A DESCRIPTIVE STUDY OF PRIVATE CLINICS IN A MALARIA ENDEMIC AREA ON THE KENYAN COAST: QUALITY OF CARE AND PATIENT COMPLIANCE

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other university or any other award.

Abuya Timothy Osebe

Signature _____ Date 26.06.2002

We confirm that the work reported in this thesis was carried out by the candidate under our supervision.

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DEDICATION

To My mother, Father, Gichanah and all my sisters for their love.

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LIST OF ABBREVIATIONS AND ACRONYMS.

AIDS……Acquired Immune Deficiency Syndrome.

AB……Antibiotics

AM(s)……Antimalarials

AP…..Antipyretics

BS……Blood smear tests.

CGMRC…..Centre for Geographic Medicine Research Centre.

CO……...Clinical officers

DHMT…….District Health Management Team

DPHN…….District Public Health Nurse

DPHO…….District Public Health Officer

DCO……...District Clinical Officer

FW(s)……..Field Workers

FP……...Family Planning

GOK……..Government of Kenya

HIV……Human immune deficiency Virus

IMCI……..Integrated Management of Childhood Illnesses.

KEMRI…..Kenya Medical Research Institute

KEPI…….Kenya Expanded programme on Immunisation

KHSSP….Kenya Health Sector Strategic Plan

MOH……Medical Officer of Health

MCH…….Maternal Child Health

NGO(s)……..Non-Governmental Organizations

PP(s)……..Private Practitioners.

PC(s)…… Private Clinics

PHS……..Private Health Sector.

QOC……Quality Of Care

STI(s)……..Sexually Transmitted Infections

SP……...Sulphadoxine Pyrimethamine

UNICEF…..United Nations International Children's Education Fund

WHO……..World Health Organization

ABSTRACT

The private health care system has grown rapidly in many developing countries, however, little is known about the sector's quality of care (QOC). Assessing QOC offered through private health care delivery systems is important in developing context specific interventions. In Kenya private provision accounts for 49% of all health facilities. This study sought to describe QOC provided to febrile children presenting in rural private clinics (PCs) on the Kenyan Coast. Data collection methods included structured observations of consultations and exit interviews in PCs, follow up interviews with users, and in depth interviews with private practitioners (PPs) and the district health management team (DHMT). The results of this study indicated that PCs had the basic structural features essential for health care delivery. In 62% (n=92) of consultations, assessment of symptoms and signs to reach a diagnosis was consistent with normal medical practice. About 72% (n=88) of cases were diagnosed as malaria, and 88% (81/92) were prescribed an antimalarial (AM) drug. Of those prescribed an AM, the choice of drug and dosage was in accordance with national guidelines in (44/81) 54% and (34/88) 42% respectively. In (26/62) 42% of cases, follow up was appropriate and 88% and 86% of caretakers complied with instructions on AM and antipyretics respectively. The average consultation time was 15.36 minutes (95% CI 13.4-17.32). These findings suggest that QOC problems exist in PCs, and that there was room for improvement. Factors affecting QOC were complex and, therefore, potential approaches to improve standards are multiple. However, specific approaches to the

improvement of case management were discussed with PPs and DHMT as presented here alongside appropriate recommendations emerging from this study. Rural private clinics are potentially an important channel through which febrile illnesses can be promptly and effectively treated. The study is relevant for district level managers who have an oversight role for health care delivery in the district.

CHAPTER ONE: INTRODUCTION AND LITERATURE REVIEW

1.1.General introduction

Prevailing world systems of health care delivery are complex and heterogeneous. They involve a broad spectrum of health care services where a combination of both the public and the private health sector (PHS) exist. This is further complicated by different levels of public health services at primary, secondary and tertiary levels, and different categories of private providers (Uplaker, 2000). Some researchers have argued that the PHS is more efficient, provides better quality services, meets the demands of the consumer more promptly and provides superior services compared to the public health sector (Yesudian, 1994; Bennett, 1992). Others have found deficient quality of care (QOC) in the PHS (Thaver *et al.*,1998; Ogunbekun *et al.*, 1999). Such results emphasize the existing heterogeneity of health care delivery through the PHS.

The importance of the PHS in developing country health care systems, and conflicting evidence on the nature and the QOC offered by private providers, suggests that this is an important area for research. This study examined the delivery of health care in private clinics (PCs) in a rural area of Kenya with reference to the management of childhood fevers. Background issues covered in this literature review include policy approaches to the private sector and the use of private providers by communities, compliance, QOC in private health services, malaria control activities in PCs, growth of the PHS and strategies for the management of childhood illnesses in Kenya.

1.2.LITERATURE REVIEW

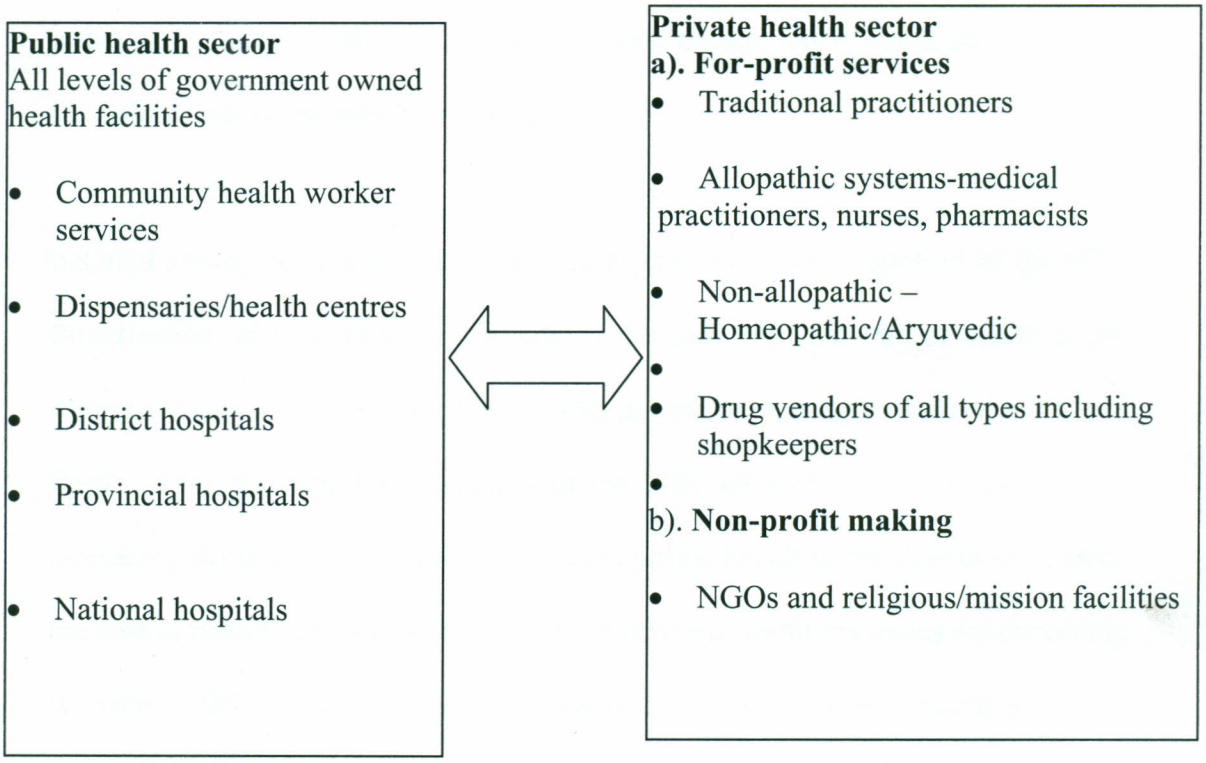
1.2.1. The private sector in developing countries

a). Definitions of the private health sector

Private providers are most commonly defined as those who fall outside the direct control of governments (Bennett, 1992). This includes a large and heterogeneous range of health care providers. The operational components of a private and public health sector are summarized in Figure 1. The PHS encompasses persons operating in groups or individuals, in informal or formal settings, and with different levels of training, which may be derived from either allopathic systems of medicine (medical practitioners, pharmacists and nurses) or from non-allopathic systems (homeopathic and aryurvedic trained practitioners). It also includes traditional practitioners and other vendors who have no formal training (Brugha and Zwi, 1999). Private provision may operate on a not-for profit basis, such as those services provided by non-governmental organizations (NGOs) and religious groups, or on a for-profit basis (Hanson and Berman, 1998).

Although this framework is provided, a number of "grey" areas exist. For example, where do health services owned by parastatal organizations fit? The literature suggests that the criterion for defining what is *public* or *private* is based on assumptions that the PHS is homogenous, whereas in reality it is not (Guisti *et al.*, 1997). Ideally, a typology of private health care providers varies and depends on different settings for each country and the purposes for the services given. Though the focus of this study was on formal practitioners who operate on a for profit basis in PCs, the PHS will refer to the range of private providers outlined in Figure 1.

Figure 1: Operational framework for public-private health sector actors



b). Policy approaches in developing countries

Policy approaches to the private sector in developing countries have since World War II emphasized government owned health services financed by government tax revenues. All efforts, including the tiered system of public hospitals, the primary health care approach, the child survival and development revolutions, and the World Bank's cost effective essential package of health services, have focused on how to improve the public health sector (Uplaker, 2000). But the research and policy agenda for health systems over the next decade has difficult issues such as the public–private partnerships (Feacham, 2000).

Included among current international health policies is the promotion of the PHS. Privatization, at least in theory, is one of the four key elements of health sector reforms, the others being user fees, health insurance, and decentralization (World Bank, 1987). Reasons for promotion of the PHS are varied. One is that there is increasing demand for health care which the public health sector cannot meet since the cost of health care is increasing, and government health resources are dwindling (Uplaker, 2000). The latter is often attributed to governments being forced to concentrate spending on developing the productive sectors, at the expense of the health sector. Other reasons are that private provision and financing of health care has already grown to meet the shortfalls in public provision and those private providers are often the preferred source of treatment for community members. It is also argued that the promotion of the private sector is supportive of meeting the health needs of the poor. In theory, privatization will lead to infusion of market forces such as competition and incentives which will in turn lead to improvements

in service quality and free resources that can be used in targeting the poor (Mcpake and Mills, 2000; Uplaker, 2000).

In many countries, there has already been a tremendous growth of the PHS. Although in some cases this growth might be attributed to health sector reforms (Brugha and Zwi, 1999) increased consumer affluence and preference for better quality private services has played an important role in fast growing economies. In poorer countries, the PHS has grown largely in response to dissatisfaction with increasing costs of using formal public health services.

Regardless of the reasons for the growth in the PHS, there is now evidence from many countries of its' considerable size. In Indonesia for example, more than 60% of health expenditure has been in the private sector whereas more than half of the hospitals and 49% of the dispensaries in India are privately owned (Aljunid, 1995). In China, 47.5% of all practitioners were operating privately by 1990 and in Zimbabwe, about 45% of registered doctors were in full time private practice by 1996. A study by Kumaranayake *et al.* (2000) in Tanzania, gave an indication of the growth of the private sector: between 1991 and 1996 there was 36-fold increase of private-for-profit dispensaries. Countries such as Pakistan, Kenya, and India had 50,70 and 47 % respectively of physicians working in full time private practice (Roemer, 1993).

A central issue for reform over the coming decade therefore will be the relationship between public and private health provision and the financing and quality of

services offered by this sector (Feacham, 2000). In particular, the increasing role of the PHS necessitates an examination of the role of regulatory instruments in policy and planning (Hongoro and Kumaranayake, 2000). Regulation is defined as a deliberate attempt by the government to influence the activities of health actors through manipulation of prices, quantities and quality to obtain improved equity and access to services (Kumaranayake, 1997). Traditionally, research on regulation within the health sector has taken the so-called "social approach" (where standards are set) as opposed to an "economic" approach (which deals with regulation in the context of markets). Regulation is seen as a potential response to address problems that may arise in the private delivery of health services. The rapid growth of the PHS requires a newly defined and strengthened role of governments in regulation (Kumaranayake *et al.*, 2000)

c). Patterns of utilization of the private providers

The size of the PHS underlines the importance of this source of treatment for community members. However, it does not shed light on reasons for, or patterns of, private provider utilisation. Experts contend that pathways to formal health care are complex and multidimensional (Campbell *et al.*, 2000). It has been documented that multiple choice of treatment occurs especially when a treatment fails (McCombie, 1996). Despite what are often higher fees in the private compared to the public sector, a large proportion of patients from a whole range of socio-economic groupings choose to contact private-for-profit providers including qualified private medical practitioners and informal providers (Brugha *et al.,* 1999;

Mcpake and Mills, 2000). Use of a diverse range of private providers has been observed in many clinical conditions, including malaria (McCombie, 1996).

The reasons for contacting private providers rather than public providers include issues of acceptability, greater ease of access, shorter waiting time, longer or more flexible hours, better availability of staff and drugs, more sensitive health worker-client attitudes, and greater confidentiality in dealing with stigmatised conditions such as tuberculosis and sexually transmitted infections (STIs). Other factors associated with preference of this sector include ethnicity, gender and age (Aljunid, 1995; Kroeger, 1983). Private health provision is clearly attractive and accessible to many people. However, a key concern in privatisation debates is the QOC that is offered in this sector and extent of patient compliance associated with this sector.

1.2.2 System-based model of quality of care

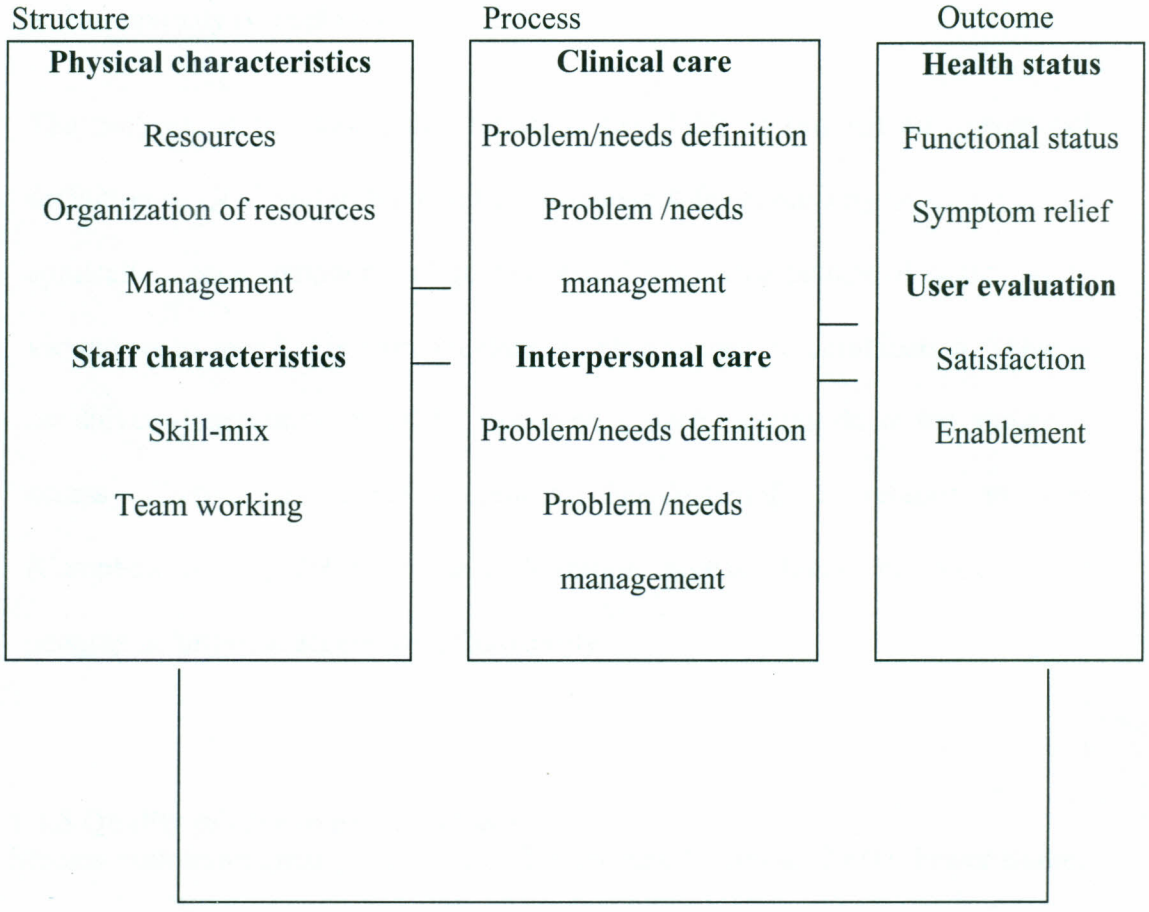
Presenting an overview of QOC in health systems requires "health" and "quality" to be defined. Definitions of health care are varied and contested, but for purposes of this study the term is used to refer to health care systems and actions taken within them to improve health or well being. Quality is defined in a number of ways. Quality can include excellence, expectations or goals that have been met, "zero" defects or fitness for use. Campbell *et al.*,(2000) calls these generic definitions. Quality can also be defined according to individual dimensions or components. Examples of such dimensions include accessibility, equity, efficiency, effectiveness, efficacy, and patient-centredness. These are referred to as disaggregated approaches (Campbell *et al.*, 2000). Experts argue that a combination

of the two approaches is most meaningful when applied to the level of the individual user of health care.

Donabedian's system-based model of QOC is used to define the concept in the formal health system and incorporates both approaches (Campbell *et al.*, 2000). The model proposes three key domains in QOC: structure, process and outcome. Figure 2 provides the model for assessing QOC adopted from Campbell *et al.,* (2000).

Referring to Figure 2, 'Structure" refers to organisational factors that define the health system under which care is provided (Donabedian, 1980). The two domains of structure are physical and staff characteristics. Resources refer to personnel, equipment and buildings, while organisation of resources covers issues such as opening hours. "Process" is the actual delivery of care. Two key processes of equal importance have been identified: clinical and interpersonal care. Clinical care is the biomedical aspect of health professional behaviour, described by Donabedian (1980) as *technical care:* meaning the application of clinical medicine to a person's health. Interpersonal care refers to the interaction of health care professionals and users. "Outcomes" are the consequences of care. The structural features of health care provide opportunities for individuals to receive care, but do not guarantee it. Similarly, structural features may have a direct impact on process and outcome, but this is not always so because a variety of factors outside the control of health professionals might influence outcome (Campbell *et al.*, 2000).

Figure 2 System -based model for assessing QOC (Source: Campbell *et al.*, 2000).



The effectiveness of structure and process can be evaluated according to the impact on two outcome domains: health status and user evaluation. However, there may be feedback loop: for example, an individual's evaluation of process may influence subsequent consulting behaviour. Process and outcome are context and person specific since QOC requires consideration of individual circumstances and complexity (Campbell *et al.*, 2000).

The purpose of presenting this model is two fold: to provide an operational definition of QOC and to highlight the framework for describing QOC in PCs. In application, each component of quality provides a partial picture of quality when viewed on its own but is more meaningful when viewed in combination. There is no universal definition of QOC. However, a useful definition is the ability to access effective care while maximising health benefit in relation to need (Campbell *et al.*, 2000). In this definition access should be regarded as geographic/physical access and affordability

1.2.3 Quality of care in private clinics

Studies examining quality care in the PHS are rare (Uplekar, 2000). Fewer studies have considered all the dimensions of QOC. Documented studies on QOC in private health care in Africa, Asia and Latin America have focused on drug availability and prescribing and dispensing practices. Problems documented include prescribing of inappropriate drugs, inadequate dosages, polypharmacy and the excessive use of injections (Brugha and Zwi, 1998).

Data on private providers operating in PCs regarding QOC indicates a variation in approach of assessing quality care. Some have focused on structure while others have attempted to describe the process and outcome dimensions. Studies in Nigeria and Pakistan focused on the structural dimension and confirm that PCs are commonly located in urban areas (Thaver *et al.,* 1998; Ogunbekun *et al.,* 1999). In Nigeria for example, more than 80% of the private facilities (small clinics or hospitals with less than 15 beds) were situated in urban areas (Ogunbekun *et al.,* 1999). In Portuguese speaking countries almost all private sector doctors were also government employees (Ferrinho *et al.*, 1999) and in Karachi, 60% of PPs had regular government jobs (Thaver *et al.,* 1998). In Malawi, 67% of PPs reported previous employment in the public sector (Ngalande Banda and Walt, 1995). Data from developing countries on process show deficient quality care. In Mexico, half of the PPs gave inadequate rehydration therapy to children with diarrhoea. On management of acute respiratory infection, 66% and 58% gave wrong decision in the prescription of antimicrobial and symptomatic drugs respectively (Bojalil *et al.*, 1998).

In Karachi, an attempt to describe QOC comprehensively has been documented. This covered knowledge of treatment, performance activities, and interaction between patients and doctors. Through responses to four patient vignettes, knowledge tests revealed incorrect medical recommendations in 53%-95% vignettes. When observing interactions, researchers found that PPs gave explanations to patients in 40% of cases, reassurance to 45% of patients and suggested behaviour modifications to 56% of patients (Thaver *et al.*, 1998). Studies

that have compared QOC in both private and public facilities are rare too. In rural China, QOC is problematic in both sectors in different types of village clinics (Meng *et al.*, 2000). From such limited reports on practice in PCs, it appears that QOC is a concern that requires further investigation.

