Towards universal health coverage: Exploring healthcare-related financial risk protection for the informal sector in Kenya

Vincent R. Okungu

Dissertation submitted for a PhD degree in Health Economics at the Health Economics Unit, Faculty of Health Sciences, University of Cape Town

Supervisors

1. **Prof. Di McIntyre**
(Health Economics Unit, University of Cape Town)

2. **Dr. Jane Chuma**
(KEMRI-Wellcome Trust Research Programme)

DECLARATION

This dissertation is my own original work and has never been presented to any other institution or organisation for examination or otherwise.

Name: Vincent R. Okungu

Signed by candidate

Signature: Signature removed

Date: 07/07/2015

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to my supervisors; first to Prof. Di McIntyre, for her unwavering support of my PhD study, for her patience, motivation, and immense knowledge. Her guidance helped me in all the time of research and writing of this thesis. Our battles with Simulation Insurance (SimIns) modelling are not only memorable but also offered an invaluable learning curve. I could not have imagined having a better supervisor for my PhD study. My sincere thanks also go to Dr Jane Chuma who not only provided me an opportunity to join their team as a research assistant but also co-supervised my PhD and financially contributed toward data collection (through Fellowship No. 084516). Without her precious support it would have been difficult to conduct this research.

My gratitude also goes to KEMRI-Wellcome Trust Research Programme for supporting my PhD study through the Wellcome Trust Strategic Award. I thank the Health Economics Unit, University of Cape Town for giving me the opportunity to enrol for doctoral studies and for hosting me throughout my numerous visits to the university. Only great hosts offer unlimited 'free' coffee all day. Thank you!

I would also like to thank my family: my wife and son, my mum, and to my brothers and sisters for their support throughout writing this thesis.

DEDICATION

This thesis is dedicated, first, to my family: my lovely wife Valentine Maithya-Okungu who combines beauty, brains and ambition; my lovely son Harry Okungu, and to my mum, Milka Olela, from whom I have vastly inherited the genes of resilience. I know my father, Henry Olela (RIP), is proud of me! Lastly, I would like to dedicate this work to all right thinking Kenyan academics and researchers whose judgements and professional ethics are not clouded by the hideous uniformity of ethnic minds, nepotism, greed and corruption - vices that have eaten away the fabric of our existence as a nation.

Table of Contents

ABSTRACT

Background: There is a global emphasis to move towards universal health coverage (UHC) with the goal of making health services more equitable and accessible for all, without the risk of financial catastrophe when paying for the services. A key element of UHC reforms is to move away from out-of-pocket payments for health services towards a greater emphasis on mandatory prepayment health financing. The main challenge for low- and middle-income countries is how to extend coverage for informal sector populations, which in most cases are disproportionately exposed to catastrophic and impoverishing healthcare costs.

Aim: This study explored the nature of the informal sector in Kenya, the experience of members of the informal sector with the health system, their views on different prepayment mechanisms for health services and compares the resource requirements for UHC through a system that requires contributions from the informal sector and a system that is non-contributory.

Methods: A mixed-methods approach was used in the study. Members of the informal sector both in urban and rural settings were the main source of primary data. The following tools were used to collect data from informal sector workers: focus group discussions, individual in-depth interviews and a questionnaire survey. National level policymakers provided additional primary data through in-depth interviews. Secondary data sources included review of national and international literature. Thematic analysis was used to analyse qualitative data while Stata v.11 involving descriptive and binary regression analysis, was used for quantitative data. A Simulation Insurance (SimIns) modelling with secondary data inputs was used to estimate financial resource needs for UHC in Kenya.

Findings and conclusions: The informal sector is characterised by a large diversity of entities some of which are directly associated with poverty. The sector also has lower average incomes compared to the formal sector and suffers from considerable instability. Less than 50% of enterprises were sustainable (i.e. lasting more than five years) and some of the key determinants of sustainability with significant values include gender, household structure, number of employees per enterprise, monthly expenditure and ownership of land. Although the experiences of informal sector workers with the current public sector health system pointed to some serious access problems including lack of drugs, long waiting hours, distance to facilities and affordability, there were also positives including availability of basic diagnostic equipment and being attended to by skilled health workers. Views of informal sector workers regarding prepaid health care were largely positive with a strong preference for a non-contributory mechanism. However, there were serious concerns about quality of services, corruption and the scope of service benefits, which can influence the future development of a prepaid health system and progress towards UHC. From the simulation, although both contributory and non-contributory financing mechanisms would require considerable government subsidies to be sustainable, the results showed that a non-contributory system would be less costly in the long-term and more sustainable than a contributory mechanism. In the case of a contributory model, because it involves high initial implementation costs, there is a need for careful planning including identifying potential sources of substantial additional revenue to be sustainable.

CHAPTER ONE: INTRODUCTION

1.1 Universal health coverage and its significance to health care

Universal health coverage (UHC) is a global health priority and is considered one of the post-2015 Sustainable Development Goals. The World Health Organisation (WHO) (2010b) defines universal health coverage as "access to key promotive, preventive, curative and rehabilitative health interventions for all at an affordable cost, thereby achieving equity in access..." (Pg.1). The World Health Assembly in 2005 reiterated the importance of UHC and encouraged member countries to work towards this goal.

The global focus on moving to UHC is related to the recognition of the problems associated with paying for health care out-of-pocket (OOP), including inequities between different socio-economic groups in payment and use of health services. Out-of-pocket payments include user fees in public sector health facilities and direct payments to private health sector providers (Gilson and McIntyre, 2005). The consequences of paying for health care OOP have been documented extensively. As of 2005, the WHO (2005b) global estimates showed that about 150 million individuals in 44 million households face financial catastrophe annually due to OOP payments for health services. About 25 million of these households or nearly 100 million individuals are likely to be pushed into poverty every year because of OOP payment.

McIntyre et al. (2006) emphasise the inequity of OOP payment as a way of financing health care because each individual bears the medical cost burden and loss of income due to ill-health. In most countries, OOP payments are regressive, with the financial burden being higher among low-income households relative to their income (Uga and Santos, 2007, Roy and Howard, 2007). Low-income households generally include groups such as subsistence farmers, those with no household member in any form of employment or reliant on informal sector economic entities (where the informal sector, also referred to as the parallel economy, consists of unregulated economic entities that are socially and legally acceptable). Out-of-pocket payments are particularly devastating to low-income households because of the unpredictable nature of illnesses. Most of these households have no savings or tradable assets which makes them more vulnerable as they have no resources to mobilise at short

notice in the event of illness. Low-income households are also affected adversely in terms of earnings and general welfare when the main wage earner falls ill and can no longer generate income for the household (Leive and Xu, 2008). Prolonged illnesses can be economically and socially overwhelming for households in any income group because of persistent financial strain occasioned by health facility fees, costs of drugs and transport to health facilities as well as special foods for patients (Leive and Xu, 2008).

Furthermore, as a result of having to pay for health care OOP, households may postpone treatment or preventive measures for lack of ready cash (WHO (2010b). This means that health interventions cannot be received early enough when there are high chances of cure. Others may resort to seeking treatment from informal outlets with very poor quality services that may worsen illness. Paying for health OOP also limits utilisation of health services. Studies in Kenya, Uganda and South Africa showed large increases in utilisation among the poor upon removal of user-fees (Wamai, 2009, Ministry of Health, 2005, Xu et al., 2005, Gilson and McIntyre, 2005). To access health care, households may resort to various coping strategies including use of savings, sale of assets and borrowing high interest loans to meet illness costs, which have the potential to drive them deeper into poverty (Leive and Xu, 2008).

It is important to reverse the trend where more and more people face catastrophic and impoverishing illness costs or cannot access quality and timely health services because they cannot afford to pay. It is for these reasons that UHC has become a global health priority. It is meant to improve access to quality health services for all and protect households from catastrophic and impoverishing health care costs as well as make payment and use of health services sustainable and equitable.

1.2 Health financing policy reforms for UHC

The WHO (2005b, 2000) proposed reforms in the design of national health financing systems to allow people to access health services on the basis of need rather than ability to pay and to protect households from financial catastrophe by eliminating or reducing OOP payments to a minimum. In so doing, the WHO (2005a) advised that countries should aim to develop mandatory prepaid health financing systems. An advantage with mandatory

prepayment is that it facilitates access to health care at the time of need and at a cost lower than would be required through OOP payments where the individual using the service bears the full payment burden (WHO, 2005a). Mandatory prepayment also avoids problems such as self- or adverse -selection (Giedion and Bitran, 2003) and is regarded by the WHO (2010b) as the most efficient and equitable way to achieve universal coverage.

To develop sustainable prepaid health systems, the WHO (2005a) recommended greater use of mandatory prepayment mechanisms involving contributory and non-contributory arrangements to achieve UHC. The main non-contributory mechanism is funding from general government revenues. Contributory mechanisms include premium contributions through social health insurance (SHI) or community-based health insurance (CBHI) schemes. The WHO however, recommends funding UHC through general government revenues or social health insurance complemented by government revenues. These two financing approaches are preferable because they are mandatory and also for their ability to mobilise substantial resources and create cross-subsidies and benefit from economies of scale. Their ability to create large risk pools make them more financially secure and contribute to the improvement of equity of financing and access to health care across socio-economic groups (McIntyre, 2007, Mills, 2007). Moreover, they are domestic financing sources and this makes them more sustainable and predictable for the long term.

1.3 Relevance of UHC to low- and middle-income countries

The call by the WHO for health system reforms for UHC is particularly important to low- and middle-income countries where there are limited prepayment systems and a heavy reliance on OOP payments to finance health care. Among the WHO regions, the ones with the highest OOP payments as a share of total health expenditure (THE) include Africa (50 -55%), South East Asia (52%) and Eastern Mediterranean (40%). In contrast, OOP spending constitutes only 14% and 16% of THE in the American and European regions respectively (WHO, 2012a). Although the ILO (2014) reports minimal decreases in OOP payments globally between 2001 and 2011, this form of payment for health care is still unacceptably high in many LMICs where it mostly surpasses the WHO (2013a) threshold of less than 20% of THE. The ILO (2014) report shows that OOP payments accounted for 48% of THE in low-income

countries, 55% in lower-middle-income countries, 33% in upper-middle-income and 14% of THE in high-income countries.

High prevalence of OOP payments in LMICs is an indicator of low levels of mandatory prepaid funds. This means that more people in these regions cannot access health services at the time of need, have no financial protection and are vulnerable to catastrophic and impoverishing OOP payments. Measures to increase mandatory prepaid funds to address these problems are faced with a number of challenges including inefficiencies in revenue collection and use of health resources, largely inequitable access and utilisation of health services among different socio-economic groups and large populations working in the informal sector (McIntyre and Kutzin, 2014, Kutzin, 2006, Kutzin, 2001). This study focuses on the informal sector as an important population group in expanding coverage in LMIC.

The majority of the population in LMICs (about 65%) work in the informal sector according to a joint report by the ILO and the World Trade Organisation (WTO) (2009). Existing prepayment systems for health care in many of these countries, whether through government revenue or premium contributions, tend to exclude low-income and poor people who are mainly found in the informal sector. These population groups are excluded because the funds are either inadequate (in the case of funding from general government revenue) or the poor cannot afford to pay insurance premiums (Mills, 2007). While 'poor people' is not always synonymous with the informal sector, the majority of the poor and those without coverage are found in the informal sector (ILO, 2010). Moreover, social health insurance (SHI) schemes historically have focused on the formal employment sector because it is relatively easy by law to enforce mandatory contributions through salary deductions. In terms of access to specifically hospital services, there is inequity often in favour of urban and wealthier populations who are more likely to be in the formal sector (Kutzin, 2006, Mills, 2007). The tendency to exclude groups outside the formal sector (informal sector and indigent populations) from prepaid health care means that these groups have to meet some of the costs of health care through OOP payments.

Whereas mandatory contributory and non-contributory approaches have been recommended for expanding effective coverage to all population groups, questions have

recently been raised regarding the feasibility of the contributory model in contexts with large informal sector populations. A number of reasons are cited for the challenges faced by the contributory approach in extending coverage to the informal sector. First, it is difficult to determine incomes of informal sector workers and even if they were determined the premium contributions would be very onerous because of low-incomes in the sector. The experiences of Thailand and Ghana confirm that determining incomes and identifying the poor (those unable to contribute) in the informal sector are problematic (Tangcharoensathien et al., 2011, Letourmy, 2010). Secondly, contributory systems in many developing countries tend to be voluntary for those outside of formal employment and even when there is legislation for compulsory membership it is essentially voluntary as the law cannot be effectively enforced. This suggests that non-contributory approaches could offer more realistic alternatives to achieving UHC in countries with large populations in the informal sector.

1.4 Relevance and policy initiatives for UHC in Kenya

Less than 20% of the total population in Kenya has some form of coverage from the existing public health insurance scheme, the National Health Insurance Fund (NHIF) (Ministry of Health, 2014a). This means that the majority of the population meet some or most of their health care needs OOP. Paying for health care OOP remains a key source of impoverishment and a barrier to accessing services in Kenya. Successive national health account (NHA) reports by the MOH (2014c, 2010, 2006, 2002) present mixed results with regard to the trajectory of OOP payments. The reports show that as a share of THE, OOP payments were about 43.4% in 2001, 29%, 24.5% and 32% respectively in 2005, 2009 and 2013. No specific reasons have been put forward for the inconsistency in the levels of OOP payments. However, the number of households impoverished through paying for health care OOP increased from about one million in 2010 to about 2.2 million as of 2014. About 6.7% of all Kenyan households faced catastrophic health spending (Ministry of Health, 2014a). The trend in OOP payments and the significant percentage of households suffering from catastrophic health expenditures call for sustainable measures to strengthen prepayment systems and move towards UHC. This will ensure that all Kenyans have access to timely, quality health services, and are neither impoverished nor experience catastrophic outcomes as a result of paying for health care. This study contributes towards the objective of

strengthening prepayment mechanisms in Kenya by way of seeking to understand suitable ways to provide coverage for informal sector workers in moving towards universal health coverage.

At the moment, UHC initiatives in Kenya are in their infancy with on-going discussions on the best way forward. A few targeted tax-funded initiatives are currently in place including free care at public primary health facilities for all Kenyans, free maternity care in all public facilities and health insurance cover for the elderly and disabled populations. For the rest of the population, the official government position is that UHC would be approached primarily through a contributory mechanism where both formal and informal sector workers contribute premiums to a scheme, and the indigent are funded from government revenues. However, with the abovementioned problems associated with contributory approaches to covering the informal sector, it is not clear from government policy statements whether informal sector contributions will be subsidised, to what extent and through what mechanism. For the government to make decisions on these issues, it needs to be informed by evidence particularly in relation to the financial position of informal sector entities and vulnerabilities of informal sector workers.

The need for evidence-informed policy decisions is further reinforced by the fact that the health system reform process towards greater prepayment and UHC in Kenya recognises that there are problems of access to health services and lack of financial protection for informal sector workers (Ministry of Medical Services, 2012). To address these problems reliable information is required regarding the experiences of informal sector workers with the current health system. This study fills this information gap and goes further to identify specific barriers of access to services in the informal sector and draws important lessons for the UHC reform process. It is worth emphasising that the experiences of informal sector workers in the use of public sector health system may contribute to how they perceive and respond to government policies for UHC hence the need to document and incorporate their experiences into the UHC policy agenda. Arhin-Tenkorang (2001) and Jakab and Krishnan (2001) agree that extending coverage to the informal sector in an inclusive process has the chance to increase their ability to participate in decision-making processes and break away from exclusion from prepayment systems.

By all indications the contributory policy approach to covering the informal sector in Kenya is a top-down strategy partly informed by the assumption that there are sufficient financial resources in the informal sector that can significantly contribute to financing UHC. There is no evidence that the views of informal sector workers were sought regarding their preferred prepayment design. This study fills this gap in evidence and goes on to explore preferences of the informal sector for alternative prepayment mechanisms. Thornton et al. (2009) reiterate the scarcity of evidence on the best possible design of a prepayment system that targets the informal sector in terms of ability to achieve high coverage or to increase utilisation of quality health services across different contexts. This study is therefore very timely as it analyses views of informal sector workers on ways to increase their coverage.

The challenges associated with progress towards UHC in Kenya include inconsistent economic growth, inefficiencies in revenue collection and use of health resources, a very large population in the informal sector estimated at almost 80% of the total workforce, and largely inequitable access and utilisation of health services among different socio-economic groups (African Development Bank, 2013, Omolo, 2010, Ministry of Health, 2009). These are further exacerbated by an under-funded health sector where funding from government revenues has over the years averaged less than 29% of total health expenditure (WHO, 2013b). This level of government funding is inadequate to provide basic health services to the entire population. Outside of government funding, the informal sector and indigent populations are substantially left out of other prepayment plans. For example, less than 7% out of nearly 26 million individuals in the informal sector are insured by the public insurer, the NHIF (KNBS, 2014b, KIPPRA, 2013)[1]. The formal sector, on the other hand, is nearly 100% enrolled and benefiting from the NHIF in addition to private health insurance schemes as well as subsidies from government revenues. Within this context, this study critically analyses the reasons behind low enrolment rates of informal sector workers in the NHIF and ways to improve their participation in future prepayment system.

[1] **KNBS**: Kenya National Bureau of Statistics; **KIPPRA**: Kenya Institute of Public Policy Research and Analysis

Lastly, in the proposed arrangements for UHC, even if the informal sector contributes to a mandatory insurance scheme, the contributions may not be adequate to provide for all their heath needs. What this means is that irrespective of the prepayment approach for Kenya, additional government revenue will be required for full subsidies to the indigent population, partial subsidies to informal sector workers and for infrastructure and other resource development to meet increased demand for services. This study helps in highlighting how much additional resources would be required to provide coverage over time. In addition, given the weaknesses of the contributory approach in contexts with large informal sector populations, a primarily non-contributory approach to financing UHC in Kenya is explored as an alternative to a contributory scheme in this study. Comparable data on feasibility and total financial resource needs of the two financing models for UHC in Kenya are explored.

On a more general note, literature on health insurance or other prepayment mechanisms in relation to the informal sector is scant, and studies that have attempted to look at the informal sector in Kenya generally, often ignore agricultural informal sector and tend to concentrate in the urban areas only (Komollo, 2010, Kinyanjui, 2010, Mathauer et al., 2008, Orwa, 2007, Mitullah and Wachira, 2003). This study therefore fills a gap by including agricultural informal sector and the rural areas besides generating high quality and sufficient data to inform health policies that target improving access to quality services and financial risk protection for informal sector populations in both urban and rural areas.

1.5 Research questions

This study intended to answer the following questions:

1.5.1 Main question

In the context of universal health coverage, what are the implications of different financing approaches to providing healthcare-related financial risk protection for informal sector populations?

1.5.2 Specific questions

1. What is the nature of the informal sector in Kenya in terms of distribution, variety, size and sustainability?

2. What is the experience of members of the informal sector with the health system? How do informal sector members use health services and how do they pay for health care?
3. What are the views of informal sector workers and policy makers regarding future prepayment system, and what is their understanding and views on different prepayment mechanisms?
4. What is the total amount of financial resources required to provide coverage from now until 2030 and what are the implications for funding UHC through contributory and non-contributory models?

1.6 Aim and Objectives

The aim of the study is to inform local and international policy debates on health care financing approaches for providing financial risk protection to informal sector populations in the context of universal health coverage.

1.6.1 Specific objectives

1. To describe the nature of informal sector activities in Kenya and how they differ between rural and urban settings;
2. To critically analyse sustainability and financial potential of informal sector activities;
3. To document experiences of informal sector workers with the current health system and draw lessons for universal coverage policies in Kenya;
4. To document the views of informal sector workers regarding different prepayment mechanisms, and critically analyse key design features of a future health system within this context;
5. To estimate the total resource requirements for UHC in Kenya, and implications for financing under contributory and non-contributory prepayment mechanisms;
6. To make policy recommendations on how best to ensure that the informal sector can benefit from financial risk protection against health care costs.

1.7 Summary of the remaining chapters

Chapter Two provides background information on the Kenyan context and discusses the policy environment related to the political, economic and social conditions in the country

and how these link to health care as well as an analysis of the current health care financing situation.

Chapter Three is an extensive literature review including explanations of key concepts/terms used in the study. The literature reviewed not only gives a global picture of the informal sector and health care financing but also analyses health financing in specific developing countries from which lessons are drawn for universal coverage policies. It ends with an explanation of the conceptual framework.

Chapter Four is the methods chapter and includes primary and secondary data sources as well as an explanation of the *SimIns* model.

Chapter Five is the first chapter on findings and explores the nature of the informal sector in the study areas and gives detailed information about informal sector populations and entities and an analysis of the financial potential of informal sector entities.

Chapter Six presents findings on interactions of informal sector workers with the current health system including use of health facilities and a detailed analysis of key barriers faced by informal sector workers in accessing health services. Lessons learnt from the stated interaction are summarised at the end of the chapter to inform on-going reforms for universal health coverage.

Chapter Seven analyses views of informal sector workers with regards to future prepayment system. It assesses the level of social solidarity among informal sector workers generally and specifically among different socio-economic groups in the sector. It also presents findings on attitudes of informal sector workers towards prepaid health care starting with the NHIF and gives a detailed analysis of preferred prepayment systems and specific design features of future prepayment mechanisms.

Chapter Eight involves modelling of contributory and non-contributory approaches to financing UHC. The chapter assesses the feasibility of each of these prepayment mechanisms in Kenya with an estimate of financial resource needs for UHC.

Chapter Nine summarises and discusses all the key findings in the study.

CHAPTER TWO: THE KENYAN CONTEXT

2.1 Introduction

This chapter provides background information on the political, social and economic context in Kenya. Moreover, it provides information on the status of Kenya's health system with a view to providing a comprehensive explanation of the country's health policy environment and to assess the Government of Kenya's commitment to providing universal health coverage. The chapter begins with an examination of the country's political context and in so doing, provides a brief history of the political situation and its relevance to reforms within the health sector. The next section focuses on the country's economic context by providing insights on Kenya's economic performance and potential fiscal space for health care reforms. The third section examines the Kenyan social context and dwells primarily on health care indicators as a measure of performance within the health sector. The final section analyses the overall health system with a focus on the financing mechanisms and functions as well as current trends and practices within the health system.

2.2 Political context

Since Kenya achieved its independence in 1963, the political scenario has generally been considered to be relatively stable, irrespective of the manifestation of significant grievances that were suppressed in their early stages under successive authoritarian regimes. However, the onset of multi-party politics in the 1990s ignited political alignments that were heavily shaped by historical, domestic tensions mainly associated with factors such as the centralisation and abuse of power; high levels of corruption; marginalisation and ethnic animosities (Interactions, 2013). The post-election violence that erupted after the disputed 2007 national elections considerably disrupted economic activities in the country, thereby leading to the downgrading of Kenya's credit rating from B+ to B (African Development Bank, 2008). This downgrading was interpreted by investors as there being an increased risk of conducting business in Kenya.

According to Kasara (2011), domestic tensions have been specifically heightened by centralised control of resources, thus leading to skewed allocations of resources on the basis of ethnic affiliation of those in power. The skewed allocation of resources, among

other factors, has resulted in ethnic tensions. On their part, social cleavages, which manifest as income and ethnic inequalities are a direct result of skewed allocation of national resources and have constantly threatened the stability of Kenya. The causes of these tensions remain as unresolved violations that need to be addressed (Ndii, 2001). The Constitution of Kenya that was enacted in 2010, is weak on how past human rights violations should be addressed (Interactions, 2013). Furthermore, the socioeconomic tensions existing within the country make it difficult to enhance social solidarity which is fundamental for Kenya to mobilise its resources to provide universal health care to its citizens (Stuckler et al., 2010).

According to the Commission for the Implementation of the Constitution (CIC) (2014), the new Kenyan constitution took effect in 2010 and is progressively being implemented with significant achievements and impact. The plan is that once there is full implementation of the constitution then the CIC will be dissolved. Full implementation of the Constitution is expected to take five years. One key aspect of this Constitution is the introduction of devolved governance as opposed to a centralised governance system. The devolved governance divides the country into 47 counties (sub-national governments) with the primary aim of addressing some of the historical injustices related to the distribution of national resources. The devolved governance system ensures that each county has a considerable level of control over its resources.

Each county has the mandate of coming up with its own development priorities; however, one key challenge is that the Central Government appears reluctant to match the devolved functions with funding to the counties (Orina-Nyamwamu, 2010). Subsequently, counties are likely to find themselves with unfunded mandates. In the financial year 2015/16 about 15% of the total national budget was disbursed to all counties from the Central Government. Even though the Constitution states that counties should be allocated a minimum of 15% of the national budget, it remains silent on the maximum allocation amount. Currently there is agitation for a referendum to approve an increase in the allocation of funds to counties from 15% to 45% of the national budget. According the Transition Authority & Electoral Institute for Sustainable Democracy in Africa (2013), some of the devolved functions include agriculture, health services, environmental conservation,

cultural activities, county roads and public works, among others. Meanwhile, there are also geographic differences among counties, with some counties having a higher capacity than others to generate their own revenues. Only 18 of the 47 counties can independently generate at least 50% of their own revenues, meaning that the majority of counties remain largely dependent on the Central Government (Commission on Revenue Allocation, 2013a).

Counties have three sources of revenue from the central government. The first source is the Equitable Share Fund, which is the largest allocation to counties. This funding is allocated based on certain criteria such as: population size (45% of the total allocation); basic equal share (25% - shared equally among counties); poverty index (20%); land area (8.0%) and fiscal responsibility (2.0%- shared equally to manage debts at the county level). The Commission on Revenue Allocation has previously made efforts to amend these criteria as follows: population size (45%); basic equal share (25%); poverty index (18%); land area (8.0%); personnel emoluments (2.0%); and 1.0% each for the fiscal responsibility and development factors. However, all these amendments were rejected both by the Senate and the National Assembly on the basis that this would perpetuate inequitable allocation of revenues to the counties, similar to the formula currently in operation. For example, the emphasis on two weights or criteria such as population size and basic equal share (a combined weight of 70% of the total allocation) - has been criticised for its tendency to perpetuate inequitable allocation of resources. This happens because some of the richest counties are also the most populated and therefore have the highest capacity to generate their own revenues. However, the Commission on Revenue Allocation (2013a) argues that placing a deliberate emphasis on population is necessary in order to provide the resources required by each county for effective service delivery per capita.

The second source of revenue from the central government for the counties is the Equalisation Fund, which takes up 1.5% of the total government revenue. The purpose of this fund is to provide basic services such as water, health facilities and electricity in counties classified as 'marginalised'. The motivation for this is to bring the quality of these services in the marginalized counties to the same level as the other counties in Kenya (Kenya Law Reform Commission, 2015). Although this Equalisation Fund may correct some of the development imbalances as intended, it has never been disbursed since devolution

and the amount allocated for this purpose over a 20 year period from 2013 as stated in the Constitution of Kenya, is too limited. Approximately three quarters of the country's geographic regions, consisting of 14 counties, is classified as marginalised (Commission on Revenue Allocation, 2013b). The list of marginalised counties is updated every two to three years.

The third allocation of revenue from the Central Government to the county governments is the Conditional Grants. Conditional Grants include funding for free maternity health care, Level 5 hospitals, reimbursement for lack of user fees at primary health facilities, the health sector services fund (examined in a later section of this chapter) and certain donor funds. Funding for most of these services is based on utilisation rates. Finally, counties are also expected to generate their own funds through self-generated revenues, grants and loans.

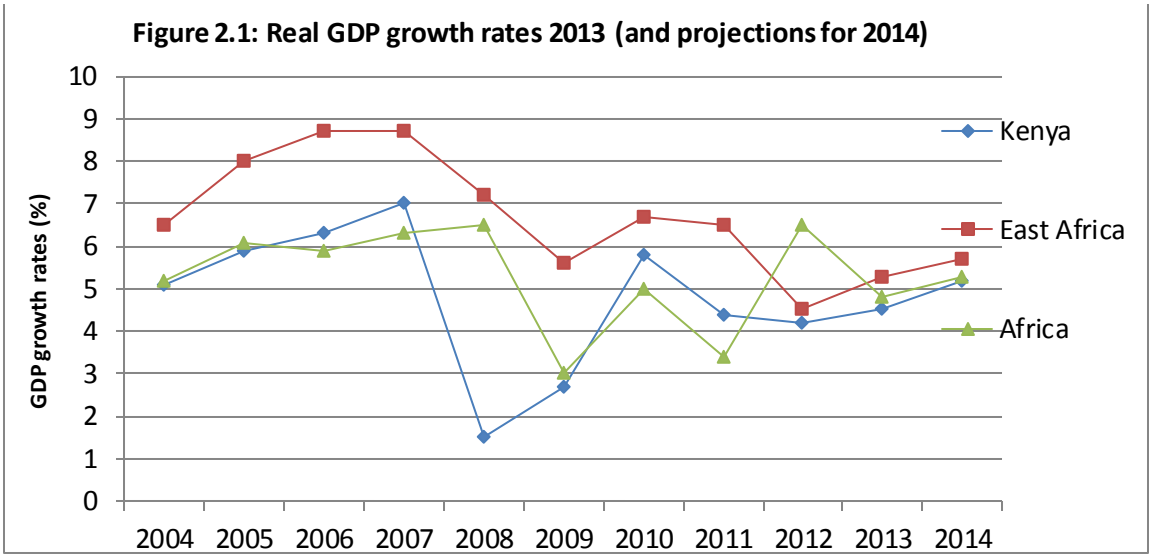
2.3 Economic context

2.3.1 Macroeconomic and fiscal management

According to the most recent World Bank ranking conducted in 2014, Kenya's GDP per capita income (purchasing power parity) is about US$2,300. This puts it in the category of lower-middle-income countries. Furthermore, although it is the largest economy in East and Central Africa, Kenya's status as the most important destination for Foreign Direct Investment (FDI) was lost in 2008 to Uganda and Tanzania due to regulatory reforms and political instability (African Development Bank, 2008).

