city. In urban areas, the part of successful interventions of most provincial task forces for the fight against tropical diseases (especially malaria) and immunisation programme is due to the contribution of private for-profit health facilities. When the trust and respect exist, and conflicts of interest or tensions have been minimised between public sector and private for-profit health facilities, we realised that for some aspects of preventive medicine, private for-profit health facilities play a leading role. In Bafousam one of successful stories is the experience of clinic Christ-Roi where the effective counselling of women, parents and patients has led to positive behavioural changes. The distribution of insecticide-treated nets through the facility channel increased considerably and the use of ITNs by hospitalised patients became more effective with a little staff regular control, and most pregnant women were reported to comply with chemoprophylaxis of malaria at this clinics” (Stakeholders Interviews 2003).

The medical officer in charge of managing the clinic Christ-Roi himself confirmed these findings. To the in-depth interviews question on what specific aspects of preventive health care do your clinic work together or collaborate effectively with the public sector? In responding, he declared that:

“With the MoPH through district health services and/or facilities, the CCR did a lot together, first of all despite the slightly tensions or conflicts of interest, the relative high

level of trust and respect exists as we are all members of same medical or paramedical councils. About your question, the clinic Christ-Roi is engaged in the activities of fight against malaria, for malaria preventive services, our clinic is involved in the distribution of insecticide-treated nets and chemoprophylaxis for pregnant women. Regular health education to patients at clinic aims to increase the use of ITNs and compliance of pregnant women to chemoprophylaxis in order to prevent malaria infections. The clinic Christ-Roi is also involved in active immunisation of children and adults in the city of Bafoussam” (Managers’ Interviews 2002).

The CCR occupancy rate is about 60 percent with the average length of stay for malaria treatment was estimated to 3 days for uncomplicated malaria and 7 days for severe malaria. Data from facility inventory indicate that about 20 percent of antimalarial drugs were supplied by the public sector own Provincial Centre for Essential Drugs’ Supplying (PCEDS), while about 80 percent of antimalarial drugs used at the clinic were mainly brand names bought from private either formal or informal sources. It is likely that this option of using brand names antimalarial drugs was encouraged by the profit motives.

The clinic Christ-Roi had a total number of 10 full time staff including: medical doctor (1), nurses (3), assistant-nurses (3), laboratory assistants (2), and other non-medical staff (1). But there is some part time clinical staff in categories of medical doctors and nurses coming mainly from the public sector health facilities for afternoon, evening, night and week-end hours. Because medical doctor-nurse ratio of 0.33 is relatively good as it is better than the national (0.22) and provincial (0.15) average. This ratio alone constitutes an important measure of process quality of malaria services.

The annual operating budget is fully managed and under the control of the clinic. In 2001/2002 the clinic annual operating budget was US\$212,016. The total non-salary portion of the annual budget was US\$158,169 (75 percent) for which the malaria prevention and treatment activities accounted to about US\$63,605 (30 percent of the operating budget). The overall salary portion of the annual budget was US\$53,847 (26 percent) including wages paid to part time staff. However, a brief description of earnings

of staff highlights that the salaries were set with differences across specific categories of staff. For each category of staff, the average annual salaries are: medical doctor (US\$14,769.23), nurse (US\$3,753.85), assistant-nurse (US\$2,030.77), laboratory assistant (US\$1,753.85), and other non-medical staff (US\$1,107.69). Clinical staff receives no fringe benefits outside of free health care in the hospital. But the relative mobility observed in salary scales may stimulate adjustments for clinical staff training and experience. The availability of rewards or incentives presents the biggest opportunities to effective clinic performance. These findings highlight that the salary of clinical staff with five years of practising experiences was almost 1/5 higher than that of a new recruited medical or paramedical graduate. In addition, the reward schemes for good performance either through bonuses or promotion were available under the ongoing management system of the clinic. In addition, the monetary incentives exist for the productivity and/or performance of the clinic. As the board of directors knew that the issue of staffing is related to both clinic productivity and quality of care, therefore the good performance is rewarded at the clinic Christ-Roi. The experiences of this clinic may not differ so much from that of other medium size private for-profit health facilities in three districts visited and are similar to observations made for many for-profit health facilities in other districts of Cameroon. Indeed, however, data from follow-up in-depth interviews with other managers of private for-profit clinics to these findings revealed that elsewhere within the province and across health districts, experiences of best practices in public-private for-profit partnerships for public health achievements exist, but some concerns and obstacles for the overall private for-profit performance improvement still need to be addressed. Most managers of private for-profit clinics pointed out that:

“Private for-profit health facilities are generally managed in the most efficient ways otherwise they will be gone bankrupt. Whatever the ownership, a health facility operating in an endemic malaria area, cannot sustain its development if it is not really involved in the delivery of malaria preventive and treatment services. But the main concerns of managers of private for-profit health facilities is the level of poverty which limits malaria patients willingness and ability to pay, access to malaria services for the poor, and better payment for malaria services. The obstacles to the above concerns are related to difficult access to capital, no sustained government subsidy to for-profit health facilities even in

the presence of best practices and lack of bank loans. The common problems to all types of health facilities are shortages in qualified staff (needs of retraining), new quality equipment for diagnosis and treatment, effective antimalarial drugs and insecticide-treated nets, and reliable supplies are few. Overall the inadequacy of resources available is the critical issue in operating private for-profit health facilities. The common workable strategies of all for-profit health facilities are usually based on improving quality of care and patient satisfaction, discriminating pricing between the rich and the poor in relation to their ability to pay, and improving public image of clinics through delivering community or public health based services (ITNs, health education and promotion, immunisation services) at very low cost-recovery rate. The government enabling and regulatory interventions should assist private for-profit health facilities in the financing and provision of malaria services at district level” (Managers’ Interviews 2002).

In conclusion, while the CCR benefited from enabling and regulatory interventions but the concerns regarding financing, staffing, equipment, supplies, and availability of drugs indicate there still be a need for improving access to capital investment through targeted incentives which could strengthen the delivery of quality malaria services. This should help to purchase basic inputs for the delivery of malaria services. Amongst the most important areas for promoting the development of private for-profit health facilities are the following:

- to address the issue of access to malaria services for the poor, the enabling and regulatory interventions should emphasise the constitution of multi-partnership between district health services, stakeholders and communities in order to create and implement mutual schemes which operate with community health insurance card for all members of the mutual. The MoPH in partnership with other stakeholders should consider the sustainability of subsidies to private for-profit health facilities for their best practices in the delivery of public health services to the population.
- to improve the efficiency in the delivery of malaria services, the private for-profit health facilities should establish the management information system and the government should enable the easy access to bank loans for the health sector entrepreneurs in order to acquire more basic malaria related infrastructure, equipment, supplies and commodities.

Also developing simple measures such as antimalarial drug dosages, regular ordering and inventorying of antimalarial drugs, appropriate prescription guidelines for antimalarial drugs, and establish support and training of clinical staff. Prices charged, efficiency, quality and performance could be monitored and improved through the effective design and use of management information systems.

4. Conclusion

The current enabling interventions and regulations of the private sector facilities contribute to ensure access to malaria services at the provincial, district and community levels. However, the low level of awareness and compliance to the regulation coupled with a number of structural and process constraints have limited the performance of private sector health facilities in the delivery of malaria services. Overall, across private health facilities, the concerns highlighted by the findings of two cases studies are related to:

- the problem of neglecting the private sector, especially for-profit health facilities as provincial and/or district teams do occasionally recommend to the Ministry of Public Health to support the private sector health facilities in the delivery of malaria services at the provincial, district and community levels;
- the practice of the private sector does not fully conform with that of the malaria treatment and prevention guideline/standard policies of the Ministry of Public Health;
- since the catchment's areas of most private for-profit health facilities are large urban settings, there are high prices charged for malaria services, very high ratio of patient/clinical staff and inadequate staffing levels;
- discrepancies between the clinical staff knowledge and practice, with particular reference to the delivery of malaria services.