1.2.4 Patient compliance

The final step in the drug dispensing process is patient's compliance with prescriptions. Compliance forms the backbone of achieving therapeutic goals, and, conversely, non-compliance may distort the entire process of treatment (Hulka *et al.*,1976). Compliance can be viewed from two perspectives: the provider's adherence with standard guidelines or the patient's adherence to medical advice. The latter is emphasised in this study. Compliance is defined as the extent to which the patient's behaviour coincides with the medical advice given (Lisbeth and Tomson, 1992), including appointment keeping and adherence to general health advice (Maro and Lwakatare, 1987). Failure to adhere to this advice is termed as non-compliance. Non-compliance is expressed in different ways. For example, it can be defined from the client's perspective where failure to adhere to any medical advice may be regarded as non-compliance. On the other hand, failure of the provider to adhere to recommended treatment guidelines might be considered as non-compliance. Assessment of non-compliance for those who visit PCs therefore forms part of a comprehensive QOC assessment. Non–compliance has the potential to influence outcome, a component of the QOC framework.

The impact of non-compliance can affect health care costs through wastage of resources, excessive spending on pharmaceuticals, jeopardising the quality of

patient care, influencing outcome, increasing drug resistance and exposing the patient to chronic toxicity (Massele *et al.*, 1997). A number of studies have explored compliance (Donovani and Blarke, 1992). Reasons documented for non-compliance include: the number of drugs prescribed, complexity of medication schedule, side effects of drugs, traditional beliefs and poor patient doctor communication (Hulka *et al.*, 1976).

1.2.5. Malaria control activities and the private sector.

Malaria remains one of the leading causes of morbidity and mortality in the tropics. An estimated 300-500 million cases of malaria each year result in about 1 million deaths, with the groups at risk being women and children (WHO, 1997a). In Kenya for example, an estimated 72 children under the age of five die every day (Kingori wa Nderitu, 1999). In Africa, it is estimated that 40% of fevers are due to malaria and in high incidence areas where laboratory facilities are limited the main strategy for reducing morbidity and mortality is presumptive treatment of fever (McCombie, 1996). Other strategies include sustainable preventive measures such as vector control, vaccine development and use of insecticide treated bed-nets, management of epidemics, and strengthening local capacities to promote the regular assessment of a country's malaria situation (Kordrechine and Trigg, 1998).

In Kenya, the national malaria strategy outlines elements fundamental to achieving a 30% reduction in mortality and morbidity by the year 2006 and maintain this to the year 2010. These are a revised institutional approach to ensure a co-ordinated multilateral response that fits in the global action on malaria, guaranteeing people

access to quick and effective treatment, providing malaria prevention and treatment to pregnant women, ensuring the use of insecticide -treated nets by the risk communities and improving malaria epidemic preparedness. Other supporting structures are information, communication and monitoring, evaluation and research (MOH, 2001).

For decades, the provision of basic health services, including malaria control activities, has focused on the public health sector. However, in many countries, the PHS is a significant health care provider, and an important source of treatment for conditions of public health importance such as tuberculosis, STIs and malaria. For example, the proportion of childhood fevers aged six months to ten years treated through shops in Bahari Division of Kilifi district was 55.8%. In 1998, in the same rural area, 8.1% of febrile children visited a PC at some point in the illness. 5% visited the PC as the first action while 6 % visited government clinic (Marsh, V. 1999-2000 DFID Annual Report). South of Kilifi, Molyneux *et al.,* (1999) reported that 29% of reported childhood fevers that were treated in the last two weeks involved a PPs consultation. This figure differed significantly for rural and urban residents: 19% of lifelong rural resident caretakers and 37% of urban resident caretakers reported visiting a PC. These figures represent utilization patterns of the PHS in the area where this study was conducted, which indicate the relative importance of this sector.

1.2.6. The Private health sector in Kenya

In Kenya private provision accounts for 49 % of health facilities with 29 % being for-profit providers (Republic of Kenya, 1999a). The growth of these providers is

in part a result of changing policies in the Kenyan health sector. In the early 1970s GOK workers were given permission to undertake remuneration activities in their spare time provided this did not affect their public service. Over the years PCs and private pharmacies mushroomed all over the country, many of them owned by GOK doctors. Care of public patients deteriorated because GOK doctors spent most of their time in their PCs. To correct this the government prohibited part time practice by public doctors from 1980. Then came the exodus of doctors including specialists to the PHS. The government later licensed a limited number of specialists for private practice but again the problem continued. The part time licenses were withheld in 1984 and more government specialists resigned. (Bloom and Segall, 1992).

1.2.7.Development of strategies in childhood illnesses.

In the Kenya Health Sector Strategic Plan, (KHSSP), the Kenyan government has outlined national priority packages. This is based on data on the burden of disease, cost effectiveness of the interventions, impact of interventions and health outcome in relation to expenditure. Amongst these priorities is the integrated management of childhood illnesses (IMCI) package (Republic of Kenya, 1999a). Other priorities are malaria, Expanded Programme of Immunisation, HIV/AIDS/tuberculosis, Reproductive Health and control of environmental related diseases.

In 1994, the World health organisation (WHO) and the United Nations International Children's Education Fund (UNICEF) developed the IMCI guidelines. The IMCI strategy focuses on childhood diseases that cause the greatest

burden globally, while allowing for individual country needs. These conditions are acute respiratory infections, diarrhoea, measles, malaria or malnutrition. An integrated approach of the strategy allows for the mother or family to act on the illness based on the perceptions of signs and symptoms. It also incorporates the approach taken by primary health care workers who do not necessarily have access to investigations to make specific diagnoses of these diseases. Effective IMCI requires action at all levels of the health service and in the home (WHO, 1997b). Implementation of the strategy requires selection of districts for piloting before initiating it in the wider scale. Implementation of this strategy in Kenya has not been done in the wide scale. In the pilot districts where this has been done little evaluation is documented (Odhacha *et al.,* 1998). The adapted Kenyan guideline is therefore used as a standard benchmark for assessing the PPs. This study may be useful as a comparative survey for any future evaluation when the strategy will be implemented in the wider scale.

1.3 Rationale for the study

Like many other nations such as Thailand, Nigeria, and India (Pannarunothai and Mills, 1998; Ogunbekun *et al.*,1999), there has been rapid expansion of the PHS in Kenya where diseases of public health significance such as malaria are treated. PCs a sub-sector of the PHS, act as a common source of treatment for such conditions. The specific role and performance of the PCs in the treatment of malaria has received relatively little research attention. Despite this sector's potential in malaria control there is little knowledge on the nature, structure, practices and QOC in these facilities, particularly in relation to the treatment of febrile children. Gross

heterogeneity of these providers and the increasingly significant role they play for both rural and urban populations as well as lower and higher income groups, requires an urgent attention through research. (Hanson and Berman, 1998). Other studies contend that there is significant room for improvement (Bojalil *et al.,* 1998; Thaver *et al.*, 1998; Brugha and Zwi, 1998). This necessitates the need to provide further documentation on the QOC in PCs before instituting effective strategies.

These results are expected to be of use in a number of ways. The description of QOC offered to febrile children treated in PCs may be of use for researchers in planning potential intervention studies. This study will also act as baseline data and a problem marker for further studies on the PHS in rural Africa, where there is currently a paucity of data. Experts contend that the development of this sector will be an important factor in health care system performance in terms of cost, equity and health impact (Brugha and Zwi, 1998). This study aims to add to this body of knowledge, with special focus on rural facilities.

1.3.1 Research Questions

The study was guided by the following questions:

i). What is the nature and type of PCs in a malaria endemic area of Kenya?

ii). What is the QOC experienced by children presenting with fever in PCs?

iii). What factors influence the QOC and compliance with advice from PPs?

iv) How often do caretakers of children comply with instructions given by the practitioners?

1.4.Hypothesis

Febrile children under ten years using rural PCs in a malaria endemic area are not treated in accordance with IMCI guidelines.

1.5. OBJECTIVES OF THE STUDY

1.5.1.General Objective

This study aimed at describing the delivery of health care and the QOC offered to febrile children in PCs of a rural malaria endemic area of Kenya.

1.5.2 Specific Objectives

i). To identify the background characteristics of PPs and their employees

ii). To determine the type of building and the diagnostic, treatment and dispensing facilities in PCs.

iii). To establish the overall patterns of patient care, including prescribing for children presenting with febrile illnesses.

iv). To determine how often febrile children are treated in accordance with IMCI guidelines

v). To document factors underlying QOC given by PPs for childhood fevers.

vi). To determine the prevalence of compliance with PPs advice and the factors influencing this behavior amongst caretakers of children.

CHAPTER TW0: MATERIALS AND METHODS

This chapter covers the study area, study design, development of research tools, detailed descriptions of research methods used and statistical analyses employed.

2.1 The study area

The study was carried out in the rural parts of Bahari division in Kilifi District (Fig 3). The district is one of the 6 districts in Coast province and lies between the latitudes 2 ^{0} 20" and 4^{0} South and between longitudes 39^{0} and 40 ^{0}14" East. It is about 60 Km north of Mombasa and borders Taita Taveta to the West, Tana River to the North and Northwest, Mombasa and Kwale to the South (Fig 3). It has a total population of 544,303 with 258,505 being male and 285,798 being female. It covers an area of 4,779.20 square km (Republic of Kenya, 1999b). It has 7 divisions, 36 locations, 107 sub-locations and over 500 villages (Fig 3). The district is generally hot and humid all the year round. Cashewnuts, sisal and coconuts are the main cashcrops and the population in the rural area consists largely of the Mijikenda people. It has 2 main hospitals: 1 government and 1 mission, 5 GOK health centers and 21 GOK dispensaries (Fig 5). There are 6 private nursing homes and 26 PCs. The study area covered rural parts of Bahari division (Fig 4). The division covers an area of 277 square km with a population of 90,009 people. It has 2 GOK facilities and 17 registered PCs. It is a malaria endemic area in which both GOK and PCs are important sources of treatment (Molyneux *et al.*, 1999; Marsh.V. 1999, DFID Annual Report).

Figure 3: The location of Kilifi district and its administrative boundaries.

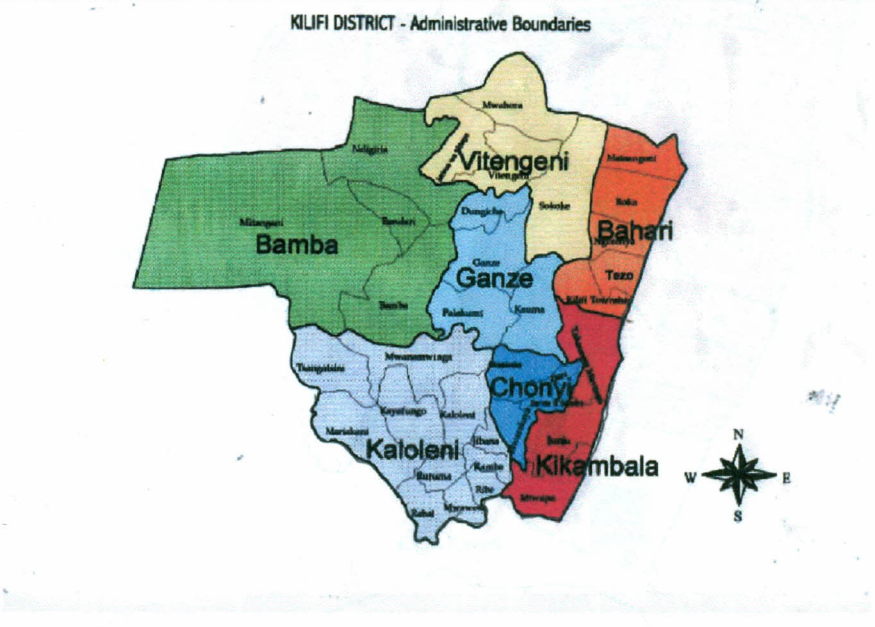


Figure 4: The enumeration zones of the study area.

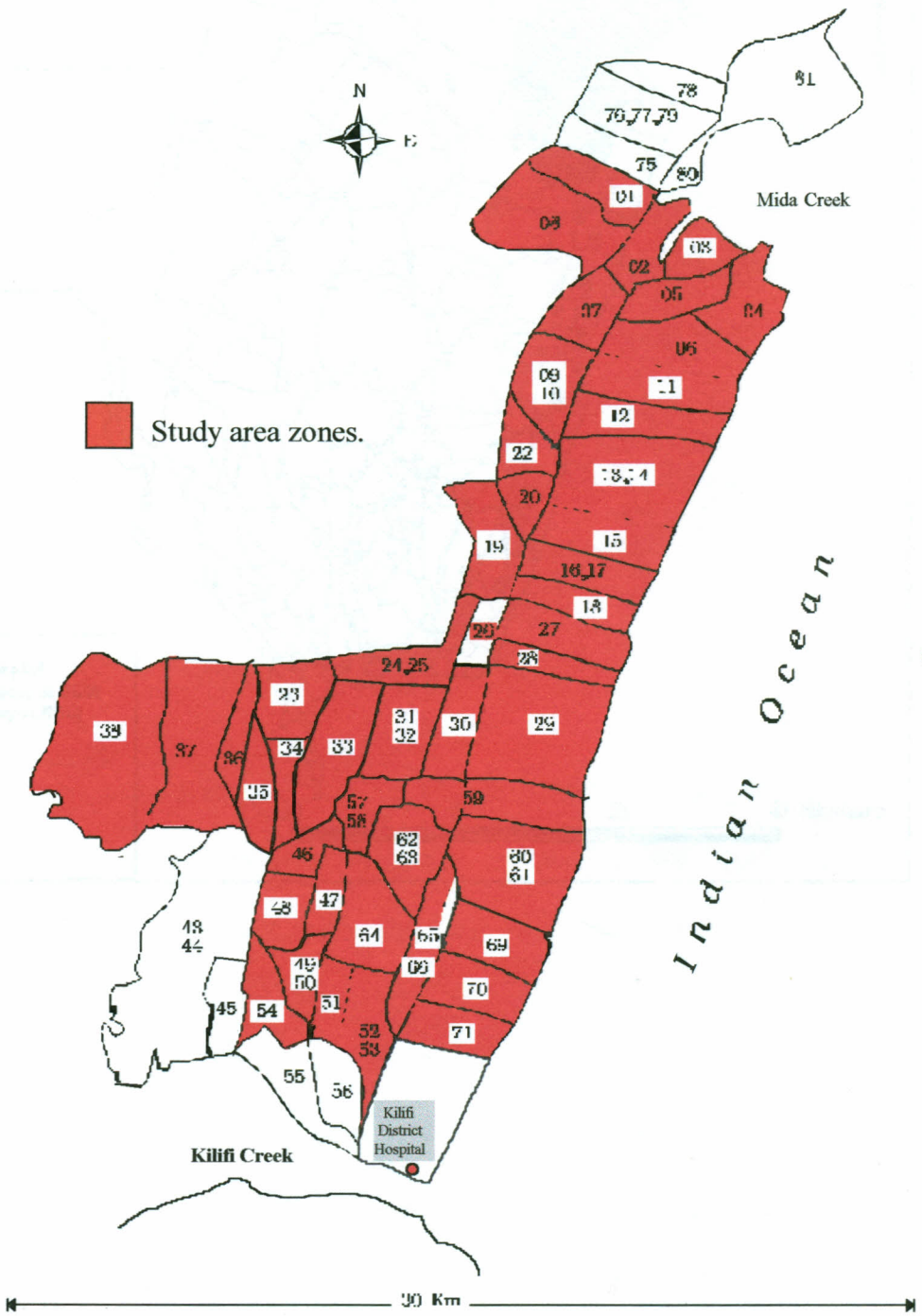
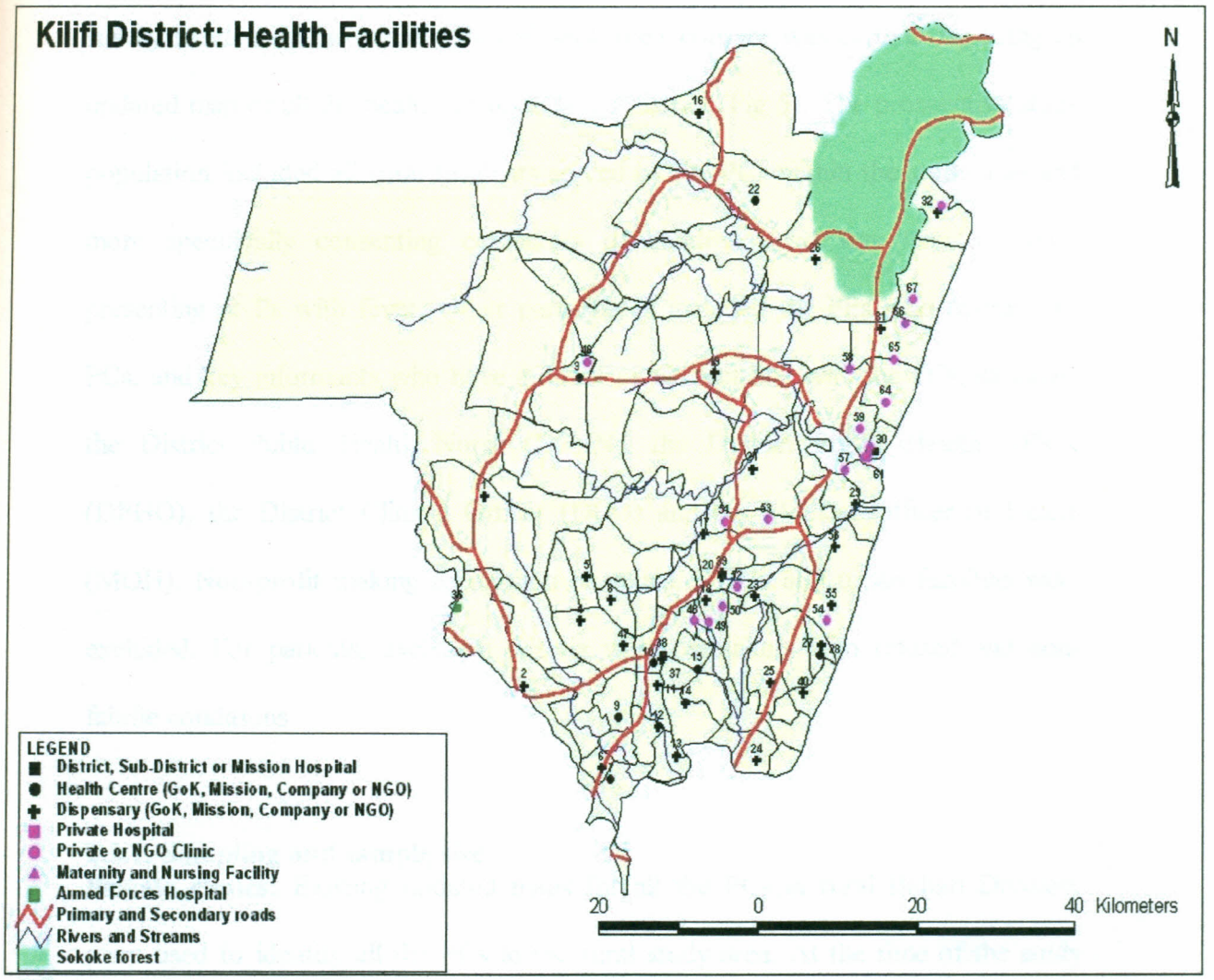


Figure 5: Showing Kilifi district health facilities



2.2. Study Design

The study was a descriptive survey combining quantitative and qualitative methods of all consenting PPs operating PCs within the study area (Fig 4). A preliminary survey to identify the actual PPs and seek their consent was carried out using an updated map of all the health facilities in the district (Fig 5). The prospective study population included all rural residents served by the PCs within the study area and more specifically consenting caretakers of children aged less than 10 years presenting at Ps with fever. Other participants included the PPs who operate the PCs, and key informants who have a direct or indirect link with the PCs, including the District Public Health Nurse (DPHN), the District Public Health Officer (DPHO), the District Clinical Officer (DCO) and the Medical Officer of Health (MOH). Non-profit making as mission hospitals, NGOs and urban facilities were excluded. For patients, exclusion criteria were caretakers who refused and non-febrile conditions

2.2.1. Sampling and sample size

Private clinics: Existing updated maps for all the PCs in rural Bahari Division, were used to identify all the PCs in the rural study area. At the time of the study there were 14 PCs in which 4 had closed down and 7 consented to be involved in the study. The total operating PCs identified were 10.