On average, Kenya has maintained a 4.8% GDP growth rate per annum for over a decade. This rate is below the average for Africa in general, which is 5.3% and East Africa, which stands at 6.7% (See Figure 2.1). A country's GDP growth rate is the most important macroeconomic indicator since it influences the government's revenue and spending levels (Pande et al., 2013). This means that on average, African governments generally have more flexibility in spending than other regions of the world due to rapid GDP growth rates. However, the comparably lower growth rates in Kenya have been attributed to recurrent drought and political instability which in turn, has contributed to an unattractive

environment for domestic and external investment (African Development Bank, 2013, Kasara, 2011).



Sources: Africa Economic Outlook, 2013; IMF, 2013

Over the years, agriculture has remained Kenya's single largest contributor to its GDP, and by 2013, stood at 25.3% of the total amount. Other key GDP contributors are wholesale and retail trade (10.2 %); transport and communication (9.1%); manufacturing (8.9%) (KNBS, 2014b).

The overall picture from the macroeconomic indicators is promising for the country's economic development. Nevertheless, there exist significant structural problems and macroeconomic instability. For instance, the unemployment rate in Kenya stands at 40% of the labour force, as compared to the average rate for Africa as a whole, which stands at 12% and 4.0% for low-income countries (LIC). High unemployment rates[2] tend to affect fiscal space for health and more so, limit progress towards universal coverage. This happens especially when populations are expected to contribute health insurance premiums or earmarked payroll taxes. Inflation rates have also remained unpredictable in Kenya

[2] Reliable data on unemployment rates in sub-Saharan Africa is scarce and countries measure unemployment rates in different ways. In Rwanda for example, unemployment rates are low because informal employment is measured as part of overall employment. This is not strictly the case with Kenya where employment rates tend to be measured purely in the formal sector.

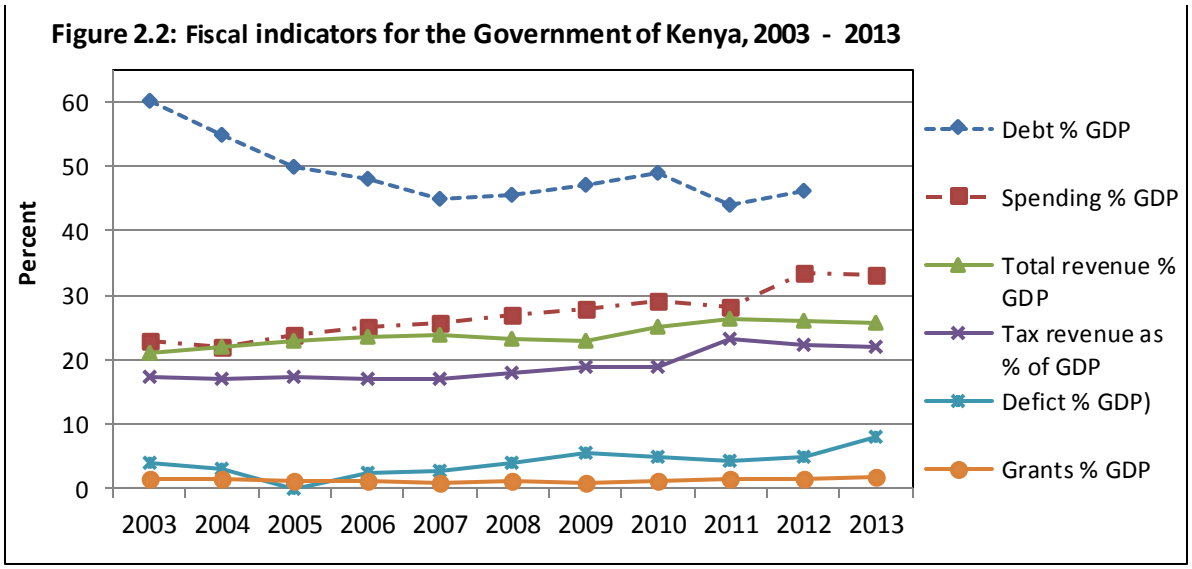
particularly due to political instability; for example, inflation rose to 30% in 2008 and was about 14% in 2011 before falling to 6.6% in 2013. However, recent projections by the World Bank conducted in 2014 indicate that annual inflation rates will remain at single digits of about 4.5% in the coming years, all other factors held constant (World Bank, 2014a).

Kenya's fiscal performance throughout the past decade has on the whole been promising. According to Pande et al. (2013), the level of debt over time is a crucial indicator of fiscal solvency. Moreover, the level of a government's budget deficit demonstrates whether the debt is controllable. On the other hand, a government's spending patterns reflect the level of engagement in the economy and social development, including health care. The key fiscal indicators in the period from 2003 to 2013 signal an improvement in the economic environment, with room for government spending (see Figure 2.2). The total debts have declined over time - from 60% of the GDP in 2003, to 46% in 2013. These figures are expected to remain at less than 50% of the GDP according to the projections represented in Figure 2.3 as provided by Pande et al. (2013). However, the budget deficit has doubled from 4.0% of the GDP in 2003, to about 8.0%. Generally, this level of deficit is still under control due to the Government's improved revenue collection that has helped to minimize the budget deficits. Unfortunately, Kenya performs relatively poorly with regard to both indicators (deficits and debts) compared to other African and LIC averages (Figure 2.3).

The rise in government spending (from 23% of the GDP in 2003 to 33% in 2013) translates into more public investment. This has typically been demonstrated through infrastructural development that has spurred Kenya's economic growth. Furthermore, over the past few years, tax revenue as a share of the GDP has remained at over 20%, which has contributed to the total revenue at the government's disposal, relatively low budget deficits and reduced dependence on foreign aid. Although the African Development Bank (2008) maintains that Kenya's debt position is sustainable, this debt position remains higher than the average for Africa and low-income countries. The sustainable debt position alongside low budget deficits and minimal reliance on aid makes it possible to predict the financing of government programmes including health care. As demonstrated in Figure 2.3, although on average, Kenya seems to do better in terms of government spending and total government

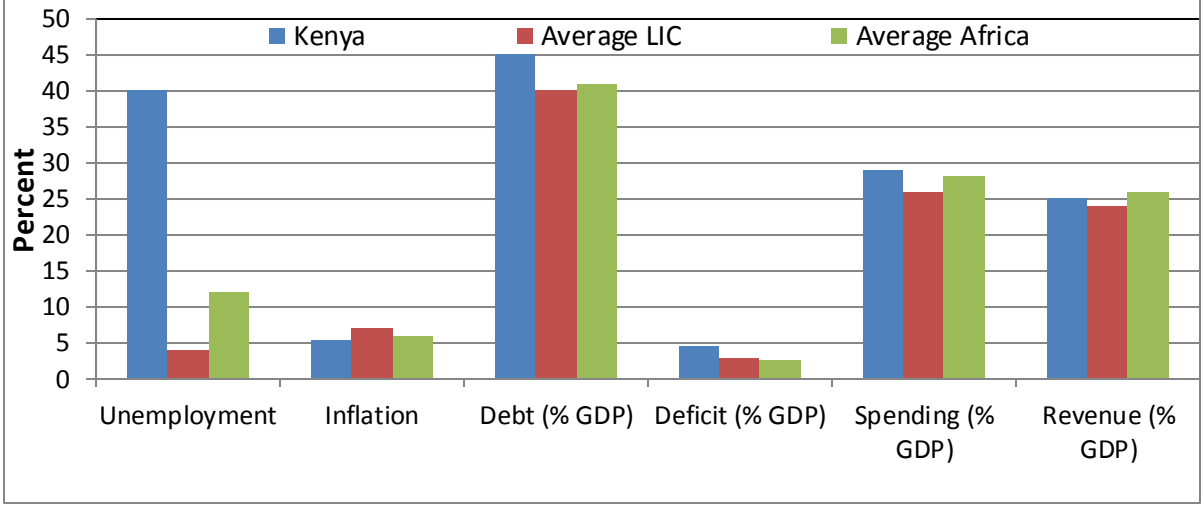
revenue as a share of the GDP than the rest of Africa and other low-income countries, these differences are quite small.

Figure 2.2: Fiscal indicators for the Government of Kenya, 2003 - 2013



Source: Pande et al., 2013; African Economic Outlook, 2013

Figure 2.3: Macroeconomic and fiscal indicators, average 2012 - 2017



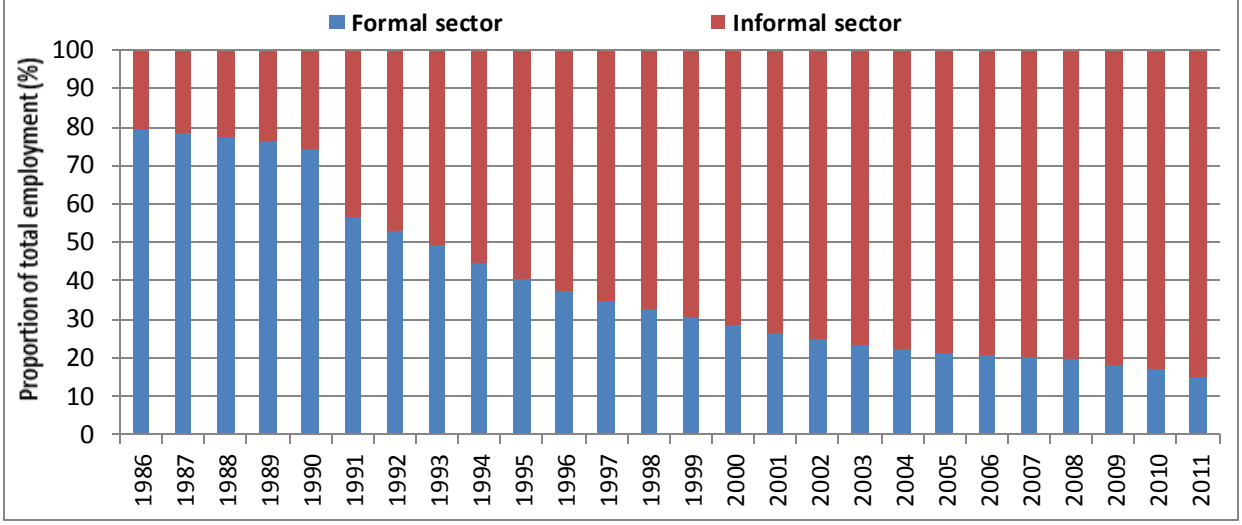
Source: Pande et al., 2013

2.3.2 Overview of employment in relation to the informal sector

Employment as a macroeconomic factor requires more detailed consideration because most employment opportunities in Kenya are found in the informal sector, which is the focus of this thesis. As presented in Figure 2.4, employment within the informal sector in Kenya has grown considerably in the past decade, increasing from about 21% of total employment in 1986 to 85% as of 2011 (KNBS, 2014b, Omolo, 2010). The sector grew at a yearly rate of

26% in the 1990s then slowed down to between 6 % and 11% annually at the turn of the millennium (Mitullah, 2003, Nyerere, 2009, Orwa, 2007, Wanjala and Were, 2006).

Figure 2.4: Trends in percentage of formal and non-agricultural informal employment (Kenya, 1986-2011)



Sources: (Omolo, 2010, Government of Kenya, 2010c, KNBS, 2014b)

In 2013, the informal sector as a whole created 80.8% of total employment opportunities, with approximately 53% of these opportunities generated within the non-agricultural informal sector. However, the agricultural informal sector remains the single largest contributor of informal sector employment in Kenya, standing at 47% of the total informal sector employment figure (KNBS, 2014). In the non-agricultural informal sector, the main employers include wholesale and retail outlets (including hotels and restaurants), with 59% of the total non-agricultural informal sector employment, manufacturing (21.7%); services of various kinds (9.3%); and transport and communication (3.0%) (KNBS, 2008, Salami et al., 2010). The reason for the concentration of the non-agricultural informal sector in these areas is not clear although Kinyanjui (2010) and Orwa (2007) have hypothesised that it is influenced by perceptions of profitability and ease of entry into particular informal economic activities.

Despite the apparent growth in employment, many of these employment opportunities especially in the informal sector, may not be gainful because as many as 41% of Kenya's productive workforce considers itself unemployed (UNDP, 2013a, NESC, 2011). Some of the reasons for the high unemployment rates in Kenya could be attributed to the country's high

population growth rates matched with an economy that has over the years, been unable to create adequate employment opportunities. Moreover, there have been instances of political instability that have discouraged investment and destroyed business opportunities as well. Other factors include the use of capital- rather than labour- intensive technologies and the global economic recession (Mwalenga, 2012). Various sources of literature, for example Charmes (2012), also link the growth of the informal sector to high unemployment rates because people have to find a means of livelihood outside formal employment.

2.4 Social context

Kenya has a relatively high population growth rate of approximately 2.5% per annum. This structure is 'bottom-heavy', meaning that it is very large at the base of the population pyramid, with close to 70% of the population being less than 30 years old, and 43% are children aged less than 14 years of age. Given this population structure, there is a high dependency ratio which has been estimated at about 80% of the population (World Bank, 2014a). A high dependency ratio means that a lot of socioeconomic pressure is put on a small working population. This often has negative consequences on the general economy due to the absence of domestic savings and investments. However, according to the African Development Bank (2008), the rapid expansion of the middle-class may alleviate some of the problems associated with high dependency levels, as more people get into gainful employment.

A key feature of the Kenyan population is the high level of poverty, partly due to a heavy reliance on low productivity and sometimes unpredictable agrarian economy. The UNDP (2013b) reports that the national poverty headcount (multidimensional poverty) stands at 47.8 % of the population, while 43.4% nationwide live below the income poverty line of USD 1.25 a day. This indicates that a large segment of the population not only suffer from specific disadvantages in significant areas such as education and health, but also struggle to pro-actively prepare for health care, if required to do so, without substantial subsidies from other population groups, government and donor agencies.

The African Development Bank (2008) highlights wide economic disparities in Kenya where with the richest 10% of the population controls 36% of the country's total wealth, while the

poorest 10% own less than 2.0% of the country's wealth. The Gini coefficient of 0.51 for Kenya conducted in 2006 was only lower than that of South Africa and Namibia. Nonetheless, there have been significant improvements in certain social development indicators such as literacy and Millennium Development Goals (MDGs). Other indicators are found within the health sector and include improved immunisation coverage; decreased infant mortality rates (IMR) and under-5 mortality rates (U5MR) and a decrease in the prevalence of HIV/AIDs infection rates in the last decade (see Table 2.1).

As captured in Table 2.1, the current trends indicate that Kenya is unlikely to meet MDGs 1, 4, 5 and 6 by 2015, which is the deadline set by the United Nations to meet MDG targets. However, life expectancy at birth has steadily improved since 2003, after HIV/AIDS control programmes were aggressively implemented. This has resulted in restoring life expectancy to about 62 years as at 2013. It should be emphasised that life expectancy at birth is an indicator of the quality of life in a country and also shows how much a country stands to gain from human capital investment. The relatively low levels of life expectancy at birth in Kenya can be attributed mainly to the high incidence of HIV infections in the 1990s and worsening economic conditions which eroded people's purchasing power and lowered their standards of living (WHO, 2011d, KNBS, 2010a). This is partly attributable to the fact that the health sector in Kenya has been highly under-funded by the Government, thereby making health care less accessible to the majority of people which subsequently has negative implications on the country's health outcomes.

Table 2.1: Health indicators, Kenya (2003 - 2012)[3]

Indicator Name	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Life expectancy at birth (years)	52.1	52.5	53.0	53.7	54.4	55.1	55.8	56.5	57.1	57.7	61.7
Infant mortality rate(per 1,000 live births)	63.7	61.7	59.3	57.3	55.5	53.3	51.9	50.1	48.3	49.0	42.2
Under-5 mortality rate (per 1,000 live births)	102	98.3	94.1	90.2	86.5	82.5	79.4	76.1	72.8	73.0	---
Maternal mortality ratio (per 100,000 live births)	414	550	580	320	380	490	488	390	570	600	510
Incidence of tuberculosis (per 100,000 people)	349	357	359	355	347	332	312	298	288	---	---
Prevalence of HIV (% of population ages 15-49)	7.6	7.2	6.8	6.6	6.4	6.3	6.2	6.2	6.2	6.0	6.0

Sources of data: (Yego et al., 2013, World Bank, 2014a, WHO, 2013b)

[3] The table indicates high MMR between 2011 and 2012 but this may be as a result of differences in estimates because data were mined from different sources which may have had different sampling techniques.

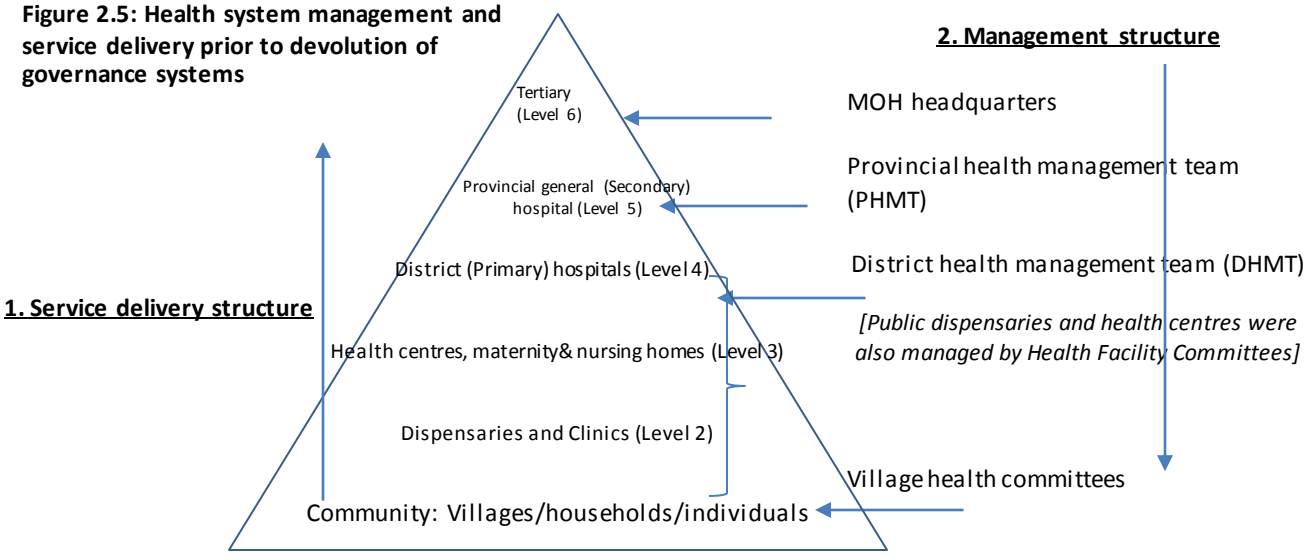
2.5 The Kenyan health system

2.5.1 Overview of health service provision and management

The health system in Kenya includes the public sector, which consists of the Ministry of Health (MOH); county health departments and parastatal organizations. It also includes private sector players including private for-profit entities and non-profit institutions such as Non-Government Organisations (NGOs) and Faith-Based Organisations (FBOs). Health services countrywide are provided through a network of about 9936 health facilities, with the public sector accounting for about 51% of the total number of facilities (Ministry of Health, 2015). The private sector (for-profit and non-profit) provides approximately 47 % of health services which are mainly curative (Ministry of Health, 2014a). On their part, donors provide mainly financial support to NGO and FBO facilities.

Before the onset of the devolved governance system in 2013, the public health system consisted of six levels of health care as illustrated in Figure 2.5 - ranging from community services at the base (Level 1) to national teaching and referral facilities at the apex (Level 6).

Figure 2.5: Health system management and service delivery prior to devolution of governance systems



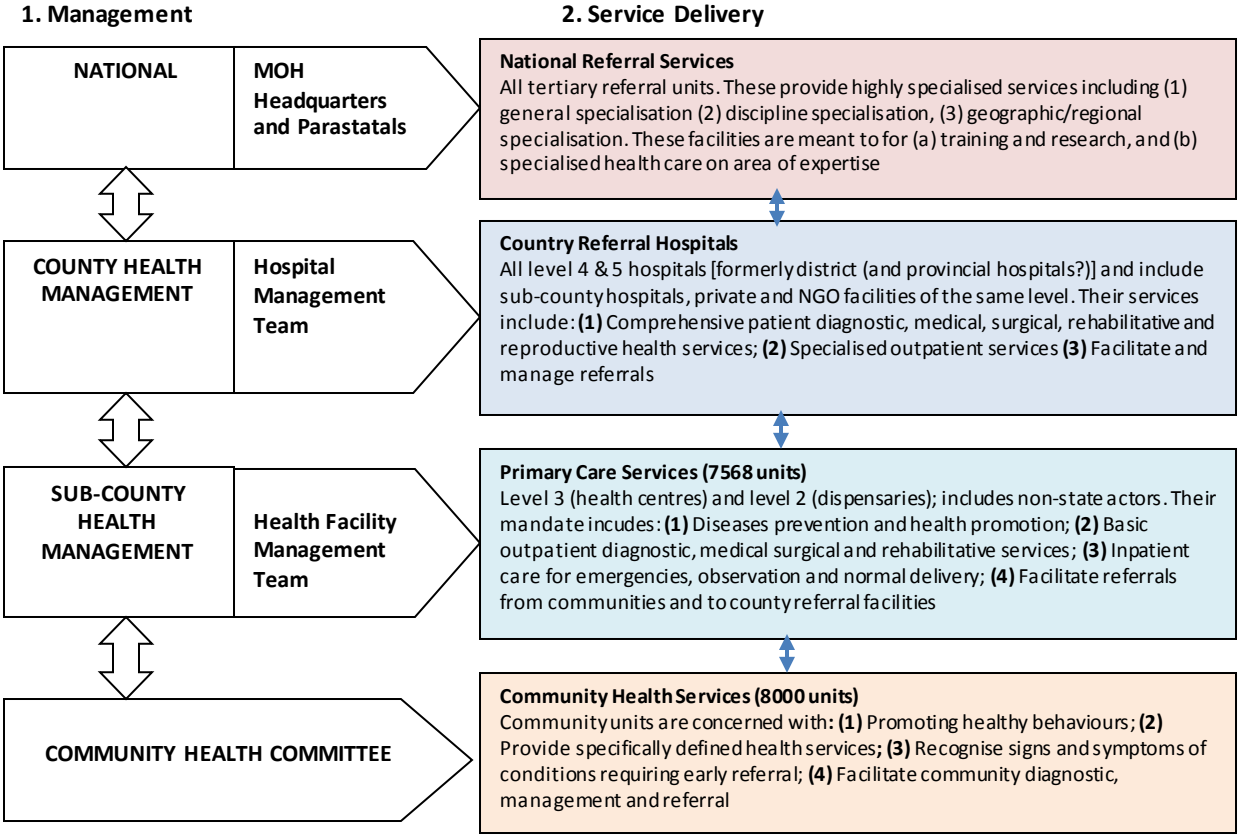
Source: Author's illustration

The roles of these six levels of care in terms of the scope of services they provide have not changed with the introduction of devolution (Figure 2.6). According to the MOH (2012), community outreach services include basic preventive and curative services for minor

conditions at community and household levels. Dispensaries too, provide a wide range of preventive health services and are usually the first point of contact with patients. However, the referral system is weak, thereby making health centres and hospitals the first points of contact. Moreover, health centres usually provide preventive and limited curative services in accordance with local health needs. The services provided by these public primary facilities are supplemented by private clinics, dispensaries and hospitals. District hospitals (now known as county referral facilities) are expected to act on referrals from health centres and dispensaries. For their part, provincial general hospitals were previously expected to act on referrals from district hospitals. Although national referral and teaching facilities are meant to offer high level diagnostic, therapeutic, and rehabilitative services, the referral system is currently weak, thereby forcing economically challenged patients to seek services from the other levels of health care accessible to them.

The fate of the former Provincial General Hospitals (PGHs) has differed from case to case. Initially, these hospitals were expected to function under the National government. However, to date, about two hospitals, namely, the Jaramogi Oginga Odinga hospital (formerly known as the Nyanza Provincial General Hospital) and Kisii Level 5 Hospital, have been transformed into teaching and referral facilities but are still under the management of county government. The other hospitals seem to be accountable to their respective county governments. Kandie (2014) observes that the Treasury cut subsidies for the Level 5 facilities from KSh 10.0 billion to KSh 3.4 billion in the 2013/14 budget. Since these facilities serve more than one county, the county governments in which each of these hospitals are based are generally reluctant to subsidise the health care service provisions and have indicated that they may have to charge patients from outside their counties at market prices.

Figure 2.6: Public health services management and delivery system under devolved governance



***Source**:* Ministry of Health, 2012

The management of the health sector changed considerably after devolution of the governance system in 2012. In the previous centralised administration, duties and responsibilities of health workers cascaded from the Ministry of Health (MOH) to the provinces and districts. Within the devolved system, the former system has been replaced with devolved units, where respective county governments autonomously manage most functions of the provision of health services. Initially, the Provincial Health Management Teams (PHMT) had the oversight mandate in regard to the implementation of policies on the provision of health care at the district level. They also maintained quality standards, and coordinated and controlled all district health activities. In the new devolved structure, the roles of the PHMT have been taken over by County governments. This means that the management of health services and provision of responsibilities is largely controlled at county level. The County governments control three out of the four levels of health care, namely: Level 1 - Community level; Level 2 - Primary care for dispensaries and health

centres; and Level 3 – County referral facilities. Consequently, the national government only controls specialised services provided at national referral facilities (see Figure 2.6).

All health-related activities are guided by MOH standards and protocols. The Ministry therefore continues to provide a national oversight role and acts as the regulatory authority which stipulates health policies and standards to be adhered to by all County governments.

2.5.2 A brief history of key health financing policy development over time

Since Kenya achieved its independence in 1963 right through the years until 1989, health services were predominantly funded through general government revenues to ensure that all Kenyans had free health care at the different health service points. The National Hospital Insurance Fund (NHIF) was introduced in 1966 through act of parliament to provide additional compulsory coverage to the formal sector. The NHIF was later expanded to accept membership from the informal sector on voluntary basis. In the meantime, rapid population growth, adverse economic conditions and changes in epidemiological patterns made it impossible for the Government of Kenya (GOK) to sustain its provision of affordable health care for all Kenyans (Anangwe, 2008). In 1989, user charges were formally introduced under the cost-sharing policy for all levels of health care. These charges were meant to supplement the MOH budget for the overall running and maintenance of health facilities (Collins et al., 1996). However, constraints imposed on access to health care by the user fees led to their suspension in 1990. In 1991, the user charges were again reintroduced as the World Bank and the International Monetary Fund (IMF) argued that the provision of free health services was unsustainable under the prevailing economic conditions of the time (Mwabu, 1992).

Meanwhile, the Government sought ways to limit the effects of user fees on access to health services. Hence, in 2003 prevailing user charges were reduced to the bare-minimum under a known as the '10/20 policy', which required those seeking health services to pay a minimal amount of KSh 10 (USD 0.12) for services at dispensaries and KSh 20 (USD 0.24) at health centres. This 10/20 policy was in force from 2003 to June 2013, when the Government subsequently introduced free primary health care country-wide. However, the success of this policy was limited because facilities still continued to charge certain user fees

based on the rationale that they were not being adequately compensated by the national government after reducing their user charges (Chuma et al., 2009).

In 2003, the National Social Health Insurance Fund (NSHIF) bill was proposed as a major national strategy and legislation which was expected to provide free health care at the point of service to all Kenyans. However, this bill was rejected by then President Mwai Kibaki on the basis that it was neither politically acceptable nor financially sustainable (Wamai, 2009, Carrin et al., 2007, Mboya et al., 2004). After the failure of the NSHIF bill, the Health Sector Services Fund (HSSF) was then initiated in 2005. This initiative was mainly in response to the observation that up to 60% of funds allocated to primary health facilities never actually reached their intended destinations (Government of Kenya, 2004). The HSSF was intended to provide direct funding mainly to primary health facilities in an effort to eliminate user fees and ensure that this funding actually reached health facilities for the purchase of necessary health products. This initiative closed in June 2015 and was largely funded by donor grants. The main funding partners are DANIDA (providing 44%) and the World Bank (42%), with the Government of Kenya contributing 14% of the total amount (Waweru et al., 2013). Since it was first piloted in 2005 and implemented country-wide in 2010, evaluation studies carried out by researchers such as (Waweru et al., 2013, Opwora et al., 2010) indicate that user fees continue to be demanded even in facilities that receive HSSF grants, either as informal user charges or due to the late disbursement of grants.

In mid-2013, as part of the strategy to combat the effects of user fees and as a sign of commitment to UHC goals, the Government adopted a targeted approach towards improving access to health services and financial protection. This policy approach included the provision of free maternity care in all public health facilities as well as free primary health care services at dispensaries and health centres. In essence, this eliminated user fees at these facilities. For the first time, the GOK committed its budget to finance targeted health programmes. Hence, KSh 3.8 billion (USD 44.19m) was set aside for maternity health care and KSh 0.7 billion (USD 8.24m) was allocated for primary care. Currently, the funding for these programmes is remitted by the MOH directly to the health facilities. For instance, facilities offering maternity services are compensated at a flat rate of KSh. 2,000 (USD23.00) per delivery for dispensaries and health centres; KSh. 5,000 (USD57.50) for county hospitals;

and KSh. 17,000 (USD195.40) for national referral facilities (Bourbonnais, 2013). The MOH is currently subsidising maternity care in NHIF-accredited low-cost private facilities. However, the flat rate compensation presents a challenge because it does not account for unique medical interventions such as caesarean deliveries, which cost twice as much as a normal delivery (Bourbonnais, 2013). This presents significant financial gaps at health facilities. Moreover, there are no mechanisms put in place to verify whether the deliveries claimed by the health facilities actually took place. Such gaps could easily threaten the sustainability of these programmes. Other challenges include the fact that this targeted funding contributes to further fragmentation of the health system and limits equitable distribution of benefits by concentrating funds in specific programmes. Nevertheless, the fact that they are funded from domestic revenues is important for their sustainability.