The strategic objectives of the MoPH should be promoting and enforcing the regulations, especially through the supervision of private health facilities by officials of the MoPH to ensure conformity to appropriate standards of malaria services. The findings of this study reveal that most supervisory visits were confined to the public sector and nonprofit health

facilities but did not cover private for-profit ones. The MoPH has neglected the private for-profit health facilities. The weak supervision of the private for-profit health facilities has confirmed by the findings from clinical staff interviews which revealed that: *"no supervisory official of the MoPH goes regularly to oversee what the private for-profit health facilities are doing. So long as they have been granted an authorisation for creating and operating, they are seeing as alright until something happens or a patient can report or complain that they were doing something wrong or medical malpractice"*.

The MoPH should consider building the decentralised consensus-partnership amongst relevant stakeholders in the delivery of malaria services: policy-makers, regulatory officials, control and inspectorate staff, donors, public sector staff, private nonprofit and for-profit staff, antimalarial drug procurement officials, and community representatives. The synergy of consensus-partnership would create a dynamic implementation of malaria prevention and treatment policies through expanding access to a variety of financial, technical and human resources, establishing effective public-private interfacility networks and information exchange to optimise the use of resources in delivering malaria treatment at district and facility levels.

Appendix L:

Stewardship and Capacity in the health sector

Stewardship goes beyond the MoPH's leadership role in the health sector (stewardship in health) and the strategic management of the health system (stewardship of health) to addressing the multi-sectoral, socio-political environment within which the health system operates (stewardship for health). Thus, new institutional theoretical developments in the health sector emphasise the concept of stewardship as the appropriate basis for good governance serving the public interest (WHO 2000a). Its focus on the application of state authority is to encourage health sector decision-making that is both normatively based and economically efficient (Saltman and Ferroussier-Davis 2000). The concept of stewardship goes beyond the conventional notion of regulation as it involves four key aspects : enabling the market to develop in ways that fulfil public health objectives; setting, implementing and monitoring the rules for the health system; assuring a level playing field for all actors in the health sector; and defining strategic directions for the health system as a whole (Murray and Frenk 2000; Travis et al. 2002). The term stewardship has been described as a function of the MoPH responsible for providing vision and direction for the health system, collecting and using intelligence, and exerting influence – through enabling activities, regulation and other means (Travis et al. 2002; Saltman and Ferroussier-Davis 2000; WHO 2000a). However, effective stewardship would depend to the capacity of the government under consideration.

Capacity. The institutional economics theory also highlights the issue of capacity related to an emerging new government role that understands its role as an 'enabler' or a 'steward' of health sector development. The traditional approach of capacity building for development has focussed mainly on 'bodies' and 'skills'; in other words, about having adequate numbers of medically trained staff or the presence of technical skills at the required level within the health sector (Remme et al., 2001). Several institutional analysts have recognised the limitations of such an approach and, they have sought to broaden the conceptual framework for understanding capacity that becomes a dynamic multi-dimensional concept of institutional development (Batley 1997, Bennett et al. 1996;

Russell and Attanayake 1997). Various approaches used for outlining and understanding dimensions of capacity have considered aspects related to enabling and regulatory agencies in terms of (Brijlal and Gilson 1997; Potter and Brough 2004):

- functions and task networks in relation to quality and quantity of human resources;
- availability, allocation and management of financial resources;
- institutional, organisational and administrative structures of health systems;
- legislative and legal frameworks for the health sector;
- social, economic, political and environmental conditions of the settings.

In many LMICs, however, the capacity of Ministries of Health is weak often because bureaucratic behaviour is such that public officials tend to be personalistic and lacking institutional loyalty (Bossert et al. 1998; Jeppsson et al. 2003; Oliveira-Cruz et al. 2003). This culture of economics of affection has been described as the system where public servants have loyalties not so much to an institution but to political family and/or other social groups (Dia 1996; Larbi 1998). This can partially explain government failure and low enforcement of the rule of law in the health sector.