Patients: An estimate of the proportion of children aged less than 10 years presenting at PCs who receive appropriate treatment was required for us to ascertain the sample size. To our knowledge no appropriate data were available to serve as our guide in this estimate. Therefore a proportion of 50% was used in

estimating the sample size. Since this is a descriptive study, sample size calculation was based on precision rather than hypothesis testing or the power to detect differences as significant. A sample estimate of the proportion of children treated in accordance with IMCI guidelines would have a precision of ±10% (or have a standard error of 5%). That is, the sample estimate would be likely to lie within ±10% of the true population proportion, or equivalently that the calculated 95% confidence interval for the population proportion would be 40-60%. The following formula was used:

$n = p(1-p)/e^2$

Where p-proportion of interest=0.5 (1-0.5 from the hypothesis)

e- required size of standard error=5% (Kirkwood, 1988).

This gave an approximate sample size of about 100 patients.

This sample size acts a guide only and does not take into account the clustering of visits within PCs. This was because there were no estimates of intra-clinic correlation and secondly there were unequal numbers of children visiting each clinic making it difficult to estimate the effects of inter-clinic variations.

2.2.2.Ethical considerations

Permission to carry out the study was obtained from the MOH's office (Appendix B). The purpose of the study was explained to the PPs and their consent sought through signing the consent form. (Appendix Aiv). Participation was voluntary for both the PPs and the patients. The proposal was reviewed and accepted by the Kenya Medical Research Institute (KEMRI) scientific co-ordinating and ethical committees. After extensive discussions with researchers at the KEMRI -Kilifi, no

formal signing was arranged for caretakers since the study was non-invasive. Verbal consent for caretakers was sought at the waiting bay during recruitment. However standard information given to any study participants in accordance with the center's format was administered and is prefixed together with appendix (Ai). Consent for follow-up was sought during the exit survey. Codes and study numbers were used for all the PCs and patients respectively for confidentiality.

2.3 RESEARCH METHODS

2.3.1. Triangulation of methods

There are four types of triangulation namely, data triangulation, investigation triangulation, theory triangulation and methodological triangulation. The latter is often cited as a rationale for mixing qualitative and quantitative methods. It is the use of multiple research methods to study the same problem (Seale, 1999). It has been employed here to increase insight and to validate data from other methods.

Quantitative methods included a structured observational tool aimed at collecting information on the process dimension of QOC and a survey questionnaire aimed at collecting data on the structural dimension of QOC. Qualitative research methods included semi-structured interviews with caretakers (exit interview guide) and in-depth interviews with key informants such as PPs (interview guide for PPs) and the District Health Management Team (DHMT) members (interview guide for DHMT). Such interviews were aimed at validating information gathered during quantitative data collection.

2.3.2. Development of research tools and training of Field workers

All the tools used for the study were developed at the Kenya Medical Research Institute –Centre for Geographic Medicine Research Centre- (KEMRI-CGMRC) Coast. Tools for survey of PCs and structured observational technique were adapted from a study carried out in Karachi (Thaver *et al.*, 1998). Alterations were done to suit the objectives of the study. An example of an alteration is the inclusion of whether symptoms discussed in the PCs were prompted by clinician or volunteered by the carer. Ten symptoms often associated with febrile illness were prompted for. Also added were the observations for pallor assessment, weakness, dehydration, weighing, and palpation for liver enlargement. The section covering dispensing practices was modified to assess how often the clinician checked the patient's understanding on drug administration. Finally, major alterations were made on standards of clinical practice. This was categorized to cover specific choice of drugs such as antimalarials (AM) and antipyretics (AP), whose assessment was pegged to IMCI guidelines. Regarding the survey tool on the structural features of PCs, slight modifications were made to categorize drugs commonly stocked in PCs, such as AM AP and antibiotics (AB).

Qualitative tools such as the exit survey were developed after extensive discussions with a social scientist and a clinician. Follow up interview schedule was adopted from the ongoing shopkeeper-training project at KEMRI-CGMRC. Interview guides for PPs and DHMT members were developed after the observations of clinical practice to enable verification or allow deepened

understanding of issues observed.

Seven Mijikenda fieldworkers (FWs) from the KEMRI-CGMRC, who had been involved in similar observational studies, were identified. Training of the FWs was done for four days. This covered understanding the background of the study and use of data collection tools. Thereafter a pre-test aimed at assessing the FW's understanding of the tools was carried out. From the pre-tests slight and final changes were made to the wording of the tools.

2.4. DATA COLLECTION METHODS

2.4.1. Observations of private medical practice

A carefully trained FW was placed in each of the consenting PCs for ten simultaneous days. Having recruited patients meeting the criteria (see section 2.2.) at the waiting bay in each clinic, the FWs then observed the consultation process. A simple structured checklist (Appendix Aii) was used. This started with the patient describing his or her symptoms followed by nine-organ system examinations, tests recommended and drugs dispensed. This provided information for describing clinical care, an element of the process dimension of QOC (Fig 2).

Interpersonal care was assessed by identifying whether the clinician checked the patients' understanding on drug administration, communication skills, and whether PPs offered information on diagnosis, symptom relief, future disease prevention and possible disease outcome. Listening skills was graded according

to non-verbal communication skills such as nodding, frequency of eye contact and allowing sufficient time for carer to explain the patient's problem. The observer coded this as either 1,2 or 3 for inadequate, adequate or more than adequate respectively. Similar approach was used to rate the time spent by the client to explain their problems. Rating on greeting was based on whether greetings were warm, fair or poor. It was warm when considered personal and welcoming. It was poor where there were no greetings at all and fair if done casually. Finally, attitude was rated based on the outcome of greetings and listening skills. If both aspects were coded as poor, attitude was also assessed as poor.

Communication skills are difficult to measure because of the subjectivity of the observer. Efforts to minimise this limitation were done through an attempt to standardise information from the observational tool through ensuring simplicity. Subjectivity was further minimised when FWs interobserver variation was noted discussed and resolved. At the end, the duration of consultation was recorded in minutes. The diagnosis and prescriptions written in the patient's records were also noted after the consultation.

2.4.2. Exit interviews

Where an observation of the consultation process was made, the caretaker was interviewed as she/he left the facility to establish immediate recall of information on drug administration, supportive management, referral and follow-up which sought to check the understanding of the instructions given. This also provided an opportunity to identify actual drugs dispensed by the PPs

and assessment of adequacy of drug labelling patterns. In addition, identification of respondents' characteristics and consent for a later visit to the home to identify compliance with the advice given was obtained. Questions on previous utilisation of the same PCs visited, waiting time and the reasons behind caretakers's use of that PCs for that episode was sought (Appendix Aiii).

2.4.3. Follow up interviews

A semi-structured interview with caretakers of children who were included in the observations and exit interviews was conducted within a period of two weeks. This interview (Appendix Av) aimed at identifying treatment-seeking behavior for that episode and at assessing compliance. A record of the PPs instructions on drug use was entered on the follow up form. Where reported and recommended practices did not correspond, the FWs were asked to identify reasons for non-compliance. In this study non-compliance was defined as the failure of the carer to adhere to the clinician's advice (taking of drugs contrary to the regime and dosage recommended). Questions on the child's health status were included to try and identify the mother's perception of the process outcome for the treatment.

2.4.4 Survey of structural features in PCs.

A survey of structural features in the sampled clinics was carried out after the observation exit and follow up surveys were done. This covered structural dimension of QOC. Information obtained included staff characteristics (occupational history of clinicians, support staff and level of education), equipment, nature of buildings and drugs stocked. This focused on resources

and skill-mix. Management of resources was covered by information on recording systems, a preliminary survey on closing and opening hours and aspects of premise maintenance (Appendix Ai)

2.4.5. Key informant interviews

Seven in-depth interviews with PPs were carried out after all the above techniques were employed. Information obtained enriched data from methods described above. Questions on reasons behind PCs establishment and challenges provided data on factors associated with QOC. Questions on reasons for PCs use by clients and non-compliance was aimed at validating and enriching reasons given by caretakers during exit surveys. Other aspects were the process of setting up PCs, existing interactions with the public health sector and clarifications on systems of recording (Appendix Avi). Other key informants were the DHMT members. This tool (Appendix Avii) was designed to identify forces behind QOC offered in PCs from the DHMT perspective, and at enriching and validating other data on the public/private health sector interactions and licensure. Finally, the tool provided data on existing regulatory mechanisms.

2.4.6.Assessing quality of care

A team of six experienced clinicians from KEMRI-CGMRC Coast assessed standards of clinical practice. This covered accuracy of diagnosis (based on recorded history), appropriateness of drug choice (based on diagnosis and test results) and appropriateness of recommendations on drug use (independent of diagnosis). This was classified as appropriate, partially appropriate and

inappropriate. A guideline was drafted to include appropriateness of drug choice and regime and dosages of AM AB and AP pegged on IMCI guidelines. For each of the categories described above, any deviation from the guidelines was coded as inappropriate. Partial appropriateness was coded for all the cases that did not match the guidelines but were regarded as acceptable in medical circles. In cases where investigation such as taking a slide for malaria test was done, the choice of drugs was assessed based on these test results. It was agreed that the choice of drug was to be assessed in relation to diagnosis reached and recorded history.

Accuracy of diagnosis was based on the clinician's assessment of consistency of diagnosis with history. Partial consistency was rated when practitioners sought to identify two out of the four danger signs. Reasons for partial consistency was recorded and handled thematically. Dosage and regime recommended was assessed independent of history taking and choice of drugs made. The argument for this was that whether one made wrong diagnosis or choice of drugs, proper dispensing is an indispensable practice. Cases where treatment in question was not in accordance with IMCI but acceptable within the medical profession, was coded as partially appropriate and clinicians were asked to define each case. Follow-up and referral was assessed by considering whether it was necessary or not. If necessary, clinicians were asked to identify its appropriateness. Reasons for inappropriateness was again recorded and handled thematically (Appendix Aii, part IV).

2.5.DATA PROCESSING AND MANAGEMENT

2.5.1 Quantitative data processing

Quantitative data were collected coded and then entered in computer using Fox pro (version 3.5). Analysis to describe frequencies and percentages of measured variables with 95% confidence interval was done using Epi Info (version 4) software package for descriptive statistics. This covered data from observation, exit and follow up surveys.

2.5.2.Qualitative data processing

All discussions were taped using a dictaphone and later transcribed and written down word by word each day. All data were stored in notes and tape form for reference. Using themes and objectives as reference points, each response was grouped in accordance with these themes and all other emerging issues were handled separately. In some cases ranking was done based on the most frequent response in order to estimate the reasons for certain actions. All issues were written down in summary sheets according to the objectives and focus of the study. This formed part of the results and also helped enrich certain quantitative results.

CHAPTER THREE: RESULTS

3.1. Coverage rates of the study and descriptions of clinics

Table 1 summarizes coverage rates for all methods. There were 92 consultations during the entire observation period. A total of 91 caretakers were interviewed at the exit survey and 85 patients were followed up indicating a loss of 6 patients. There were 7 PCs involved in the study and 3 members of the DHMT were interviewed. The table indicates a variation of the number of children each clinic contributed to the total sample size. Clinics that contributed few cases of febrile children to the total sample size were also observed to be less busy. Such attendance coincided with the remoteness of the geographical location of the clinics.

Table 1: Summary of coverage rates and methods

Methods	Total number of Participants
a). Quantitative methods	
Observations (n=92)	
Clinics	
Clinic 1	15
Clinic 2	5
Clinic 3	21
Clinic 4	17
Clinic 5	13
Clinic 6	9
Clinic 7	12
Exit interviews	
Caretakers	91
Follow –up interviews	
Caretakers	85
b).Qualitative interviews	
DHMT members	3
PPs	7

3.2.Description of private clinics sampled.

3.2.1.Characteristics of staff in private clinics

When describing staff characteristics, practising practitioners are either the registered owners or not. Registered owners refer to official licensed owners of the PCs. Practising practitioners who are not the registered owners, practice on behalf of the registered owners. At the time of the study a total of 13 practising practitioners were observed working in PCs during the entire observation period. Of these 6 were practising practitioners who are not the licensed owners. Support staff refers to all the non-clinical staff. Such as laboratory technicians, nurse aide and receptionists.

Table 2 is a summary of characteristics of all PCs staff. The table indicates that none of the PPs was a graduate trained medical doctor. Six out of seven registered owners were COs who had worked in GOK facilities for an average of 10 years before going private. For practising practitioners who were not owners, they were of variable age, and of diverse professional background. Four out of six were below 35 years of age. All of them were clinicians in the government payroll. The support staff showed a diverse range of educational background with 5 having some kind of formal qualification such as certificate course holders in laboratory technology, or nurse aide while others performed clerical work or acted as receptionists. It is noteworthy that support staff did perform other duties apart from the designated ones.

Table 2:Characteristics of staff in private clinics

Characteristics of practising practitioner	**Freq.**	**Characteristics of support staff**	**Freq.**
Practising practitioner (*registered owner)*		**Support staff**	
		Sex	
Registered COs	6	Female	8
Kenya registered nurse	1	Male	6
Sex			
Male	6		
Female	1		
		.	
Age			
below 35 years	4	**Level of education**	
40-50 years	2	"O" level education	
above 60 years	1	Primary school level	9
		'A' level education	4
			1
Practicing practitioner *(Not owners)*			
Registered COs	3		
Kenya enrolled nurse	2	**Professional qualification**	
COs on training	1	None	
		Certificate holder in medical laboratory	9
		Certificate holder in nurse aide	4
			1
Sex			
Male	4		
Female	2		
		Duties assigned	
		Receptionist	
		Laboratory technician	5
Age			
below 35 years	4	Cleaners	4
40-50 years	2		5

3.2.2.Structural features and equipment

Details of some of the structural features in all the sampled PCs are outlined in table 3. This table indicates that structural features varied from one clinic to another. The PCs recorded to have inadequate cleanliness was observed to have dirty floors most times during the entire observation period. There was no water stored in the consultation room or in the toilet. Cotton wool used during injections also littered the place. In all the PCs surveyed, waste disposal systems involved use of containers improvised to collect all the wastes, which was later burnt. Though this is the simplest way, disposal of sharps and needles was inadequate. In summary, sampled PCs were observed to have the basic equipment required for operation with a few exceptions.

Simple laboratory investigations were offered in 4 clinics out of the 7 surveyed. PPs operate in rented premises except one clinic run from the owner's premises. When surveying for Kenya Expanded Program on Immunization (KEPI) vaccines, two of the PCs stocked KEPI vaccines, with supplies of tetanus vaccines only. All other vaccines were not stocked in any of the PCs. FP services were available in 2 clinics in the form of contraceptive injectables and tablets. Other aspects of structural features not included in table 3 include data on waiting area for every facility, consultation rooms, and posters. The results showed that 6 clinics had adequate ventilation and lighting in their waiting area. In 5 clinics, privacy during examination was offered either by a screen separating the examination area from the rest of the room or by use of a separate examination room.

Table.3: Equipment and structural features of private clinics

Equipment and structural features	Frequency (n=7)
Structural features	
Adequate maintenance.	6
Cemented floor and wall with iron roofing	5
Presence of hand washing facility	3
Adequate cleanliness of premise	3
Presence of electric power	3
Cemented floor and wall with tiled roofing	1
Cemented floor and wall with Makuti roofing	1
Continuos source of water	1
Building ownership	
Rented	6
Owned	1
Equipment	
Thermometers	7
Stethoscope	7
BP machine	6
Plastic syringe	7
Bandages and gauze	7
Microscope	4
Weighing balance	3
Sterilizer	2
Glass syringe	1

Posters with educational messages or reminder charts on various policy issues such as drug administration were surveyed. Six clinics displayed between 2 and 7 health education posters with messages on drug administration, immunization, and management of STIs, HIV/AIDS awareness and vitamin A supplement charts. One clinic displayed no posters.

3.2.3. Common drugs stocked in private clinics

Table 4 show results from a survey of the common drugs stocked in PCs. It shows the type of drugs and the form in which they are stocked (tablets, syrups, and capsules). From this table it is clear that PCs stock a wide range of drugs. The most common AM drugs stocked are the sulphadoxine-pyremethamine (SP) based drugs. Others include amodiaquine preparations, quinine and chloroquine. Drugs such as artememisin, proguanil and halofantrine preparations were rarely encountered in PCs.

Table 4: Drugs stocked in private clinics (n=7)

DRUG	SYRUP	TABLETS	INJECTION	CAPSULES
Antimalarials				
Chloroquine	1	2	4	Nil
Fansidar	4	7	nil	Nil
Quinine	nil	3	5	Nil
Halofantrine	nil	2	3	Nil
Artenam	nil	1	nil	Nil
Amodiaquine	3	4	1	Nil
Metakelfin	nil	4	nil	Nil
Paludrine	nil	1	nil	Nil
			nil	Nil
Antipyretics				
Paracetamol	5	7	6	Nil
Aspirin	nil	2	nil	Nil
Antibiotics				
Ampicillin	7	nil	2	7
Amoxycillin	6	1	1	4
Chloramphenical	4	nil	1	4
Pefloxacine	1	nil	nil	nil
Augmentin	nil	1	nil	nil
Tetracycline	nil	nil	nil	4
Gentamycin	nil	nil	3	nil
Kanamycin	nil	nil	2	nil
Penicillin	nil	1	5	nil

3.3: OBSERVATIONS OF CONSULTATIONS.

This section covers results that answer objectives on descriptions on the prescribing practices and treatment in accordance with IMCI guidelines in the PCs. Data presented here include characteristics of patients observed and their caretakers, symptoms discussed, actual treatment given in terms of drugs dispensed, recording systems employed in PCs, consultation charges and an assessment of standards of clinical practice.

3.3.1.Charactersitics of patients and caretakers

Table 5 tabulates characteristics of all patients and caretakers observed (see section 2.4.2). The majority of children attending the PPs were under five years of age (83%). Most caretakers ranged between 18 and 40 years, were female (86%) and were the patient's mothers (81%). More than half of the caretakers had an ability to read and write (64%). A large proportion (50%) reported more than once previous visit to a PC.

3.3.2.History taking practices in PCs

Table 6 shows the symptoms for which information was obtained from all consultations observed in PCs. Results are presented to illustrate whether PPs were able to identify danger signs using the integrated approach in treatment of childhood illnesses.

Table 5: Characteristics of caretakers and patients observed in PCs

Characteristics	n(%)	Characteristics	N (%)
Patient characteristics		**Previous utilisation of PCs**	
Sex		More than once	46(50.0)
Females	44(47.3)	Once	23(25.0)
Males	48(52.7)	Never	23(25.0)
Age of patients			
>Five years	16(17.0)	**Occupation of caretakers**	
5-10 years	76(83.0)	**Fathers**	
		Commerce and trade sector.	35(38)
Caretakers characteristics		Casual labourers	16(17)
Sex		Farmer	18(20)
Females	79(86.0)	Driver	12(13)
Males	13(14.0)	Civil service	10(11)
		Bank	1(1.0)
Age of caretakers			
18-25 years	40(44.0)		
25-40 years	39(42.0)		
> 40 years	5(5.0)		
<18 years	8(9.0)	**Mothers**	
		Farmer	54(59.0)
Relationship to patients		Commerce and trade sector	17(18.4)
Mothers	74(81.0)	Other	19(20.4)
Fathers	10(11.0)	Civil service	2(2.2)
Grandmother	3(3.0)	.	
Other*	5(5.0)		
Ability to read and write			
Yes	59(64.0)		
No	33(36.0)		

*Other relations with patients included a brother or a servant. For occupation of mothers or fathers, the category of "other" included retirees, a receptionist and a FWs. The table does not include a small percentage of missing data.