Further commitments by the GOK to operationalise the new health policies included the allocation of funds to the counties for the recruitment of 8700 community nurses, 2900 community health workers and building housing units for health workers (Bourbonnais, 2013). Approximately KSh 500 million (USD 5.6 million) was allocated in 2013/2014 to purchase health insurance cover through the NHIF for the elderly and disabled members of the Kenyan populace. However, despite these signs of commitment towards meeting the UHC goals, an increase in the demand for maternity services following the removal of user charges may present some challenges; for example, the demand for these services across the country recorded an increase of between 10% and 100% across different facilities (Bourbonnais, 2013). To meet these demands, an additional 60 000 nurses were required, yet only 8700 were recruited (Bourbonnais, 2013). Furthermore, the 2014/15 budget for free maternity care minimally increased from the KSh 3.8 billion allotted in 2013 to KSh 4.0 billion in 2014. This increment did not account for inflation rates even though there were surplus funds from the previous allocation. Table 2.2 provides a chronology of health policy interventions from 1963 to 2013.

Table 2.2: Key policy reforms and interventions to improve access to health care for all Kenyans since independence

Year	Policy reform/intervention	Target population	Impact
1963 - 1965	Tax financing with standard user fees	All Kenyans	Limited utilisation because of the fees were unaffordable
1965 - 1989	Exclusive funding from general government revenue (user-fees removed)	All Kenyans at public facilities	Inadequate health services with rising cost burdens for government (and households even with removal of user fees)
	Establishment of the National Hospital Insurance Fund (NHIF) in 1966	Compulsory for formal sector employees; voluntary for the informal sector	Increased inpatient financial protection for members only (mostly those in formal employment). Coverage is comprehensive for members seeking inpatient care in public and low-cost faith-based facilities.
1989/1990	User-fees re-introduced then suspended in 1990	All Kenyans in all public health facilities	Utilisation of public health services decreased at re-introduction in 1989 but increased following suspension in 1990
1991/1993	User fees were re-introduced in 1991 and implemented in phases beginning with hospitals. Children under-5 and services such as immunisation, HIV/AIDS and tuberculosis were exempted from payment.	All Kenyans in all public health facilities	User fees are a barrier to access and have negative implications for equity.
2002/2003	User fees were reduced to the bare minimum in primary health facilities under the 10/20 policy but remained unaltered in higher level facilities	All Kenyans	Increasing utilisation but also increasing informal charges because there was not buffer-fund to take the place of user-fees
	In 2003, the National Social Health Insurance Fund was proposed as a pathway for universal coverage in Kenya	All Kenyans in a mix of tax and social insurance scheme funding	Bill to establish the fund was rejected on sustainability grounds. No impact on population health
2005	Establishment of the Health Sector Services Fund (HSSF) as a buffer fund to compensate for the reduced user fee revenue. The HSSF was piloted in 2005 but actual implementation delayed until 2010	All Kenyans in public health services	HSSF provided HSSF should ideally increase utilisation and lower OOP payments. However, OOP payments are increasing
2013	1) Government introduced free primary care in dispensaries and health centres which eliminated user fees at these facilities 2) Free maternity care in all public sector health facilities 3) Devolution of health services 4) Health insurance for the elderly and disabled	Targeted all eligible Kenyans	Removal of user fees is likely to increase utilisation of services as had been documented earlier Baseline reports (Chuma & Maina, 2013) indicate increased number of births assisted by health workers. There are currently no documentations on the implication of devolution on health care management and service delivery

2.5.3 Overview of current financing arrangements

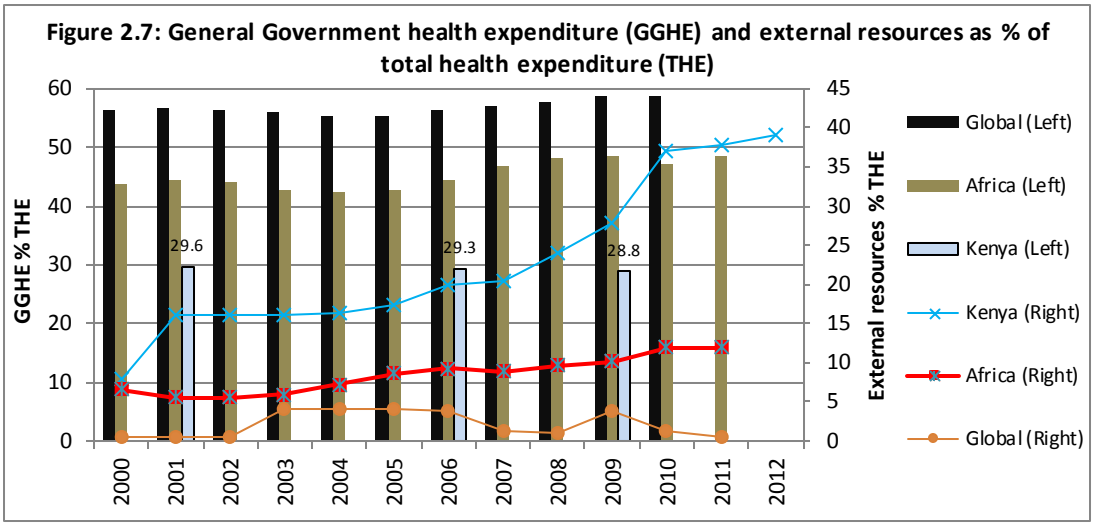
2.5.3.1 Main financing indicators

Health expenditure indicators are important in providing an understanding and interpretation of the overall performance of health care financing system in terms of the priority accorded to the health sector by the Government. Moreover, these indicators provide insights into where there may be room to improve the health sector's financial structure. The World Bank (2013c) indicates that total mandatory prepaid funds in Kenya

are relatively low and have decreased from 47.3% of the total health expenditure in 1996, to 45.8% in 2010. Low levels of prepaid funds means that fewer people have access to affordable health care and financial protection since they have to meet some of the costs of health care from their own sources. Furthermore, an analysis of high- and middle-income countries demonstrates that over 60% of funds need to be prepaid to place the country in a good position for universal health coverage (McIntyre, 2012).

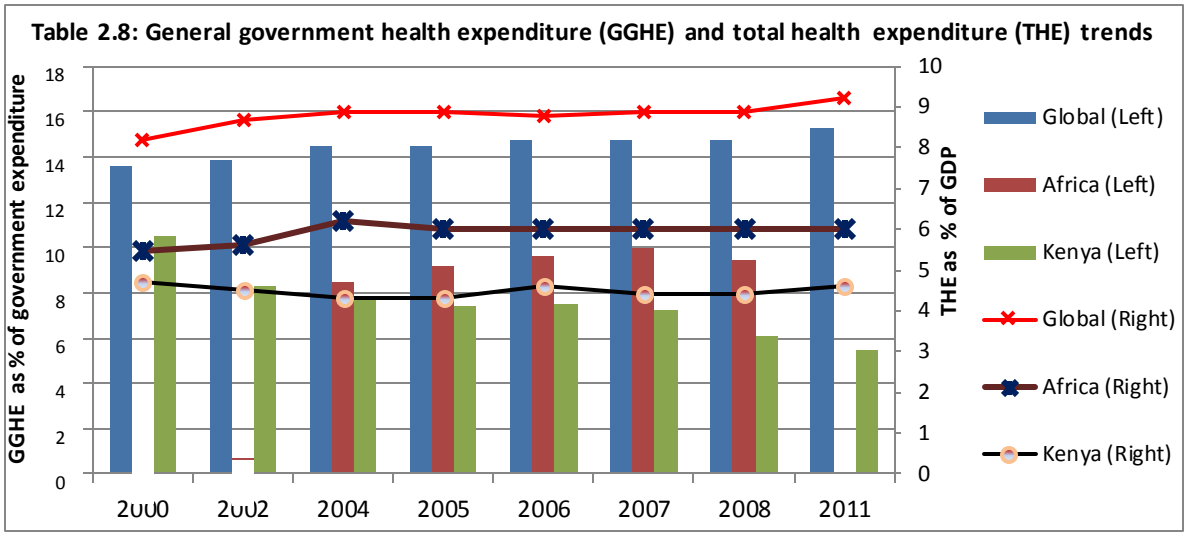
Over the past decade, Kenya has performed below African and global averages with regard to key health expenditure indicators (see Figures 2.7 and 2.8). For over a decade, the Government's share of total health expenditure has remained at around 29 % of the total health expenditure. By comparison, the average funding for health care from African governments increased from 44 % in 2000, to about 49 % of the total health expenditure. The global average of government funding as a share of the total health expenditure was about 59 % by 2011. These trends illustrate that in comparison to the health systems in other African countries, the Government of Kenya places less priority on its health sector.

Kenya has heavily relied on donor funding for the health sector to compensate for underfunding from the Central government. Although external funding contributes to improved access to services and financial protection, it is less reliable and makes key health programmes vulnerable to external shocks, thereby making it unsustainable. As reflected in Figure 2.7, donors (development partners) funded about 39 % of Kenya's total health expenditure by 2012 even though this has declined to about 25% in 2013 (Ministry of Health, 2014c). When compared to the African region in general, these sources of finance have been kept at less than 15 % of the total health expenditure. It must be emphasized that globally, donor support for health care is on the decline as presented in Figure 2.7.



Data sources: (World Bank, 2013c, Ministry of Health, 2010)

Globally, as a proportion of government budgets, the health sector demonstrates reasonable prioritisation receiving an average of 15.3% of total government expenditure. However, in Kenya, the budgetary allocation to the health sector from the Central government has declined from about 11% of the total budget in 2000 to approximately 5.7% in 2014. This trend puts Kenya below the African average of about 9.4% of the total government budget. The Government's allocations to the health sector in Kenya continue to negate the progress towards universal health coverage which is a national health policy priority and requires more public prepaid funds. Furthermore, this goes against the Abuja Declaration which stipulates that Sub-Saharan African governments are obliged to allocate 15% of their budgets to their respective health sectors. In terms of the total health expenditure relative to the GDP, the Kenyan, African and global positions have not shifted much since 2000. Nevertheless, Kenya's position is the poorest overall. The country spends 4.5 % of its GDP on health care as compared to African and global averages at 6.0 % and 9.2% respectively by 2011 (see Figure 2.8).



Data sources: (Ministry of Health, 2013, World Bank, 2013c)

Private expenditures are known to be inequitable and regressive, and the more these expenditures are the higher the inequities in a health system (Uga and Santos, 2007, Roy and Howard, 2007). In Kenya, the proportion of private health expenditure remains unacceptably high even though there are varied estimates. According to the World Bank, (2014) private spending (mostly OOP payments) in Kenya was as high as 46% of the total health expenditure by 2011 contrary to the MOH estimates of 37% for the same period.

A trend analysis of health expenditure indicators from various reports of the KNBS suggests that Kenya's health sector needs to be prioritised at a similar or above the level of priority accorded to the sector in other African states. Furthermore, macroeconomic performance relative to expenditure in the health sector indicates that Kenya has the ability to increase funding for its health sector without this affecting the functions of other areas of the Government's expenditure.

2.5.3.2 Analysis of health care financing using Kutzin's framework

Kutzin's framework is a tool used in the analysis of key health financing functions (revenue collection, pooling and purchasing) as well as "policies and interactions within an existing health care system" (Kutzin, 2001) (P.171).

(a) Revenue sources and revenue collection

The health sector in Kenya has consistently been funded from three main sources, namely, through government revenue, donor funding and various private sources. By 2010, donors contributed the single largest share of the funding for the health system (38.8% of the total health expenditure) (Ministry of Health, 2010). For their part, private sources contributed 36.7%, of which OOP consisted of 66.8% of the total private expenditure. Public sources such as the NHIF and the Government of Kenya contributed 28.8%, with the NHIF contributing 4.7% (Ministry of Health, 2010).

According to the Institute of Economic Affairs (2014) the main sources of government revenue includes various forms of taxes such as personal income tax (29% of the total revenue); value added tax (VAT) (25%); corporate (company) taxes (23%); excise duty (12%); customs tax (7.0%); amongst other taxes (4.0%). Tax funds constitute approximately 88% of the national budget (Institute of Economic Affairs, 2014).

Generally, taxation seems to be progressive, with the highest income brackets contributing about 30% in taxes and the lowest income bracket contribute 10%. However, indirect taxes are on the whole, proportional in Kenya (Munge and Briggs, 2013). Individuals in the formal sector earning less than USD 141 (KSh 12,000) per month are exempted from paying income tax. The Kenya Revenue Authority (KRA) is the national revenue collection agency.

Tax rates in Kenya are generally standardized, with VAT charged at 16% of the total cost of each eligible purchase and personal income taxes graduated from 10% of the lowest taxable amount to 30% of the highest taxable amount. Corporate taxes are proportional and stand at 30% of the total income for resident companies, and 37.5% for non-resident companies (KRA, 2009). The progressivity of VATs in Kenya is not clear although McIntyre and Kutzin (2014) suggest that VATs tend to be progressive in low-income countries but regressive in high-income and most middle-income countries. Contributions to the NHIF are highly inequitable (see later analysis). OOP expenditure is generally regressive with the poorest groups paying about 4.3% of household income on health care as compared to 2.2% for the highest income groups (Ministry of Health, 2009). Although exemption policies exist,

effective implementation is complicated by the difficulty in identifying the lowest income earners.

According to the Institute of Economic Affairs, (2014), there has been an improvement in the efficiency of tax collection since 2003. However, reports from certain investigations such as Wrong (2009) emphasize that the high levels of corruption in Government could reduce compliance and thereby reduce the amount of revenue collected.

From the national annual budget, the Central government allocates a percentage directly to the health sector through the MOH to take care of health services under the Central government's mandate. However, since health care is devolved, the bulk of funding is allocated to county governments and it is their responsibility to independently decide how much should be allocated to each county's health sector. Bourbonnais (2013) and the Ministry of Devolution & Planning (2013) estimate that about 99% of the domestic public sector health expenditure for all counties were sourced from the Central Government. This means that the counties are limited in generating their own revenue for their respective health sectors. County governments on average contributed only 0.12% of their health care budget from self-generated revenues (Ministry of Devolution & Planning, 2013). Firstly, the allocation from self-generated revenue indicates the low priority accorded to the health sector by County governments. Secondly, counties have limited options to generate adequate revenue. Kipchumba (2012) observes that county governments are limited to property taxes, entertainment taxes and user fees as independent sources of revenue. This has a significant impact on their flexibility to self-generate adequate revenue. Furthermore, there are fears among health sector stakeholders that most county budgets would go to non-health sector areas such as general infrastructure or to pay salaries which the county governments treat as priorities areas (Bourbonnais, 2013). When this happens, this is bound to reduce the funding for the delivery of health services. On the other hand, households pay OOP through user charges and other direct payments to providers. User fees, according to McIntyre and Kutzin (2014), can involve high collection costs relative to the income generated.

Revenue for the NHIF mainly comes from payroll taxes which are remitted directly to the NHIF accounts by employers, an arrangement which limits revenue collection costs. However, members of the informal sector who wish to contribute to the NHIF have to make own arrangements to pay and also have to bear the full costs of these contributions. At the NHIF, frequent media reports of corruption and misuse of funds discourages future compliance from employers as well as members from the informal sector who have voluntarily enrolled (Nation Media Online, 2013). Furthermore, the history of contributions to the NHIF is marked by inequities in which the lowest income earners pay the highest percentage of their income to the NHIF. Below is an analysis of various contribution rates by formal sector workers:

(i) Contribution rates since inception:

All formal sector workers earning between KSh 1,000 (USD 11.5) to 15,000 (USD 172.4) contribute a standard 2.0% of their salary, which in absolute figures range from KSh 30 (USD 0.34) for the lowest income earner, to a maximum of KSh 320 (USD 3.7) for the highest earner per month. Beyond KSh 15,000, contributions decline below 2.0% of the salary, meaning that the lowest paid worker contributed 2.0% of their gross income whereas anyone earning KSh 1.0 million (US$ 11,494.3) contributed only 0.032% per month (Figure 2.9) (KSh 86.5 to US$1.00 for 2013).

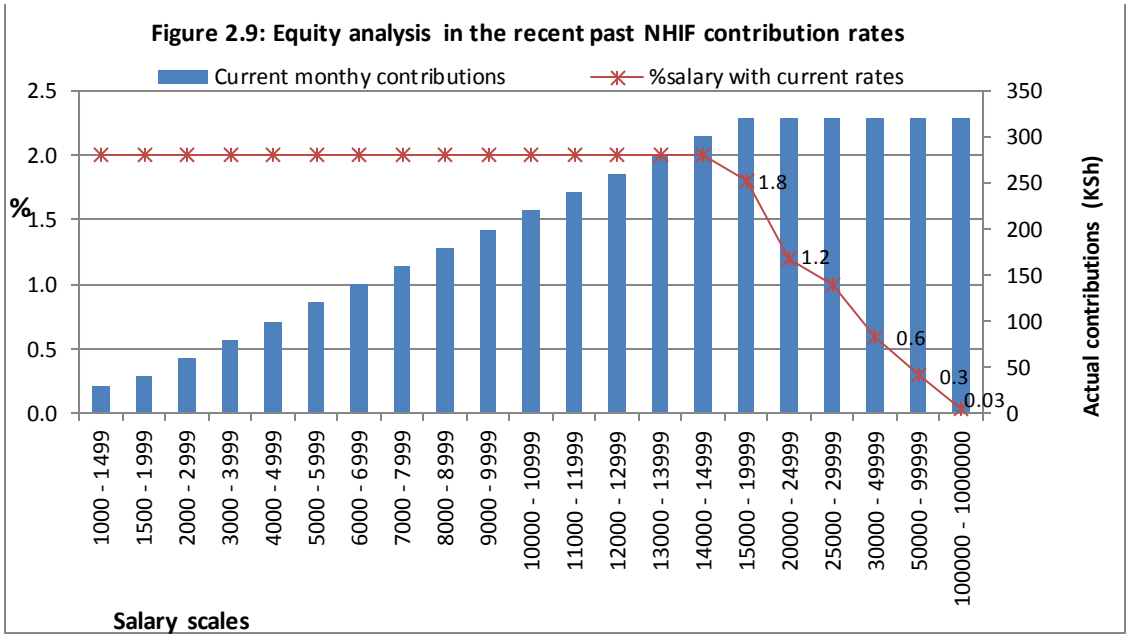
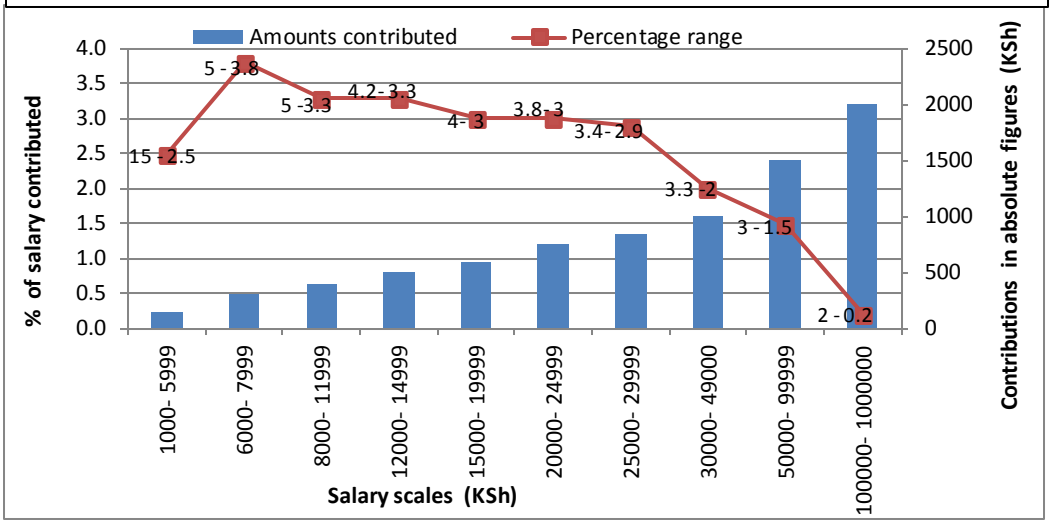


Figure 2.9: Equity analysis in the recent past NHIF contribution rates

(ii) Consultant proposed rates

The proposed rates by Deloitte Consulting Limited (2011) were never implemented but as presented in Figure 2.10 would have perpetuated inequities in contributions. For instance, the lowest paid formal sector workers in the KSh 1,000 to 5,999 salary cluster would be expected to contribute 15% of gross income for those earning KSh 1000 and graduated downwards to 2.5% of gross pay for those earning KSh 5999. On the other hand, those earning from KSh 100,000 to 1.0 million would contribute 2% of gross pay for those earning KSh 100,000 and 0.2% for those earning KSh 1.0 million.

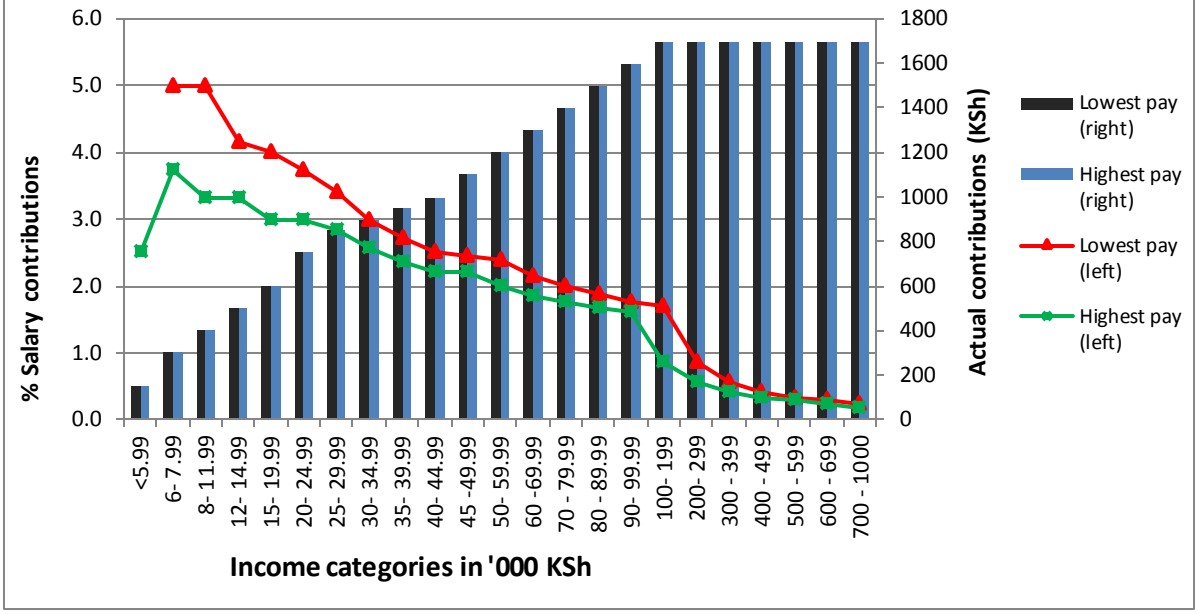
Figure 2.10: The NHIF contribution rates as proposed by a consultant



(iii) Proposed universal coverage rates

Figure 2.11 presents an analysis of revised rates currently under discussion for implementation in the proposed UHC system. Using these rates, monthly contributions for each formal sector worker ranges from KSh 150 for the lowest paid worker earning less than KSh 6,000.00, to KSh 1,700 for workers earning KSh 100,000.00 and beyond. The contributions are capped at KSh 100,000.00 gross pay which further exacerbates the inequities. These inequities are not only seen between income categories but also within income categories. Across income categories, the lowest paid worker would contribute 5.0% of their gross salaries per month, while the workers earning KSh 1.0 million would contribute only 0.17% of their gross pay. Within income categories, using the example of the second lowest income category, those earning KSh 6,000 would contribute 5% of their salary, while those earning KSh7,999 would contribute less than 4% of their salary.

Figure 2.11: Formal sector contribution rates currently in place



Data sources: MOH report on universal coverage (2012), NHIF website

The average monthly salary for formal sector workers in Kenya is KSh 44,125 (KSh 46,793 for the public sector and KSh 42,457 for the private sector). This means that on average, formal sector workers contribute 2.4% (or KSh 1,000) of gross pay to the NHIF every month

The current and proposed future NHIF contribution rates are not equitable and hence, should be avoided in the design of a future prepayment system. A proposed a road-map for universal coverage through social health insurance scheme unfortunately does not address these inequities in contributions – on the contrary, it appears to perpetuate them as shown in the analysis above (item iii). The MOH (2010) notes that the health system generally is characterised by inequities stemming from high reliance on OOP spending, poor pooling and lack of development of health insurance schemes, low levels of government spending and curative and urban bias of health services.

(b) Pooling

Whereas mandatory prepayment funding is essential for universal health coverage, the manner in which the prepaid funds are pooled is critical for achieving the goal of equitable access to health services with financial protection. The word 'pooling' in this context refers to the accumulation of prepaid funds on behalf of a section of or an entire population in a

country (Kutzin, 2001). Pooling enables sharing of health care costs among members of the same pool, where the healthy members cross-subsidise the health care needs of members with various health challenges. McIntyre and Kutzin (2014) explain that pooling aims to exploit the redistributive capacity of prepaid funds and that the redistributive potential is best achieved through large risk pools.

Risk pooling in Kenya is characterised by fragmentation. There are three main categories of public risk pooling systems, namely- tax-funded services for the entire population; the National Hospital Insurance Fund (NHIF), which covers about 17 % of the population, and donor funds. The NHIF covers primary contributors largely from the formal sector including their dependants. Private risk pools are limited and currently cover about 2.0 % of the total population distributed as follows: private-for-profit schemes at 1.61 %; community-based health insurance schemes (CBHI) at 0.22 %; and others such as coffee and tea cooperatives at 0.17 %. In total, about 19 % of Kenyans are members of an insurance scheme (Ministry of Health, 2014b).

Mandatory prepaid funds from domestic revenues are very limited (less than 30% of THE). McIntyre (2012) states that universal coverage systems tend to have a minimum of 60% to 70% of the total expenditure funded through mandatory prepayment mechanisms. This indicates the extent of public funding that the Kenyan system needs to accomplish to achieve universal health coverage. However, the current tax-funded pool is over-stretched and inadequate and as such does not guarantee access to services and financial protection to the population. Furthermore, portions of the pool are reserved for special services such as primary care, maternal and child health (Health Policy Project, 2013).

While these special pools may target the poor and vulnerable members of the society, there is the risk that other health services may not be accessible because of the tendency to concentrate funding on specific areas or population groups. Although both public risk pools (tax funds and the NHIF) show no socioeconomic disparities in coverage, the NHIF tends to cover different population groups, mainly found in the formal sector. All formal sector workers must contribute to the NHIF, whereas contribution is voluntary for workers in the informal sector. However, the voluntary nature of contribution within the informal sector

may expose the NHIF to adverse selection where households more at risk join the scheme. Ultimately, this may jeopardise the long-term sustainability of the fund. Moreover, households who cannot afford the premiums are denied access to quality health services and financial protection. Furthermore, within the NHIF, a separately managed and more comprehensive pool exists for civil servants and members of the armed forces (NHIF, 2015). Generally, fragmented risk pools severely limit cross-subsidisation and equitable access to care on the basis of need.

There is no competition between the tax-funded pool and the NHIF largely because most payments into these pools are legal requirements. The tax-funded pool serves the entire population while the NHIF receives compulsory contributions from formal sector workers. The two pools therefore do not compete for members and so have no incentive to improve the quality of services to attract and retain more members.

Donor funds are not pooled and come from different sources. Up to 90% of total donor funds target disease-specific programmes such as the control of HIV/AIDS, TB and Malaria with separate reporting structures (Ministry of Health, 2010). However, these funds (both local and external) that are meant for primary care services under the direct facility grants are pooled on their own; that is, separately from other public funded pools and with different reporting structures. The concentration of large sums of funds on a few health services is not recommended because of the need to fund other equally important services. A further challenge of having separate donor-funded pools is that donor programmes often take skilled workers from the MOH, which disrupts efficient service delivery.

Ultimately, the extent of fragmentation within the public sector risk pools is unsupportive of the UHC goals. Furthermore, the numerous layers of administration lead to inefficiency both in cost and the delivery of services. On the other hand, the extent of pooling through private prepaid plans remains very limited. The bulk of private expenditure on health is not pooled – rather, it is drawn from households through out-of-pocket payments (OOP) (Ministry of Health, 2010, World Bank, 2013b). Such payments further fragment and reduce the access to services and financial protection within the health system.

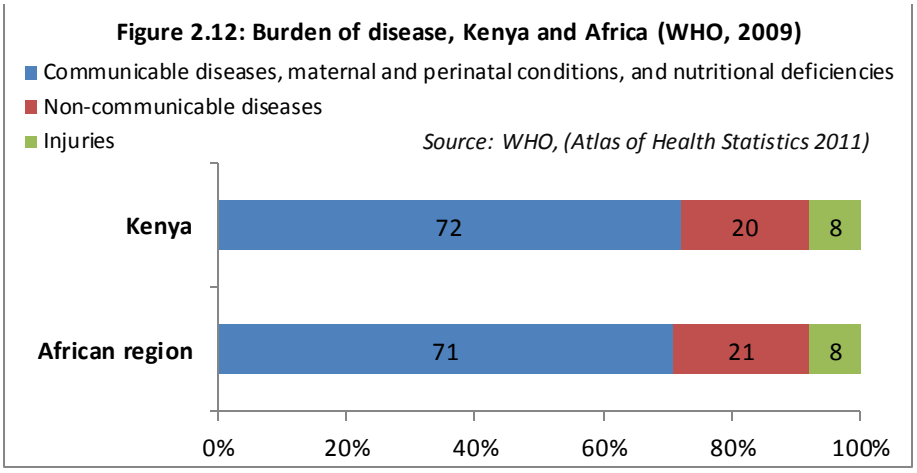
(c) Purchasing

There are multiple purchasers in the Kenyan health system. They include: the central government through the MOH; county governments through their respective health departments; the NHIF; CBHIs; employers; and private-for-profit schemes. Services are also directly purchased out-of-pocket by individual households. This diverse group of purchasers serves different population groups, with the exception of the MOH, which serves the entire population. Private-for-profit schemes serve the formal sector under employer-sponsored group schemes and wealthy individuals who purchase own schemes. The private-for-profit schemes therefore tend to have market competition which could apply pressure for efficiency in these schemes. However, the tendency to limit coverage according to the ability to pay may force private-for-profit schemes to shift costs to public prepaid systems such as the NHIF and central government, especially for patients with chronic illnesses. Although cost-shifting is a public sector health problem, it is generally not widespread (Frakt, 2010).

The benefits package offered are diverse; those relying on services funded through government revenues are all entitled to the same benefits at government facilities, irrespective of the fact that government funding is inadequate to offer comprehensive health services. Hence, individuals who do not have other forms of coverage have to pay out-of-pocket to get the services they need that are not available in government facilities. Conversely, the NHIF has a comprehensive inpatient benefits package in public facilities but no outpatient services, although civil servants have comprehensive outpatient and inpatient services in both public and private facilities. Private-for-profit insurance schemes may therefore offer standard group benefit packages particularly to employee schemes or individual packages, depending on a member's ability to pay.

There is scant evidence of active purchasing in Kenya. County governments are not only the largest purchasers but are also the largest service providers. For a considerable period of time, the Central government's funding for the health sector has had a curative bias, even though the disease burden lies among preventable infectious diseases (see Figure 2.12, (WHO, 2011a)). It remains unclear how these services are aligned to the health needs of the

population. This is because there are no reports from purchasers that would serve to update the epidemiological patterns and services purchased. However, since 2010, national government funding for preventive services has been on the rise. It is not yet clear whether the county governments will replicate the national government's funding for preventive services. In reality, the overall direction of health policy should be targeted towards preventive and promotive services because a very large percentage of the population is youthful. Moreover, the burden of preventable, non-communicable diseases (also referred to as 'lifestyle diseases') is rapidly increasing.



Source:(WHO, 2011d)

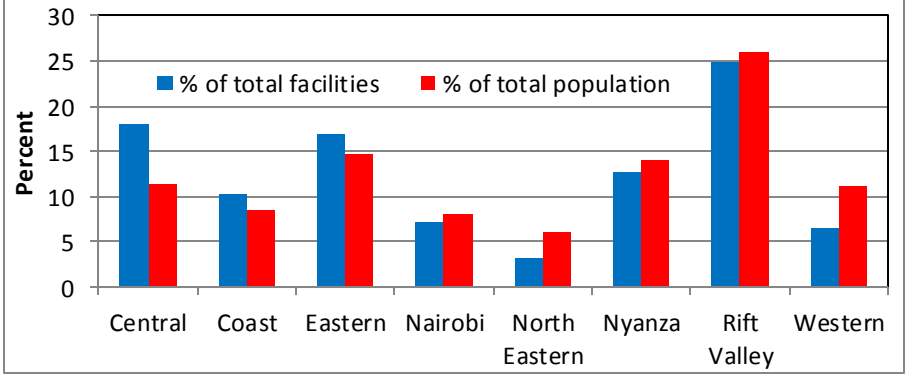
Before devolution of health services, the practice was for service providers receiving government funds to be allocated a budget through the MOH to pay salaries and other costs. However, in the current devolved structure of governance, there has been no incentive to improve performance and thus, public services continue to offer relatively poor quality services. It is still not clear whether the county governments will eventually adopt similar or different purchasing strategies. However, to date, the County governments largely rely on budgetary allocation from the National government to pay for services using a structure relatively similar to the National government's system. On the other hand, the NHIF uses a mix of fee-for-service and capitation to pay accredited providers. However, high cost private providers are reimbursed a standard rate for bed occupancy only (NHIF, 2015).

(d) Provision

Provision of health services is largely in the public domain which is important in controlling costs as it is non-profit making. The public sector accounts for about half of all health facilities and also provides approximately 60% of inpatient and outpatient services (Ministry of Health, 2010). The health worker density is 7.6 health workers per 10000. The ratio of doctors and nurses vis-à-vis the population translates to 1: 15000 and 1: 2000, respectively. This falls short of the WHO recommended ratios of 1: 600 for doctors and 1: 300 – 500 for nurses (Ministry of Health, 2014a).

The distribution of facilities and health personnel is skewed in favour of certain regions (see Figure 2.13). Whereas Nairobi has fewer facilities relative to its population size, it has more than half of all of the physicians in the country. Meanwhile, more than 50% of all health personnel and 80 % of doctors work in urban areas, where only 32% of the population reside (WHO, 2009a).

Figure 2.13: Distribution of health facilities by region and population



Source: (Ministry of Medical Services, 2012, Ministry of Health, 2010)

From this analysis of health financing functions, it is clear that certain areas need improvement. Admittedly, revenue collection through taxes has improved significantly over the years, which translates into better prospects for an increase in health sector funding. The informal sector provides potential for improving prepayment systems if the majority of the sector population can be involved in the prepayment mechanisms. It has been previously observed that pooling mechanisms are weak due to fragmentation, under-funding and lack of involvement of the informal sector. Purchasing could be made more active with regular updates on services and disease patterns aligned to the general population's health needs. This can be done with health services and a mix of provider

payment mechanisms. However, an analysis of the health system performance would be incomplete without looking at the trends in health financing and expenditure because this is important in understanding the level of commitment of the government in achieving the objectives of universal coverage. It also reveals the extent of vulnerability of the health system to external shocks and donor behaviour.

2.5.3.3 An overview of the stated policy in terms of future financing mechanisms

The constitution stipulates that every Kenyan has a right to quality health care. This is a right which could be facilitated through the implementation of a universal health system. The current policy direction proposes a contributory financing model to achieve universal coverage. The design of the future contributory system remains unclear but policy discussions are underway and preliminary proposals suggest risk pools for every county. This would create 47 or more public risk pools countrywide. Such a design would further fragment the health system. Moreover, some counties are financially and economically challenged and hence, would mean that they would not be able to provide adequate financial protection and access to services for their residents. Other sources indicate that a central pool could be created, where services would be purchased through an agency under the Central government although provision will largely be under county health facilities (KPMG, 2014).

Regardless of the design of the contributory scheme, the formal and informal sectors will be expected to contribute premiums while the indigent will be fully subsidised by the government through tax funds. Within a contributory system, the presence of a large and unorganised informal sector may pose some problems in expanding coverage. Even though the law currently makes it mandatory for workers in the formal sector to contribute, enforcement of such a requirement for the informal sector would be very difficult. McIntyre and Kutzin (2014) observe that the failure to enforce mandatory prepayment in sections of the population increases the chances of adverse selection since only high-risk groups and those who can afford may enrol in the schemes. Enrolment of high-risk groups is likely to increase costs which ultimately have a bearing on the long-term sustainability of a contributory system. Moreover, those unable to afford to contribute are left out of coverage, meaning that large sections of the population would be unable to access quality

and affordable health services. Although it appears that membership for the poor would be fully subsidised, this relies on having effective mechanisms for identifying the poor.

The option of a non-contributory financing model (in this case funding from government revenues) has not received serious attention in the current debates about universal health coverage in Kenya. Generally, government funding has been inadequate and the KSh 95 billion allocated to the health sector in the 2013/2014 budget was far short of the KSh 217 billion recommended by the Ministry of Health (2012) task force report. With such serious shortfalls in funding from the Government, the challenge for County governments would be firstly, how to identify the health goals to prioritise and secondly, how to sustainably finance these goals and to ensure that resources are targeted at population health needs (Bourbonnais, 2013).

Conclusion

Despite documented reforms to improve access to services and financial protection, prepaid systems in Kenya remain weak and fragmented. The main domestic prepayment system is funding from general government revenues. Overall, public pooling is fragmented with general revenues, NHIF contributions and donor funding all existing in separate pools. The current challenge is how to bring together all public pools such as the NHIF, tax funding and donor funds, into one or two pools to maximise the redistribution potential of a large risk pool. Although the current policy direction strongly considers a contributory system in the mould of the NHIF, such a system would more often than not, perpetuate inequities in terms of financing because premium contributions tend to be flat-rated, and access to needed services is based on ability to pay. The policy focus on a contributory system as a means to UHC tends to leave out the option of tax-funded UHC even though the macroeconomic and fiscal indicators strongly show great potential for increased government spending overall and on health care in particular. Finally, it is unclear what role the County governments would play in a new prepayment system which would possibly present challenges of implementation since currently the counties have autonomy in the management of their respective health sectors.

CHAPTER THREE: LITERATURE REVIEW

3.1 Introduction

This chapter did not involve a formal systematic review of literature – rather, a comprehensive review was conducted with the aim of providing insights into key concepts and health financing for the UHC in low- and middle-income countries (LMICs). The first stage of the review involved a clarification of concepts such as the 'formal' and 'informal' sectors; 'universalism' and 'universal coverage', 'access to health services' and 'financial protection.' The second stage involved applying Kutzin's health financing functions framework (Kutzin, 2001) to compare and contrast the international experiences in UHC with a focus on LMIC generally. This was then followed by a summary of selected country experiences and the key lessons learnt in their progress towards universal coverage. Case studies were selected from countries in Asia and Sub-Saharan Africa on the basis of the size of the informal sector population in the sampled countries as well as high population coverage and income levels.

The literature review was conducted through electronic search engines and academic data-bases including *Google Scholar and PubMed, Cochrane Library, DARE* (Database of abstracts of reviews of effects) and *SCOPUS.* These sources were critical in providing peer-reviewed journals and reports relevant to the definitions of the key concepts and analysis of health financing in LMICs. Data-bases of global institutions such as the World Bank, the International Monetary Fund (IMF), the World Health Organisation (WHO) and the International Labour Organisation (ILO) were also searched for data required for analyses of trends in macroeconomic and fiscal factors as well as trends in health expenditure and informal sector populations.

The following words and phrases were considered significant during the electronic search for relevant information, namely:

- *Universal, universalism + health*
- *Informal economy (informal sector) + health,*
- *Financial protection + health,*
- *Access + health,*

- *Universal coverage (+country),*
- *Health expenditure, fiscal indicators (+country),*
- *Macroeconomic indicators (+country).*

All literature was screened for relevance in line with the study's research objectives and the concepts considered relevant to this investigation.

3.2 Some key concepts and definitions in the study

3.2.1 Informality and informal sector

In terms of the nature of employment, the terms 'informality' and 'informal sector' are closely related concepts. The concept of an 'informal sector' was introduced by the International Labour Organisation (ILO) in 1972 in its first mission to study the informal economy in Kenya. Internationally, the informal sector has numerous references such as: 'shadow' or 'parallel economy', and 'unregulated economy'. The varied definitions and descriptions of the informal sector are usually determined by a specific country's context. The 15th International Conference of Labour Statisticians (ICLS) drew three distinctive features of what would constitute an informal sector, namely: non-registration of enterprises (in terms of national legislation); small size (meaning few employees); and non-registered employees. This classification implies economic activities that are unprotected by employment or company policy, government regulations or trade union action. What remains unclear is the number of employees considered to be "few." According to van Rooyen and Antonites (2007), the informal sector can be considered from two main perspectives. Firstly, it could be a coping strategy (survival activities) and secondly, as an unofficial earning strategy. As a coping strategy, the informal sector involves casual jobs, temporary jobs, unpaid jobs, subsistence agriculture and multiple job holding. Unofficial earning strategies may include illegal business activities, and underground practices, some of which are criminal. However, most of the literature does not regard the 'criminal economy' as being part of the informal sector. There is some level of consensus in the literature that the informal sector is made up of legal entities.

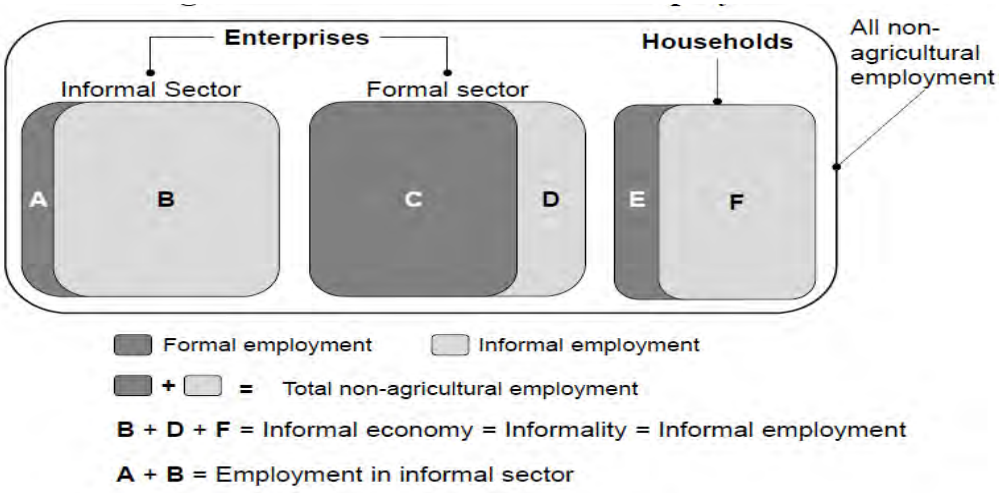
Sethuraman (1998) describes the informal sector as a small scale unit involved in the production and circulation of goods and services whose main aim is job creation rather than maximizing profits. This definition may not be entirely accurate when compared to findings

by Nyerere (2009) who states that some informal sector workers are actually involved in profit maximization, particularly those who are in the sector by preference, irrespective of whether or not they are able to join the formal sector. In view of the ILO guidelines on the definition of the informal sector, the definitions provided by van Rooyen and Antonites (2007) and Sethuraman (1998) are not considered to be useful to this investigation.

In 2003, the 17th ICLS developed the following guidelines for defining informal employment and what would constitute the informal sector. It includes all types of employment in informal enterprises as well as in formal enterprises carried out by workers who are not protected by national labour laws. They also are not subject to income taxes, have no social protection or entitlement to certain employment benefits such as gratuity, notice of dismissal, severance pay and paid leave, among other factors (ILO, 2003).

Bitran (2014) argues that the terms 'informality' and 'informal economy' are synonymous but do not necessarily refer to the informal sector. In his argument, an informal economy (informality) involves informal employment in three areas, namely: the informal sector, formal sector and domestic work. His interpretation is that the informal sector is a section of the informal economy and involves non-agricultural employment only (see Figure 3.1).

Figure 3.1: Formal and informal employment (*Source:* Bitran, 2014)

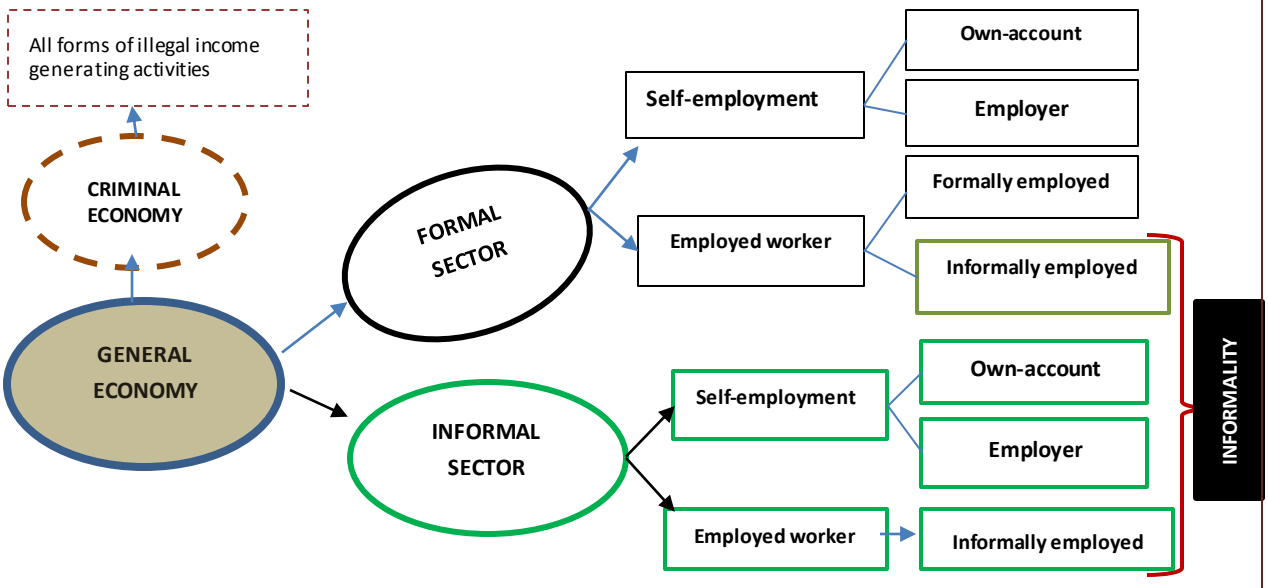


Other sources garnered from the relevant literature such as the ILO (2003) and van Rooyen and Antonites (2007), give guidelines for the definition of the informal sector and propose that the terms 'informal sector' and 'informal economy' are synonymous. A significant gap

in Bitran's definition of the informal sector is that it excludes subsistence agriculture and also seems to draw a distinction between 'informal economy' and 'informal sector' of the economy, which should not be the case.

The position adopted in this study is that the terms 'informal economy' and 'informal sector' are synonymous. However, 'informality', as a general term, refers to the informal state of work – irrespective of whether it exists in the informal or formal economy. According to McIntyre (2007) the informal sector is "…the unofficial sector of the economy, in which income and the means used to obtain it are unregulated, and which coexists within a legal and social environment where similar income-producing activities are regulated" (Pg 1). This is a more comprehensive definition which gives the idea of a parallel economy that is socially and legally acceptable. Figure 3.2 is a graphic display of different types of economy and forms of employment. Although not explicitly referred to in the diagram, subsistence agriculture is regarded as a significant part of the informal sector (included in the 'own account' component). This investigation focuses on the informal sector but excludes the criminal economy and informal employment in the formal sector[4].

Figure 3.2: A graphical distinction of the informal sector (economy) from other sectors of the economy

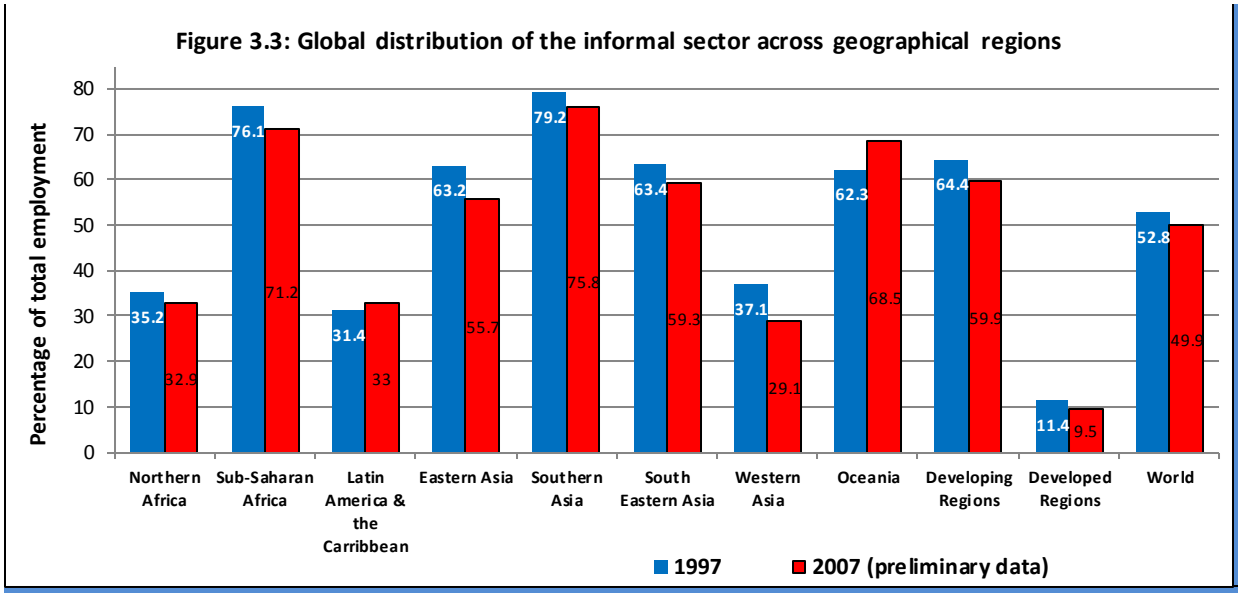


Source: Author

[4] Informal employment in the formal sector means that within registered companies in the formal economy, there are people who are informally employed; i.e. not protected by existing labour laws.

3.2.1.1 Global distribution of the informal sector

Figure 3.3 presents an estimate of the size of the informal sector across different regions of the world. It demonstrates that on the whole, developing countries have the largest proportion of the informal sector economy (approximately 64 % of the total amount). The largest share of informal sector employment as a percentage of total employment in each region is found in Southern Asia (with 79 %) and Sub-Saharan Africa (with 76 %). South Eastern Asia and the Oceania are other regions with a high presence of the informal sector as a share of the total regional employment.



Source: ILO & WTO (2009)

The ILO & WTO (2009) indicate that generally, there has been a regional and global decline in the informal sector as reflected in Figure 3.3. However, other comprehensive studies including one conducted by Charmes (2012) conclude that the exact trend in changes in the size of the informal sector for each country is difficult to assess because few countries consistently provide estimates of the size of the informal sector. However, on the whole, informality has consistently increased in the majority of developing countries. Charmes (2012) equates economic growth with a declining informal sector. Nevertheless, despite Sub-Saharan Africa registering the highest economic growth rate of 4.6 % relative to other regions in the past few years, there is no indication of declining informality. This trend excludes a few countries which have experienced a decline in informal sector growth. They include Tanzania, South Africa and Mali (Charmes, 2012). In the developed world, Schmid

(2010) and Rani (2008) report that, as a share of all employment, non-standard work (temporary, part-time and self-employment) depicting the informal sector, has risen significantly in the recent past. This is linked to changes in the structure of employment and the labour market under the influence of globalisation.

With reference to the non-agricultural informal sector, Chen (2005) and Ncube (2013) estimate that Sub-Saharan Africa has the largest presence, which ranges from 72 % to 80 % of the total region-specific labour force. This is followed by Asia (65 %), Latin America (51 %) and North Africa (48 %). Such widespread informal employment is generally an indicator of low-income and poverty. Moreover, the frequent overlap between informality and poverty results from the fact that most informal workers lack a secure income, employment benefits and social protection (Ncube, 2013). In addition, countries with decreasing informality also experience decreases in the number of workers living in poverty and vice versa. Hence, the informal sector remains an important source of income for the majority of populations in developing countries and significantly contributes to the GDP of these regions. For example, in Sub-Saharan Africa the informal sector contributes about 55 % of the GDP (Ncube, 2013) with Asia registering 31 %; Latin America at 29 % and North Africa at 27 % of the total GDP respectively (Chen, 2005).

3.2.2 Universalism (Universality)

The terms 'universalism' or 'universality' refer to the state of being universal. Universalism is a concept that embodies 'homogeneity' (in anything including entitlements and claims) and supports redistribution of specifically defined resources equitably for all (Hernandez, 2002). A significant number of researchers in the field of social policy such as Anttonen and Sipilä (2011), Stuckler et al. (2010), Kuivalainen and Niemelä (2008) and Kristensen (2007) perceive universalism as a purely political decision to provide broad social benefits for all through a mix of public and private institutions in an effort to protect people from poverty and other forms of social exclusion. This requires that programmes should be funded mainly by national governments and a centrally managed pool of funds to ensure equitable distribution of resources. In this sense, the aim of universalism is to create conditions where those with particular deficiencies (socioeconomic, physical or otherwise) have the same opportunity to benefit from any form of provisions as those without these deficiencies.

Universalism has also been defined as a class struggle by researchers such as Anttonen and Sipilä (2005) and Hernandez (2002) who highlight the difficulty of achieving universal social provision because of its redistributive effects. This occurs when those with more resources are unwilling to give up a portion of their resources to benefit those who have limited or no resources at all. Moreover, attempts at redistribution may spark tensions and resistance in sections of the population. Stuckler et al. (2010) view socioeconomic and cultural tensions as bottlenecks to creating social solidarity amongst different groups. Without social solidarity, it is difficult to implement policies that require popular support, particularly those that require certain resources from some groups to support others.

From this position, even though universalism generally refers to something that is common to all, its application as far as funding and provision of social services is concerned, is not the same in all circumstances. When the concept is applied to social policies, different countries have different interpretations depending on the dominant political ideology, and sometimes even the level of income of the specific country plays a major role. The varied interpretations of universalism can be classified as either 'residual universalism' or 'institutional universalism.'

3.2.2.1 Residual universalism

Residual universalism requires that a state provides a minimum standard of services to those who are most in need; that is, after the breakdown of the traditional support structures of supply, the family and the market (Hernandez, 2002). Mishra (1981) identifies 'means-testing' as a key distinguishing feature of a residual system to extend a limited range of benefits to those who qualify. Spicker (2005) regards a residual system as a 'safety net' for those without options. His position is that this system can be applied in two ways -firstly, through selectivity (negative residualism), which involves the provision of limited services to certain groups or individuals considered most in need and includes means-testing. The second method constitutes providing basic essential services to a large section of the population without means-testing or need-based assessment (positive residualism). Positive residualism sets a minimum standard below which people should not fall (Spicker, 2005). For instance, a country may opt to provide primary health care for everyone while tertiary care is based on the ability to pay.

Critics of residual universalism such as Mkandawire (2005), Sen (1999), Carrier and Kengdall (1998), Spicker (1998) and Hernandez (2002) conclude that residual systems question a society's values and commitments to its members. They also create population hierarchies (dual societies) where those considered as ranking below the social scale are stigmatised because the selection criteria are based on poverty and need. The selection process is often intrusive, administratively inefficient and poses problems in terms of who should be included or excluded, more so in areas with large informal sector populations. Stigmatisation causes problems of access to services leading to under-utilisation of social programmes. However, other researchers such as Edwards and Batley (1978) and Carrier and Kendall (1998) consider negative residualism as necessary to deter undeserving applicants from accessing subsidised services. Furthermore, it could relieve public services of pressure by implicitly encouraging better off groups to seek alternative services.

3.2.2.2 Institutional universalism

Institutional universalism depicts social services as integral to the modern social environment. The state takes up the responsibility of ensuring the provision of social services to everyone by creating a financial and delivery context within which all members of the population are able to access the social services they need. It is strongly linked with the broad conceptualisation of universalism in the sense that it applies the same standards in social policy benefits to all. In so doing, it makes an effort to bridge social gaps. The focus of institutional universalism is the whole society without any means-testing. Moreover, services are provided outside of market forces. Hernandez (2002), Kristensen (2007), Kuivalainen and Niemelä (2008) observe that in institutional universalism, each state takes great responsibility in ensuring that all of its citizens benefit equitably from social services. According to McIntyre (2012) and Sachs (2012), institutional universalism brings about entitlement to services on the basis of citizenship. However, this entitlement requires a high level of collective responsibility to facilitate allocation and redistribution of resources to ensure equitable and efficient delivery of services of the same range and quality (van Oorschot, 1999, Spicker, 2005). The redistribution process would be more effective where social provisions are publicly funded through taxes or through mandatory premium contributions. This would ensure that benefits are based on need and payment is based on economic status.

The position adopted in this study is that countries should approach the provision of social services (including the provision of health care) from an institutional universalism perspective. Moreover, governments are expected to play a major role of providing partial or total subsidies to make health systems more equitable and efficient for all.

3.2.3 Social solidarity

Rusu (2012), from various sources identifies a number of conceptualisations of social solidarity including harmonious co-existence between different groups of people; sympathy for and commitment to other people, and empathy with a distressful condition affecting other people independent of their personal or social character. Because it involves empathy, sympathy and peaceful co-existence, the importance of social solidarity to UHC cannot be over-emphasised as it facilitates optimal income cross-subsidisation.

Social solidarity can be measured through various construct validation methods. Abela (2004) for example, proposes a measurement model of social solidarity that is constructed on ten items that indicate the concern for the living conditions of different categories of people: immediate family, neighbours, people in same region, fellow countrymen, the elderly, sick and disabled people, unemployed, immigrants, Europeans and humankind. A five-point scale is used to code the answers ranging from 1 (very much) to 5 (not at all). Janmaat and Braun (2009) select two items that measure the importance of what a society needs to do to be considered just: eliminating large income inequalities among people, and provision of basic needs for all including food, housing, clothing, education and health. These are measured on a five-point scale and analysed through a principal component analysis.

A number of threats to social solidarity exist; for example, Goodhart (2004) suggests that ethnocultural diversity makes it difficult for citizens to regard fellow citizens of different ethnic, cultural or racial background as one and the same. Goudge et al. (2012) in a study of social solidarity in South Africa, report very low social solidarity in the richest quintile and generally in South Africa. About 60% of the study population would prepay for health care for self and family and only about 12% would prepay to support the larger population particularly where they are comparably worse-off. High levels of social solidarity is an important prerequisite to UHC.