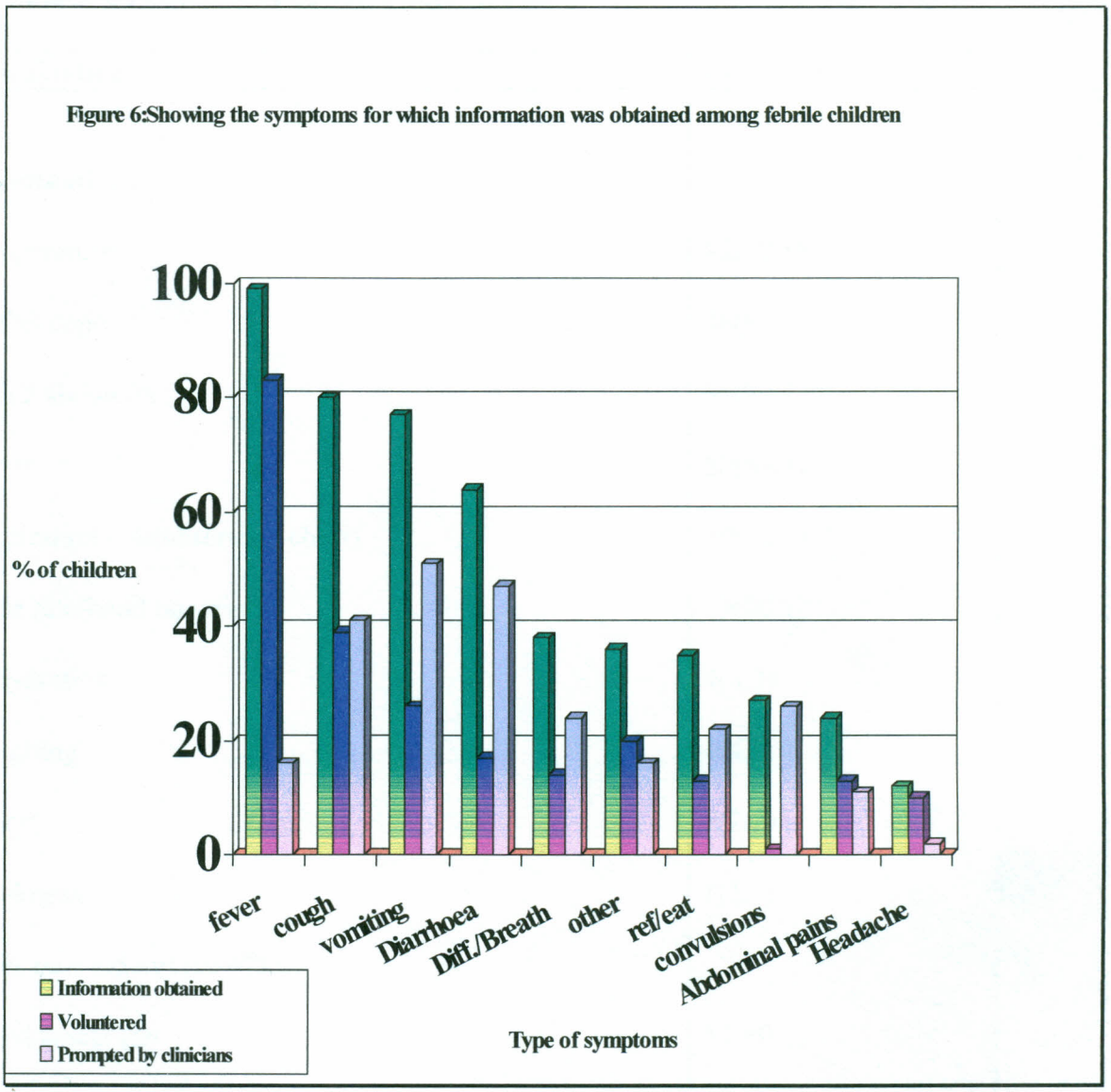
Table 6: History taking practices in PCs

Symptom	Symptoms for which information was obtained (%) n=92	Proportion of symptoms volunteered by patient (%)	Proportion of symptoms Prompted by clinician (%)
Fever	91(98.9)	76/91(83.0)	15/91(16.3)
Cough	74(80.4)	36/74(39.1)	38/74(41.3)
Vomiting	71(77.2)	24/71(26.1)	47/71(51.1)
Diarrhoea	59(64.1)	16/59(17.4)	43/59(46.7)
Difficulty in breathing	35(38.0)	13/35(14.1)	22/35(23.9)
Other*	33(35.9)	18/33(19.6)	15/33(16.3)
Refusal to eat	32(34.7)	12/32(13.0)	20/32(21.7)
Convulsions	25(27.2)	1/25(1.1)	24/25(26.1)
Abdominal pains	22(23.9)	12/22(13.0)	10/22(10.9)
Headache	11(11.9)	9/11(9.8)	2/11(2.2)

*Other symptoms include jerks, shivering, scratching, constant cries, stomach distention, dizziness, color of the vomitus and stool and the presence of worms in feces

In addition to table 6 above, graphical representation in figure 6 provides a pictorial trend of the percentage of all the symptoms for which information was obtained. IMCI guidelines include an algorithm for detecting severity of illness by the presence of fever accompanied by convulsions, cough and difficulty in breathing. Table 6 above indicates that information on fever was obtained in almost all cases (99%) primarily volunteered by the caretakers. Presence of a cough was established in the majority of cases (80%) and was equally likely to be asked for by the PPs or volunteered by the carer. Presence of difficulty in breathing and convulsions was established in a minority of cases (38% and 27% respectively) although the PPs were more likely to ask for this than the carer was to volunteer information. It therefore appears that neither the PPs nor caretakers are sufficiently aware of the importance of these latter symptoms in predicting the severity of disease.

Figure 6:Showing the symptoms for which information was obtained among febrile children



Legend

Diff./Breth.-Difficulty in breathing
Ref/eat-Refusal to eat

3.3.3.Examinations and test done in private clinics

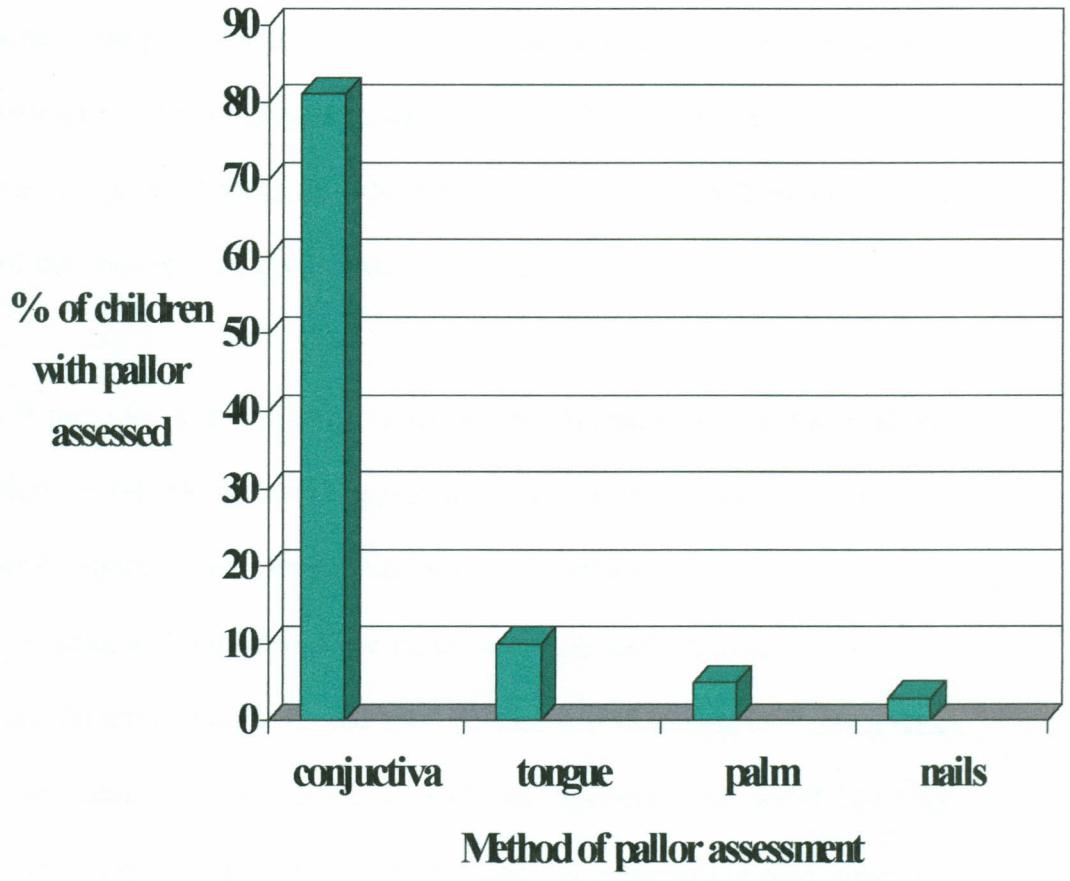
Table 7: Examinations and test done in PCs

Examinations	Freq.(%)
Examinations	
Temperature	82(89.1)
Stethoscope	76(82.6)
Touch abdomen	65(70.7)
Pallor	60(65.2)
Respiration rate(observing chest)	29(31.5)
Pulse rate(hand on wrist)	19(20.7)
Dehydration	4(4.3)
Weighing	4(4.3)
Other*	2(2.2)
Weakness	1(1.1)
Tests carried out (n=67)	
Blood smear test	54(80.6)
Stool	1(1.5)
Haemoglobin tests	2(2.98)

* Other examinations include checking for swollen glands and the running nose.

The most common examinations done in PCs were temperature determination and stethoscope examination. The most common test carried out was the BS test (81%). During the observations, the manner with which temperature and pallor assessment was done was sought. Results are presented in figure 7, which indicates that the most common method of pallor assessment was observation of the conjunctiva 48(80%). The most common method of temperature determination for febrile illness observed was axillary measurement 63(76.8) while temperature determination by touch covered 19 (23.2%).

Figure 7: Showing methods of pallor assesment (n=59)



3.3.4. Drugs dispensing activities

Table 8 indicates a summary of all the drugs prescribed in PCs this include tablets syrups and capsules. The table indicates that 88% of all the prescriptions contained an AM. 67.4% contained an AP. The most common AM prescribed and dispensed were sulphadoxine-pyremathamine (SP) preparations. Most drugs prescribed in PCs were dispensed within the facility. In these cases, checking of the patient's understanding on drug administration was uncommon. The average number of drug type was 3.4 (95% CI 1.20-3.60) per prescription. The mode was 4.00 drugs and the interquartile range was 2.50-4.00. About 23% of the prescriptions given contained multivitamins.

Table 9 provides a descriptive outline for all injections given. From all the prescriptions 64.1% of them contained at least one injection. The average number of injections per prescription was 2.17 (95% CI 1.74-2.50). The mode was 1.00 drug and the interquatile range was 1.00-3.00. A total of 32(34.7%) cases had no injections prescribed and one case was classified as missing data. The total number of prescriptions with an injection was n=59 (64.7%). Paracetamol (16.9%), crystapen (15.2%) and chloroquine (11.8%) injections were the most common injections given. In one case there was a combination of two AM injectables: Fansidar® and chloroquine. Figure 8 shows the distribution of the number of injections prescribed.

Table 8: Drugs dispensed in private clinics

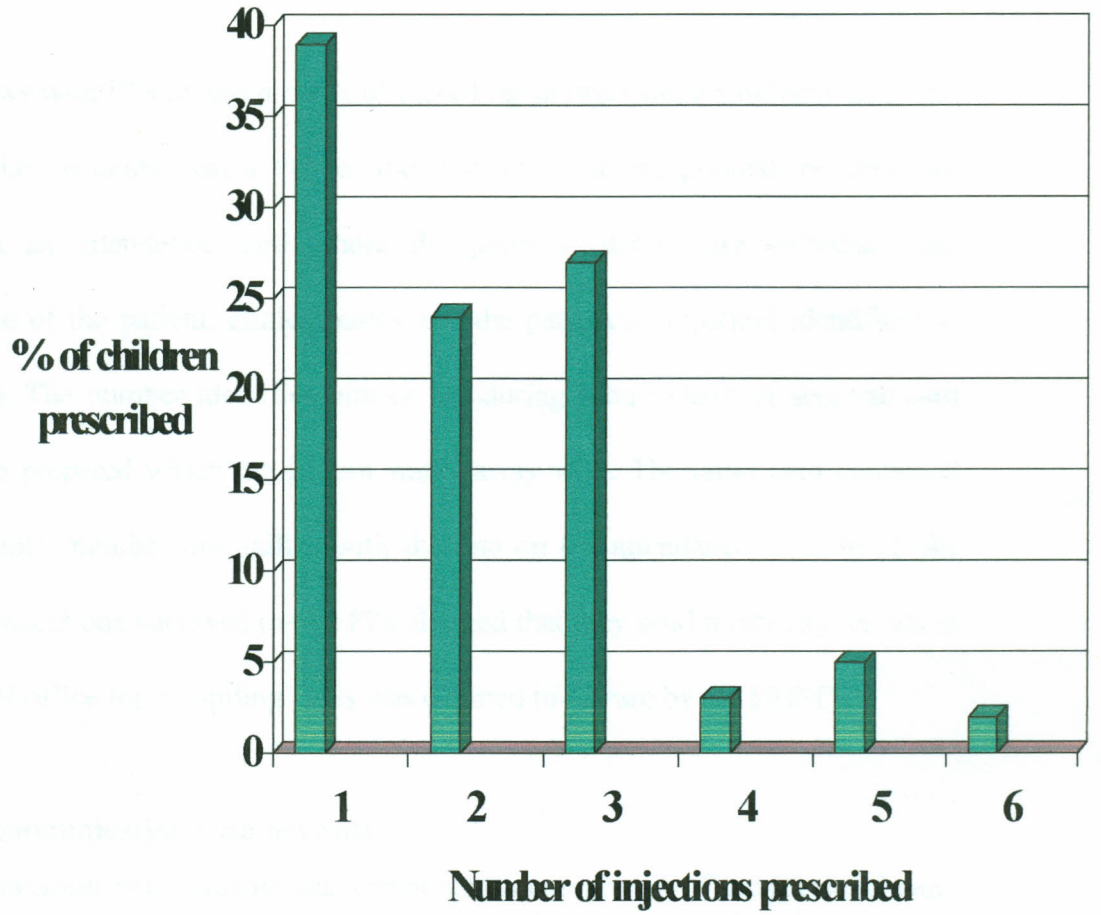
DRUG	Proportion of patients recommended each drug (n=92) n (%)	Proportion of Drugs prescribed only n(%)	Of dispensed, proportion whose understanding was checked n(%)
Antimalarials	**81(88)**		
SP* preps.	54 (58.7)	Nil	15/54(27.8)
Amodiaquine preps.	19 (20.7)	Nil	5/19(26.3)
Quinine	5 (5.4)	Nil	1/5(20)
Chloroquine	2 (2.2)	Nil	0/2(0)
Artemisinin preps	1 (1.1)	Nil	1/1(100)
Antipyretics			
Paracetamol	62 (67.4)	1(1.6)	19/62 (30.64)
Antibiotics			
Amoxycillin	21 (22.8)	2(9.5)	8/21(38.09)
Ampicilins	8(8.7)	1(12.5)	0/8(0)
Anti-amoebics			
Flagyl preps	21 (22.8)	1(4.8)	10/21(47.62)
Others			
Trihistamines	26 (28.3)	1(3.8)	8/26(30.76)
Multivitamins	21 (22.8)	nil	7/21(33.33)
Septrin	18 (19.6)	nil	8/18(44.44)

* Sulphadoxine pyrmethamine

Table 9: Combination of all injections prescribed in rural PCs (n=59)

Type of injections/combinations	Frequency(%)
AM	
Chloroquine	7(11.8)
Quinine	3(5.1)
Fansidar ®	1(1.7)
Fansidar ® and chloroquine	1(1.7)
AP	
Paracetamol	10(16.9)
Aspergic	1(1.7)
AB	
Crystapen	9(15.2)
Gentamicin	3(5.1)
Procaine benzyl penicillin(PPF)	6(10.2)
Lagarctil	1(1.7)
Combinations	
PPF and Paracetamol	2(3.4)
Paracetamol and crystapen	2(3.4)
Chloroquine and crystapen	2(3.4)
PPF ,lagarctil and chloroquine	2(3.4)
Crystapen and quinine	1(1.7)
Quinine and Paracetamol	1(1.7)
Crystapen, PPF and Paracetamol	1(1.7)
Chloroquine and Paracetamol	1(1.7)
Piriton and crystapen	1(1.7)

Figure 8: Showing the distribution of injections prescibed in PCs (n=59)



3.3.5. Recording systems in PCs sampled

Data on recording systems in PCs are given in table 10. This describes labeling of drug dispensed, the site and style of instructions written. The table shows that in the majority of the cases, information on drug administration was legibly written on the package. The common style of writing such information was (2x3). The patient's name was rarely written on the drug package (8%).

Interviews with PPs on the process of recording showed some similarity in all the PCs. When patients visit a PC for the first time, the receptionist (or clinician) prepares an attendance card where the patients' details are recorded (age, residence of the patient, clinical notes and the patient's outpatient identification number). The number identifies him or her during future visits. A separate card was also prepared which the patient walks away with. The latter card contained the patient's number that tallies with the one on the attendance card. In all the clinics except one surveyed (n=6) PPs claimed that they send morbidity reports to the MOH office for compiling. This was claimed to be rare by the DHMT.

3.3.6.Communication with patients

Communication with patients was considered a component of interpersonal care. Several aspects were recorded and the results are presented in the table 11.

Table 10: Labeling of drugs

Labeling characteristics	**Frequency of labeling Characteristics n(%)**
Legibility of labeling	83(90.2)
Drug name	27(29.3)
Child's name *	7(7.6)
Site written for drug instruction	
Drug package	75(81.5)
Health card	9(9)
Missing data	8(8.7)

*Missing data and not applicable cases for the child's name is not indicated above.
Not applicable was coded for all the drugs that were packed in their original packages.

Table 11:Elements of communication and other information given to patients

Elements of communication	Frequency
Elements of interaction	
a). Time given to explain condition	
More than adequate	81(88)
Adequate	11(12)
b) Attitude towards Patients	
Good	82(89.1)
Fair	10(10.9)
c) **Listening skills**	
Adequate skills	90(97.8)
Inadequate	2(2.2)
d). **Greetings**	
Warm greetings	61(66.3)
Fairly expressed greetings	17(18.5)
No greetings	14(15.2)
Information Given to patients	
Diagnosis explained	79(85.9)
Supportive management explained	25(27.2)
Symptom relief explained?	22(23.9)
Outcome of disease discussed	11(12)
Future disease prevention	9(9.8)

Table 11 indicates that the PPs give diagnosis to the caretaker in majority of cases (86%). A majority of PPs demonstrated adequate listening skills and gave adequate time for their patients/caretakers to explain their problems in (98%), and (88%) respectively and most greeted patients warmly (66%), However, a small minority explained possible disease outcome for the disease diagnosed (10%) or gave relevant advice on prevention of this illness in the future (12%).

From qualitative interviews with caretakers, several aspects of interpersonal care were mentioned as factors that encouraged frequent utilisation of PCs. For example, it was clear that adequate time given to patients to explain their problems and examinations carried out reinforced subsequent PCs use. This is supported by quantitative results as indicated in table 11. The overall comment is that interpersonal care is a significant factor in determining subsequent use of a health facility. This influences the feedback loop in the QOC framework (See Fig 2).

3.3.7. Referrals and follow up

Observers were asked to record whether follow up and referrals were organised during the consultations. A team of six clinicians assessed appropriateness of such recommendations (See section 2.4.6). This was assessed to determine how often these practices concurred with standards of clinical practice. Of those cases that required follow up (n=50), this was arranged in 37/50(74%) but was missed in 13/50(26%). 12(13.1%) of the cases could not be assessed. Where follow up was arranged, this was appropriate in 26/62(41.9%) and in

36/62(58.1%) follow up was inappropriate. Inappropriate follow up means that patients were asked to come back for the wrong reason such as injection only instead of further check up or they were not advised on the dates to come back. In some cases PPs should have advised them to come back after two days. Referrals was considered necessary in 5(5.4%) of the children. Of these referral was missed in 4/5. 20(21.7%) of the records could not be assessed. This was because clinical notes were either incomplete or one could not determine necessity for follow up due to insufficient information on the severity of the conditions in question.

The existing referral system was discussed as a form of interaction between the public health sector and the PHS. The PPs and the DHMT noted that referrals occur frequently from PPs to GOK facilities than vise versa. Cases of referral from GOK facilities to the PHS include patients who require specialized treatment, which is unavailable in GOK facilities. Examples given were referrals for ultra sound services or a brain scan. On the other hand, certain medical covers specify the type of health facility, which the patient can be treated. Conditions commonly referred from PPs to GOK facilities include chronic STIs, HIV/AIDS and severe malaria.

3.3.8.Charges for medical care in private clinics

Interviews with PPs included the rationale for pricing services in their clinics; credit facilities offered, average consultation charges, consultation time and the

waiting time for a blood smear (BS) test. The major factor behind pricing of services was profit making. For example, PPs used certain stereotypes to price for the services. This is reflected by the remark *'if you get a 'mzungu' you cannot charge him the same way like an African"*. Other factors related with pricing of services included cost of drugs, type of services offered, and seriousness of the condition. The latter was highlighted in the remark *"If a patient comes with a very sick patient you can charge anything and you will be paid"*. Other factors include operational costs such as rent for premises, labor, electricity and water bills.

In all the clinics, PPs agreed that they offer credit facilities to some patients. This was determined by two factors: the clients must be well known to the clinician, and the patient must be a resident of the area where the PCs operates. These factors enable " *follow up of the patient if s/he does not turn up in time for payment.... one can send a small note'*. Patients were said to delay in paying back, and it was noted that they prefer paying in installments. Paying in kind was accepted in two clinics, but the rest cited the likelihood of business failure if they allowed patients to pay in kind. Those in favor of payment in kind argued that this is a good gesture of willingness to pay. In practice, credit services is among the coping mechanisms for overcoming financial constraints.