3.2.4 Universal health coverage

The phrase 'Universal Health Coverage' (UHC); 'Universal Coverage' (UC) or 'Universal Health Care', are often used interchangeably. Savedoff et al. (2012) trace the origins of universal health coverage to western European countries such as Germany, Britain, France and Sweden, which have a history of providing a set of basic health care services to their citizens. In recognition of the fact that access to necessary health services was a right for all citizens, the governments of these European countries pro-actively raised funds through taxation and sometimes mandatory contributions to health insurance schemes. However, the practice of health insurance schemes originated with the administration of Otto von Bismarck when it established the first scheme in 1883 for the labour class to ensure optimal performance of the economy in a bid to safeguard the economic interests of the ruling class (Hernandez, 2002).

In more recent times, UHC was brought to global attention during the World Health Assembly in 2005 where member states resolved to: "*…plan the transition to universal coverage of their citizens so as to contribute to meeting the needs of the population for health care and improving its quality, to reducing poverty, to attaining internationally agreed development goals….*" (P.30). Since then, UHC has been a high priority in the global health policy agenda. The WHO (2010b) World Health Report was entirely devoted to financing for universal coverage. The WHO (2010b) observes that for a country to have attained UHC, the whole population should have access to needed health services without the risk of financial hardship.

A widely accepted definition of UHC is that it is a public health concept that involves prepayment funding arrangements for health care that offer financial protection and access to health services for all whenever the need arises (Rodin and de Ferranti, 2012, WHO, 2010b, Lagomarsino et al., 2012). In addition, the services should be of sufficient quality to be effective. Sachs (2012) and McIntyre (2012) interpret UHC as an entitlement to financial protection and access to health services for all, meaning that all have the right to demand services of sufficient quality when they need them. Since the UHC funds are prepaid and

pooled, this financial arrangement is perceived to be fair and efficient across all population groups (Latko et al., 2011).

In summary, UHC is a concept that typifies an integrated prepaid health system where all citizens of a country are entitled to protection from adverse health care costs. They also have access to a comparable range of health services of sufficient quality to be effective in addressing their needs. Stated differently, it refers to a health financing arrangement that guarantees both poor and rich alike, financial protection and equitable access to health services of satisfactory quality whenever the need arises. The two elements of UHC include financial protection and access to health services.

3.2.5 Financial protection

Health-related financial protection refers to protection from the risks associated with the costs of using health care. There are risks related to medical costs paid out-of-pocket (OOP), which can lead to catastrophic expenditures and impoverishment within a household. van Doorslaer et al. (2005) define catastrophic medical costs as those that consume a large share of the household budget thereby forcing households to divert resources meant for other needs such as education and food into health care. Impoverishment occurs whenever medical OOP spending lowers households' living standards and/or force them below the poverty line (Wagstaff et al., 2011).

The ILO (2010) states that effective UHC aims at providing financial risk protection. . This means that a health system is only as good as it eliminates impoverishment and catastrophic health care costs, among other social problems associated with OOP payments. There is global consensus that effective financial protection for all can be achieved through mandatory prepayment financing mechanisms.

3.2.6 Access to needed health services

Access to health services is an important element in UHC and has been widely debated in literature. McIntyre et al. (2009), Goddard and Smith (2001) and Oliver and Mossialos (2004) define access as empowerment in the use of health services. Such empowerment involves

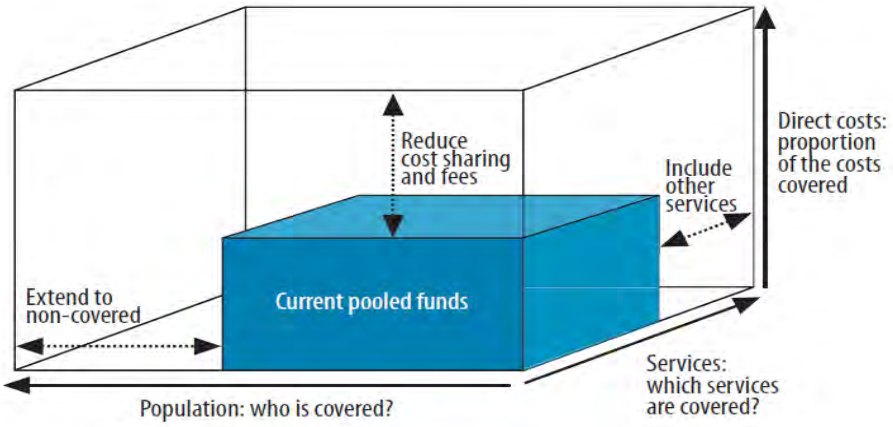
information as well as the interaction of health system factors on one hand, and individuals and communities on the other, to ensure that people get the services that are necessary and relevant to their health needs. The range of services includes promotive, preventive, curative and rehabilitative care. These services ought to be provided in the most comprehensive way possible and be of sufficient quality to be effective. Effective coverage according to the ILO (2010), can be measured in a number of ways; for example, by the number of people making contributions to a health insurance scheme; the number of people benefiting from a health scheme or some kind of income support.

The concept of access to services is multi-dimensional in nature. According to McIntyre et al., (2009) and Thiede et al. (2007) services need to be culturally-sensitive and of acceptable quality. Moreover, they need to be affordable, and available in terms of health facilities, personnel and drugs, among other factors. All these dimensions need to be taken into consideration as countries move towards UHC. The concept of 'access' is heavily linked to the delivery of health services. Effective delivery of services depends on the pooling and purchasing arrangements in place in a country. Large risk pools purchase more health services for a large number of people to equitably obtain services of sufficient quality.

3.3 Moving forward

Universal coverage is a long-term goal, which countries need to persistently strive to achieve. There is no single formula for achieving UHC and countries at varying levels of income are encouraged to adopt home-grown strategies in developing their health systems for UHC. Whatever approach a country chooses, three critical areas need to be addressed in expanding or maintaining coverage (Hyoung-Sun, 2010, WHO, 2010b, ILO, 2010). Figure 3.4 presents the core areas that countries need to consider as they move towards UHC. Developing each of these areas involves choices and trade-offs. Moreover, policy-makers must decide how funds are to be raised, pooled and utilised efficiently to benefit all members of the population by providing quality health services and cost coverage.

Figure 3.4: Coverage dimensions



Source: WHO World Health Report, 2010

The task involves reducing OOP payments through improved prepayment funding, comprehensive provision of necessary services while containing costs and extending coverage to the entire population. Trade-offs are inevitable as policymakers need to balance scarce funds with rising medical costs; competing health needs; changing epidemiological patterns (especially the growth of non-communicable diseases); and new technologies to improve care. Cumulatively, a country has to make decisions on the following: (i) the proportion of the population to cover; (ii) the range and amount of services to offer; and (iii) the proportion of the total costs to be met from prepaid funding. In explaining 'the box', the WHO (2010b) states that the shaded area in Figure 3.4 (current pooled funds) is the level of coverage in an imaginary country where about half of the population has coverage for about half of the needed services, in the context of pooled funds being too low to be able to avail a comprehensive benefits package. Moving to UHC would require this country to develop strategies on how to provide coverage to more people, while at the same time, making more services available. This will require additional financial resources.

Trade-offs are necessary because no country could possibly achieve the goal of providing health care to all members of its population, avail all medical services required, comprehensively cover all costs, and have no waiting lists. However, services available to the population should be as comprehensive as costs may allow (WHO, 2010b). In reality, filling the box would imply that all citizens in a country have access to all necessary services

and everyone is protected from paying out-of-pocket whenever they seek health services that are covered. In a way, certain expensive procedures may be funded from alternative sources outside of pooled funds.

Approaches to 'fill the box' vary. For instance, countries with lower poverty levels and a small informal sector may attempt to reach UHC by targeting the few that are currently excluded. Countries with small formal sectors and large numbers of poor and informal sector populations may target the formal sector with coverage and move gradually to covering the rest of the population. This is not a straightforward process and thus caution needs to be taken to avoid creating a dual system that could lead to stigmatisation of services for those in the lower social scale.

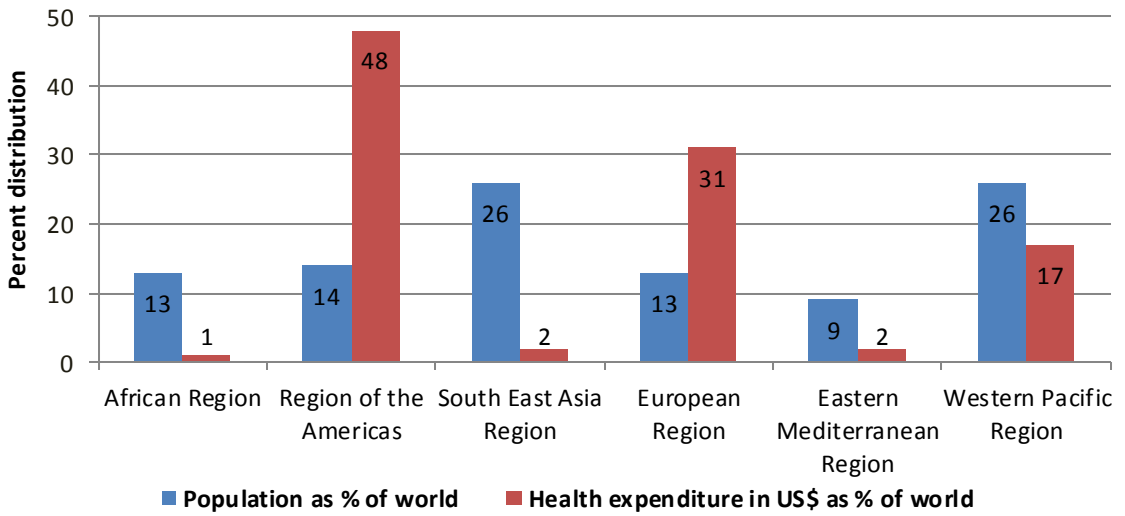
The efforts to achieve UHC in many countries face various challenges including lack of sustained commitment especially by political leadership, unclear roadmap to UHC, large populations especially in the informal sector that lack financial risk protection arrangements, and weak health systems that cannot provide needed health services and health information systems to monitor progress in UHC (Siddiqi, 2013). In countries with large informal sector populations, prospects for achieving UHC are weakened by ineffective legal institutions that fail to translate legal coverage into effective coverage (ILO, 2010). The challenge of obtaining financing support from informal sector populations has been discussed. To effectively inform policy on coverage for the informal sector, it is necessary to first compare the systems put in place by the global community in their efforts towards achieving UHC. This includes an examination of how various population groups including the informal sector have been covered, and also, reviewing country cases with large informal sector populations that have achieved or have made significant steps to achieving universal health coverage, to understand the financing arrangements and reforms that have made it possible to cover this critical section of the population.

3.4 Overview of international experiences in universal health coverage

3.4.1 Introduction

Mandatory prepayment is the best alternative financing mechanism for universal health coverage. McIntyre's analysis of health financing in high- and middle-income countries that have progressed to universal coverage shows that a minimum of 60 – 70 % of the total health expenditure in these countries comes from mandatory prepayment sources (McIntyre, 2012). The WHO (2010b) declares that no significant progress to UHC can be made through voluntary prepaid health care. Many developing countries encounter challenges in extending coverage to entire populations because they not only have scarce financial resources but also problems of organising large informal sector populations to prepay for health care. The most affected regions are located in Africa and South East Asia. Figure 3.4 demonstrates that these regions record the lowest health expenditure relative to population size, which is an indication of problems in cost and population coverage.

Figure 3.4: Percentage distribution of population and total health expenditures by WHO regions 2011



Source: (WHO, 2012a)

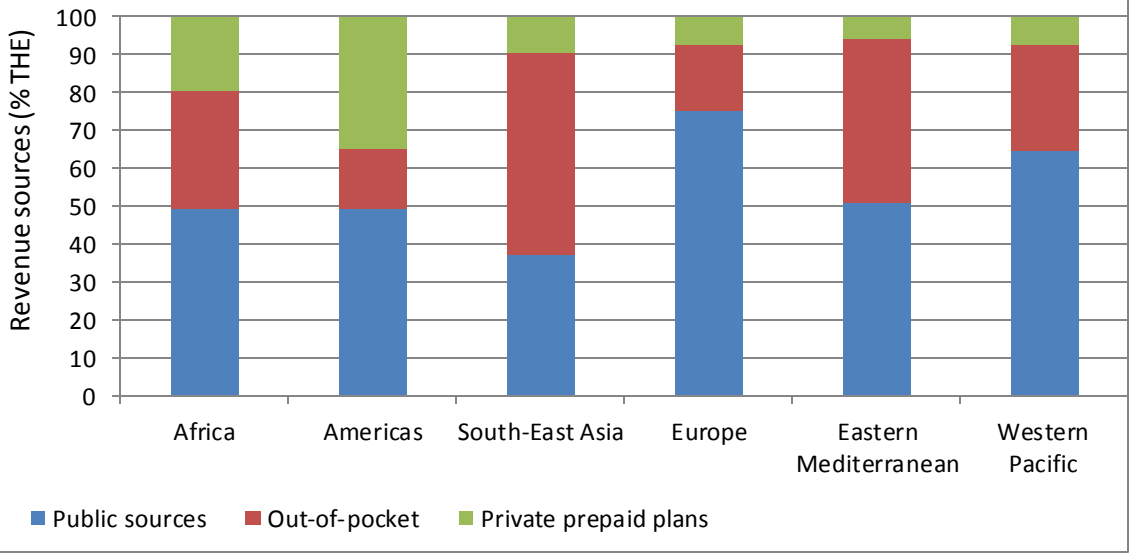
Coverage for informal sector populations in many LMICs would make an important contribution towards achieving UHC and a number of these countries have initiated policies to extend coverage to the informal sector. Using the Kutzin framework, this review made efforts to understand the arrangements of funding health care that specific countries have used to cover the informal sector and make progress towards UHC. The review did not include Eastern European countries because, as Jenkner et al. (2012) noted, these

economies already have high health expenditures and near universal health systems. Hence, their main challenge is efficiency of spending to improve health outcomes and quality of services. The review focuses on the use of domestic funds because of their sustainability and reliability besides the need for governments to increase funding for the health sector to realise UHC.

3.4.2 Revenue collection

The main sources of revenue for health systems are tax revenue, mandatory social health insurance contributions, voluntary private insurance or a mixed system. Figure 3.5 shows the main financing sources for regional health systems across the world. Public sources include government revenue, social security contributions and external resources.

Figure 3.5: Health financing sources in the WHO regions (2009)



Source: (WHO, 2012a)- WHO Global health expenditure atlas

External sources of funding for healthcare are very limited across all the regions although Africa has the highest at 10% of THE coming from such sources. Other regions such as South East Asia and Eastern Mediterranean have less than 2.0% and the rest have between 0.1% and 0.2%. The European and Western Pacific regions are dominated by a combination of domestic mandatory prepaid funding (general government revenue and social health insurance schemes) comprising about 75 % and 64 % of the total health expenditure respectively. The high amounts of domestic mandatory sources of funding have seen many countries in these regions achieve universal coverage. Mandatory prepayment sources are

important for sustainable financial protection and access to services. On the other hand, health systems in the African, South East Asian and Eastern Mediterranean regions are predominantly funded through out-of-pocket payments and government tax revenue. These are the regions with the highest number of low-income countries, which according to the World Health Report (WHO, 2010b), also have the lowest domestic funding for the health sector. High incidence of OOP payments in these regions make the health systems even more fragile and unsustainable and expose many households to financial catastrophe and impoverishment.

Many countries are reforming their health systems with the broader objective of UHC and a number of LMIC in Africa, Asia and Latin America have made significant efforts to expand coverage to all population groups. Some of these countries have made serious efforts to move towards universal coverage including Thailand, Sri Lanka, Mongolia and Philippines in Asia; Rwanda, Gabon, Ghana and Gambia in Africa, and Costa Rica, Cuba, Argentina and Chile in Latin America. As shown in Table 3.1, these countries have varying levels of investment in the health sector with Rwanda spending the least at USD 63 per capita per annum while Costa Rica has the highest at USD 943 per capita. The difference in per capita expenditure is partly because of different epidemiological profiles between the two countries and the fact that Rwanda is a low-income country providing comprehensive primary care coverage for its population and Costa Rica an upper-middle-income country providing comprehensive primary and tertiary services.

Between funding from tax revenues and SHI, countries adopting the latter approach usually have phased approaches to coverage and is associated with formalisation of labour (Charmes, 2012), where revenue collection is made cheaper through payroll deductions. On the other hand, countries such as Costa Rica and South Korea that successfully funded coverage for the informal sector through SHIs did it in phases with the informal sector coming last (Gattini and Ruiz, 2012, Kwon, 2012). These countries also have comparably limited informal employment that is easy to target and hence, coverage laws can be enforced among workers. This is the case in Costa Rica where the government contributes substantially on behalf of informal sector workers who cannot afford to pay premiums rates.

Table 3.1: Revenue sources for universal coverage in selected low- and middle-income countries (%)

Country	Main financing sources for health system	Main funding sources for the informal sector	% Informal sector & (Subsistence Agriculture)	Government Health Expenditure (GHE) as % GDP	Public Expenditure on health % of Total Health Expenditure(THE)	GHE % of Government budget	OOP Expenditure as % of THE	Private Expenditure % THE	External funds % of THE	Per capita health Exp. (US$)
Ghana	Government revenue (37%); NHIS (17%); NHIS (MOH) 20%; Donors (24%)	Government revenue; NHIS	42.3(80)	4.8	56.1	11.9	27	44	14	75
Rwanda	Government revenue (19%), External sources (47%), Household OOP (21%), Private schemes (8.3%) & CBHIs (4.7%).	Donors, OOP payments, CBHIs	40 (93)	11	56.7	23.7	21.4	43	47	63
Gabon	Government revenue (39%); NHI (13%); Private funds (47%)	Government revenue; OOP payments	47.2	3.2	53.4	6.6	46.6	46.6	1.0	358
South Africa	Government revenue (47.7%); private schemes (42.4%)	Government revenue	28	4.1	47.7	10.5	7.2	53.3	2.2	649
Sri Lanka	Government revenue; OOP payments	Government revenue; OOP payments	62.1	3.4	44.6	7.2	(45.7)	55	3.0	97
Thailand	1. Payroll deductions for SHI 3. UC scheme (SHI and government revenue)	Government revenue	42.3	4.1	75.5	14.5	13.7	25	--	202
Mongolia	Government revenue	Government revenue; SHI	17.9	5.3	57.3		(39.7)	43	5.0	161
Philippines	Government revenue, OOP payments; SHI	Government revenue; SHI schemes	70.1	4.1	33.3	8.5	56	67	2.0	97
Costa Rica	SHI (57%); private expenditure (30%)	SHI	26.3(43.8)	11	70.1	28	27.2	30	1.0	943
Cuba	Government revenue	Government revenue	---	10	94.7	14	5.3	5.3	--	606

Data sources: (WHO, 2011b, WHO, 2012a, Population Reference Bureau, 2010, ILO, 2012b, Government of Kenya, 2010b, Government of Rwanda, 2009, Osei-Boateng and Ampratwum, 2011)

Argentina	SHI (41%); private expenditure (39%)	Government revenue; OOP payments	49.7	8.1	60.6	20.4	24.7	39	--	891
Venezuela	Private expenditure (63%); SHI (11%)	Government revenue; OOP payments	47.5	5.2	36.7	7.2	57	63	--	555
Brazil	Private expenditure (54%); government revenue (19%)	Tax revenue	42.2	8.9	45.7	8.7	31.3	54	--	1121
Kenya	Donors (39%); Government revenue (29%); OOP payments (24%); NHIF (4%)	Tax revenue; Donor funds; OOP payments; Premium contributions	34.5(83)	4.5	39.6	5.7	26.4	60	39	36

Covering the informal sector through premium contributions in settings where the sector has the majority of the population comes with serious challenges associated with the sector. It is usually very difficult to estimate incomes in the sector. Moreover, incomes are generally low, and revenue collection from the sector is costly. This makes it difficult to enforce health coverage to workers in the informal sector using contributory approaches. Tangcharoensathien et al. (2011) state that implementation of premium payment in the informal sector to achieve UHC is technically unrealistic. Countries such as Vietnam, Philippines, Ghana, Tanzania, Cambodia and Kenya that pursue contributory approaches to UHC have found it difficult to increase population coverage to the informal sector.

It is not clear why some LMIC choose SHI as the path to UHC but historically, SHIs have been associated with formal employment. Tracing the history of Germany reveals that the country needed SHIs to protect factory workers among other workers to ensure undisrupted economic growth. However, in recent times, it could be a strategy to create fiscal space for governments by having formal sector employees insured through SHIs while using tax funds to subsidise the rest of the population. This strategy has been adopted in Ghana, Thailand and Mongolia. Generally, SHIs are not very well developed in most LMIC because of high levels of informal employment (McIntyre, 2007).

Countries that have successfully extended coverage to the informal sector and the wider population at a faster rate have been able to do so with either tax revenue and/or donor support. The predominantly tax-funded and integrated health systems of Thailand, Sri Lanka, Cuba, Mongolia and (more recently) the Philippines have greater population coverage than most SHI systems in LMIC. Tax-funding is simpler to target the whole population than SHI which targets population groups beginning with those in formal employment. As observed by Rannan-Eliya and Sikurajapathy (2009), substantial proportions of tax revenue to fund universal health systems in these countries is raised through indirect taxes with VAT being the most important. This is because the majority of the population is rural and working in the informal sector to render direct taxation difficult. The tax-funded integrated approach to extend coverage to the informal sector and poor populations has also been implemented in Argentina and Brazil, which involves providing comprehensive primary health care for all citizens (Torres, 2013, Gattini and Ruiz, 2012, del

Rocío et al., 2010). A similar financing model for UHC is under consideration in South Africa (McIntyre, 2012).

A significant challenge with non-contributory models of financing health care is efficiency in tax collection. Tax regimes in some countries require good leadership in order to be effective. However, other countries have been innovative in raising more funds for health care. Indonesia simplified its tax system and improved tax administration through clear tax laws and zero-tolerance for corruption (WHO, 2010b). In Kenya, the new government elected in 2003 improved tax compliance to significantly increase revenues (KNBS, 2007). Gabon, Zambia and Gambia are committed and innovative in raising revenue for higher population coverage. Gabon charges a 10 % levy on mobile phone companies' turnover and a 1.5 % levy on international money transfers to contribute to health care financing. Zambia taxes investment income to fund coverage for the poor (Tandon and Cashin, 2010, McIntyre, 2012).

Tax-funded systems are administratively less costly than SHIs or other systems. As domestic resources, tax revenues are sustainable and critical, whether as complementary or primary to financing UHC. Generally, tax funding tends to be more progressive than other funding sources. For example, according to Akazili et al. (2012), overall tax-funding in Ghana is progressive even though indirect taxation, including 2.5% additional VAT as an earmarked tax for health care, is tending towards proportionality. No reasons are given for this trend but a reconsideration of target goods for VAT exemption has been recommended by Akazili et al. (2012). Tangcharoensathien et al. (2013)) observe that direct taxation for health care in Thailand is the most progressive followed by indirect taxation. The SHI scheme is also progressive as it targets mainly the formal sector although its progressivity is low because deductions are capped. Both OOP and private insurance are regressive in Thailand although the former is said to be progressive in Sri Lanka (Rannan-Eliya and Sikurajapathy, 2009).

Finally, a number of initiatives for mandatory prepayments to extend population coverage in Africa and Asia have been highly donor dependent. According to McIntyre (2012), more than half of the total health expenditure in Rwanda, Malawi, Mozambique and Tanzania comes from donor funding. Rwanda in particular has provided coverage for the informal

sector and the poor through contributions from the Global Fund to fight HIV/AIDS, TB and Malaria, among other donors and NGOs. Ahoobim et al. (2012) and Logie et al. (2008) observe that Rwanda's rapid expansion of population coverage is highly dependent on strong donor support, strong political will and the high priority given to the health sector by the government. In Cambodia and Laos, donor-driven Equity Funds have been used to increase coverage to the poor. However, because of the persistently high OOP payments in the two countries, Missoni et al. (2010) and Tangcharoensathien et al. (2011) doubt the extent to which these funds have succeeded in providing financial protection and access to services. Dependence on donor funds does not support the long-term stability of health systems and being unsustainable, it is not enough security for universal coverage because it is not predictable for planning purposes. Countries relying on donor funds to provide financial protection for the informal sector and other groups therefore need to look at all possibilities of developing domestic resources for health care.

3.4.3 Pooling

For purposes of attaining UHC, there are two major pooling avenues for most countries in the world: tax pooling and pooling through a combination of SHI and tax revenue. In most LMIC pooling does not fare well either because tax funds are inadequate or pooling through premium contributions are underdeveloped and fragmented (Spaan et al., 2012). Fragmentation makes health systems unable to effectively cross-subsidise for financial protection and access to needed services for all citizens. This is because small pools create problems of sustainability, are administratively inefficient and costly (McIntyre, 2007). However, the problems of fragmentation can be addressed through risk equalisation mechanisms such as in Japan and Netherlands. Where risk equalisation is non-existent, inequities in quality and use of health services exist, with the poor and informal workers left with the choice to either use the often poorly funded government services or pay out-of-pocket. In Chile for example, Gattini and Ruiz (2012) note that 13 % of the population are found in the informal sector that is not covered by any scheme even though the system is indicated as universal at least for primary services. Table 3.2 illustrates pooling arrangements in some LMIC and the pools covering informal sector populations.

Table 3.2: Different pooling arrangements in selected LMIC

Country	Main pooling arrangements and populations targeted
Ghana	The NHIS is the main pool and funded through government revenues and contributions from district mutual health insurance schemes (DMHI), community-based health insurance schemes (CBHI) and social security. The NHIS is designed to cover all Ghanaian population
Rwanda	There are three distinct pools in Rwanda: 1) Mandatory mutuelles funded by donors, government revenue and CBHI contributions provide coverage to the majority of Rwandans mainly in the informal sector 2) Two separate schemes - RAMA and MMI respectively cover civil servants and security forces. These are co-funded by government and employees. There also are limited voluntary private schemes for private formal sector workers
Gabon	Caisse Nationale d'Assurance Maladie et de Garantie Sociale (CNAMGS) is designed to cover the entire population
South Africa	1. Several private schemes cover mainly formal sector workers 2. Government revenue provides coverage for the rest of the population
Philippines	The Philippines Health Insurance (PhilHealth) is the main pool and is funded through government revenue and SHI contributions. Private schemes cover mostly formal sector workers
Sri Lanka	There is one pool funded from government revenues for all Sri Lankans
Thailand	1. Civil Servants Medical Benefits Scheme (CSMBS) covers civil servants and retirees 2. Social Security Scheme (SSO) covers formal private sector workers 3. Universal coverage (UC) scheme is the largest pool in terms of membership and covers informal sector workers and the rest of the population who are not members of the other schemes
Argentina	Argentina has four distinct pools: 1. Government-funded services for the informal sector and rest of the poor 2. Social security scheme for the formal sector 3. Plan Nacer covers expectant women and children <6 (Plan Nacer) 4. Private schemes are meant for richer individuals
Costa Rica	1. Social Security of Costa Rica (CCSS) covers the formal and informal sector populations 2. Voluntary schemes for self-employed individuals are subsidised by tax funds
Cuba	One pool funded by government revenue and covers the entire population
Kenya	Three main pools exists: 1) Government-funded services for the entire population 2) Donor funded pools for specific health programmes especially HIV/AIDS, TB and malaria 3) Social health insurance contributions through the NHIF mainly covering the formal sector

Sources: Various country sources

There is a tendency for the informal sector to get some form of coverage from pools funded by government revenues mainly because it is the duty of the government to provide certain health services even though these usually are highly inadequate in many LMIC. Government funded pools may be separate or integrated with donor funds to purchase services. In countries such as Kenya, Tanzania, Cambodia and Lao PDR, donor funds are in their own

pools for stand-alone programmes. However, in countries like Rwanda, donor funds and government revenues have been integrated in a single pool to cover the informal sector and other population groups.

The decision to separate or integrate donor and tax funds into a pool depends mostly on the trust that donors have in the integrity of the systems to guard against leakages and corruption. For example, the WHO (2011c) and Logie et al. (2008) report accountable governance in Rwanda leading to integration of donor funds into the MOH budget. Alternative contributory pooling arrangements such as SHI grow gradually even in high-income countries (Ahoobim et al., 2012, Rao and Choudhury, 2012, Missoni et al., 2010), and the informal sector is usually the last to be considered in such a pooling system. In LMIC, only Costa Rica has successfully covered the informal sector through SHI, albeit with heavy government subsidies. Although private pooling arrangements feature prominently in Africa, they are largely unaffordable to many people and benefits are based on ability to pay rather than need (Figure 3.5). Moreover, this form of prepayment is extremely fragmented with sustainability challenges in the limited risk pools.

3.4.4 Purchasing

The range of services purchasable for a given population is influenced by financial constraints. This forces difficult trade-offs to provide some level of coverage for all and more so for the low-income populations such as those in the informal sector and the indigent. Decisions over what services to purchase, how and for whom, are critical for the objectives of UHC. According to McIntyre (2012), purchasing determines whether resources are properly utilised for the benefit of all and ensuring that services purchased reach intended beneficiaries.

McIntyre (2012) and Langenbrunner and Somanathan (2011) suggest active purchasing as a strategy to align population health needs with available services and as a measure to control cost escalation. Where services and population health needs are misaligned, (for example in India and Vietnam), high levels of OOP spending are often recorded. India's Arogyasri scheme highlights persistent problems in many LMIC where health schemes insure beneficiaries for inpatient care only when they could benefit more from primary services.

According to Gupta et al. (2012), the Arogyasiri scheme has used 25 % of the state health budget but addressed only 2 % of the burden of disease.