PPs did not maintain fixed charges for services rendered except for simple laboratory investigations such as a BS for malaria parasites (Ksh 50) or for

Table 12:A summary of all the diagnoses reached from the consultations by PPs

Diagnosis	**Frequency n=88[1]**
Clinical malaria	28(31.8)
Respiratory tract infections and malaria	16(18.2)
Lower respiratory tract infection	8(9.1)
Malaria and Helmenthiasis	7(7.9)
Bronchopneumonia and malaria	6(6.8)
Bronchopneumonia	4(4.5)
Clinical malaria and gastroenteritis	3(3.4)
Gastro-enteritis	3(3.4)
Upper respiratory tract infections and Helmenthiasis	2(2.3)
Urticaria and upper respiratory infection	2(2.3)
Bronchopneumonia, and asthma	2(2.3)
Bronchopneumonia, upper respiratory tract infection and malaria	1(1.1)
Bronchopneumonia and scabies	1(1.1)
Malaria ,anaemia and pneumonia	1(1.1)
Common cold /malaria/Helmenthiasis	1(1.1)
Malaria and asthma	1(1.1)
Abdominal colic	1(1.1)
Infective jaundice	1(1.1)

Table 13: Appropriateness of clinical practice in private clinics

Drugs prescribed	Fully appropriate n(%)	Inappropriate n(%)	Partially appropriate	Cannot assess
Antimalarials(n=81)				
Drug chosen	44(54.3)	19(23.4)	18(22.3)	nil
Dose recommended	34(42.0)	29(36.0)	12(14.0)	7(8.0)
Regime recommended	46(56.8)	27(33.3)	4(4.9)	4(5.0)
Antipyretics(n=62)	50(80.6)	7(11.3)	4(6.5)	1(1.6)
Dosage recommended				
Antibiotic(n=68)	28(41.2)	19(28.0)	6(8.8)	15(22.0)
Drug chosen	39(57.4)	9(13.2)	4(5.9)	16(23.5)
Dose recommended	36(57.0)	13(19.0)	3(4.0)	16(20.0)
Regime recommended				

In assessing accuracy of diagnoses, the results of this assessment indicate that 62% was completely consistent with history and in 25(27.2%) the clinicians assessed the cases as partially consistent with history since history taking was inexhausitive. In 7 (7.7%) of cases could not be assessed since the records were either incomplete or were illegible. The next table presents data on the appropriateness of the treatment given to all the children.

Table 13 shows that 54% of all the AM drugs and 81% of all AP prescribed were chosen appropriately. Appropriateness of AB chosen fell below 50%. This indicates that PPs were relatively poor in choosing the right drug for AM and AB when compared to AP. Regarding dosage and regime recommendation, approximately a third of all AM were inappropriately dispensed. Although about 24% of AB dispensed could not be assessed, half of them (57%) were dispensed appropriately. It can be summarised that there is deficient dispensing practice amongst PPs.

Reasons for partial appropriateness for choice of AM included:

i).Choice was found to be a case of over-treatment for uncomplicated malaria (n=12)

ii).PPs used second line treatment other than first line or prescribed both (n=6)

For AM dosage and regime, partial appropriate was considered for cases where dosage was not in accordance with IMCI guidelines but acceptable in medical practice. For AP and AB, partial appropriateness of choice of drugs, was given

for all cases where not first line treatment was given, or where injectables were prescribed instead of syrup or tablets.

3.10. Immediate recall of drug administration by caretakers

Ability to recall drug administration correctly was assessed per drug. Table 14 provides information on recall ability of caretakers on drug administration. Table 14 shows that for all the AM, 55/81 (67.9%) recalled drug administration correctly, while 19/81(23.4%) recalled incorrectly. A small percentage 2/81(2.5%) did not recall at all. About 26% of those who were dispensed sulphadoxine pyremethamine recalled incorrectly. This indicates that even for a single dose drug some people do not recall instructions on how to administer the drug immediately after the consultation. Again about 21% of those given amodiaquine drugs recalled incorrectly which may be possibly linked to a three day regime required for amodiaquine. A high percentage of those who recalled drug administration correctly for AM drugs may be related to less complicated regimes. This may explain why only a small percentage could not recall at all (2% and 5% for both drugs). Similarly, a 21% of those given AB could not recall correctly. Another pattern emerge from those given other drugs such as trihistamines, multivitamins and septrin. About 30% of all those who were given such drugs could not recall correctly.

Table 14: Recall ability of caretakers on drug administration

Drugs	No. of caretakers who left clinic with each type of drug n=92 n (%)	Proportion of drugs in which caretakers recalled correctly n (%)	Proportion of drugs in which caretakers recalled incorrectly n(%)	Proportion of drugs in which caretakers did not recall at all n(%)
Antimalarials				
Artemisinin preps.	1(1.61)	1/1(100)	Nil	Nil
SP preps.	54(58.7)	39/54(72.2)	14/54(25.9)	1/54(1.9)
Amodiaquine	19(20.7)	14/19(73.7)	4/19(21.1)	1/19(5.3)
Chloroquine	2(2.2)	1(50)	1(50)	nil
Antipyretics				
Paracetamols	62(67.4)	48/62(77.2)	13(21.0)	1/62(1.6)
Antibiotics				
Amoxycillin*	19(20.7)	15/19(78.9)	4/19(21.1)	Nil
Ampicilins	8(8.7)	8/8(100)	nil	Nil
Anti-amoebics				
Fragyl	21(22.8)	19/21(90.5)	2/21(9.5)	Nil
Others				
Trihistamines	26(28.3)	17/26(65.4)	8/26(30.8)	1/26(3.8)
Multivitamins	21(28.82)	14(66.66)	6(28.57)	1(4.76)
Septrin	18(19.6)	13/18(72.2)	5/18(27.8)	Nil

In two cases of those patients who were prescribed Ampicilins, the drugs were not dispensed. *Missing data and those that were not applicable are not shown

3.4 FACTORS AFFECTING QOC AND COMPLIANCE.

3.4.1 Setting up and monitoring of PCs in Kilifi.

This section covers results from the DHMT and PPs interviews. Data presented include the process of registration of PCs covering the team responsible for inspection, the actual time when the clinic starts operating, and the licensure of PCs. In addition, frequency of monitoring PCs, circumstances of closure of PCs and suggested changes regarding the process of registration are included. Finally, trends on PC establishments, public-private sector interactions, and the meaning of the term "quack" are also covered.

3.4.2. Process of registration of private clinics

The process of registration of PCs is presented in a way that distinguishes the ideal process from practice.

a).Ideal process of registration

Ideally, the process of registration of PCs is sequential and follows a distinct pattern. Once an individual decides to set up a PC, he or she submits an application enclosing professional certificates to the MOH requesting for inspection. The application is filed in the PPs file kept in the MOH office. Later the applicant visits the same office to get an appointment for inspection. The team responsible for inspection composes of the DPHN, the DPHO, the DCO and the MOH. Under circumstances where the prospective applicant wishes to establish laboratory services, then a laboratory technician is included in the team.

The criteria for inspection is guided by a standard guideline developed by individual councils for various professional cadres (Appendix C). Once the DHMT is satisfied with the requirements, the report is sent to the appropriate council through the director of medical services. Ideally a clinic is not allowed to operate before any inspection or licensure is done. Inspection paves way for registration and licensure. The individual councils for various professional cadres do licensure of PCs. For example, the clinical officer's council is the national body responsible for regulating the activities of the clinical officers (COs). Licensure can be granted for specific medical services and whether the clinic will operate full time or part time. Licensure for medical services can be issued for in-patient services ranging from nursing homes to large hospitals. Others are licensed for outpatient services only. For those in the public service full time licensure requires that one must work with the GOK facilities for ten years before resigning from public service. Part time licensure can only be granted to doctors and COs. For COs one should be working in areas classified as hardship areas whereas for doctors, one must be a consultant or a tutor to be allowed to operate PCs on part time licensure. In both cases they can only operate PCs in their own free time. All licenses are renewed annually. Payments done for the licenses are a means with which various councils collect revenue and regulate their professions.

b).The process of registration in practice

In practice members of the inspection team may vary with the cadres applying for inspection. When the prospective applicant is either a CO or a nurse then a DCO or a DPHN is included in the team. Regarding the actual time for operation, PCs operate even before they are inspected or licensed. Reasons given for the deviation from the ideal practice were logistical problems such as delays. For example, DHMT members delay to inspect the intended clinic and fail to compile the inspection report on time. In addition, certain public health technicians charged with the responsibility of regular supervisory activities do not bring supervisory reports on time.

Regarding minimum requirements for operation the ideal again varies from practice. Premises must meet the minimum requirements although concessions can be made for rural clinics where electricity or running water may not be available. Examples of other concessions include equipment such as tonics and a diagnostic set, and the number of rooms whereby two rooms are acceptable. Availability of running water can be improvised by use of a container with a tap fixed to it. The prospective clinician may be allowed to operate without a weighing balance and uristics pending acquisition later in the course of practice.

In practice, actual licensure of PCs varies from the ideal. Government employees operate PCs while in the public service under the cover of a licensed

practitioner. This is practised where persons who have licenses enter into an agreement with the interested clinician. On acquisition and renewal of licenses, results pointed out conflicting issues. The actual acquisition and renewal of licenses is done by the prospective PPs who follows the matter to their respective council offices after paying relevant charges. Responses on re-inspection for renewal of licences revealed varying responses. In one interview the respondent said that the report is not required while in two other interviews, interviewees insisted that this is a requirement of the law. The remark *'If we do not inspect how do we know whether in the past one year one may have done a mistake....''*, highlighted awareness of the importance of re-inspection in maintaining quality care. However, they all agreed that in practice re-inspection for renewal of licenses is never carried out since some PPs renew their licenses directly from their respective councils without the knowledge of the DHMT.

In view of these variations, DHMT members suggested three changes. Pertinent to this was that nurses should be allowed to own and operate PCs while working in the GOK facilities. They felt that this practice needs to be encouraged so long as it is not abused. The argument in favour of this was that if people are able to pay for the services then the practice should be encouraged to help reduce congestion in the GOK facilities and motivate the GOK workers. Secondly, the Public Health Act should be renewed to increase the penalties for those operating without licenses. The argument in favour for this was that the current penalty could not deter this practice. Finally, all stakeholders should

be involved while licensing PCs. For example, local government authorities should not grant trading licenses to PPs without the knowledge of the DHMT. The collage (Fig 9) shows newspaper clippings that indicate existence of problems of multiple agencies in licensure.

4.2. Monitoring of private clinics

This section covers results from interviews with the DHMT. Ideally, once a PCs is licensed to operate in a particular area, the process of monitoring is carried out by the DHMT. There was a variation of answers regarding the ideal frequency of monitoring. Two separate interviews gave the frequency as after three months and one month respectively. Each DHMT member has a specific role to play during this exercise. The DCO, DPHN and MOH are usually in charge of quality assurance while the DPHO is in charge of sanitation. Elements of quality assurance include standards of clinical practice-including infection control in the PCs, expiry of drugs, and updates of how to manage certain conditions. Sanitation aspects include structural features and disposal of wastes including sharps. Proper record keeping and any complaints from the community served regarding the PCs are also handled.

In practice, monitoring of PCs is not done regularly and there is no single and comprehensive way in which routine monitoring is done. The reason given for irregular monitoring was that the DHMT lack the capacity in terms of resources to either carry out or plan for routine checks. Monitoring that is done can be carried out in three ways. One way is to delegate this duty to the public health

officers in the divisions or locations. Secondly, the District Health Information Officer may carry out supervisory roles while collecting monthly reports on morbidity statistics from the clinics. DHMT members may carry out spot checks in their routine activities in the district, a method that is rarely employed.

DHMT members suggested several changes that the government needs to incorporate for effective monitoring of PCs.

i). There is need for the government to have a closer link with PPs both at the local and national levels. However the kind of integration was not explored.

ii). The DHMT should have more resources set aside for regular supervision to keep the standards of clinical practice and avoid mushrooming of unregistered clinics.

iii). Stringent measures should be instituted regarding frequency of morbidity reports from PPs

vi). The government should strive to update PPs on new information regarding treatment and management of certain conditions such as the syndromic management of STI's.

3.4.4. Private clinics- trends and interactions with the public health sector.

Generally, discussions pointed out that the district GOK facilities cannot meet the health needs of the locals. Both PPs and DHMT members pointed out that the number of PCs in the district is increasing, which is attributed to factors that overlapped with reasons behind establishing PCs. On interactions, DHMT members and PPs agreed that there is little interaction between the two sectors

and that the existing system is informal and haphazard. The DHMT perceive inclusion of PCs as centres for immunisation activities and referral of patients to GOK facilities as potential forms of interaction. The latter was also emphasised by PPs. Other ways in which interactions could be improved included morbidity reports to the district hospitals, increased supervision by the DHMT, disease notification, free supply of STI drugs and supply of vaccines for maternal child health (MCH) and of family planning (FP) drugs to selected PCs. In addition, PPs pointed out that part time GOK employees serve as an important source of manpower for PCs. The cadres involved include laboratory technicians, nurses and COs who practice in some clinics as "locums".

The DHMT members suggested that to improve interactions with PPs, there is need to increase opportunities for networking between PPs, GOK and NGO facilities. Examples of such networking were seminars, workshops and forums for discussing cases and treatment guidelines. PPs on the other hand suggested: a need for financial backing from the government in the form of loans to expand the PHS and run child welfare clinics, a need for the government or NGOs to provide them with free STI drugs and FP kits.

3.4.5.Definition of "Quacks"

The term "quack" is loosely applied by PPs and DHMT members to anyone who practices illegally. This includes professionals who practice without a license. As one DHMT member remarked: *".... even if you are a trained*

nurse, if you do not adhere to council standards ...then you are a 'quack". Such persons are seen to pose unfair competition to licensed PPs in pricing of services. The term "quack" also refers to unqualified people who practice medicine without formal training. They include persons such as nurse aides, retired hospital subordinate staff, community health workers, circumcision experts or plaster technicians.

PPs and the DHMT agreed that "quacks" do operate in Kilifi district. Some practiced secretly (even at night) to escape the monitoring system, while others move from house to house 'treating' patients. DHMT members verified this by mentioning that *" ... in [an area in the coast] we found 3 quacks and they were arraigned in court. The public brought the issue to light through a letter to the MOH".* One practitioner gave examples of about five "quacks" operating in the area around his clinic. It could be argued that to the community, "quacks" are important in that they are accessible and cheap compared to formalised health systems. However, DHMT members felt that they pose a great risk to the health of the communities since people are unable to differentiate them from qualified personnel. According to the DHMT, the main users are those community members who live in the interior with inaccessible formal health care, persons with low income or those that are illiterate.

3.4.6. Reasons for setting up private clinics.

Reasons for setting up PCs can be grouped broadly into those related directly to problems in the public health sector, and into other reasons.

Table 15: Reasons for setting up private clinics

Factors related to problems in the public health sector.	**Other reasons.**
Poor payment in the public health sector	Need to avoid idleness after retirement
Inequity in workload and pay	Desire to promote health in line with primary health care principles
Poor working conditions	
Frequent transfers	
Trained privately and no job in the public sector	

To elaborate on the factors related to problems in the public health sector, remarks included:

- " *While I was working in a rural [government] facility, I had to dig into my pocket to run certain government services because sometimes there were no basic dressing materials hence I was forced to buy* ".
- *"I was working [as an anesthetist] from morning until evening without a break and I was paid peanuts. Meanwhile, the surgeon was paid thousands of shillings for a couple of hours"*
- *"I was transferred to West Pokot but since people knew me around here they asked me to try and stop the transfer. I did, and later when the government allowed COs to practice privately, I decided to start a clinic here*".

Such remarks suggest dissatisfaction with the public health sector management and inequity in workload and poor pay. The latter may also reflect the changing health policy on the PHS (See section 1.2.1).

An attempt was made to try and identify reasons behind the geographic distribution of various PCs. Private practitioners explained that they knew community members had difficulties in physically accessing formal health care and needed closer health services. For example, one clinician said that he targeted industrial set-ups such as the Kenya Cashew-nut Factory. Another clinician recounted how the community requested him to set up a clinic within a Bamako initiative building instead of treating people from his home. Private

practitioners also mentioned that there was less competition in these areas. One respondent said: *"...I wanted to start a clinic in an another area 30km north of Malindi but I changed my mind since there was competition there and I was not known in the area"* All these issues suggest a need for a market for their enterprise.

3.4.7. Challenges, advantages and disadvantages of operating PCs

Current challenges and those experienced while setting up clinics varied with the settings of the PCs. An outline of all these challenges and the corresponding coping strategies are presented in table 16. However, in two clinics, PPs said that there were no great challenges experienced while setting up since they had the money and had prepared adequately. They further responded that not even the administrative agencies (the DHMT& local administration) posed any challenge to their establishment since they had worked together while in the public sector.

The challenges outlined in the table below are clearly linked with the coping strategies in the second column. In summary, the major challenges PPs face are: financial constraints as a result of the low socio-economic status of potential clients and competition from other providers. This possibly leads to selection of geographic site of PCs to minimize direct competition with existing health facilities. Choice of sites away from other providers may produce difficulties in access. Other problems included ethnic and gender discrimination; and unrealistic expectations of the potential clients.

The coping strategies employed seem to reflect long term as well as short term plans. An example of a long-term strategy to overcome financial difficulties is by one practitioner who was in the process of acquiring a loan to buy a solar powered refrigerator to offer MCH services for the community. A short-term strategy is not stocking expensive drugs in view of the inability of clients to afford them. As one PPs remarked *"one dose of Artenam injection is about kshs 1050. There is no way a patient can give me kshs 200 and expect such a drug"*. An overall concern that emerged from the PPs appeared to be the conflict between making a profit and maintaining professionalism. QOC must be an issue in the context of this conflict.

Table 16:Challenges and coping strategies in PCs

Challenges in private clinics	Coping strategies employed
More potential patients but they have very little money.	Seek other sources of funding and offer credit
Low client turn out	Do not stock the most expensive drugs
Competition from other providers	Try to expand services to capture more clients
Low understanding of different health care services by the locals.	Educating the locals on health care delivery
Unrealistic expectations of potential clients regarding costs and treatment	Hard work and good communication
Some community members do not want to be treated by a woman.	Develop an understanding and trust with the community members.
Lack of proper medical equipment	Seek to acquire loan facilities to acquire equipment
Poor roads leading to the PCs.	Use of lorry tracks from nearby quarry

Responses on challenges seemed to overlap with the disadvantages of operating PCs. For example, at times clients do not understand why they have to pay more money to the same clinician who treat them in GOK facilities when they visit PCs. Private practitioners also argued that the extra work required in running a PC prevents PPs from having time to interact with the wider community. Finally, since PCs are a solo enterprise, the chances of acquiring adequate equipment are limited by financial considerations. This means that PPs will take time to match the services offered in the public health sector

From the PPs perspective, working as a for-profit provider in a rural area has its own merits too. Compared to those in the GOK facilities, private practice generates a higher income. It provides greater autonomy, professional satisfaction and geographic stability than government postings.

3.5.Compliance and non-compliance

Table 17 shows the number of drugs that were administered and whether patients complied or not. Non-compliance included failure to take drugs or failure to take drugs in the amount and regime advised. The purpose of assessing non-compliance per drug was two fold: to determine whether multi-dose regime has an impact on non-compliance of drugs, and to identify any existing patterns of non-compliance for particular drugs. Although the percentage is calculated from a small number of those given each drug, they still indicate the extent of compliance.

Table 17 shows that for all AM drugs given, compliance was about 88%. For AP compliance was about 86%, while 74.6% complied with all the injections. These results indicate a high compliance with AM and AP. However, 39/54 of those dispensed SP drugs recalled correctly but 48/54 complied. The additional compliants may possibly have relied on the information on the drug package as a reminder.

For those who did not comply, reasons for non-compliance was sought and Table 18 is a summary of these reasons. The total number of responses was 58. The table gives the frequency of each reason against the total number of responses for non-compliance. The most common reason for non-compliance was discontinuation because the child felt better (21/58). Other reasons include misunderstanding the clinician or the fact that the patient was never advised on how to administer the drugs.

From the provider's point of view, non-compliance is a function of a strong belief system on traditional healers. For example one respondent said: *"....as a result of the belief in " Mburugha*"(*meaning a traditional healer) *a patient will be forced to discontinue treatment. If parents are strong believers in"Mburughas", they will consult one when the consultation fails to heal the patient, then he or she will come back for the course prescribed".* Other reasons PPs gave were the patient's perception of the seriousness of the conditions; ignorance; a "don't care" attitude of most patients; and illiteracy.