Most of the LMIC listed in Tables 3.1 and 3.2, have standardised and comprehensive benefit packages for the whole population. The package may involve primary care services only for the informal sector and the poor (as is the case in Rwanda and the Philippines) or both primary and tertiary services (as in Thailand, Sri Lanka, Mongolia, Ghana, Costa Rica and Cuba). Although South American countries such as Argentina, Chile and Brazil offer comprehensive primary services through public funding, these systems are highly inequitable because other schemes exist with more comprehensive services for higher-income populations. Furthermore, different benefit packages for different population groups can be stigmatising. In Indonesia for example, the Askeskin programme entitles the poor to so called 'third class' beds for inpatient care and outpatient services at government facilities while China has different benefit packages between population groups in schemes within provinces and counties (Rao and Choudhury, 2012).

Although service delivery through tax financed systems can be equitable, Rao and Choudhury (2012) observe that such systems usually face a lot of pressure because services are comprehensive in a vaguely defined benefits package. To defuse this pressure, there are both implicit and explicit rationing such as queuing for services and provision of relatively lower quality services in the public sector to force out the well-off to seek private services. Although this contributes towards sustainability of prepaid programmes, it creates inequalities in the range, quality and speed of access to services.

How providers are paid is also important for the sustainability of prepayment systems. In cases where the government (through the Ministry of Health) is the main purchaser as is the case in many developing countries mostly for public sector services, providers are allocated a budget and health workers are paid salaries[5]. Elsewhere, payment through capitation can be effective in controlling cost-escalation and transfer of financial risk to providers (Ahoobim et al., 2012). However, most provider payments involve a mix of various

[5] Public funding does not always involve budgets and salaries as the only provider payment mechanisms but can include other provider payment methods.

mechanisms to balance incentives for provision. This has been actively implemented in successful universal systems such as Thailand and Sri Lanka. Other countries are also considering implementing this system including Vietnam, Ghana, Philippines and Kenya. On the other hand, fee-for-service as is common in Ghana and Philippines, is inefficient as it transfers financial risks to households and purchasing organisations and is prone to escalate costs through over-treatment and over-diagnosis (Langenbrunner and Tandon, 2012, Ahoobim et al., 2012, Garrett et al., 2009).

3.4.5 Provision

In most LMIC, both public and private sector facilities are contracted to offer services. Religious mission and NGO facilities are also common in these countries in an effort to expand service provision. Most developing countries offer public provision to the large numbers of low-income groups seeking subsidised government services. However, public service provision in many cases is of poor quality.

3.5 Overview of case study countries

The choice of four LMIC countries as case studies on universal coverage was based on having made significant progress towards universal coverage and large informal sector populations. The four countries are: Thailand, Sri Lanka, Rwanda and Ghana. Table 3.3 presents the macroeconomic indicators for these countries.

Table 3.3: Macroeconomic contexts for case study countries (2011/2013)

Macroeconomic indicator	Rwanda	Ghana	Sri Lanka	Thailand
Population (Millions)	10.8	25.5	21.2	69.9
GDP growth rate (%) (2013)	5.1	7.4	7.9	6.0
Informal sector as % of total labour force & (subsistence agriculture)	40(93)	42(80)	44(62.1)	(42.3)
Poverty rate (PPP US$<1.25 per day, % population)	26.53	28.59	4.11	0.31
GNI per capita (US$ Current)	1,430.0	3,880.0	9,470.0	13,510.0
Total government expenditure as % GDP	26	26	23	23
Total tax revenue as % GDP	14.1	15.0	12.4	17.6

Data sources: (World Bank, 2014a, WHO, 2013b, ILO, 2012b)

There are different contexts in each of the countries: Rwanda is a low-income country (LIC) which has relatively high population coverage at about 73% of the total population. Although this percentage is still considerably high, enrolment rates in the CBHIs (mutuelles)

have been falling from 91% of the population in 2010 to the current 73% (Government of Rwanda, 2013). In addition, the mutuelles are facing financial deficits that also raise questions about their sustainability. Ghana and Sri Lanka are lower-middle-income countries (LMC) with the latter having near universal population coverage but the former shows stagnating coverage. On the other hand, Thailand is an upper-middle-income country (UMIC) with coverage at 99.5 % of the population (Lindelow et al., 2012) . Significant levels of population coverage in Rwanda suggest that universal coverage is possible regardless of a country's level of economic development. However, there is a direct link between the size of the informal sector and level of economic development: the poorer the country the larger the informal sector.

An overarching characteristic among these four countries is the critical role of political leadership in pushing through and sustaining policies for expanding coverage. For three of these countries- Ghana, Sri Lanka and Thailand- free health care at the point of service emerged out of populist political processes geared towards winning elections (Missoni et al., 2010, Gunatilleke, 2009, Agyepong and Adjei, 2008). Thailand and Sri Lanka have demonstrated strong links between policy decisions on universal coverage and research evidence which perhaps has contributed to the high levels of population coverage in the two countries at relatively low-cost. Sri Lanka has a strong evidence-based social welfare programme (Gunatilleke, 2009) and Thailand prides itself in innovative health system development including policy-driven research and retention of key personnel in running UC policies (Tangcharoensathien et al., 2010a, Missoni et al., 2010).

Apart from political commitment to expand coverage in the four countries, macroeconomic factors have also played a key role in sustaining coverage. High economic growth rates in these countries allow governments to increase expenditure on health care without necessarily decreasing funding for other government functions. Data from the World Bank (2013c) show that for over a decade all four countries have had higher GDP growth rates compared to their peers although much less predictably in Rwanda. Sri Lanka maintained high growth rates for over two decades while Ghana and Thailand have maintained similarly high growth rates in the past decade. As of 2013 the annual growth rates ranged from about 5% in Rwanda being the lowest to about 9% in Sri Lanka.

The unemployment rate is another important macroeconomic factor and links directly with the ability of a country to secure stable and predictable incomes for its citizens. Among the case study countries, Sri Lanka and Thailand have low unemployment rates meaning that their citizens have more predictable incomes and relatively able to generate substantial domestic resources to sustainably prepay for health care through contributory or non-contributory financing models. Ghana and Rwanda on the hand have most of their citizens employed in the informal sector where work and income are not often sustainable. This suggests a direct link between informal sector employment and incidence of poverty. Rwanda and Ghana have the largest informal sector and also the highest rate of poverty; the opposite is true for Sri Lanka and Thailand. Rwanda and Ghana also have the lowest gross national income (GNI) per capita consistent with their income status but both have higher tax revenue as a share of GDP than Sri Lanka. As a middle-income country registering the lowest tax revenue as a share of GDP (12.4%) among comparable countries, it may suggest some level of inefficiency in tax collection in Sri Lanka. The IMF recommends a threshold of at least 15% of tax revenue relative to GDP. Countries falling below this threshold, that is, Sri Lanka and Rwanda in this case, could be facing with fiscal instability.

There are some similarities in the fiscal stability of the four countries under review in terms of deficits, debts, total revenue and government spending relative to GDP. There are limited budget deficits relative to GDP with Thailand having the lowest deficit at 4.0% of GDP and Ghana having the highest at 4.9% of GDP. The Ghanaian case is particularly remarkable because, notwithstanding benefiting from debt relief under the highly indebted poor countries (HIPC) initiative, the emerging fiscal challenges and potential vulnerabilities including expenditure arrears and unstable revenues come in the face of high economic growth rates inspired by above average production in oil and cocoa (ADB, 2012). Although the debt positions in the four countries are sustainable, Thailand registers the highest debt as a percent of GDP (49%) compared to Rwanda (23%). Rwanda is also a beneficiary of debt relief under HIPC, which has contributed to its sustainable debt position (Government of Rwanda, 2009). Overall, low unemployment rates (formal and informal), low budget deficits and relatively stable inflation rates in all four case study countries are general indicators of

the stability of macroeconomic conditions and are important in increasing fiscal space for health.

Table 3.4 is a summary of health system indicators for the four countries reviewed. The level of government health spending indicates the extent to which the health sector is prioritised. While a threshold for government health spending as a share of total government expenditure could be difficult to establish, African governments have settled on health expenditure of 15% of total government expenditure threshold which few of them have met. Indications are that Rwanda has met and surpassed the Abuja threshold but with a lot of donor funding. Furthermore, there is no evidence yet that meeting such a target is a prerequisite for better health outcomes.

On the other hand, Thailand is often regarded as having achieved impressive health outcomes at low-cost (Hanvoravongchai, 2013, Limwattananon et al., 2013). The Thai government expenditure on health constitutes about 3.0% of the GDP and 14.5% of the total government budget, compared to 5.0% and 24% respectively for Rwanda. Thailand has a much larger GDP compared to Rwanda so is able to spend more per capita on health. Under a universal health system, the higher per capita spending in Thailand means that the health system can afford to provide more comprehensive health services for all its citizens as opposed to Rwanda where the majority especially in the informal sector are restricted to primary health services for lack of comprehensive funding (WHO, 2009b).

Table 3.4: Health systems indicators in case study countries

Health system indicators	Rwanda	Ghana	Sri Lanka	Thailand
General government expenditure on health as % of GDP	5.0	3.0	1.0	3.0
Total health expenditure as % of GDP	10.66	5.17	3.15	3.93
Per capita health expenditure (US$ current prices)	66.07	83.04	88.63	215.10
General government expenditure on health as % of government budget	23.7	12.1	7.2	14.5
External resources on health as % of total health expenditure	47	14.2	2.7	0.4
Private expenditure on health as % of total health expenditure	43.3	43.9	55.4	24.5
Out-of-pocket (OOP) expenditure on health as % of total health expenditure	21	29	46	14
Maternal mortality rate/100000	320	380	29	26
Infant mortality rate /1000 live births	37.1	53.2	8.2	11.3
Skilled birth attendance % of total	69.0	68.4	98.6	99.5
Physicians/1000 population	0.056	0.096	0.68	0.39

There is a considerable level of reliance on domestic resources to finance health care in Sri Lanka, Thailand and Ghana which is important for sustainability of health programmes as opposed to Rwanda where almost half of health sector funding comes from external sources. On the other hand, although Rwanda has the lowest per capita health spending, such expenditure has surpassed the WHO (2010a) recommended USD60 threshold that is required to provide essential health services in low-income countries as at 2015. The overall per capita health expenditure follows a wealth trajectory where the richest country (Thailand) has the highest per capita spending and vice versa for Rwanda, the poorest country in the group. The differences in level of per capita spending between the four countries could also be the result of differences in epidemiologic and demographic transitions which shift the burden of disease to non-communicable diseases (NCDs) and a greater burden on health systems. This is the case with Thailand (WHO, 2012b) and Sri Lanka as opposed to Ghana and Rwanda for which the burden of disease lies in preventable infectious illnesses (Government of Rwanda, 2010a).

An analysis of the level of private spending in all the four countries suggests that only Thailand has large amounts of public and mandatorily prepaid funds (75.5% of total health expenditure as of 2011) that are essential in improving access to services and financial protection. The other three countries show high levels of private spending contrary to the goals of UHC which aim at improving access to quality health services and financial protection. In terms of OOP spending only Thailand has met the WHO threshold of <20% of THE as the acceptable amount that should be paid in the form of OOP payments. Rwanda is very close at 21% although total private expenditure (including private prepaid plans) stand at about 43% of THE which means that access to services and financial protection still depends to a large extent on ability to pay. However, in Sri Lanka, OOP spending is not only progressive (Rannan-Eliya and Sikurajapathy, 2009) but its catastrophic effects are also low and its rate of growth is slow (van Doorslaer et al., 2007). This raises questions on whether the high levels of OOP spending currently being experienced were the real goal of the institutional universality in health care provision as envisaged by Sri Lanka.

The trends in financing health care in Sri Lanka do not reflect its economic growth rate. The key indicators of health care financing (public prepaid funds as share of GDP, health

expenditure as a share of total government expenditure, among others) have either declined or remained at relatively the same levels over the years (see Appendix A2 for Sri Lanka). The overall picture is that the Sri Lankan health system could be significantly under-funded. On the other hand Thailand (and Rwanda to some extent), show commitments to fund health care even in periods of economic crises. For the Thai case, the trend in growth of mandatory prepaid funds is a remarkable achievement and reflects the overall strength of the Thai UHC in terms of protection from financial risks and enhancing access to services (Appendix A4 for Thailand).

In terms of health outcomes such as infant mortality rate (IMR), maternal mortality rate (MMR), and service coverage measured by key indicators such as number of skilled birth attendance and physicians per a given number of people both Thailand and Sri Lanka have achieved great success with relatively limited spending. Sri Lanka is a particularly interesting case because as a lower-middle-income country (LMC), its health outcomes are comparable to those of high-income countries (Rannan-Eliya and Sikurajapathy, 2009) and is on track to achieving most MDGs (World Bank, 2013c). The government's maternal and child healthcare programme is credited with improvements in health outcomes (de Alwis and Christopher, 2013).

3.5.1 Expanding coverage to the informal sector

Literature indicates that the countries under review have used three different approaches to extend coverage to the informal sector, namely: (i) premium contributions with heavy subsidies from donors and national government (Rwanda); (ii) premium contributions with subsidies from ear-marked taxes (Ghana); and (iii) universalist funding from general government revenues (Thailand and Sri Lanka). All four countries are at different levels of population and service coverage although Thailand and Sri Lanka are regarded as UHC success stories. Stagnation or drops in enrolment into schemes in Ghana and Rwanda as documented by Apoya and Marriott (2011) and Government of Rwanda (2013) respectively, may relate to the difficulties in sustaining contributory approaches in contexts with large informal sector populations and/or unavailability or poor quality services under the schemes. This however, may require further investigation.

To sustain coverage in both Thailand and Sri Lanka, a number of factors have come into play. These include investment in evidence-informed policy-making supported by strong and competitive political processes (Tangcharoensathien et al., 2010a, Gunatilleke, 2009), strong watchdog roles of the civil society and parliament in Thailand have ensured continued prioritisation of health care in national decision-making (WHO, 2012b) and a dense network of integrated public health facilities both in urban and rural areas which has enabled most Sri Lankans to access health services within less than 3km (Rannan-Eliya and Sikurajapathy, 2009). Investment in health facilities was strategic in expanding tax-funded universal coverage (Rannan-Eliya and Sikurajapathy, 2009). The private health sector is small and concentrated in the capital city, Colombo.

3.5.2 Health care financing functions

3.5.2.1 Revenue collection and pooling

In all four countries, there have been significant efforts made to expand and maintain coverage mainly through pro-poor policies. In Sri Lanka, the tax-funded single risk pool ensures equity and social solidarity (Rannan-Eliya and Sikurajapathy, 2009). In Rwanda the main targets for expansion of mutuelles (as the mandatory health insurances schemes are termed) in the 1990s were people outside formal employment (Government of Rwanda, 2009). Thailand's UCS targets the majority of the population, who are outside formal sector employment, and Ghana on the other hand, consolidated risk pools at the national level to promote equitable access to services and financial protection for all.

Thailand and Sri Lanka rely heavily on non-contributory domestic funding mechanisms to expand coverage to the majority of the population. Although non-contributory mechanisms involving direct and indirect taxes ensure equity in benefits and contributions and are largely progressive, indirect taxes can sometimes be regressive (McIntyre, 2012). Insurance premium contributions on the other hand, are regressive in most settings.

Unfortunately all the countries under review with the exception of Sri Lanka have some form of contributory mechanisms. In Thailand, premium contribution is restricted to the formal sector, where the effects may be minimal in terms of inequitable contributions. The

informal sectors in Rwanda and Ghana are expected to make a regressive flat-rate contribution. However, Rwanda has initiated reforms using village poverty mapping mechanisms (*Ubudehe*) to categorise people into economic groups to address the problem of inequitable contributions (Government of Rwanda, 2010b). Identifying the poor is complex and similar traditional poverty assessment programmes have had minimal success in Vietnam but failed completely in Thailand and Philippines because of nepotism and political patronage (Tangcharoensathien et al., 2011, Nguyen and Rama, 2007). In Ghana, problems in identifying indigent populations exist as most of NHIS members who are exempted from paying can actually afford to pay (Schieber et al., 2012).

There are multiple schemes in Rwanda and Thailand providing coverage to different population groups but without a risk equalisation mechanism. Fragmentation across schemes contributes to differences in the depth of coverage among population groups. For example, the Civil Servants´ Medical Benefit Scheme (CSMBS) in Thailand covering government employees, retirees and their dependents is the smallest of the public schemes but controls more funds than the others (Hanvoravongchai, 2013). In Rwanda, 75 % of RAMA (a scheme for civil servants) members are in the richest quintile (WHO, 2009b). Overall, the existence of richer public contributory schemes for formal sector workers as is the case with Thailand and Rwanda reduces income cross-subsidisation as people outside formal sector work generally have low-incomes. For Rwanda, it remains unclear why the government should continue co-paying premium costs for already privileged groups in the military and civil service instead of directing more resources to the mutuelles which cover over 90 % of the population. In addition, different levels of contributions and per capita health spending in different pools suggest differences in the range of services between population groups. For example, members of the UCS (Thailand) are restricted to services within public primary care (Tangcharoensathien et al., 2010b) while members of CSMBS can access services at any facility of choice.

Among the four countries reviewed, the Rwandan pooling system is the most fragmented. With numerous small pools, Rwanda's mutuelles together face high administrative costs at 22 % of THE as of 2009 (Government of Rwanda, 2009). Fragmentation creates several problems related to costs and cross-subsidisation and McIntyre (2012) recommends either

integrating pools or putting in place a risk equalisation mechanism to restore some level of equity in benefits across various pools. The Rwandan government proposes a risk equalisation mechanism known as the National Guarantee Fund (NGF) to stabilise the financial position of mutuelles and improve access to services for mutuelle members (Government of Rwanda, 2011, Government of Rwanda, 2010b). Although Ghana operates a single pool, the multiple layers of revenue collection and pooling stages from districts to the national level may present inefficiencies in revenue collection especially from the informal sector.

An emerging problem unique to Ghana is the lack of integrity and independent reporting at the NHIS, not only with funds but also with actual level of population coverage. Coverage, according to the NHIS, is for 61 % of the population and 45 % according to the National Development Planning Commission (NDPC). Apoya and Marriot (2011) put effective coverage at 18%, Sarpong et al. (2010) at 38 % and the WHO (2011c) at 53.6 %. These large differences in reporting population coverage does not help in reassuring Ghanaians that they are on the path to UHC.

3.5.2.2 Purchasing

From the analysis, health sector reforms in Rwanda and Ghana largely targeted revenue collection and pooling to expand population coverage as opposed to an all-inclusive process that also addresses issues around purchasing for sustainable coverage. In Thailand, considerable debate during the reform process centred around how to provide sustainable health care for all at low cost and as such embarked on strategic purchasing especially in UCS which covers the majority of the population (Hanvoravongchai, 2013).

There is no strong evidence of active purchasing in the other countries apart from Thailand although in Sri Lanka, Rannan-Eliya and Sikurajapathy (2009) and Langenbrunner and Somanathan (2011) observe that strategies such as rationing services are an element of active purchasing. Rationing involves queuing and allowing quality challenges in the public sector to implicitly force out the well-off to seek private provision and keep down costs in public provision. For Thailand, strategic purchasing especially in the tax-funded UCS involves the use of different provider payment mechanisms, creating a purchaser-provider split

which linked payment to performance (Hanvoravongchai, 2013) and use of the strength of a very large purchaser (UCS) with many members to negotiate lower costs from providers (McIntyre et al., 2013). Other strategies include strict control on referrals including control of access to specialists (Limwattananon et al., 2013, Sakunphanit and Suwanrada, 2009a). In Sri Lanka, lack of strictness in the referral system may improve access to services but could also drive up costs in the long-term besides burdening higher level facilities with patients who could be treated at lower level facilities. Another important element in active purchasing involves aligning health services with population needs. This has not been the case in Sri Lanka with regards to non-communicable diseases (NCD) in rural areas (Bandara, 2011) and is partially responsible for high OOP spending. In addition to misalignment in population health, although Sri Lanka provides 'free' primary and tertiary health services, the high OOP payments are mainly due to use of private facilities. High OOP spending in Sri Lanka is a threat to its much talked about 'health at low cost'.

In Sri Lanka, the structure of cost coverage means widening differences between population groups in the range and quality of services that can be accessed. For Thailand the strong link between evidence and health care policy ensures that services are aligned with population health needs (Tangcharoensathien et al., 2013, Missoni et al., 2010).

In the public purchasing agencies, there are multiple purchasers in Thailand and Rwanda and single purchasing agencies for Sri Lanka. In Ghana there are reforms underway to have a single purchaser under the NHIS. The advantage of having a single purchaser is its ability to ensure equitable services for all. Multiple purchasers serve different population groups so purchasers from poorer pools can only afford limited services for their members. This is the case with pools serving formal sector workers which have more comprehensive services than the informal sector pools in Rwanda and Thailand.

Thailand is the richest of the four countries under review and is therefore able to provide a comprehensive benefits package in practice for all citizens. However, tight restrictions on UCS members to use of public primary care facilities reinforce the UCS as a residual universal coverage scheme. Restrictions on access to services also come from gate-keeper charges (co-payments) in Rwanda, particularly for low-income mutuelle members.

To draw incentives for service provision, Thailand, Ghana and Rwanda use a mix of provider payment systems including capitation (recent in Ghana), global budget, fee-for-service and case-based fees (Thailand only). For Rwanda and Thailand where multiple purchasers exist, the mix of provider payment systems are prevalent in mutuelles and UCS respectively. For CSMBS, Hanvoravongchai (2013) notes that imbalanced provider payment mechanisms emphasising fee-for-service has triggered cost escalation. Fee-for-service has also led to the unsustainable financial position of the NHIS in Ghana and forced it to introduce capitation (WHO 2011c). Rwanda directly provides incentives to public providers under performance-based financing (PBF) (WHO, 2011c) to deliver on specific health issues such as maternal and child health. While this is important, McIntyre (2012) reiterates that PBF could distract health workers from other health deliverables that do not carry incentives. At the same time, says McIntyre (2012), PBF tends to concentrate health resources on a few health issues rather than spread the resources to cover more health problems. Furthermore PBF contributes to fragmentation in the health system.

In the four countries, services are delivered mainly through primary care facilities. However, Thailand and Sri Lanka have highly developed networks of public provision to ensure access to high quality services at various levels (WHO, 2012b, Tangcharoensathien et al., 2010a). Ghana has a fairly well developed network of primary health facilities but hospitals are not well distributed across regions (McIntyre et al., 2008). There are also capacity problems where providers are not paid on time leading to rejection of NHIS patients (Apoya and Marriott, 2011).

In summary, although the four countries have demonstrated commitment to expanding and maintaining coverage, there are contextual factors that need to be addressed. Ghana's seemingly stalled coverage could be due to fraud and cost-containment problems while Rwanda could strengthen its prepayment system by consolidating pools at a higher level. The Sri Lankan system needs to address the escalating private expenditures by increasing allocations to the health sector and strengthening its purchasing system.

Table 3.5 is a summary of health care financing functions for the four case study countries.

Table 3.5: Summary of health care financing functions in case study countries		
Country	**Revenue collection and pooling**	**Purchasing**
Rwanda	**Mutuelles**: 1) Tax funds (direct and indirect) contribute about 19% of total health expenditure (THE) 2) Donor funds contribute 46% of THE. Both donor and government funds are used to subsidise mutuelles 3) Contributions through CBHIs (4.7% of THE) **Civil servants and military** (4% of the population): 1) Rwanda Medical Insurance Scheme (RAMA) covers civil servants with contributions at 15% of basic salary split equally between employer and employee 2) Military Medical Insurance (MMI) for the military and police. Contributions are at 21% of basic salary paid by the government (17.5%) and members (3.5%).	a) Purchasing organisation: Multiple purchasers, each scheme independently buys services from accredited public and private providers b) Benefits package: Mainly basic preventive and curative services for mutuelle members. Curative services at district hospitals are largely inaccessible due to lack of comprehensive funding (WHO, 2009b, Government of Rwanda, 2010b). c) Provider payment mechanisms: Mutuelles have a mix of capitation at primary care level and fees-for-service at the hospital level. This mix of provider payment mechanisms have contributed to improved financial position of some mutuelles (WHO 2009b). Mutuelle members co-pay 10% of the total costs at hospital level or US$ 0.15 – 0.37 at primary care level; RAMA and MMI members pay 15% of total cost at all levels of care. Indigents and vulnerable groups do not co-pay.
Ghana	Tax revenues provide the main source of funds for expanding coverage. Pooling is done at the national level through National Health Insurance Scheme (NHIS) and targets all Ghanaians Indirect taxes involving a 2.5% extra VAT levy (the National Health Insurance Levy (NHIL)) contributes 70-75% of all NHIS funds (McIntyre and Mills, 2012, Mills et al., 2012a, Owusu, 2010). Earmarked payroll tax at 2.5% of salary from the Social Security and National Insurance Trust (SSNIT) contributes about 20-25% of the funds and the informal sector contributes about 5% through the district mutual health insurance schemes (DMHIS) and the indigent are fully subsidised by the NHIS	a) Purchasing organisation: The NHIS the only public purchaser of services through accredited public and private facilities. Imbalanced provider payment strategies have contributed to cost escalation and unsustainability (Apoya and Marriot, 2011). b) Benefits package: The benefits package is comprehensive but is pro-rich. c) Provider payment mechanisms: Heavy reliance on fee-for-service which is unsustainable although the NHIS rolled out a phased capitation-based payment early 2013. *Source: (Aryeetey et al., 2012, Apoya and Marriott, 2011, Aryeetey et al., 2010, Jehu-Appiah et al., 2010, Jehu-Appiah et al., 2011, Sarpong et al., 2010, Witter and Garshong, 2009, WHO, 2011a, Owusu, 2010, Mills et al., 2012a, McIntyre et al., 2008)*
Sri Lanka	Direct and indirect taxes provide most revenue (65% of THE) for universal coverage. There is a single pool and single purchaser for all Sri Lankans Other sources: donors (2.7%), local governments, the President's Fund and other government agencies, ministries and departments	a) Purchasing organisation: The Ministry of Health is the purchaser and main provider of services b) Benefits Package: Public provision is equitable, broad and deep with few exceptions such as family planning services (Bandara, 2011) c) Provider payment mechanisms: Budget allocation from the central government A large network of public facilities ensures the dominance of public provision with more than 95% of inpatient care (Institute for Health Policy, 2011).

Thailand	The revenue sources include the central government providing 71% of health care funds through a mix of direct and indirect taxes including a 7% VAT. There are three mandatory schemes: 1) The universal coverage scheme (USC) is funded through general tax revenue and targets the informal sector and all those not covered by other schemes 2) The Social Security Scheme (SSS) involves a tripartite contribution: employer (1.5%), employee (1.5%) & government (1.5%). The SSS covers private sector employees excluding dependants as well as voluntary contributors such as retirees 3) The Civil Servants Medical Benefit Scheme (CSMBS) is funded through tax and covers	a) Purchasing agency: National Health Security Office (NHSO) purchases services on behalf of UCS members while the Social Security Office (SSO) purchases services for SSS members. The Comptroller General Department (Ministry of Finance) purchases services for public employees b) Benefits package: The UCS benefits package is near comprehensive including curative, preventive, promotive and rehabilitative as well as services provided according to traditional and other alternative medicines. The SSS benefit package has minor differences from the UCS but the civil servants' scheme has a more comprehensive package than the others do. c) Provider payment mechanism: The NHSO uses capitation for outpatient care and global budget plus case-based fee. The SSO uses capitation for inpatient and outpatient services plus additional adjusted payments for emergencies and high cost care. The
	public sector employees and their dependants Private prepaid plans are voluntary and mainly for those who need additional cover (WHO, 2012)	Comptroller General Department pays providers through fee-for-service, direct disbursement to public providers and case-based fee for inpatient care *Sources: (Tangcharoensathien et al., 2010b, Sakunphanit and Suwanrada, 2009b)*

Appendix A, sections A1, A2, A3 & A4 contain an analysis of macroeconomic, fiscal and health financing trends for the four case study countries.

3.6 Lessons from country experiences in universal health coverage

3.6.1 Introduction

From the wider international experience, universal coverage is facilitated by mandatory prepaid funds. Countries particularly in Europe and Western Pacific with high levels of mandatory prepaid funds (70 % and above of total health expenditure, WHO (2011b)) have more advanced universal systems. Mandatory prepaid funds (specifically drawn from taxes and SHI) are used to extend coverage to the informal sector and to fund universal coverage in most countries. Although CBHI schemes once worked well in some developed countries such as Germany and Japan where they formed as a basis for establishment of SHI, they no longer exist in developed countries and are only found in the poorest countries. There are diverse forms of CBHI schemes, but they typically operate where informal sector populations purchase health services OOP and they lack access to other health insurance schemes. The fact that CBHIs are voluntary makes them unable to provide coverage to everyone. On this note, the (WHO, 2009b) has also advised Rwanda to merge mutuelles and model coverage towards SHI to reduce fragmentation and administrative costs associated with CBHIs.

3.6.2 Lessons from tax-funded approach to expanding coverage

There are a number of advantages associated with extending coverage using tax funds. First, tax funding supports equity in financing and benefits as they are more progressive and easily target the whole population from a single large pool at an administratively lower cost than SHI (Akazili et al., 2012, Tangcharoensathien et al., 2010b). Tax funding does not only target and integrate all population groups with a standard benefits package but also creates a situation where richer people self-select and opt for private services while still contributing to the tax pool for the benefit of low-income groups. In so doing, tax funding supports institutional universality and is more equitable when it adopts universality instead of targeting (Tangcharoensathien et al., 2013). Targeting includes expanding coverage to population sub-groups, for example, effective coverage of poor households and extending SHI to dependents such as spouses and children. Low- and middle-income countries opting for tax funding to cover the informal sector have progressed faster in UHC than countries using contributory schemes. Countries such as Thailand, Sri Lanka and the Philippines, have significantly progressed to UC using tax funds not only to cover the informal sector but also to extend coverage to the whole population.