Table 17: Drug compliance and non-compliance by patients

Drug type	Proportion of drugs which caretakers complied with n (%)	Proportion of drugs which caretakers never complied with n(%)
ANTIMALARIALS	**72(88)**	**9(12)**
SP drugs	48/54 (88.9)	6(11.1)
Amodiaquine	17/19(89.5)	2/19(10.5)
Quinine	4/5(80.0)	1/5(20.0)
Chloroquine	2/2(100)	nil
Artemisinin preps	1/1(100)	nil
ANTIPYRETICS		
Paracetamol	53/62(85.5)	9/62(14.5)
ANTIBIOTICS		
Amoxycilin	19/21(90.5)	2/21(9.5)
Ampicilins *		
ANTI-AMOEBICS		
Flagyl preps.	19/21(90.5)	2/21(9.5)
Others		
Trihistamines	22/26(84.6)	4/26(15.4)
Multivitamins	19/21(90.5)	2/19(9.5)
Septrin	18/18(100)	nil

*Compliance information for those given ampicilins was not available during follow up

Table 18: Reasons for non compliance

Reasons for non-compliance	Frequency	proprotion %
Child felt better thus discontinued drug	21/58	36
Misunderstood the clinician/ was never told	15/58	26
Child refused to eat /was vomiting/became more sick/ worse or traveled	9/58	16
Forgot to give drugs	8/58	14
Missing data	5/58	9

3.6. Treatment seeking patterns and reasons for private clinic use

During the follow-ups, caretakers were asked to give the actions taken in order of occurrence in the event of the fever episode observed. A summary of the patterns is presented in Table 19.The table shows that for all those who visit PCs for treatment, the first option for care seeking in febrile children was biomedical as opposed to biocultural. Biomedical in this case refers to any formal set up where drugs can be procured including shops. Biocultural refers to any form of traditional remedy used for treatment. Table 19 indicates that there exists a multiple choice for caretakers, and that a large proportion still uses shop bought drugs as the first option.

During the exit survey caretakers were asked to give reasons as to why they preferred to use particular PCs for the episode that was observed. The results have been summarised in the table 20. The total number of responses was 121. The table gives the frequency of with which each response is given for purposes of ranking in order to determine the most frequent reason for preference of PCs.

Table 19: Treatment seeking options (n=91)

Treatment seeking patterns*	**Frequency** **n**	**Proportion** **%**
Shops bought drugs-private clinics	40	44.0
Private clinics	34	37.0
Government health clinics-private clinics	6	6.5
Other-private clinics	5	5.4
Community health worker –private clinic	3	3.3
Traditional herbal remedy-private clinics	1	1.1
Private clinic-government health clinic	1	1.1

Table 20: Reasons for private clinic use.

Reasons for private clinic use	Frequency	Proportion %
Nearest clinic and child was in a serious condition	47/121	39
Good services and drugs	22/121	18
Family influence	12/121	10
Offers credit	9/121	7.4
Past experience and personal choice	7/121	6
Fast services and avoid long queues in public facilities	6/121	4.9
Examination and follow up	5/121	4.1
Cheaper services	4/121	3.3
Friends influence/.shopkeeper advice	4/121	3.3
Related with clinician	1/121	1.0

Easy accessibility to the PCs determined frequent use. Accessibility in terms cost of services may be the only hindrance to care. Although it appeared four times as a reason for PCs use, this was not clear whether it was in comparison to public health facilities or not. In addition, PPs argued that good interactions with the patients (good communication and examinations) encourage patients to visit PCs. This points to interpersonal care playing a central role behind PCs use. Private practitioners were asked to estimate service coverage of their clinics. Results suggested that most PCs served a certain catchment area with a few patients who occasionally came from far. The type of clients varied with the medical conditions and socio-economic status but majority comes from poor families.

CHAPTER FOUR: 4.0 DISCUSSION

The literature suggests that routine data are lacking on the characteristics and performance of the private providers which households frequently patronise (Pannarunothai and Mills, 1998). The paucity of data on the characteristics of PPs (Ferrinho *et al.*, 1998) and the legitimate concerns over the quality of diagnosis, treatment of malaria and patient adherence to treatment in the PHS (Brugha, *et al.*, 1999), underlies the importance of research in this field. In addition, little is documented about the impact of PPs work and about appropriateness of the care they provide (Thaver *et al.*, 1998). The increasing debate on their role in low and middle-income countries suggests the need for studies to help identify quality problems. This study was designed to contribute to this gap.

Against this background the study aimed at providing a description of the nature of PCs health care. This was done with specific reference to treatment of febrile illness in a malaria endemic area. Before embarking on the discussion worth mentioning are the problems expected and experienced in the course of the study. The collage in (Fig 9) is an attempt to illustrate potential sources of opposition from PPs and other problems experienced by PPs. Refusal of PPs to participate in the study was expected. However, only 3 out of 10 operating PCs did not participate in the study. Another problem expected was retracing carers interviewed at clinics for follow-up interviews in their homes. This was only a problem in 2/92 of cases. A further five cases were not followed up because of difficulties in observations of drug administration at the clinics.

4.1 QUALITY OF CARE IN PRIVATE CLINICS

4.1.1.Structural features in rural PCs.

Limitations of structural features in rural PCs influence accessibility to effective clinical care. Structural features to be discussed will include types of health care services provided by PCs, characteristics of staff, physical infrastructure (drugs stocked, equipment present) and management of these services (physical access and cost).

PCs in this malaria endemic area were generally small clinics that offered curative services. An explanation for this is that PPs are profit oriented, and therefore involvement in preventive services - which has no immediate financial reward - is not attractive. It is also clear that PCs in this rural area were a solo enterprise, set up in rented premises from an individual's resources. Initial capital costs required to set up private practice make PPs unable to own premises and acquire drugs and equipment at the same time. Offering curative services only, operating out of rented premises and lack of initial wide range of drugs and equipment may be considered as structural limitations to accessing effective clinical care.

None of the PCs was staffed by a medical doctor. All but two of the PPs had worked in GOK facilities before going private. Reasons for going private point to dissatisfaction with the management of the public health sector (see Table 15). It also points to a lesser extent to changes in policy regarding private practice. Clinical staff were of varied professional cadres. This may not in itself limit effective clinical care but it might indicate knowledge gaps. Such gaps would

compromise clinical care, particularly in a context of infrequent updates on current treatment protocols. Support staff varied in terms of educational levels and perform various duties (see Table 2). A higher proportion of support staff without formal qualification possibly indicates the influence of financial constraints in private practice: better-qualified support staff would require better remuneration. Although PPs stocked a wide range of drugs (see Table 4), deficient information locally and nationally on their efficacy, and their safe and economical use, is a problem marker for quality care.

Physical access is one aspect of management of services. PCs were generally located in trading centers and operated between 9.00 AM and 5.00 PM. This meant that they are usually accessible to the rural population, even for emergencies. The latter occurs in cases where the PPs reside near their clinics. Physical accessibility was also supported by reasons behind PCs use (Table 20). On organizational access, issues such as language barrier, waiting time and availability of a female clinician are not likely to be a problem. The former is supported by PPs being members of the local community with a few differences in dialect. Physical access to PCs therefore does not appear to be a limiting factor for accessing effective clinical care. What appears to be of greater importance is cost. This is indicated by problems of payments by clients (see section 3.3.7).

Comparing structural features with those observed in other studies, similar results have been observed. In Malawi, a typical PCs has a single practitioner, located in a

township or trading center (Ngalande Banda and Walt, 1995). Poor overall structural features have been observed in Tanzania in terms of equipment and supplies (Gilson and Mkanga, 1995). In Bombay and Nigeria, problems with structural quality has been found to compromise quality care (Yesudian, 1994; Ogunbenkun *et al.*, 1999).

4.1.2.Process dimension of quality of care in rural PCs

Structure provides opportunity for care but does not guarantee it. Critical to receiving effective care is the process of interaction between the clinician and client, as discussed in this section.

a).Clinical care

Discussions on clinical care in PCs will help us answer the question of effectiveness of accessed structural features. For all reported fevers treated in PCs, a high proportion of diagnoses (62%) was consistent with history. This, when compared with 3.3% of those diagnoses that were inconsistent with history, indicated that PPs were able to diagnose malaria accurately (section 3.3.8). This could be explained by experiences acquired through working in an endemic area where fevers due to malaria are common. The response from one PP that *"if you cannot diagnose a malaria case from this area then you have no business working here"* supports this assertion.

A summary of appropriateness of treatment given (Table 13), showed that 54% of those prescribed AM was done in accordance with IMCI guidelines, as opposed to 23% which was inappropriate. For the latter case, it meant that these AM were not recommended as first line drugs, or PPs chose drugs that were no longer in use. About 41.2% of those prescribed AB was in accordance with IMCI guidelines as opposed to 28% that were not.

Regarding assessment of dosages and regimes, results indicated that about a third (36% of AM dosages and 33.3% of the regime) of all AMs were incorrect. In about 57%, PPs dispensed AB in accordance with IMCI guidelines as opposed to 13-19% of those that were inappropriate. This showed that despite the ability to make a diagnosis that is consistent with history, PPs exhibited deficient patterns in dispensing. While trying to validate the problem of knowledge and competence in managing conditions, an interview with the DHMT suggested that they are as good as those working in GOK facilities. Private practitioners have a potential of mismanaging cases due to poor updates coupled with the fact that some of them were trained long time ago: A DHMT member said *'.... They could be old and rusty'*.

Unfortunately, there is no similar data on the public health sector for comparisons. Nevertheless, the above findings suggest there is a need to improve clinical care in PCs. Knowledge and lack of proper updates on treatment guidelines may be responsible for the problems outlined. This was noted when PPs expressed the need for the government to provide them with frequent updates on management of cases.

These prescription patterns continue to indicate the setbacks in promoting rational drug use patterns destined to reduce adverse drug reactions and AB resistance (Le Grand *et al.,* 1999). More generally, these findings may indicate the need to integrate PPs into IMCI interventions. Improvement on the correct choice of AM may be the starting point to improved quality care in treatment of malaria.

How does this compare with other studies? Although the focus and methodologies of studies used for comparisons may be different, they will be useful in relating PPs behaviour from different settings. Results on diagnosis from other settings suggest similar trends with this study. In Karachi for example, PPs reached standard care for diagnosis in (56.4% of the cases observed; in 1.5% of cases, diagnosis was completely inconsistent with symptoms). In addition, 60% did not receive standard care for treatment. The assertion that PPs reach standard diagnosis more often than they provided standard therapy is also reflected in this study (Thaver *et al.,* 1998). In Tlaxcala, Bojalil *et al*, (1998) compared quality of public and private health care in the management of acute respiratory infections and diarrhoea. They found a problem with AB prescriptions: 66% and 30% of all cases in the private and public health sector respectively made an incorrect prescription of an antimicrobial.

b).Interpersonal care

On interpersonal care, results presented in table 14 show that PPs exhibited good interpersonal care. This may be one factor that reinforces patient's utilisation of PCs despite higher charges compared to GOK facilities. For example, in 98% of the cases PPs exhibited adequate listening skills, in 88% they gave their carers

adequate time to explain their problem. Adequate time given to patients may be attributed to lack of queues in most PCs where observations were done. This translates into less waiting time which carers gave as one reason they visited PCs. The average consultation time (15.40 minutes (95% CI 13.44-17.36) serves as an indicator of patient care and is further proof for adequate time. Good attitude (89%) is also an indicator of the sensitive nature of the PPs, and was expressed as a coping strategy to attract more patients and maintain client loyalty.

Table 8 indicates that PPs rarely checked the patient's understanding on drug administration. This may not be unique in PCs but since PPs in this set up do dispense drugs, further improvement of their dispensing and communication skills will probably help curb compliance problems (see section 1.2.4). Private practitioners gave information on diagnosis more frequently (in about 86%) but information on future disease prevention (9.8%) and disease outcome (12%) were rarely given. Private practitioners are profit oriented who tend to focus on curative aspects rather than preventive. They are primarily concerned with providing symptomatic relief through curative care with little role in preventive interventions. This has been argued out elsewhere as an impediment of the PHS towards improving health as a whole (Uplaker, 2000).

Again comparing this with other studies, PPs in Karachi gave explanations in 40% of the cases and in 56% they gave behaviour modifications advice. They showed excellent manners through their greetings (42%), their polite approach (89%) and general interactions (55%) (Thaver *et al.,*1998). In Mexico, counseling to the

mother in both the private and public health sector was found to be inadequate. Mothers were given advice on the recognition of alarm signs in less than half of the cases of diarrhoea amongst PPs (37%) and in public providers (43%) (Bojalil *et al.*,1998). In Trinidad and Tobago, interpersonal care was affected by extremely high levels of poor communication and patient dissatisfaction in the public health sector (Daphne, 1996). Again all these studies tend to support findings in this study.

In summary, there is an imbalance between effective clinical and interpersonal care. The QOC framework (Fig. 2) identifies clinical care and interpersonal care to be of equal importance. However, the discussion above depicts more problems in the clinical care category compared to interpersonal care. Process dimension is an important indicator of quality care because it is essential in determining the process outcome (Campbell *et al.*, 2000).

4.1.3 Outcome dimension of quality of care

The literature on outcome identifies two categories. Process outcome and patient end results. Interaction between the two categories is complex. It is therefore not possible to explicitly link patient health status with the care offered. Nevertheless, its mention is an attempt to describe QOC comprehensively. In this study, outcome dimension will cover compliance, perceived health status of the child and satisfaction.

4.1.3.1.Patient compliance

In this context compliance was assessed with reference to specific drugs. Such as AM. Table 17 shows that in total 88% of those given AMs complied: 48/54(89%) and 17/19(90%) of those given SP based drugs and amodiaquine respectively. Only a small number failed to comply: 6/54(11%) for SP, and 2/19(11%) for amodiaquine. High compliance with SP drugs is probably related to the short regimen. Support for this assertion has been documented, where complexity of medication regimen was observed to be a factor associated with medication errors (Barbara *et al.*, 1976).

In summary, compliance with the PPs advice regarding AMs was not a major problem. For those who complied, responses as to why they did so reflected the desire to restore their children's state of health. For those who never complied, the most frequent reason was discontinuation of drugs because of the perception that the child had recovered (Table 18). This indicated a problem of understanding the biomedical system by the majority of people. Some carers said that they were still keeping the remaining drugs for future use of similar episodes. This possibly points to the persistent phenomenon of self care compounded by tough economic times. The later was observed when one carer said that a neighbour who had a child with similar symptoms and did not have the money to visit formal health care borrowed the remaining drugs.

4.1.3.2.Health status and satisfaction

This study was not designed to explore satisfaction with health care, but a parallel study attempted to explore this issue in detail (Kombe, 2001). It should be pointed out that satisfaction is of relevance because it contributes to the feedback loop in the QOC framework. Satisfaction responses were therefore linked with the health status of the child during the follow up survey.

Regarding health status, carers were asked to describe the status of their children in their own words. In 54% of those patients that were followed up, the carers said that their children were well, 7.6% reported their children were unwell, while 29% of children were said to be recovering. Linking this to satisfaction, it was noted that all carers whose children were perceived as well gave responses that suggested satisfaction with the treatment process. This contrasted with responses given by those whose children were either recovering or unwell. Worth noting is that it is difficult to link the mother's perception of the child's health status with the care received since the natural history of the condition may influence outcome.

4.2.FACTORS AFFECTING QUALITY OF CARE

Discussions on factors affecting QOC in PCs are drawn mostly from responses on challenges, coping strategies and disadvantages of operating PCs. The factors are highly interrelated, but grouped for convenience into three major levels, namely: the macro-economic level covering financial constraints; the patient –provider level covering patient-provider needs and expectations; and the wider national context covering regulatory mechanisms and linkages with the public health sector.

4.2.1 Macro-economic level

At the macro-economic level, the current economic environment has an impact on the nature of care given to patients in PCs. PPs indicated that they experience low patient turn out for two reasons: the low socio-economic status of the local population, and competition from other private providers including 'quacks". This results in PCs being an unreliable source of income for the providers. Private practitioners offer credit to reliable clients as a coping strategy against poor payments, again a reflection of the low purchasing power of the locals. Supporting these comments, informal discussions with PPs revealed that the number of patients increases with a high tourist season or during the harvesting season. In such seasons, patients come with trivial ailments. The remark "*...While I started this clinic here there were more potential patients but there was no money"* emphasizes the problem of financial constraints. It also reinforces the fact that cost may limit accessibility to clinical care.

Such constraint affects all the dimensions of QOC. Structure will be affected at two levels, availability and management of resources. For example, PPs argued that poor payments has made them lag behind in expanding their facilities to offer MCH/FP services. This may also explain the reason why PPs do not stock expensive drugs (Table 4) or absence of basic equipment such as a weighing scale in some clinics (Table 3). On management of resources, poor record keeping can be cited. During the assessment of standards of clinical practice, it was noted that certain records were illegible while others were not recorded at all. This could be considered either as poor management, or as a coping strategy. The latter was noted

when one PP said that he does not write all the clinical records for fear of being harassed by the revenue collection authority. This suggests tax evasion as a coping mechanism against financial constraints.

Financial constraints also affect the clinical care. For example, in all the encounters observed, 64% of the prescriptions had an injection. The average number of injections per prescription was 2.17 (95% CI 1.74-2.54), and ranged between 1 and 6. For every follow up for an injection, an extra fee of Kshs 40-50 was charged. Treatment by injection is always more costly than oral treatment. The price of the drug is higher for an equal dose of effective, active substance. This possibly explains why the number of injections prescribed could be viewed as a strategy for more income. In Karachi, similar sentiments were expressed by PPs who offered a number of medicines to justify their fees (Thaver *et al.,* 1998).

4.2.2. Patient and provider needs and expectations

Patient expectations and the provider's needs may play a significant role in determining the QOC offered. This may impact on the effectiveness of two arms of the process dimension: clinical and interpersonal care. Table 16 indicates that patient attitudes and expectations are a second major challenge for PPs after financial constraints. Real or perceived patient pressure may interact with the provider's needs to influence the treatment process.

Regarding its effect on clinical care, PPs agreed that patients prefer providers who treat them nicely and concentrate on their medical problem. One PP remarked:

"talk to them nicely ...not like in the government sector where clinicians write as one is talking". Another remarked *"Talk to them nicely, and at the end of the talk do not miss giving them an injection. Even if it is not necessary you can give them an injection for multivitamins on that day and then give the right treatment'*. The belief of patients' preference for injections, good interpersonal care and the need for PPs to make a profit from the PPs are seen as factors that interact to determine provider behavior during the clinical encounter. Experts have argued similar issues where high use of injections has been partly attributed to pre-conceived ideas about prescribing injections among health workers in either sector (Reeler, 2000).

Another factor that may influence effectiveness of clinical care is patients' knowledge and understanding. One respondent said that the locals do not differentiate between a private for profit facility and a GOK facility. Supporting this was the remark: *'they come with Kshs 30 or Kshs 20 and expect to be treated with very expensive drugs"*. The danger lies when the provider offers sub-standard care to make a profit because the carer/patient is unaware of the standard treatment. Another PP remarked: *"First one has to be cunning in pricing because everybody knows the cost of aspirin. For example, you cannot charge kshs 20 because you are the doctor. If you do so he may pay but next time he will not come*'. This suggests the provider's potentially exploitative approach in treatment where client knowledge is poor.

One practitioner expressed concern over gender discrimination. *"....they [referring to community members] say that they cannot get treatment from a woman'*. Some

community members also complain about clinicians from ethnic sub-groupings other than their own (but within the Mijikenda community). Such a situation might influence acceptability and user attitudes, subsequently affecting future decisions of access. Similarly, this might influence compliance with medication and patient expectations of the treatment.

Generally, these results fit well with other studies. Regarding communication skills, PPs seem to reinforce patient confidence by acting kindly. For example, patients in Trinidad and Tobago claimed that they were treated better in PCs than in public health facilities even when the same doctors attended them (Daphne, 1996). In Mexico, prescription of drugs have been influenced by patient expectations and demands in the treatment of diarrhoea and respiratory inspection (Bojalil *et al.*, 1998). Private practitioners perceptions of and reactions to patient expectations might influence QOC in diverse ways: increased interpersonal care and decreased quality of clinical care. It is therefore possible to learn from PPs on interpersonal care but to suggest further improvements in their clinical care.

4.2.3. NATIONAL LEVEL POLICIES

4.2.3.1.Regulatory mechanisms and enforcement

It has often been said that poor regulatory and enforcement frameworks are partially responsible for quality problems in the PHS (Kumaranayake, 1997). For example, the factors influencing the ability and willingness of PPs to manage a suspected case of malaria are: the prevailing policies and proper enforcement of regulations; access to resources such as new general guidelines and diagnostic services; and professional knowledge (Brugha and Zwi, 1998). In this study it was

found that many of the existing regulatory mechanisms focus on legislation through the process of registration and licensure of PCs. Minimum standards are set which each establishment must meet before it is allowed to practice. Nevertheless, these minimum standards are poorly enforced (section 3.4).

The DHMT are endowed with the role of ensuring that all standards are met before PCs are allowed to operate. Concessions exist (section 3.4.1), revealing possible loopholes where quality may be compromised. Individuals who desire to cope with what are often extreme discrepancies between expectations and realities may take advantage of the less underscored features of the Act. Such aspects were noted where government employees are allowed to operate PCs under someone else's license, and the operation of PCs before licensure. These aspects are likely to impact on inputs such as drugs, personnel and medical equipment, which will then affect effectiveness of clinical care measured by outcome.

After the clinic is allowed to operate, the legal framework requires that the PCs be regularly checked to ascertain QOC. Discussions with the DHMT revealed that the enforcement of this legislation has shortcomings. For example, failure to re-inspect facilities before renewal of licenses and the observation that local authorities give trade licenses without the knowledge of the DHMT are prevalent problems (See Fig 10). This indicates poor co-ordination in policy issues and points to problems of multiple agencies with diverse interests being involved in regulation. Another impediment is insufficient resources for proper enforcement (see section 3.4.2).