Expanding coverage through tax funds in some countries has involved innovative financing mechanisms to raise revenue. For example, Ghana charges 2.5 % additional VAT while Zambia levies taxes on investment income and Gabon charges 1.5 % tax on money transfers and 10% tax on mobile phones (McIntyre, 2012). The amount of tax funds allocated to health care is often used to measure whether health care is a high priority in government spending plans. Besides innovative financing for health care, there is need for political leadership to enhance efficiency in tax collection. Kenya and Indonesia are good examples of countries where political commitment to improve revenue collection has borne some results. McIntyre (2012) and McIntyre (2005) stressed the importance of improving compliance and efficiency in tax collection to raise sufficient funds for health care.

3.6.3 Lessons in social health insurance (SHI) coverage

Social health insurance schemes can potentially cover large populations and besides tax funding, is a recommended strategy for UHC (WHO, 2005b). Many countries including those in Africa are considering introducing SHI as the means for financial protection and universal

coverage (Hsiao and Shaw, 2007, Letourmy, 2010, McIntyre, 2007, Mills, 2007). However, very few of these schemes currently exist in Africa (Leive and Xu, 2008, McIntyre et al., 2005)) and the experience from countries adopting SHI to expand population coverage shows decades-long phased coverage extension with the informal sector likely coming last.

Rao and Choudhury (2012) and Ahoobim et al.,(2012) indicate that coverage through SHI schemes expand as labour becomes more formalised. Formal employment is required because contributions to SHI schemes are mostly implemented through salary deductions. Where labour is informal, it is not easy to implement SHI owing to the difficulty of enforcing enrolment and estimating informal sector income (Tangcharoensathien et al., 2011). Experiences from low- and middle-income countries (LMIC) indicate that coverage through SHI as the main financing mechanism has not been very successful in advancing UHC. Although it has been adopted in Costa Rica, it functions as a mechanism for creating a single-risk pool and single purchaser (McIntyre, 2005).

Premium contributions to SHI are also regressive in most cases because contributions tend to be flat-rated for those outside the formal sector (Mills et al., 2012b). Even in countries with small informal sectors, contributions are still regressive. This has forced some countries such as Spain and Iceland to abandon SHI in favour of tax funding for UHC (Langenbrunner and Somanathan, 2011). The impracticality of SHI in settings with large informal sector populations has persuaded McIntyre (2012) to recommend alternative mechanisms such as improving efficiency in tax collection and introducing indirect taxes to target informal sector resources. The VAT in particular, as a form of indirect taxation, can be important where countries believe that those in the informal sector should contribute to efforts to generate funds for health care (McIntyre, 2012, Tangcharoensathien et al., 2010b, Rannan-Eliya and Sikurajapathy, 2009). This method of taxation has been successful in raising substantial funds for health systems in Ghana, Thailand, Sri Lanka, Samoa, Mongolia, among many other countries that have high population coverage.

3.6.4 Role of donor funding in extending coverage to the informal sector

Donor funds have played an important role in extending financial protection and access to services to the poor and informal sector populations in some countries. Equity funds in

Cambodia and Lao Peoples Democratic Republic, are important examples of targeted donor assistance to expand population coverage. However, it is mainly in Rwanda where donor assistance is applied within the framework of universal coverage and fully embedded in government expenditure programmes. This has been achieved by transparent governance that has won donor confidence. The major drawback with donor funding is its unsustainability and unpredictability to support UHC.

3.7 Factors essential to expanding and sustaining coverage

3.7.1 Political leadership

Political leadership can put health care high on the list of government expenditure priorities. Among developing countries, prioritisation of health care is best demonstrated in (i) Rwanda, which despite being a low-income country, spends one of the highest percentages of government budget on health care (inclusive of general government revenue and donor support), and (ii) Thailand where even with negative growth during the Asian economic crisis in 1998 continued to increase budget allocations for health care and has steadily driven down OOP expenditures.

Stuckler et al. (2010) suggest that universal health coverage is a political decision whose implementation involves political processes. Whereas the authors indicate that UHC is achievable in any country at any level of economic development, they acknowledge that important barriers to UHC may be posed by national divisions based on ethnicity, language, gender, income, age or religion. Other barriers include weak abilities to unionise and high levels of social inequality and class tensions in a country. While such divisions could pose barriers to UC in many countries, some countries including Rwanda, Sri Lanka and Thailand have progressed to greater financial protection and access to health services for their respective citizens despite ethnic divisions and political instability, among other sources of social tensions.

Whichever approach a country takes to UC, whether tax funding or SHI, there is a need for strong political leadership not only to move UHC policies forward but also to improve compliance and efficiency in tax collection.

3.7.2 Economic growth rate

According to Langenbrunner and Somanathan (2011) and Thomson et al. (2009), strong economic growth rates were partly responsible for progress towards UHC in Thailand and Sri Lanka. Countries such as Brazil and China have demonstrated the important role of strong economic growth rates in advancing towards universal coverage. High economic growth rates allow governments to increase health budgets without altering other expenditure commitments because higher economic growth rates create more fiscal space for increased government spending. However, universal coverage does not have a strong correlation with the wealth of a country. Garrett et al. (2009) and Matheson et al. (2010) cite the cases of countries such as Sri Lanka, the Indian state of Kerala, Gambia, Gabon, Costa Rica and Cuba which have much lower GDPs but have better prepaid health care with adequate coverage than the USA, China and India, which have much higher GDPs. The health systems of Cuba, Costa Rica, the Indian state of Kerala and Sri Lanka are not only wide in coverage but also are equitable in financing and benefits and have achieved good health outcomes relative to their levels of economic growth.

3.7.3 Active purchasing

Purchasing is critical in sustaining population coverage and McIntyre et al. (2013) have stressed the important role of active purchasing in the proper utilisation of health resources and ensuring that services reach intended beneficiaries. Active purchasing involves measures for cost-containment, aligning available services to population health needs, balancing provider payment mechanisms and a sustainable depth of benefits package. Thailand, through the UC scheme for the informal sector and the indigent, is an example of a coverage system that practices active purchasing to control costs.

It is important to have a mix of provider payment mechanisms to balance incentives for provision. Emphasis on one type of provider payment mechanism, fee-for-service in particular, is likely to lead to cost-escalation. The NHIS in Ghana (Apoya and Marriott, 2011) and the civil servants' scheme in Thailand (Hanvoravongchai, 2013) are two examples of coverage systems where cost-escalation has been linked to fee-for-service as the main provider payment mechanism. Costs can also be contained through bargaining involving large pools which use their numbers to negotiate lower prices for medicines and other

products from suppliers or providers. Such has been the case with Thailand's UC scheme (Tangcharoensathien et al., 2013).

As countries move towards universal coverage, the benefit package (BP) needs to not only meet population health needs but also be sustainably broad. In Thailand for example, the BP is regularly updated in terms of cost and population health needs to avoid misalignments (Missoni et al., 2010). In Rwanda, 74 % of the disease burden consists of preventable illnesses so the country has oriented its benefit package to primary care services (WHO, 2012a). However, in Ghana there is an emphasis on curative/hospital services when the disease burden largely lies in conditions that can be addressed by primary care services (Apoya and Marriott, 2011). Ghana's service coverage may also be too deep and broad which is possibly causing problems in sustaining effective coverage (Apoya and Marriott, 2011).

3.7.4 Improving provision

Provision of services of sufficient quality and quantity is imperative to progress towards universal coverage. Delivery of services is enhanced when the services and providers are available to the target population. Countries such as Cuba, Thailand and Sri Lanka have improved access to services through investment in facilities for physical availability. Cooper et al. (2006) indicate that Cuba's successful universal coverage strategy includes accessible public facilities and an emphasis on public health while Sri Lanka has a large integrated network of health facilities to support access to services for all Sri Lankans (Rannan-Eliya and Sikurajapathy, 2009).

Health workers also need to be available to provide services. In this regard, Rwanda rapidly recruited health workers to ensure services are available to support progress towards universal coverage (Government of Rwanda, 2009). In Sri Lanka, private practice in rural areas is encouraged as an incentive to retain health workers in these areas to support effective service delivery (Rannan-Eliya and Sikurajapathy, 2009).

3.7.5 Continuity, governance and oversight

Among the four case studies, none demonstrates the importance of stability in policy making and implementation of universal coverage more graphically than Thailand. Successive governments in Thailand retained key personnel in the UCS to ensure that the programme succeeded to benefit all Thais regardless of who was in power (Tangcharoensathien et al., 2013). Thailand further attests to the importance of constant research, monitoring and updating of various aspects of its universal coverage programme including the benefit package, access to medicines, epidemiological transition and trends in OOP payments (Missoni et al., 2010). These initiatives have involved investment in local capacity to run the UCS based on evidence-informed policy making and drawing input from autonomous watchdog institutions such as civil society and the parliament (Tangcharoensathien et al., 2013, Missoni et al., 2010, WHO, 2012b).

3.7.6 Setting targets for health care funding

It is a challenge to set international benchmarks for UHC. However, most countries that have progressed to UHC have low levels of out-of-pocket payments and voluntary insurance and high volumes of mandatory prepaid funds of at least 60 % of the total health expenditure. McIntyre (2012) demonstrates that 60 % to 70 % of the total health expenditure in high- and middle-income countries that have progressed to universal coverage comes from mandatory sources. Therefore, setting a minimum target of over 60 % of the total health expenditure coming from mandatory prepaid funds may advance UHC in SSA. Although the Abuja Target is important in increasing government funding for health care, there is no evidence that it concretely supports progress towards UHC. Many countries have made significant progress to UHC with radically varied levels of government expenditure on health care relative to total government budget. Sri Lanka's comprehensive coverage spends only 6.9 % of government budget on health care; Costa Rica spends 29 % and Thailand spends 14.3 %. Other countries have the following spending patterns of government budget on health care: Rwanda (23.3 %); Ghana (12 %) and Gabon (6.6 %). The countries have high population coverage but indicate no correlations with the Abuja Target.

3.8 Conceptual Framework

A country's population can be categorised into groups in different ways. In this investigation, the population is categorised into three groups on the basis of work, namely: the formal sector population, the informal sector and the indigent population. Ability to pay is implicit in the conceptual framework because there is a distinction between the formal sector, the informal sector and the indigent population. This thesis focuses on the informal sector in an attempt to address questions surrounding prepayment for health care to ensure coverage for the informal sector. The study observes that coverage for the informal sector under a universal system cannot be addressed in isolation but rather in consideration of political factors, the macroeconomic environment, other population groups (formal sector and the indigent) and overall organisation of the health system.

Drawing from the literature review, contextual factors (especially political and macroeconomic factors) play major roles in moving towards universal health coverage. These factors can determine whether a country approaches UHC from a targeted approach or from a universalist perspective. For example, it is a political decision to extend free maternal care at the point of service for all eligible Kenyans and such a targeted decision is partly out of consideration of economic realities of the country. On the other hand, Sri Lanka's universalist approach to health services in general was a political decision and has been supported by relatively stable economic growth rate.

Stuckler et al. (2010) and Tangcharoensathien et al. (2013) underscore the critical role of political leadership and ideology in the design and implementation of social policies to provide coverage to various population groups in a country whether on a contributory or non-contributory basis. The choice of a prepayment mechanism defines how revenues are sourced, collected and pooled, and to some extent the purchasing arrangements. For example, a contributory system would require formal and informal sector population to contribute a share of their income to a risk pool(s) while in a non-contributory system, general tax revenues could be used to provide substantial coverage to all population groups.

The macroeconomic conditions prevalent in a country are as important as the political decisions in progressing to universal coverage. The economic growth rate for example,

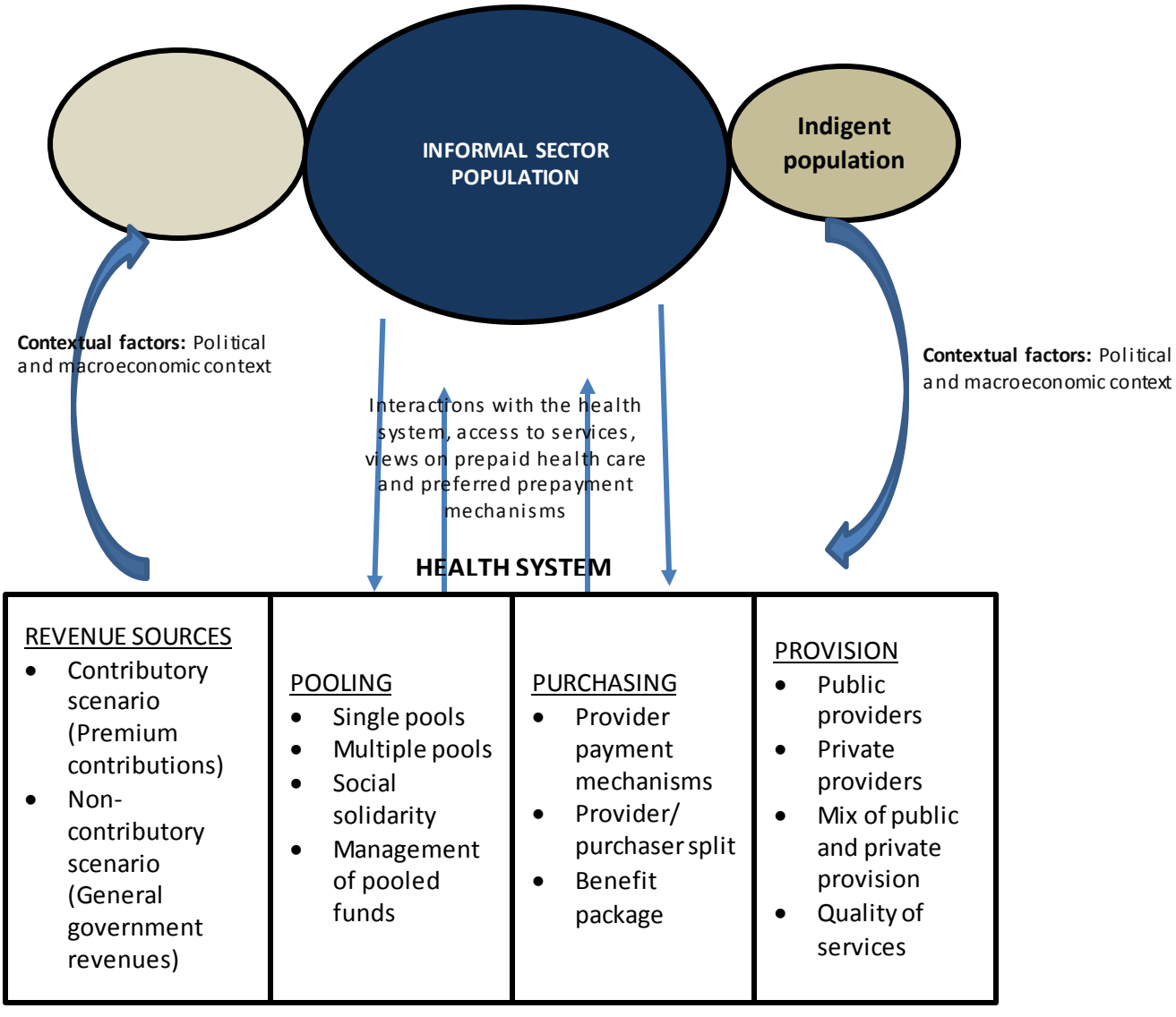
influences government spending generally and how much more can be spent on health care without interfering with expenditures on other government functions. A positive economic growth rate creates fiscal space that may allow governments to meet health expenditure targets such as the Abuja commitment of allocating 15% of national budget to health care as well as having a large pool of prepaid funds of up to 70% of the total health expenditure as suggested by (McIntyre, 2012). Having a large pool of prepaid funds is essential in expanding population and service coverage. Other macroeconomic factors such as unemployment rates are vital in the success of a prepayment system; for example, in contexts where the majority of the population have formal employment, either prepayment mechanisms (tax or mandatory insurance) could be much easier to implement because more people are able to prepay and incomes in such contexts are also easy to identify and enforce revenue collection for health care.

As much as the political and macroeconomic context influence choice and design of a prepayment policy, all population groups (the formal sector, informal sector and the indigent population) need to buy into these policies. As a redistributive policy, UHC is pro-poor and governments pursuing such policies often have the support of the masses (Herd, 2005, Kristensen, 2007). However, the support may be diminished when services are of poor quality and generally inaccessible. Besides, corruption in the system makes people reluctant to buy into government programmes. For example, in Ghana (Apoya and Marriott, 2011, Salisu and Prinz, 2009) and Kenya (Wafula, 2012), the reports of widespread mismanagement of funds meant for health care erode trust and social solidarity to make people reluctant to prepay for health care. On the other hand, countries such as Rwanda with transparent governance have not only won donor confidence, but also the confidence of citizens who have successfully enrolled into health schemes (Logie et al., 2008).

Across the different population groups, the level of social solidarity is essential for optimal redistribution of resources from the rich to the poor for sustainable UHC policies. For the target group (informal sector populations) the issue of redistribution is particularly critical because not all of them are poor and so do not expect to be fully subsidised. Moreover, given scarcity of financial resources, many governments have debated how informal sector resources can be tapped to prepay for health care. In view of such debates, regardless of the

prepayment approach, it is necessary to assess financial potential of informal sector activities to understand if they could provide a predictable source of funding for universal coverage, the specific constraints or problems informal sector populations experience with the health system as it is, as well as their views on an appropriate future prepayment mechanism. These are important factors with regard to prepayment for health care by the informal sector because the design of an appropriate prepayment system should consider these dimensions to provide coverage for the informal sector.

Figure 3.13: Conceptual framework



CHAPTER FOUR: METHODOLOGY

4.1 Introduction

This study adopted mixed-methods, cross-sectional and grounded theory approaches, involving both quantitative and qualitative data respectively. The rationale for using a mixed-method approach was because it facilitated the use of both statistical measurements as well as an in-depth understanding of variables of interest and was therefore best suited for generating rich data in line with the study objectives.

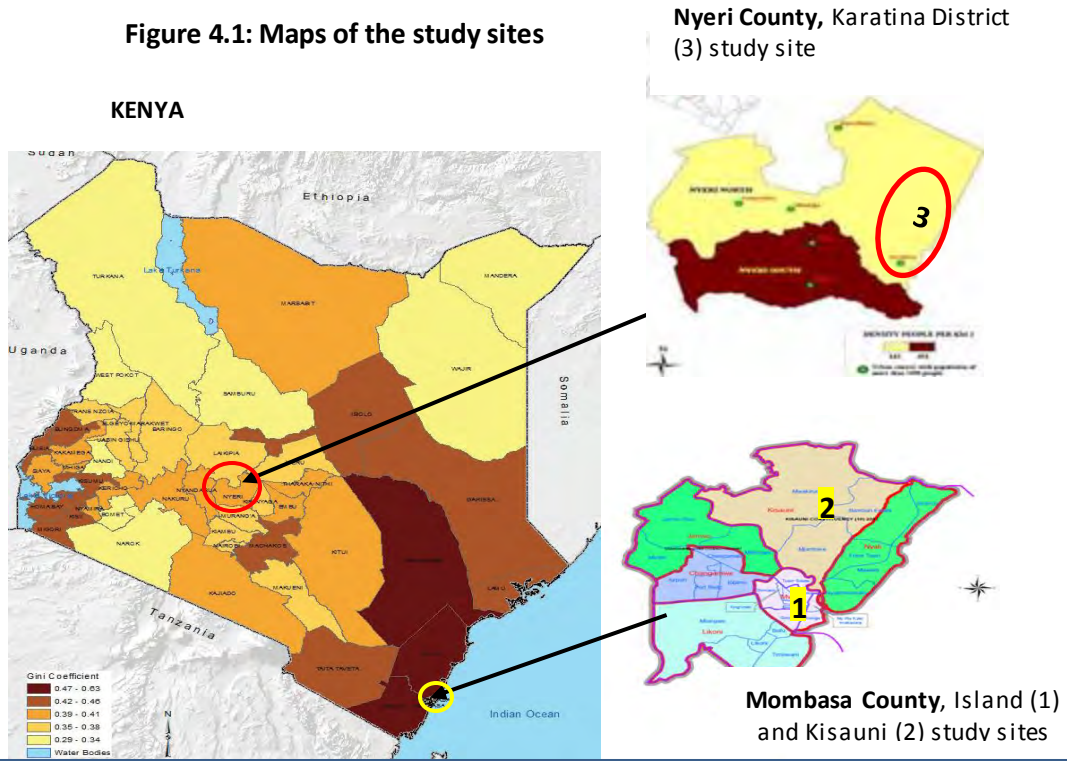
The investigation was initiated by mapping activities within the informal sector, particularly with regard to the location and type of industry. This activity was then followed by conducting exploratory qualitative investigations on informal sector workers. Thirdly, a quantitative cross-sectional survey was designed, drawing on insights from the qualitative work. More investigations were undertaken with the aim of collecting qualitative data from policymakers particularly with regards to the health financing policy trajectory. Lastly, an assessment was carried out using the Simulation Insurance (SimIns®) software with a view to estimating the resource requirements and feasibility of contributory and non-contributory financing models.

4.2 Study setting

The study was carried out in two counties within Kenya, namely, Nyeri County (located in the Central region of Kenya) and Mombasa County (based at the coastal region). These two regions were strategically chosen to represent rural and urban areas respectively. Mombasa County is sub-divided into two economic zones - the Central Business District (CBD), which is the commercial hub of Mombasa County, and the urban periphery, which mainly comprises residential estates and other commercial ventures. The Island district of Mombasa therefore represented the CBD in the study, whereas the estates were represented by the other districts. Nyeri County is sub-divided into seven administrative districts, namely: Kieni East, Kieni West, Mukurweini, Nyeri East, Nyeri Central, Nyeri South, Mathira East and Mathira West. This investigation was conducted in Mathira East district, where a related study by colleagues at KEMRI-Wellcome Trust Research Programme, was taking place. This was

meant to minimise costs by using the same logistical network. Figure 4.1 shows a map of Kenya (in the main picture), Nyeri and Mombasa counties respectively, highlighting the actual locations where data was collected. (Maps of the districts in Nyeri County were not readily available and hence, have not been highlighted on the county map).

Figure 4.1: Maps of the study sites



4.2.1 Brief comparative profiles of the two study sites

Mombasa and Nyeri counties show similarities in that the economically active age bracket (from age 15 to 65 years) represents the highest percentage of both county populations (Mombasa at 68 % and Nyeri at 59.7 %, respectively) (KNBS, 2010b). Mombasa County is classified as 100 % cosmopolitan urban area, where the main economic activity is tourism that accounts for over 75 % of the wage employment. Other economic activities include food processing and fishing (KNBS, 2010b). Conversely, Nyeri County is classified as 76 % rural area and ethnically homogeneous. The main source of income is subsistence agriculture, where the majority of the county population is employed. Farming activities include the cultivation of cash crops such as tea and coffee; subsistence crops like maize and potato production, animal husbandry and horticulture.

Table 4.1 summarises the demographic, social and health indicators for both study counties.

Table 4.1: Socio-demographic comparisons of Mombasa and Nyeri counties

Indicators	Mombasa	Nyeri	Kenya
Population			
Population in millions (2011)	1.031	0.762	44.4
Population density/ km^2	4292	208	66
Poverty rate % (Gini coefficient)	37.6 (0.365)	32.7 (0.365)	47.2 (0.445)
Share of urban population (%)	100	24.5	32.3
Health financing (2013)			
Per capita expenditure on health (KSh) *(US$1= KSh 86)*	935.0	3,315.0	3,145.0
Insurance Coverage (% population)	20.9	32.9	17.1
Maternal and child health			
Delivered at health facility	82.8	89.0	62.0
Contraceptive prevalence (%)	47.4	66.4	58.0
Fully immunized <1year (% 2010/11)	83.8	94.4	71.1
Infant mortality rates/1000 births	43	27	52
Under-5 mortality rates/1000	---	34	74
Maternal mortality rates/100000	---	--	488
Health personnel (public sector)			
Nurses per 100,000 people	62	105	49
Doctors per 100,000 people	11	15	7
Clinical officers per 100,000 people	9	11	8
Disease specific indicators			
Malaria (% of all outpatient visits)	31.5	3.2	27.7
TB prevalence per 100,000 (2012)	535	234	223
People living with HIV/AIDS (% county population)	7.48	2.73	3.9
Number on antiretroviral treatment (% HIV+)	34.3	44.02	30.82
Health facilities (Numbers)			
Public	51	103	4039
Faith-based/NGO (FBO/NGO)	25	46	1258
Private for-profit	270	231	2721
Education			
Population with primary education (%)	56.9	61.4	66.6
Population with secondary education (%)	15.3	19.8	12.7

***Sources**: (Ministry of Health, 2013, KNBS, 2010a, KNBS, 2010b, Ministry of Health, 2014a)*

Both Mombasa and Nyeri counties perform better than the rest of the country with reference to most of the indicators. They manifest lower inequalities as compared to the other Kenyan counties in that they have identical Gini coefficients (0.365) as compared to the national average of 0.445. The two counties also demonstrated slight differences in their capacity to generate their own revenue and yet are classified as two of the eighteen counties considered to have strong revenue bases to meet most of the delivery costs of all services. Despite being largely rural, Nyeri County performs better than Mombasa with regard to all key indicators. However, although it has lower poverty rates than Mombasa, it registers a wider poverty gap of 11.6, as compared to Mombasa's 8.7 rate. Consequently,

more effort needs to be concentrated on raising the standard of living in Nyeri in order to push those languishing in poverty in Nyeri above the poverty line. Nyeri County is also better off in terms of maternal and child health, financing of health care activities (including insurance coverage and per capita health expenditure), human resources for health, and educational attainment. The factors likely to have contributed to better maternal and child health outcomes in Nyeri County (as compared to Mombasa County) include: the combined effect of higher levels of education; lower poverty rates; lower disease burden; and better resourcing of health personnel and financing in Nyeri County.

In terms of access to health services and financial protection, the indicators including number of public and FBO/NGO health facilities relative to population density, per capita health expenditure (Nyeri= US$ 38.6 and Mombasa= US$ 10.9) and health insurance coverage, show better performance in Nyeri County than Mombasa County. The two counties registered above average in terms of the health worker to population ratio. Nevertheless, there are inadequate numbers of health workers in Kenya, including in these districts, which subsequently affects the access to health services. On the national scale, the doctor to population ratio is approximately 7:100000; the ratio in Mombasa County is approximately 11:100000 and Nyeri is 15:100000. All these are far below the WHO recommended 1:600 (Ministry of Health, 2014a).

4.3 Sampling and sample size determination

4.3.1 Choice of the two counties

The choice of Mombasa County was based on the fact that major studies about the informal sector conducted by a number of authors (Kinyanjui, 2010, Mathauer et al., 2008, Orwa, 2007, Mitullah, 2003), were concentrated in Nairobi. Consequently, the choice of a different setting other than the capital city therefore offered diversity in the type of data collected and information gathered concerning the informal economy of urban environments. The rationale to select the exact areas to sample for primary data was based on the expert opinions provided by the Kenya National Bureau of Statistics, the Mombasa County Council and local community leaders regarding sub-counties with the highest concentration and

diversity of informal sector businesses. On the basis of this information, Kisauni and Mombasa Island districts were selected for the study.

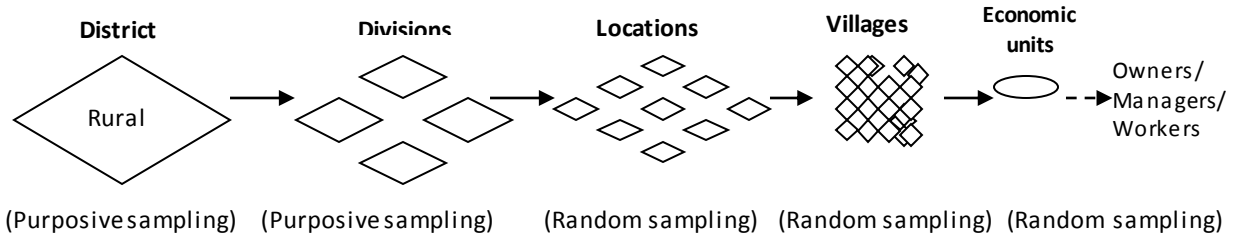
It was considered necessary to include a rural setting for investigation in this study because numerous studies conducted previously tended to leave out subsistence agriculture and confine their definition of the informal sector only to the non-agricultural informal sector. Approximately 68 % of Kenyans reside in rural areas, where the main informal sector activity is subsistence agriculture. This was the justification for including the farming dimension as part of the investigation of the informal sector. The choice of Nyeri County was purposive based on the fact that it has a long history of having Community Based Health Insurance (CBHI) schemes. This was a clear indication that the population was potentially aware of health insurance issues and hence their insights and experiences would be important for this study, particularly in relation to exploring alternative prepayment mechanisms. Furthermore, Nyeri County is a high potential agricultural zone, which was essential for interpreting the income potential and diversity of the agricultural informal sector in a rural area. In addition, a related study was conducted in the area KEMRI-Wellcome Trust Research Programme which explored the distribution and burden of health financing and health care benefits among rural communities. The linkage between the two investigations was meant to increase efficiency and minimize data collection costs.

4.3.2 Sampling stages

After identifying the two study sites, a stratified five-stage and four-stage sample design was applied for the rural and urban sites respectively, to arrive at Primary Sampling Units (PSU). The rural site was stratified into the existing administrative zones comprising of divisions, locations and villages (see Figure 4.2). The village, as the smallest sampling unit, was selected as the Enumeration Area (EA). Since the divisions were on the whole, homogenously engaged in subsistence agriculture, one division with a large market was purposively selected to obtain a mix of the agricultural and non-agricultural informal sector activities in rural areas. From this division, a list of locations and villages were obtained and randomly selected. Two locations and six villages participated in the study. From these villages economic units were mapped and randomly selected.