The above issue reflects little knowledge about the effectiveness of the structural features in PCs: staff employed; drugs stocked; equipment used; and how clinics are managed. For example, lack of regular inspection of PCs may encourage PCs to stock drugs whose efficacy is unknown. The chances are that this will influence the effectiveness of clinical care in PCs. A good example is the continued use of chloroquine, which was recorded during the observations. Such occurrences are indicators of poor policy implementation at the grass roots level. If proper treatment is not given then the process outcome will be influenced. Arguments have been put forward that though poor regulatory mechanisms may influence both sectors, the PHS is worst hit since they rarely work under any peer review, or have any day-to day interaction with professional colleagues. This makes it difficult to keep up to-date recent advances in medical knowledge (Bojalil *et al.,*1998). They are also unlikely to have contact with current literature and to have fewer incentives to shift their behavior towards good practice (Brugha and Zwi, 1998).

This study fits well with other studies that have looked at the role of regulation in the PHS. In Tanzania and Zimbabwe, Kumaranayake *et al.,* (2000), identified that regulation focuses on licensure. The restrictions work through setting minimal level of quality and through registration for all hospitals and clinics. Though poor regulatory mechanisms are known to have profound effects on quality of clinical care, effectiveness of such mechanisms remains a key area of concern (Kumaranayake *et a.,* 2000). In Zimbabwe, for example, regulations are not enforced effectively. Problems noted include existence of outdated regulations, existence of multiple enforcing agencies and insufficient resources (Hongoro and

Kumaranayake, 2000). Like in Nigeria, it should be noted that the expanding private health care market could overwhelm the existing regulatory capacity, making quality control difficult (Ogunbekun *et al.*,1999).

4.2.3.2. Private –public health sector linkages and interactions.

Another factor related to the wider national context is the existing linkages and interactions between the two sectors. Little is written about how the two sectors interact (Aljunid, 1995). In this study, referrals, inclusion of PCs as centres of immunisation, supply of STI drugs to selected clinics and provision of manpower were considered as aspects of public-private health sector interactions in addition to regulatory mechanisms. These factors influence clinical care and outcome.

The study noted that the existing interactions are limited by profit making motives of the PPs. Data from section 3.2.3 indicates that the existing interactions are marred by flaws. For example, the DHMT pointed out that the PPs are said to delay referral of patients. One member said: *'.... They try to do as much as possible [to treat patients] even when they are in reality doing nothing...".* Secondly, at times PPs do not provide details of the referred cases, that forces GOK clinicians to treat such conditions as fresh cases. Such problems influence clinical care effectiveness and process outcome. For example, the referrals may be put on new a regimen of drugs. Since there were no proper records accompanying the patient, there is a possibility of adverse drug reactions, overdosing and contraindications. This will delay symptom relief and satisfaction hence impacts on the overall QOC.

Public health sector clinicians that occasionally offer their services to PCs is another form of interaction noted. All the practising practitioners were found to be GOK employees. One unique feature was that certain clinics hired services of trainees. In one clinic, a first year laboratory trainee from a local polytechnic was found carrying out laboratory procedures as her part time work, while in another clinic, the practising practitioner was a CO trainee on holiday, standing in for the owner who operates another clinic about 5 km away. Such practices may hinder effective clinical care since there lies a potential problem of quality control for such personnel who work under no peer supervision.

Noteworthy is the fact that interviewees suggested more interactions for both sides. Private practitioners for example, mentioned the need for more training either through frequent seminars or updates on certain medical conditions. This would enhance better care and further the existing interaction with the public health sector. Another dimension identified for enhancing the private-public interactions was the need for co-operation for immunisation programmes and delivery of family planning services. All these indicate the need for development of policies that will guide public-private health sector interaction. The overall impact will be a more efficient health care system.

Studies that have examined interactions have documented varied results. Studies that have observed similar results are those that have examined interaction in terms of regulation (Yesudian, 1994, Aljunid, 1995). Others have examined interaction in terms of investigation and specialised care (Lachman and Stander, 1991). In some

cases the public health sector has been viewed as a source of manpower "after office hours" (Ngalande Banda and Walt, 1995; Yesudian, 1994). In Nigeria, public institutions rarely engage the services of registered PPs (Ogunbekun *et al.*,1999): Patients cannot be referred from public facilities possibly because of perceptions of problems in quality, or the view that the PHS competes for trained workers with the public health sector.

4.3 Proposed framework for understanding factors affecting QOC in PCs

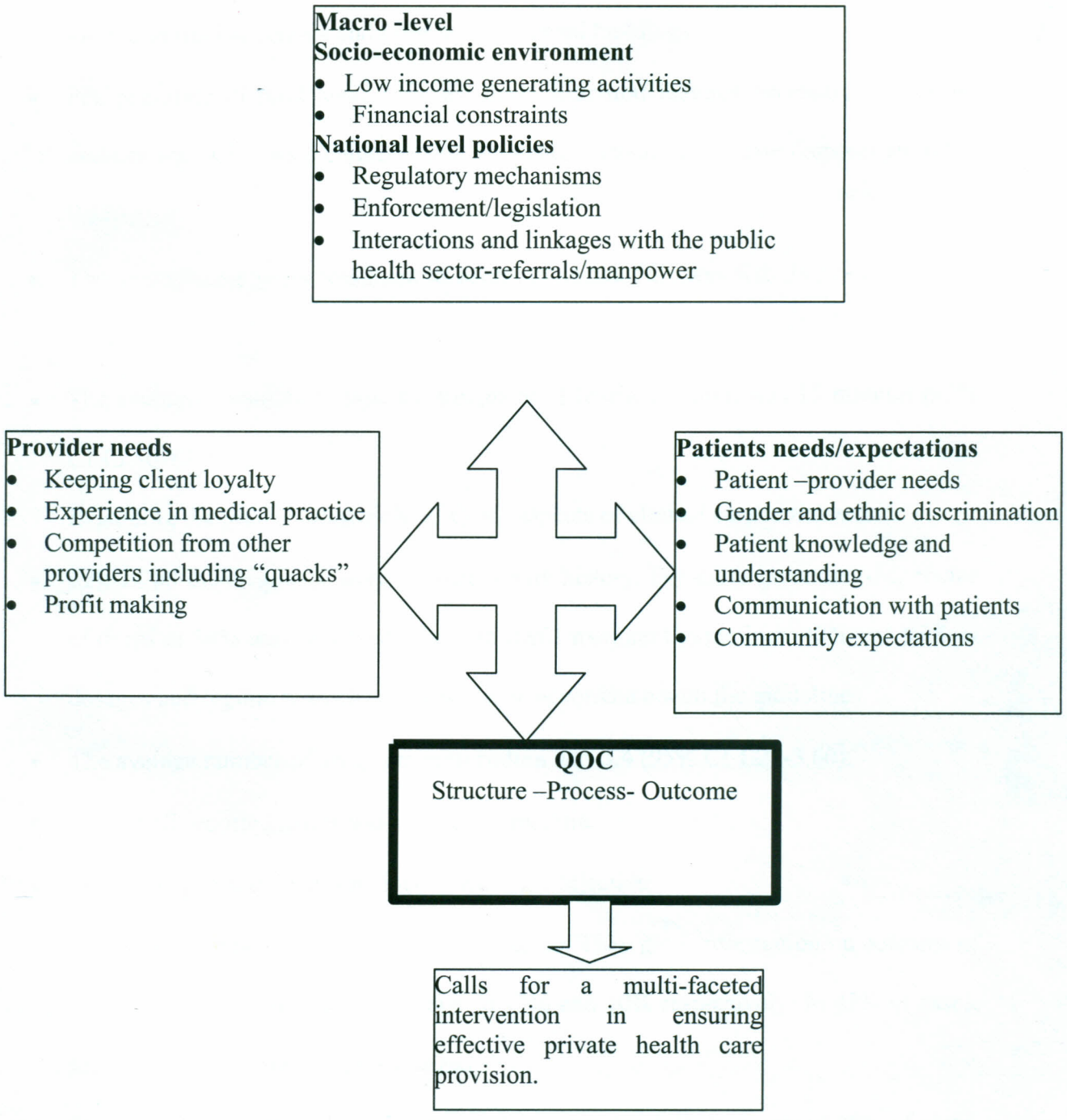
Finally, factors affecting health care delivery through PCs concur with the model proposed by Brugha and Zwi, (1998). It supports the view that a multi-faceted approach in intervention strategies is vital for effective health care delivery through the PHS. Figure 10 is a proposed framework for understanding factors affecting QOC in rural PCs. This framework sets the system-based model of assessing QOC within the context of broader local, national and international influences, and facilitates identification of specific points of intervention.

Methods of measuring QOC are not standardized and depend on the focus of the study (Campbell *et al.*, 2000). It is clear that interrelationships between different dimensions of QOC is complex making it difficult to rate quality care without specified indicators from each dimension. Even after identifying the indicators, the criteria for doing so is further complicated by different perceptions of what QOC is by various stakeholders. For example, if a patient is able to access a well-equipped private clinic but receives the wrong drug dosage for the reported symptoms (clinical care under the process dimension), has that patient received good quality care? What if the patient is unaware that he/she has received the

highly satisfied with the drug and general service received (Campbell *et al.,* 2000). Answers to these questions illustrate the difficulty in defining quality of care. However, in this study this problem has been overcome to a large degree by describing various dimensions of QOC, which has enabled a range of deficient aspects to be pointed out. Such discrepancies are vital in acting as problem markers for addressing problems in health care delivery.

All these factors discussed at each level do not influence QOC in isolation. The complexities with which they may interact at any one point will influence structure, process or outcome. This can either be concurrently or in isolation. But since the system-based model provides for a linear linkage, one affected dimension will trigger problems in others. Depending on how all of these factors interact, they will determine whether or not quality care is given. The effects will be felt at the individual level as poor outcome of treatment, as well as at the population level as the disease burden.

Fig 10: Proposed framework for understanding factors affecting QOC in PCs



CHAPTER FIVE: A SUMMARRY OF CONCLUSIONS.

Regarding structure, findings indicate that:

- Practising practitioners are either a nurse or a CO trained in the public sector. PCs are located in trading centers and operate from rented buildings.
- PPs operating in rural areas have the basic structural features necessary for private practice and offer basic curative care. However, hygiene and waste disposal are often inadequate.
- The average charge for treatment of fevers in a rural PCs was Ksh 240 (95% CI 219-261)
- The average consultation time for treatment of febrile children was 15 minutes (95% CI 13.40-17.22).

Regarding the process dimension of QOC, aspects of clinical care indicate that:

- 62% of all the diagnoses were consistent with history. For those given an AM, choice of drugs in 54% was in accordance with IMCI treatment guidelines. 42% and 57% of dosages and regime respectively was also in accordance with the guidelines.
- The average number of drugs per prescription was 3.4 (95% CI 1.20-3.60).
- 72% of all reported fevers were treated as malaria.
- 64% of all prescriptions contained at least one injection.
- PPs gave diagnosis to patients in 86% of cases. They gave information on outcome of disease and future disease prevention in 12% and 10% respectively. In 42% of cases, follow up was appropriately organized.
- On interpersonal care, PPs were observed to listen carefully to carers in 98% of cases, and to give patients adequate time to explain their problems in 88% of cases.

Regarding outcome, results show that:

- 88% of all those given AM and 86% of those given AP complied with the PPs instructions.
- 54% of those patients followed up were reported to be well, 7.6% were said to be unwell and 29% were said to be recovering.

Factors that seem to promote good quality care include:

- Availability of structural components. For example, equipment for diagnostic services provides an opportunity for access to clinical care; Geographical location of PCs in most trading centers and availability of credit facilities enhances access to health care, contributing to prompt clinical care.
- Good interpersonal skills are enhanced by the need to maintain client loyalty and to overcome competition amongst private providers.

Those factors that tend to diminish chances of providing QOC include:

- Financial constraints experienced by PPs.
- Lack of access to on going training, inadequate regular updates on current treatment guidelines and inadequate interactions and linkages with the public health sector.
- Due to expansion of the PHS and reduction in district level resourcing, the current regulatory mechanisms are unable to adequately monitor and maintain QOC in this sector.

5.1 Conclusions

Generally, the study fits well with studies on for-profit providers carried out in other developing countries. However, there are difficulties in defining quality care because of irreconcilable differences of the perceptions of various stakeholders on what constitutes good QOC. Measuring QOC requires identifying indicators that are context specific, and that encompass the perspectives of all stakeholders in the health sector. This has been achieved to a great extent in this study. This study has also alluded to some specific approaches to meet the challenging recommendations outlined in the KHSSP.

Rural PCs of a malaria endemic zone are clearly an important channel through which febrile illnesses can be effectively treated. One overall study conclusion is that there is need to consider the involvement of for-profit providers in the implementation of the IMCI guidelines in Kenya. In addition, PPs should be formally involved in malaria interventions and research which will optimize control activities in developing countries. There are potential quality problems, which can be addressed through multiple strategies which need to be adapted to the prevailing social-economic context. If well strategised, such interventions have the potential of improving health care delivery through the PHS. This will then translate to an evolution of an effective and efficient health sector.

CHAPTER SIX: POLICY IMPLICATIONS AND RECOMMENDATIONS FOR FURTHER RESEARCH WORK.

Although policies should be geared towards enhancing factors that promote good QOC or policies that discourage poor QOC, current economic constraints may hinder comprehensive implementation of such policies. Hence, a piece-meal approach in policy development to address problems may be germane. Some of the policy implications of this study are:

- There is need for increased interaction between the public and private health sectors. This may begin by putting in place mechanisms of improving knowledge gaps. One such mechanism might be to give updates to PPs on current treatment guidelines. This would require guidelines to be adapted and distributed to reflect local realities, accompanied by intensive PPs training. Strategies to monitor, revise and involve institutional support on standard guidelines would be put in place at the planning stage. Institutions involved may include professional bodies, GOK facilities and other health development partners. Another mechanism to improve knowledge gaps might be to organise periodic forums to discuss clinical cases through workshops and seminars where peer discussions can be held between PPs and GOK providers. Other strategies might include: incorporating more PPs in preventive/promotive health service, establishing an efficient referral system between the PHS and the public health sector; and an efficient information system to enhance interaction between the two sectors.
- There is need for effective regulatory mechanisms to maintain quality. One approach might be to insist on periodic re-training with special attention to regional disease patterns before licenses are renewed. More fundamentally, PCs QOC improvements

may be introduced and maintained by massive restructuring of the regulatory system.

- This will require the regulatory department to be equipped with adequate resources, information systems and personnel. This has been articulated in the KHSSP, but urgent measures in resource allocation to undertake capacity building in the department of health services and standards is emphasised. These resources will also help in amendments of relevant legislation to streamline regulatory activities (Republic of Kenya KHSSP, 1999). An alternative approach to improve regulatory mechanisms might be use of incentives. For example, PPs my be allowed to deliver additional services (such as immunisation) only if they meet a minimum QOC criteria. Such approaches would depend on an operating and efficient regulatory system.
- Nurses and COs working in PCs are an important component of the health service in rural areas. Involvement of PPs in the district health-planning phase for malaria control activities is emphasised.

6.1. Recommendation for further research work

As mentioned earlier on, not all factors that influence QOC in PCs can be tackled at the same time. Potential research areas may take two dimensions: descriptive and operational. Recommendations for research areas with potential applications can therefore focus on the following areas:

- Pilot studies to develop and test ways of improving QOC through strengthened private-public sector interactions, improved case management, and the use of incentives as opposed to increasing regulatory mechanisms.

- To maximize efficiency of regulatory mechanisms and at the same time monitor their impact.

- Strategies to improve structural components of QOC including quality control of drugs and laboratory investigations.
- Descriptive studies on QOC should focus on:

  i). Other actors in the PHS such as traditional healers, and not for-profit providers who are important treatment providers in rural areas.

  ii). QOC offered in PCs in urban settings where a majority of PCs operates for comparative purposes.

  iii). QOC provided in the public health sector facilities.

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APPENDIX Ai

PRIVATE PRACTITIONERS STUDY: CONSENT EXPLANATION FOR PRIVATE PRACTITIONER-

Information given to caretakers during the recruitment session

Since 1989 the KEMRI unit in Kilifi has worked closely with the hospital. KEMRI is an organisation responsible for carrying out medical research in Kenya. The aim of all KEMRI's work in Kilifi district, in the hospital and community is to help understand the health problems of people in the district and help improve services available for prevention and treatment. We are seeking consent from caretakers to observe the consultation process febrile children in rural PCs . If you accept to be involved we will also follow your child late at unspecified time to observe how he/she faired with treatment.

Information for PPs

Private health facilities play a significant role in the treatment and management of febrile illnesses amongst children in this area. This sub sector of health is vital in contributing towards better health for both rural and urban people.I am an Mphe research student from Kenyatta university undertaking a study on what people do after visiting a private health facility. We hope that this information will be useful in deciding on how to improve patient compliance with treatment schedules. Your contribution to the research will be useful in working towards an understanding of this sub-sector. We would therefore very much appreciate your assistance in the study.

The study will involve:

I) Observing and listening to patient-clinician interactions

ii) Interview some of the observed patients when leaving the clinic and at home to try and identify compliance.

iii) Meeting with private practitioners to discuss the nature of their work, opportunities and difficulties they face.

Should you agree to participate we assure you that anything you tell us will be treated with utmost confidence. No information will positively identify you in the reports or publications. All correspondence regarding the research should be directed to TIMOTHY ABUYA C/O OF ZOOLOGY DEPARTMENT KENYATTA ŲNIVERSITY P.O BOX 43844 NAIROBI. If you have any question on our study feel free to ask now or during the interview. You are also free to discontinue with the study at any point.

If you agree for participation in the study you will be required to sign the section below.

The implications of the voluntary participation, nature duration and purpose of the study, the methods and means which it will be conducted have been explained to me by the research student.

Thank you in advance

Signature of the research student----------

Signature of the practitioner----------

Date ----------

APPENDIX Aii

PPS STUDY :OBSERVATION OF PPS

PART ONE:IDENTIFICATION

CLINIC CODE. [__][__][__][__] STUDY.NO. [__] [__] [__] [__]

Name of observer_____/_____/_____

Date of observation _____/____/____

Name of clinician observed_____/_____/_____

Name of sick child_____/_____/_____

Age of sick child_____

Sex: F/M

Time consultation started. [__][__] [__] AM/PM Time consultation ended.[__] [__][__]AM/PM

Time taken_____min

Observation results: 1. Completed. 2 Refused. 3. Incomplete. [___] why?

_____

Checked by Observer ___/____/_____

Checked by Research Student_____/____/_____

Date Coded._____/____/_____

Date Entered_____/_____/_____

PART II CONSULTATION

1.Main presenting complaint

For this section code as follows: D-asked by doctor ,P- volunteered by patient and N- not discussed

Fever [___] .Difficulty in breathing [___] vomiting [___]
Refusal to eat [___] Headache . [___] convulsions [___]
Diarrhoea [___] Abdominal pains [___] Cough [___]
Other *specify* [___]

_____

3.Patient- clinician interaction (code for the numbers in each category)
Time given for patient to explain: 1.Not enough 2.Inadequate . 3 Adequate [___]
Listening ability :1Poor . 2.Inadequate 3 .Adequate [___]
Greeting:1 Poor . 2.Inadequate 3.Adequate [___].
Attitude .1 Poor . 2 Good . 3 . Very good [___]
4. Examination done (*code Y-yes and N – no.* [___]
2.Pulse Rate (hand on wrist) . [___]
3.Respiratory rate observing chest/time . [___]

4.Eyes/tongue/nails/palms . [___] 5.pinch of skin . [___]
6.listening of chest (stethoscope) . [___] 7.put/scale. [___]
8. Check-stand/sit . [___] 9. touch abdomen. . [___]
10.other. [___] *specify*

_____

5.Diagnosis given to patient

_____

6.Supportive management explained to patient

_____

7.Tests recommended (*code Y-YES, N-NO*)
1.BS. [___] 2. urine. [___] 3.X-rays. [___] 4. stool. [___]
5.HB. [___] 6.any other . [___] specify

_____

8.Record down the details of the explanations given to patients about the drugs

drug	Instruction on administration	check understanding (if yes explain)	Dispensed / prescribed

Comments
Any instructions on what to do if child vomits

_____

Record injections given

_____

9. Did the doctor discuss possible disease outcome? Y/N. [___] (*if yes explain)*

_____

10. Did the doctor discuss symptom relief? Y/N. [___] *(if yes specify)*

_____

11. Did the doctor discuss future disease prevention? Y/N. [___] *(if yes specify).*

_____

12.Did the doctor arrange follow up Y/N [ ](*If yes when to come back)*
1.Next day . [___] 2.Day after Tomorrow . [___] 3. Other specify . [___]

13.Did the doctor arrange referral? Y/N. [___] *(If yes specify)*
Any other remarks regarding the interactions between the patient and clinician

---

THE FOLLOWING SECTION IS TO BE FILLED LATER FROM CLINICIANS' RECORD

COPY DOWN THE RECORD OF DIAGNOSIS AND TREATMENT IN THE SPACE BELOW.
DIAGNOSIS: TREATMENT: OTHER MANAGEMENT:

PART IV STANDARDS OF CLINICAL PRACTICE
SECTION ONE :IDENTIFICATION
To be filled after collecting the information from the facility observed with the use of treatment guidelines and help of an independent clinician.

STUDY NO. [___][___] [___][___]

Name of sick child_____/_____/_____
Please circle the possible conclusion reached from the assessment.

A. ACCURACY OF DIAGNOSIS
1.Completely consistent with history

2.Not consistent with history

3.Partially consistent with history

4 . Cannot assess
Please indicate why it is not consistent /partially consistent/ with history or cannot assess

_____

_____

B. TREATMENT GIVEN
FOR Anti-malarial (AM)

Drug chosen:
1 Fully appropriate 2. Inappropriate 3.Partially appropriate
4. Cannot assess.
Please indicate why it is partially appropriate / inappropriate/cannot assess

Dosage recommended:

1 Fully appropriate 2. Inappropriate 3.Partially appropriate
4. Cannot assess.
Please indicate why it is inappropriate/partially appropriate/cannot assess

Regimen recommended
:1 Fully appropriate 2. Inappropriate 3. Partially appropriate
4. Cannot assess
Please indicate why it is inappropriate/partially appropriate/cannot assess

FOR Antibiotics (AB)
Drug chosen
1 Fully appropriate 2. Inappropriate 3. Partially appropriate
4. Cannot assess

Please indicate why it is inappropriate/partially appropriate/cannot assess

Dosage recommended:

1 Fully appropriate 2. Inappropriate 3.Partially appropriate
4. Cannot assess.
Please indicate why it is inappropriate/partially appropriate/cannot assess

Regimen recommended
:1 Fully appropriate 2. Inappropriate 3. Partially appropriate 4. Cannot assess
Please indicate why it is inappropriate/partially appropriate/cannot assess

For antipyretics (AP)

Dosage recommended:

1 Fully appropriate 2. Inappropriate 3.Partially appropriate
4. Cannot assess.
Please indicate why it is inappropriate/partially appropriate/cannot assess

RECOMMENDATION FOR:
FOLLOW UP
1.Necessary 2.Not necessary 3. Cannot assess
(*if necessary then determine whether)*:

3.Appropriate 4. Inappropriate

If inappropriate or cannot assess, please explain

REFERRAL*
1.Necessary 2.Not necessary 3. Cannot assess

(*if necessary then determine whether)*:

3.Appropriate 4. Inappropriate

If inappropriate or cannot assess, please explain

APPENDIX Aiii

PPS STUDY: EXIT SURVEY

BACKGROUND CHARACTERISTICS

This interview is to be carried out after the patient has left the private facility observed. The purpose of this interview is to get information for follow up survey.

CLINIC CODE. [___][___][___][___] STUDY NO. [___][___][___][___]

Name of sick child_____/_____/_____

Respondent Name _____/_____/_____

Relationship to child_____/_____/_____

Name of spouse_____/_____/_____

House hold head:_____/_____/_____

Loc/sublocation/village_____/_____/_____

Direction *(This should be the neighborhood location)*

_____

_____

EZHH NO . [___][___][___][___][___]

SECTION TWO : TREATMENT INTERACTION OBSERVATIONS

Q1. Please tell me what the doctor said about your child's problem.

Diagnosis:_____

_____

Treatment_____

_____

Referral and follow up

_____

_____

Q2.In what ways are the drugs given/prescribed to be administered?

Drug name	How to take(*write what the mother says)*	Prescribed or dispensed	If Prescribed record source

Code for the following Y/N (*indicate whether name of child is written on package*)
Legibility [ ] Drug name [ ] System of instruction [ ] SITE (wrapping paper/health card/book) [ ] Child name [ ]
(If other systems for instructions are written use numbers for coding each new system)

Q3.Are there any management activities suggested by the clinician

Q4. Have you sought help any other place other than this facility for this illness?
(If yes specify)

Q5. Have you been to this clinic before? If yes, how many times, why? *(If no go to Q6)*

Q6.Why did you decide to use this private clinic today

Q7.For how long did you have to wait before you saw the doctor? are you happy about that?

Q8 Are you satisfied with the services offered in this clinic today?

Q9. Are you able to read or write? (*If yes find out whether he/she can identify the instructions written on package)*

Sex of respondent: [F] / [M] Age of respondent:_____Yrs
Occupation: mother_____Father_____
Charges for consultation_____Kshs
Charges for dispensing_____Kshs

APPENDIX Aiv

PPS STUDY: FOLLOW-UPS

To be completed for all those who sought medical attention in the private health facilities. Interview the person who administered the drugs to the sick child.

SECTION A: *Identification*

Interviewer ----------/----------
House hold head name----------/----------
Name of sick child----------/----------M/F
1. Date of birth sick child. __ / __ / __ ___Y___ m (Health card? Y / N)
Name of respondent----------/----------M/F
Relationship to the child----------
Date of interview ___/____/____EZHHN [__][__][__][__] STUDY NO [__][__][__][__]

SECTION B: *The illness*

1.What did you do when you noticed that the child had fever
Circle and indicate order of treatment choice:

Traditional herbal remedy [__] Shop bought drugs [__][__][__][__]
Shop bought but in the home[__] Community health worker[__]
Mganga __] Private clinics[__]
Government health clinic[__] Hospital[__]
Drugs from the hospital but in the home[__]
Drugs from the private clinic but in the home [__]
Drugs from the government health clinic but in the home[__] None[__]
Others [__]

Name and date of visits to the private clinic

Name _____ Date_____
Confirm whether this is the same date in the patient exit survey sheet

SECTION C: Drug administration (interview person who gave the drug)

2. Who actually gave the drugs to the child ? _____/_____/_____

3. During this illness, which drugs were given to the child? e.g. [_SBS__] = *source*

A_____[____]B_____ [___]

C_____[____] D _____ [___]

E_____[____] F_____ [___]

Compare the table from the observation sheet with the one below if they differ ask Q6

Drug name	How to take it	D/P	If P source

5. Table 1. Drug use for fever episode. How did you give this /these drugs?

Drug name	1.	2.	3.	4.	5.
asubuhi mchana jioni usiku	date: _____ ____	date: _____ _____	date: _____ __	date: _____ __ _____	date: _____ ____ __
asubuhi mchana jioni usiku	date: _____ ____ _____ _____ _____	date: _____ _____ _____ _____ _____	date: _____ _____ ____ _____ __	date: _____ _____ ____ _____ __	date: _____ _____ _____ _____ ____
asubuhi mchana jioni usiku	date: _____ ____ _____ ____ _____ ___	date: _____ _____ _____ _____ _____	date: _____ __ _____ _____ ____	date: _____ __ _____ _____ ____	date: _____ ____ _____ _____ _____
TOT NO. TABS GIVEN					
Remaining tabs seen?	Y / N / none	Y / N / none	Y / N / none	Y / N / none	Y / N / none

Note: * = *mother not confident about information. If used, please explain*

APPENDIX Av

PRIVATE PRACTITIONERS STUDY (PPS) : SURVEY OF PP's CLINIC. CLINIC CODE_____

PART ONE:BACKGROUND CHARACTERISTICS

	NAME	Professional qualification	Year of qualification	Age	Sex	Occupational history
Practising practitioner (registered owner)						
Practising Practitioners (not registered owner)	1.					
	2.					
	3.					

Days/hours	Mon.	Tue	Wed	Thur	Fri	Sat	Sun
Opening hours							
Closing hours							

PART TWO:EQUIPMENT

For all the items below code will be used as follows:
1.present / working / usually present 2.present not working /usually present 3.Not present 4.Usually present

Thermometer.[___] Stethoscope .[___] BP machine.[___]
Weighing scale[___] Sterilizer. [___] Glass syringe [___]
Plastic syringe [___] Microscope [___] Bandage and /gauze [___]

KEPI recommended vaccines for children
Tetanus.[___] Cholera. [___] Typhoid . [___]
HBV . [___] DPT. [___] BCG . [___]
Measles mumps and rubella. [___]
Any *other* *specify*

_____

Family planning devices (number of types present)

IUD [___] Tablets . [___] Injection. . [___]
Foams/jelly . [___]
Any other specify [___]

Waste disposal mechanisms

PART THREE:AVAILABLE DRUGS (ANTI-MALARIALS AND OTHER DRUGS)

Antimalarials syrup/tablet/injection	Antipyretics Syrup/Tablet/Injection	Antibiotics Syrup/tablets/injection	Others Syrup/tablets/inj.

PART FOUR SUPPORT STAFF CHARACTERISTICS ***(interview support staff)***

NAME OF STAFF	AGE	QUALIFICATION	DUTY ASSIGNED	LEVEL OF EDUCATION

Notes on other duties performed by support staff

PART FIVE:STRUCTURAL FEATURES

1.Number . of rooms with/ without partition in the clinic [___]

2. Separate waiting areas for females and males [___]
3. Privacy for consultation of patients 1.No privacy 2.Separated by screen 3.Separate room [___]
4 Separate place for examination Y /.N [___]

5. Status of the clinic ownership 1 Rented 2. Owned [___]
6. Maintenance of the clinic
1. Good 2.Adequate 3.Not adequate why? [___]
7. Water supply [___]
1.continous (C) 2. Stored (S) 3. None (N) 4.any other specify

8.Building structure [___]

1.Cemented floor and wall with Makuti roofing
2.Cemented floor and wall with iron roofing
3.Wooden structure with Makuti roofing
4.Wooden structure with iron roofing
5.Any other specify

_____

9.cleanliness

1. Good 2 Adequate 3.Not adequate [___]

why?_____

10.Hand washing facility

1. Not present 2. Present [___]

11.Ventilation and light of waiting area [___]

Lighting 1.Poor 2. Adequate

Ventilation 1.Poor 2.Adequate

12.Source of power

1.Electricity (E) 2.Generator.(G) 3.Solar.(S) 4.NONE (N) 5.OTHER----

---------- [___]

13.Posters on the wall (write the types present)

_____

APPENDIX Avi
INTERVIEW GUIDE FOR PRIVATE PRACTITIONERS

Setting up

Q1.Can you tell me all about the way in which this clinic was set up?

- *When was it built /leased to you?*
- *When did it start taking patients*
- *Did it operate as something else or another clinic before it was this clinic*
- *Did you start working here from the beginning? If not how did you come to be working here?*
- *Do you operate/have you ever operated other clinics apart from this one?*

(If this is not the owner): Q How often do you meet the owner and with what reasons?

- *management reasons (if so please explain)*
- *financial consultations*
- *other issues (please explain)*

Q2 .For what reasons did you decide to set up /work in a clinic here in…
(prompt: more clients /patient, no competition, known in area, no choice)

Q3.What did setting up this clinic involve?

- *Getting drugs and equipment (where from; how)*
- *Getting permission from government to set up the clinic and to see patients*
- *Deciding on prices for services*
- *Are there any existing referrals? If yes what were the mechanisms of setting up referral strategies?*
- *How have services offered in this clinic changed over time since the clinic was set up?*

Q4. What did you find were the greatest challenges in setting up this clinic? How did you try to overcome them?

- *Administrative-with government agencies*
- *Client confidence and acceptance in the area*
- *Other unique challenges*

Q5.What are the greatest challenges that remain in this clinic? In what ways can you /will you try to overcome them?

Interaction with public sector

Q1 Have you worked in a government facility before? Do you still work in a government facility? Please can you tell me about it? (*Which facility /for how long /how long left/how much still in government facility?)*

Q2 What initially made you decide to get involved with a private clinic?

Q3 Now that you have experience in private clinics, what do you think are the advantages of being in private clinics compared to government facilities? What do you think are the disadvantages?

Q.4 What interactions do you have with people in the government /MOH now? Do you feel your work is supported or the (opposite)? Do you have suggestions on how this can be improved?

- *Areas of collaboration/partnership-current/future partnership*

Dealing with patient /clients

Q. 1 Where do most of your patients come from?

- *Why do they use this facility*?
- *Do they come from the same catchment area*?
- *Do you receive the same patients more often (can you say that you receive the same kind of patients every time*? *Are they patients from wealthy families?*

Q.2 What do most patients want from you when they come here? Are there any specific things that you do to satisfy their wishes? (*Example greet them in a specific way, look for specific things give them or treat them with specific things-injections, drugs, syrup)*

Q3 Do patients cause you any specific problems or frustrations? Do they ever complain about your service? (*If so which ones tend to cause these problems and why?)*

Q4 Do you feel patients comply with what you recommend? If not what are the reasons they do not?

Q5 Do you allow patients credit? If so is it all of them or only some? How do you choose if they can have credit? How do they pay back and are they good at paying back?

Plans for the future

Q1. What do you intend to do in the future and why? If it is remaining in this clinic, do you have any plans to change this practice (*e.g. expansion, moving to another place, adding more services?*

Systems of record keeping

Record down the system of registration of patients as one visits the clinic

- *Who registers them?(those who have been here before or not)*
- *What identifies her /him during the next visit?*
- *Does the doctor look at the previous records?*
- *Does he add to the previous records?*
- *What details are added? How are records kept?*

APPENDIX Avii

INTERVIEW GUIDE FOR DHMT

Registration

Q1. What is the process for registration of private clinics?

- *What are the requirements –equipment/structural features*
- *What are the professional qualification required for one to operate*
- *Can anyone operate the clinic apart from the licensed owner? If yes what are the qualifications? Is this the law?*

Q2. At what point can a clinic start operating?

- *Can a clinic start operating before it is inspected?*
- *Any other circumstances under which a clinic might operate without the licence*
- *How long does it take between the time the team decides a clinic can be licensed and the actual granting of the licence?*
- *Who offers the licences for operation?*
- *Are licenses renewed after how long? for what services?)*

Q3 is there a fixed team, which carries out the inspection before any clinic is licensed?

- *Who are the members of this team and what are their positions in the district health team?*
- *Are there any changes in the future, which you think need be made regarding the process of registration? If yes which ones and for what reasons*
- *Is there any document that guides the process of registration?*

Checking of clinics

Q1.Once the clinic has been licensed to operate are they checked upon? If so how often?

Is the *team is responsible* for checking similar to the inspection team?

- *How often does this team check out these clinics? (Regular?) what do they look for?*
- *How often does the district personnel receive /get reports from the PPS? Are these reports used in any way? What for?*

Q2.Under what circumstances would a facility be closed down?

- *Can you give an example of clinics recently closed down by your team? (Under what circumstances were the clinics closed? Is this type common?)*
- *Is it possible for the clinician to be fired but the clinic is left to operate? If yes, give example?*

Once a clinic is closed can it reopen?

- *What is the minimum time it has to be closed down? What are the criteria for re-opening?*
- *Can it re-open with the same practitioner or not?*

Q3. *What do you think is the definition of 'quacks'?*

- *Are there "quacks" operating in Kilifi district to the best of your knowledge?*
- *If so how do they manage to operate?*
- *Are there any advantages to having them operate?*
- *Are there any disadvantages of having such people?*
- *What kind of people use these services? And why?*
- *Are the community members able to identify "quacks"*

Q4.Are there any changes that you would like to see regarding checking up process that we have discussed above? If so which ones and for what reasons?

Perception of DHMT towards PPs

Q1. Are PPS assisting the government in treating people in Kilifi district?
Q2. What interactions exist between the public and private sector?

- *Is there any tangible support the PPS offer the government and vice versa?*
- *Are you happy with way PPS refer patients to government facilities?*
- *Can referrals sent to government hospitals from PPS be sent back to them?*

Q4.How do you feel about the way government facilities and PPs interact? Does this work well? What are the problems?

- *What suggestions can you offer as regards improving collaboration with PPS?*

Q5. PPS numbers –are they increasing or decreasing in the district?

- *On average how many private clinics are opened in Kilifi per year?*
- *Has overall number been increasing in recent years?*
- *Do think there should be more private clinics or should there be less?*

Q6. Are government employees allowed to own and operate private clinics /services?

- *If not in normal hours are they allowed in their free time?*
- *Do any slip through the system? How?*
- *Do you think this is a good law? Or should this be changed in the future if so for what reasons?*

APPENDIX B

MINISTRY OF HEALTH

Telephone: (0125) 22777
22025

FAX : 22390

When replying/telephoning quote

Ref. No: .....
And date

MEDICAL OFFICER OF HEALTH
KILIFI DISTRICT
P. O. BOX 9
KILIFI

7 August, 2000

To Whom It May Concern:

RE: Authority to carryout research

Mr. Timothy Abuya, the bearer of this note and a university student at Kenyatta, has been granted permission to carryout descriptive research on private health care in Kilifi district.

Your cooperation and assistance will go along way in shedding light to improving future health care practice in this country.

MEDICAL OFFICER OF HEALTH
KILIFI DISTRICT

Dr. Were SNO
Medical Officer of Health
Kilifi District

APPENDIX C

Form COC . 12 (Rule 9)

REPUBLIC OF KENYA

CLINICAL OFFICERS COUNCIL
INSPECTION REPORT - PRIVATE CLINIC

To:
THE MEDICAL OFFICER OF HEALTH/* PROVINCIAL
MEDICAL OFFICER (NAIROBI)
..... DISTRICT
P. O. Box .....
.....

LIC No. . .....
(where applicable)

NAME . ..... REG. No. .....
CLINIC NAME ..... PLOT NO. .....
ADDRESS ..... MARKET . .....
..... DISTRICT .....

1. STRUCTURE: PERMANENT . .....
SEMI-PERMANENT .....
TEMPORARARY .....
STATE OF STRUCTURE .....
.....
.....
ROOMS AND SIZES (Minimum size - 10ft. x 10ft. (3 x 3) metres
ADEQUATE: LIGHTING .....
WATER SUPPLY .....
SANITATION .....

2. EQUIPMENT:

Furniture .....
Table .....
Chairs .....
Benches .....
Cupboards .....
Exam. Couch .....

Medical Equipment
Stove .....
Sterilizer .....
Trays .....
Kidney dishes .....
Forceps, e.g .....
Sphymomanometer .....
Diagnostic set/sputular .....
Thermometers .....
Uristrics .....
Suture materials. .....
Torch .....

Medical Equipment:

Syringes and needles .....
Measuring tape (cm.) .....
Weighing machine .....
Stednes cape .....
Tonic .....

3. **RECORDS:**

OPD Register
Drug Register / Drug Purchase receipts .....
Patient OPD Card .....
Patient Record Card or Register .....

4. Drug Storage Facilities Available .....

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5. Personnel (if applicable) .....

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Comments on the above:

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Public Health Officer / Public Health Technician

District .....

Thro' District Clinical Officer

.....

Medical Officer of Health / Provincial
Medical Officer of Health (Nairobi)

District .....

.....

cc. The Provincial Medical Officer:

Province .....

cc. The Director of Medical Services Nairobi

APPENDIX D

ABSTRACTS FOR PAPERS ACCPETED FOR PUBLICATIONS OR SEMINARS/WORKSHOPS.

QUALITY OF CARE PROVIDED TO FEBRILE CHILDREN PRESENTING IN RURAL PRIVATE CLINICS ON THE KENYAN COAST

Abuya, T.O[1], Molyneux, C.S[2], Orago, A.S.S[1], and Marsh, V[2].

1 Kenyatta University
2 Kenya Medical Research institute –Centre for Geographic Medicine Research Coast-Kilifi.

Paper to be presented at the Workshop on people and malaria medicines: Use of antimalarials in the home. In Uganda 27th –31st August 2001

ABSTRACT

The private health care system has grown rapidly in many developing countries, however little is known about the sector's quality of care (QOC). Assessing QOC offered through private providers is important in developing context specific interventions. In Kenya, private provision accounts for 49.1% of all health facilities. This study sought to describe QOC provided to febrile children presenting in rural private clinics (PCs) on the Kenyan Coast. Data collection methods included structured observations of consultations and exit interviews in PCs, follow up interviews with users of PCs, and in depth interviews with private practitioners (PPs) and the district health team. Findings indicated that PCs have the basic structural features essential for health care delivery. In 62% of consultations, assessment of symptoms and signs to reach a diagnosis was consistent with standards of medical practice. 72% of cases were diagnosed as malaria, and 88% were prescribed an antimalarial (AM). Of those prescribed an AM, the choice of drug and dosage was in accordance with national guidelines in 54% and 42% respectively. In 42% of cases, follow up was appropriate. 88% and

86% of cases complied with dispensed AMs and antipyretics respectively. PPs exhibited adequate listening skills in 98% of consultations and explained diagnosis to 86% of carers. The average consultation time was 15.36 minutes (95% CI 13.4-17.32). These findings suggest that quality problems exist in private clinics, and that there is room for improvement. Qualitative data highlight that factors affecting QOC are complex and therefore potential interventions are multiple. However specific approaches for improving malaria management include updates and training in treatment guidelines, and designing and strengthening public/private health sector partnerships.