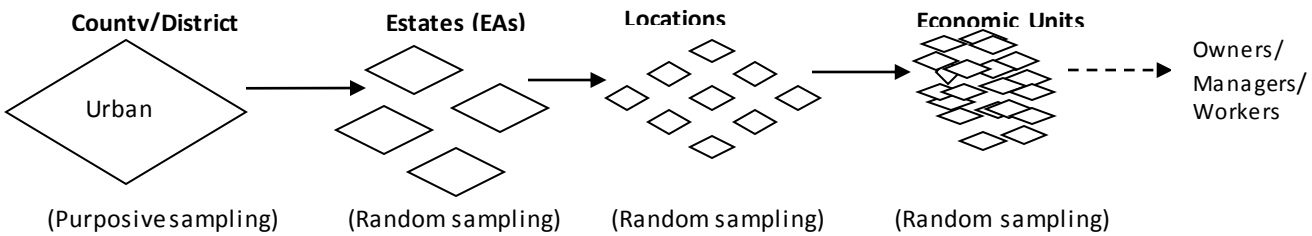
From the village EAs, informal economic units were mapped and a random sample selected from the final list. For the agricultural informal sector, households represented economic units (farms) and were screened during the mapping stage to ensure that no one engaged in formal work was recruited for the survey. The owners or managers working within the agricultural informal sector were interviewed at home except for the few who were found at the farms and preferred to be interviewed on site.

Figure 4.2: Five-stage sampling in the rural study site



In the selected urban site, a list of ten estates with high concentration of informal sector entities was obtained from the town authorities. From this list, four estates were purposively selected based on expert opinion as having the largest concentration of informal economic units. The estates including the CBD made up a total of four enumeration areas (EAs) for the urban area. Others were Bombolulu, Kisauni and Bamburi. The justification for this was the need to capture a large diversity in the type and size of informal activities. From the estates, a list of 13 locations, the equivalent of villages, was obtained out of which eight were randomly selected (two from each estate) and economic units were mapped and thereafter randomly selected. Figure 4.3 illustrates the sampling stages for the urban study site. The areas where informal activities were concentrated in the urban area included the main streets of the CBD and estates, along other major roads, and central locations such as markets and other designated areas.

Figure 4.3: Four-stage sampling in the urban study site



The sampling procedure did not wholly undertake the frequently used mixed survey method of first identifying households, followed by the identification of informal sector operations because, such a procedure would increase the sampling errors in a study that involves the informal sector. The said sampling procedure assumes that the informal sector players resided in the same cluster as the household member, which was not always the case, particularly in the urban area. The Delhi Group Dheli Group (2005) recommends a listing of informal sector activities, sampling and conducting interviews at the work place as the most viable option. However, when it comes to identification of the agricultural informal sector, a listing of households followed by home interviews was the only viable option because it was logistically impractical to list down farms and interview at the same places.

The random samples were selected using Excel spreadsheet. The units of analysis were individual informal economic entities. Owners of these units were interviewed as first priority; otherwise, their representatives assumed to have full information for the study were interviewed.

4.3.3 Sample size for quantitative data

When designing this study, it was unclear what proportion of informal sector groups in Kenya had the capacity to prepay for health care on a regular basis. Consequently, in order to calculate the sample size, a conservative approach that maximized the **N**, based on previous studies (Mitullah and Wachira, 2003) was to assume an estimate of 50% as the proportion of informal sector groups that could sustainably prepay for health care. This 50% estimate was taken with a precision of ±5.0% and the sample size powered at 80%. The Principal Investigator (PI) decided upon 5% as a good value for precision. Because of the sensitivity of interrogating the informants about their investments, income and expenditure, the chances of non-responses were expected to potentially be high. Hence, in order to cater for the non-responses, the calculated sample size was scaled up by 30% with all non-responses being recorded.

Given the information above, the following formula was used to calculate the sample size (plus 30% non-response rate):

$$N = \frac{(Z_{crit})^2\, p(1-p)}{D^2} = 499\ (\approx 500)\ \textit{economic units}$$

-where ***N*** represented the sample size of the study group, the $\boldsymbol{Z_{crit}}$ value is = 1.96, *p* (=0.5) is a pre-study estimate of the proportion to be measured (that is, the proportion of informal sector entities that have financial potential) and ***D*** (=0.05) is the total width of the expected confidence interval (CI).

More weight was given to the urban area because it represented greater diversity and density of informal economic activities and was therefore expected to record higher non-response rates than the rural area. Moreover, the fact that rural EAs were predominantly subsistence agriculture (75 % of the economic units); a smaller sample size was required to achieve reliability and ensure the validity of data. In view of this, the urban sample consisted of 350 economic units, while the rural sample size was made up of 150 economic units. The allocation of sample sizes for rural and urban areas was based on the near-homogeneity of the informal sector activities in the rural area which therefore required a smaller sample size; secondly, it was based on the observation that nearly 80% of new informal sector employment created is non-agricultural and in the urban area (Government of Kenya, 2010a). For this reason a conservative estimate of 75% of the sample size was allocated to the urban area in line with current employment trends in the informal sector. This relatively fair distribution of the sample size allows for comparative analysis between rural and urban study sites.

4.3.4 Sample size for qualitative data

Sample size for qualitative data was not fixed but a conservative estimate was given as 12 focus group discussions (FGDs), 17 in-depth interviews at community level and five at national level. Purposive and snow-balling sampling strategies were used to collect the qualitative data from the informants during the interview sessions. However, this largely depended on the type of information required. A case in point is that the sampling of key informants to interview at the community level was based on recommendations from local contact persons based on characteristics prescribed by the PI. These characteristics included variables such as level of education; social standing in the community; and level of engagement with various activities such as health, education, politics and social organisation at the grassroots level. The objective was to identify key informants who had a holistic view of their society as well as a mix of experiences gained elsewhere. Moreover, they had to be residents of the study sites and actively working in the informal sector. Sampling for the FGDs involved ordinary members of the study sites with the only eligibility criteria being that the individual had worked in the informal sector as the main source of livelihood and

therefore could sustain a credible discussion on the sector. The FGDs were stratified into male and female groups to allow for free discussions.

At a policy level, managers in government and organisations such as the World Health Organisation (WHO), United States Agency for International Development (USAID) and German Technical Agency (GTZ) were purposively sampled to provide an overview of the health policy direction, challenges and feasibility of policy proposals in providing financial risk protection for the informal sector. Their views were also elicited on alternative mechanisms to move towards universal health coverage in general and specific coverage of the informal sector.

4.4 Inclusion and exclusion criteria

Adult owners or managers of informal economic enterprises (which includes 'solo' enterprises, i.e. those without any other employees) were included in the study. Those excluded were children below the age of 18 years.

4.5 Data collection approaches

4.5.1 Initiating contact with the study sites

Individuals working for the Government of Kenya and NGOs were contacted either through contacts that existed before the study or scheduled appointments through phone calls and e-mails. In total 11 people were contacted prior to the start of data collection as part of mobilisation of study participants that targeted individuals that were considered as having the capacity to assist in the mobilisation process. These included two health policy heads at the MOH, four community leaders in the rural area and five in the urban site.

The urban study site potentially posed more challenges in terms of penetration and establishing contacts because it was a new study site with no previous contacts. Consequently, establishing contacts in this site was initiated slightly longer than a month before the commencement of data collection. In contrast, the rural study site was easily engaged because of previous or on-going research activities by the group in which the Principal Investigator (PI) was based.

Prior to the commencement of this study, the very first contacts for both study sites were made with the county health managers and county statistics offices. The purpose was mainly to inform them about the proposed study and also to obtain relevant documents necessary for conducting a desk review and for sampling purposes. In addition, crucial contacts to assist in getting informants from the grassroots level were made with respective county local authorities (chiefs and village elders). This was to inform them of the intention to conduct the study and get their verbal authority to do so. Furthermore, it was necessary to seek logistical help in identifying venues to train the research assistants on interviewing strategies and FGDs, as well as recruitment of study participants and interviewers.

The logistical and political challenges posed in the urban area called for at least six meetings with leaders of various groups identified through local authorities. These groups included welfare, savings and investment groups, youth political leaders and leaders of vigilante groups. Following a month of mobilisation, a large meeting was organized comprising of the study PI and community representatives. The purpose of the meeting was to explain the nature of the investigation and to identify potential challenges and community expectations of the study. Some of the pertinent issues raised by the audience included the following:

- In Mombasa County, the recruitment of interviewers was complicated by the leaders who insisted that they had to be natives of the coastal region. This was resolved by sharing the names of all interviewers with the local leaders to ascertain that 10 out of 12 interviewers were natives if the Coastal region.
- Interviewers for the study had to be introduced to the key informants by the local leaders; otherwise the informants were hostile to strangers unfamiliar to them. Moreover, there was a general suspicion that the Government wanted to make the informal sector pay income taxes. Hence, anyone asking questions about activities within the informal sector was treated with suspicion as being a government agent sent to make members of the informal sector pay income tax. This was resolved by holding meetings with local leaders and explaining ourselves clearly as researchers from KEMRI-Wellcome Trust Research Programme.

- The timing of the interviews was considered crucial. For instance, it was recommended that the workers in the informal sector food industry should be interviewed from mid-morning onwards because they were very busy serving customers early in the morning. Other workers in the clothing and beauty industry could be interviewed at any time of the day whereas open market traders could be only be interviewed towards noon.

There were no major incidents during the study except in the urban area where a political group stopped the study for a day pending verification of the ethnic origins of interviewers. Some local leaders insisted that all of the interviewers had to be natives of the region. Out of the twelve interviewers, two were not natives of the coastal area. This was motivated on the basis that there was a need to embrace other regions as a sign of progress towards national unity. Ethnic tensions remain a major problem in Kenya.

A standardised questionnaire was administered to all individuals who were directly involved in the management of sampled informal economic activities on a day-to-day basis. All of the interviews for the non-agricultural informal sector activities were conducted at various places of work specifically to improve response rates. One key feature of the informal sector is that it has high mobility and turnover, which means that replacing non-contact economic units by other units should be avoided because it leads to biased results.

4.5.2 Recruitment and training of interviewers

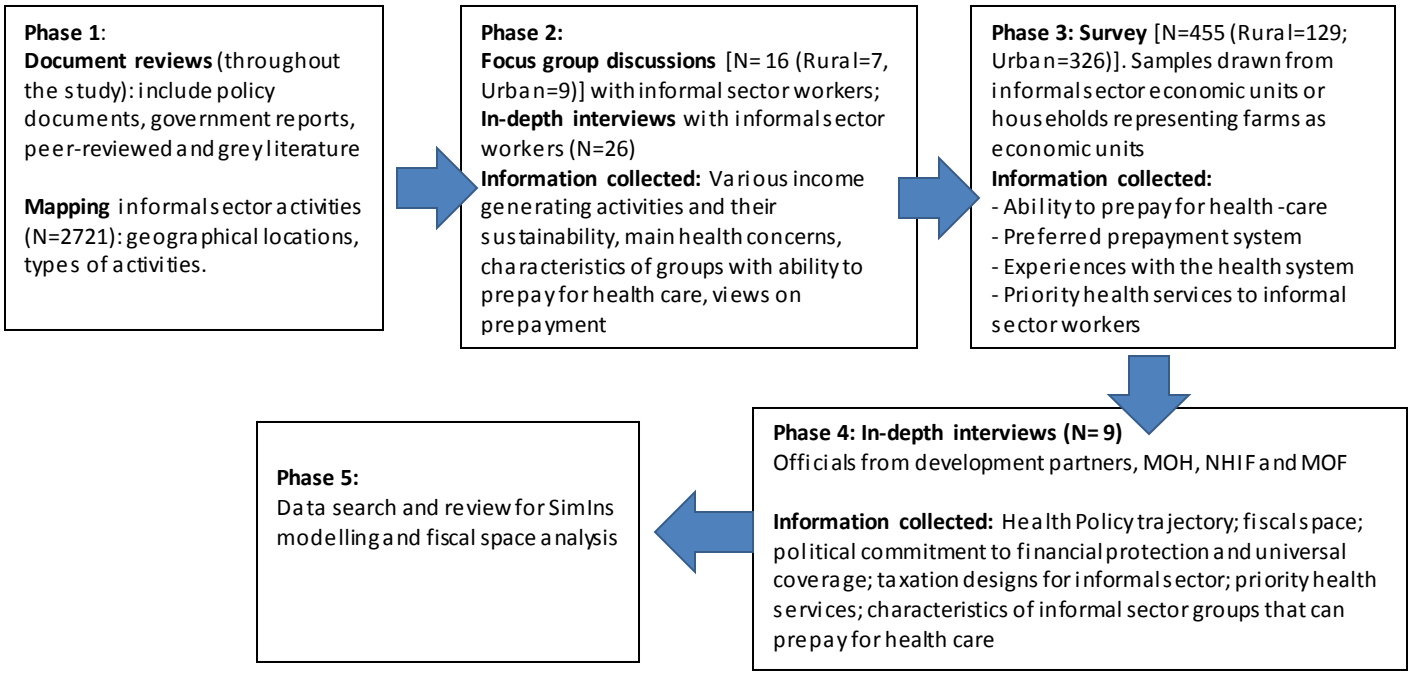
Two groups of interviewers administered a standardised questionnaire. They were recruited from within the respective study sites and each group was trained for ten days, which included lectures and role-plays after which the questionnaire was piloted before actual data collection. As a basic requirement, the interviewers had to be proficient in local languages (Kikuyu for rural area and Swahili for the urban site). Although the minimum level of education for potential interviewees was set at secondary school level, most applicants and eventual interviewers were university graduates or students and other middle-level college graduates. The calibre of interviewers ensured that high quality data were collected.

The PI could not effectively communicate in the local language in the rural area so an experienced FGD facilitator (a lecturer at a local university) was recruited and briefed on the study and FGD tool. He then facilitated all rural FGDs with the support of a note-taker. The PI facilitated all urban FGDs and conducted all in-depth interviews in both sites because participants were proficient in Swahili and sometimes English. All study tools were piloted and any inconsistencies that arose, for example in translations from English to Kiswahili or another language, were resolved with the help of interviewers. Data were collected for about nine months in 2012.

4.5.3 Data collection methods

Data were collected in phases using different methods including document reviews, mapping, focus group discussions, in-depth interviews and questionnaire survey. The questionnaire was the main tool for quantitative data collection. Data collection phases are outlined in Figure 4.4 followed by a detailed description of the methods in each phase. Appendix B (numbers B1 – B4) has all the data collection tools.

Figure 4.4: Data collection processes



4.5.3.1 Phase 1: Document reviews and mapping informal sector activities

Document reviews continued throughout the study. The reviews were meant to provide information on global, regional and national economies and trends in informal sector growth, the status of health financing and universal coverage. The national data were important in guiding purposive sampling for in-depth interviews with policymakers at selected institutions and for developing study tools. The documents were obtained online from international institutions such as the World Bank and the International Monetary Fund as well as from local ministries of Health, Finance, Economic Planning and Vision 2030, and the Central Bank, the Kenya National Bureau of Statistics (KNBS), the Kenya Revenue Authority (KRA) and the NHIF.

Importantly, secondary sources were instrumental in getting data used in modelling the feasibility of contributory and non-contributory mandatory prepayment financing mechanisms in Kenya and estimating the financial resource requirements for universal coverage. The model required data on the population and workforce structure, macro economy, health care unit costs, health care utilisation rates, social health insurance coverage, public finance, MOH and private health expenditures.

Initial stages of the study involved mapping of informal sector activities in each of the study sites. The mapping exercise was crucial in establishing sampling frames for both rural and urban study sites and getting to know the range of non-agricultural informal sector economic activities. Mapping also helped to mobilise informal sector workers for participation in FGDs and in-depth interviews. A research team physically walked around the whole area, undertaking a complete census and marking the location of each informal entity on hand-drawn maps. Existing informal sector entities were classified according to industry type. It is noteworthy that these entities have high concentration in along major roads and designated areas, which were used as the basis for selecting the study sites. Informal businesses were identified through screening questions during mapping (100% were informal). The screening was done with regard to name and gender of owner/manager, type of business, location and telephone numbers to enable future follow up.

4.5.3.2 Phase Two: Exploratory focus group discussions (FGDs) and in-depth interviews

The FGDs were done on an exploratory basis to help in understanding vulnerabilities in informal sector work, the workers' engagement with the health system and their views on prepaid health care and universal coverage. The FGDs were also used to understand what the informal sector preferred in terms of on-going health sector reforms for universal coverage so as to build scenarios to test in the survey. Separate discussions were held with purposively selected groups of men and women who were directly in charge of different informal economic entities (See appendices B1 & B2 for tools).

The decision to conduct FGDs with informal sector workers in this study was driven by the need for a large diversity of views on various topics about the health system. As Lewis (2009) suggests, the advantage with FGDs is that they give participants time to refine what they say since the interactions involve discussion and hearing from others. They also encourage verbal communication and are efficient in discovering underlying attitudes and motivations towards a phenomenon (Lofland and Lofland, 1995, Patton, 2002). Mack et al. (2005) also support the use of FGDs to explore a phenomenon because FGDs ensure free flow of information and allow for agreements and disagreements. The participants for the FGD were selected with the help of local leaders who were asked to select participants representing various informal sector entities from all corners of the study sites.

The first round of in-depth interviews was conducted at community level with informal sector workers purposively selected as key informants. The aim of these interviews was to provide individual insights into key issues arising from the FGDs with regards to informal sector vulnerabilities, sustainability, prepaid health care and choice of prepayment mechanisms. The objective was to elicit rich and detailed material that could be used to inform universal health financing policy targeting the informal sector. Lewis (2009) agrees that in-depth interviews provide an opportunity for a detailed investigation of each person's perspective. Besides, they emphasise verbal communication and are preferred because of their efficiency at discovering underlying attitudes and motivations towards an intervention or situation (Lofland and Lofland, 1995, Patton, 2002).

In-depth interviews and FGDs were conducted until the researcher noted no new information was being added in the subsequent interviews. A decision to stop further interviews was made on this basis.

4.5.3.3 Phase 3: Cross-sectional Survey

The aim of the survey was to provide data that could be statistically tested while collecting information on various aspects of the informal sector including socio-demographic characteristics, experiences with public sector health provision, preferred prepayment mechanisms and sustainability or vulnerabilities in informal sector work. Moser and Kalton (1979) observe that a survey is the ideal method in a study that aims to describe the characteristics of a large population (such as the informal sector) because it facilitates a study of large samples, which makes the results statistically significant even when analysing multiple variables. The survey used a questionnaire and because this is a standardised tool, it is quite reliable because observer subjectivity is minimised (Moser and Kalton, 1979). The primary respondents in the survey involved a randomly selected sample of informal sector workers who were directly in charge of daily affairs of the informal economic entities *(See Appendix B3 for tool)*. Explanatory variables were developed from qualitative interviews. The qualitative tools were developed from a review of the literature on the informal sector. As an exploratory study, there were no prior studies looking at factors determining sustainability of enterprises and so the variables emerged from qualitative interviews.

4.5.3.4 Phase 4: In-depth interviews at government policy level

The last phase of interviews was at national policy level targeting individuals at management level from various government departments/ministries and non-government organisations *(Appendix B4 for tool).*

Table 4.2 is a summary of the actual number of participants involved in the study.

Table 4.2: Details of the actual number of participants involved in the study

Interview Tools	Number in Rural		Number in Urban		Total
	Male	Female	Male	Female	
1. Number of focus group discussions (Participants)	3(23)	4(29)	5(49)	4(27)	**16(128)**
2. Number of individual in-depth interviews (IDI), community level	8	6	9	3	**26**
3. Number of individual in-depth interviews (IDI), national policy level	---	---	---	---	**9**
4. Questionnaire based cross-sectional survey	65	64	234	92	**455**

4.6 Data analysis

4.6.1 Quantitative data

Initial steps in the analysis involved the PI cross-checking questionnaire data immediately upon being returned by interviewers to ensure that all data were correctly captured and that no questions were omitted. The questionnaire data were then coded numerically by the PI and double-entered into predesigned data entry spread-sheets in FoxPro and Microsoft Excel by trained data entry clerks. All data were saved in password-protected files.

Data were transferred to Stata Version 11 for analysis. They were categorised and grouped to give a summary of results using descriptive statistics. The descriptive statistics used included frequency distribution and percentages, measures of central tendency (mean), and measures of dispersion (standard deviation). This kind of analysis was meant to estimate the relative importance of the key factors of all variables (dependent and independent). Pearson's correlation and T-tests were conducted to define the association between selected variables that were critical in explaining specific results.

A binary logit regression was used to develop a model to predict lifespan of informal sector enterprises using independent variables arrived at through step-wise analysis. Since stepwise regression is best suited in the exploratory phase of research, there were no a-priori assumptions regarding the relationships between the variables. The objective was to discover relationships between dependent and independent variables. Backward stepwise

regression was used in the analysis where a saturated model was employed and variables were eliminated in an iterative process. The fit of the model was tested afterwards to ensure that the model adequately fitted the data.

The independent variables in the saturated model were as follows: age; gender; marital status; level of education; household size; household head; socioeconomic status (self-assessed); employment status; monthly expenditure; number of employees; location of business; type of structure in which business is conducted; business registration status; owning a bank account and land ownership. The regression equation below was used for advancing the model as used in the analysis:

$$\text{Logit}(p) = \log(p/(1-p)) = \beta 0 + \beta 1*X1 + \beta 2*X2 + \beta 3*X3 \ldots + \beta k*xk$$

Where:
p = Expected value of the dependent variable; that is, the probability of a business surviving for more than 5 years as a measure of success.
β1, β2, β3, βk = Slope parameters
X1, X2, X3, Xk = independent variables

The regression model assumes the following: the relationship between the dependent and independent variables is not linear; the dependent variable is dichotomous; the independent variables need not be interval, nor normally distributed, nor linearly related, nor of equal variance within each group, and the categories (groups) are mutually exclusive and exhaustive. Significance levels were measured at 95% confidence level with significant differences set at an alpha level of 0.05 ($p < 0.05$). Tests for multi-collinearity, tests for combining outcome categories as well as link test were conducted to ensure rigour in the model.

4.6.2 Qualitative data

All qualitative data were captured through audio-recordings. All recordings that were in Kikuyu, an ethnic language not properly understood by the PI, were translated into English by the university lecturer who facilitated the FGDs. The data were later transcribed by

colleagues trained for this purpose. The PI transcribed all policy-level and some key-informant interviews. The PI took time to listen to a number of recorded interviews/discussions with informal sector workers and compared the audio-interviews and interview notes with transcriptions to ascertain consistency and accuracy of transcriptions. All transcriptions were processed electronically.

Using both deductive and inductive methods, intensive analysis of qualitative data began as soon as they were collected to avoid backlogs and to get data to inform the survey design. Key thematic areas were developed prior to analysis in line with study objectives that helped in organising data for analysis. These were as follows: the range of activities and experiences of work in the informal sector, experiences with current health services, concepts about and preferred design of prepaid health care, and financial potential of informal sector activities. At the policy level, data concentrated on four thematic areas: the state of health financing, health financing policy direction and prepayment designs, and possible sources of funding for universal coverage.

Data were organised and coded using QSR NVivo 7.0. Analysis was performed by developing a matrix of emerging categories and themes. Data from each theme or category was identified and analysed using constant comparison (Thorne, 2000). Concepts and themes identified from various qualitative data sources were compared. The analytical categories were then explained and interpreted in line with the research objectives and the themes developed from the data (Malterud, 2001). The researcher took note of his role in producing certain categories of knowledge; how and why certain conclusions were arrived at and how the results function to shape informal sector knowledge, understanding and demand for financial risk protection.

4.6.3 Modelling using Simulation Insurance (SimIns)

(See Appendix C for model assumptions and justification)

The WHO/GTZ *Simulation Insurance* (SimIns®) software comes in two versions - SimIns Basic and SimIns Plus which is the more advanced and data intensive version. The modelling used SimIns Basic, Version 2.1. The initial intention was to use SimIns Plus, but the SimIns manual

does not provide sufficiently detailed information on key variables and on the functioning of the model. After endeavouring to produce interpretable results with SimIns Plus over an extended period of time, the decision was made to use SimIns Basic instead.

The modelling involved an assessment of feasibility and financial resource requirements for universal health coverage through contributory social health insurance in Kenya in line with government health financing policy direction. Further modelling was done to assess the feasibility of a non-contributory financing system as an alternative to the contributory model. Inputs to SimIns Basic drew on secondary data from various data-bases including international institutions such as the World Bank and IMF, relevant national government data from various ministries as well as peer-reviewed and grey literature from across the globe.

The primary use of SimIns® is financial projection of SHI schemes but can also forecast for CBHIs, which fits Kenya government policy on contributory health insurance for UHC. As a policy simulation tool, SimIns projects financial resource needs based on certain assumptions over a 10-year period. From its manual, SimIns works by varying key variables in health insurance: population coverage, incomes, health insurance contributions, co-payments, health care unit costs and utilisation rates- according to population groups and up to 15 health service categories. SimIns has four principal uses as indicated in Box 1.

Box 1: Principal uses of SimIns

1. To illustrate the impact of initial policies with respect to key health insurance variables, thus informing about the financial implications of different policy options (as opposed to setting them).
2. To determine what combination of health insurance contributions, health service utilisation patterns and health care costs can ensure financial equilibrium in a dynamic, changing environment.
3. To illustrate the impact of health insurance on the overall structure of health financing.
4. To illustrate the impact of health insurance on public finance.

Source: SimIns manual

Trend analysis and projections for the data fed into the SimIns Basic model were carried out in Microsoft Excel worksheets before being transferred into the model for analysis and interpretation of output. Data from various sources (national, regional and global) were

triangulated to strengthen assumptions and arrive at credible data as used in the model so as to predict, as closely as possible, the future resource requirements for universal coverage.

One limitation is that although SimIns only projects over a 10-year period, the model is less realistic where economic uncertainty is greater. To make up for this limitation, data inputted in the model have been triangulated involving analyses of similar contexts and trends in various countries and regions of the world. A detailed description of the model assumptions and data sources is given in Chapter Eight. For clarity, SimIns is designed to do projections for 10 years but this study did a 17-year projection with initial 10 years and using data for the 10th year to do projections for another 7 years.

4.7 Measures of reliability and validity

A number of steps were taken to ensure that the data obtained and analysed, were reliable and valid. These checks and balances included the following:

- A relatively large sample size was selected from the outset to reduce sampling error.
- A mixed methods approach involving quantitative and qualitative data was used to capture statistically measurable data as well as seek a detailed understanding of informal sector workers' views on important aspects of financial risk protection and universal coverage.
- Tools were piloted to ensure that inconsistencies in the tools were eliminated and that all individuals using the tools clearly understood what kind of information they were meant to collect.
- Selection bias was eliminated through random sampling and by not replacing non-responses.
- Interviewers in both study sites were thoroughly trained on the study and the questionnaire tool in order to reduce the incidence of non-sampling errors.
- The study had manageable recall periods for the participants (maximum six months) to reduce non-sampling errors. The recall capability of the study participants was also enhanced by regular events such as routine expenditures. Liedholm (1991) acknowledges that such events that occur regularly over a period of time create a

pattern of experience for the respondents and enables them to remember these events more easily.

- Employment of multiple analytical strategies as explained earlier for the results to be as objective as possible.

4.8 Ethical consideration

Ethical approval was sought from the ethics review committees of the Kenya Medical Research Institute (KEMRI) and the University of Cape Town, before commencement of data collection.

Participation in the study was voluntary and written informed consent was sought from all participating adults. The consent process was done in the participants' mother-tongue for accuracy of information. Participants were assured of confidentiality regarding information arising from the interviews and how such information would be managed and used. It was explained to the respondents that the benefits of the study were not immediate and would be more communal than individual especially in its potential contribution to understanding of health care financing strategies to progress towards universal coverage. However, those participating might have felt inconvenienced with time spent in the interviews. Participants who had spent money on transportation to the interview site were reimbursed. All interviews were scheduled at a time that least interfered with respondents' economic activities.

4.9 Limitations of the study

This study had the following limitations:

- The study only considered two locations- rural and urban, but the rural area may not be representative of typical rural areas for two reasons: (i) it had high agricultural potential so naturally was economically better-off than many other rural areas in Kenya; (ii) it had a long history of CBHIs which could possibly have influenced the findings.

- The study was exploratory and so it did not engage in complex quantitative analysis but rather concentrated on more descriptive and some inferential analysis of primary quantitative data.
- Since there was more focus on defining a desirable future health system from the perspective of the informal sector, this study did not provide much detail of utilisation of services by the informal sector.
- There were only two counties involved in the study out of a possible 47 counties and the counties studied were relatively economically better-off than most counties in Kenya so there should be some caution in generalising the results particularly in relation to very poor counties.

A larger study of this nature could help in addressing some of these limitations.

CHAPTER FIVE: THE INFORMAL SECTOR- DIVERSITY AND FINANCIAL POTENTIAL

5.1 Introduction

The chapter is an analysis of informal sector work in terms of the range of economic entities, their income potential and demographic characteristics of the workers. The analysis is important because the informal sector plays an important role in economic growth and job creation in many developing countries across the world. Secondly, in situations where informal sector workers are expected to contribute financial resources to move towards universal coverage, it is important to understand the nature of economic entities and the extent to which they are able to support a prepaid health system. The findings in this chapter are presented in five parts: (i) an overview of the sampled informal sector enterprises in terms of the range and classification into specific industries as well as descriptions of their locations, legal status and role as sources of livelihoods; (ii) the socio-demographic characteristics of informal sector workers in terms of their household characteristics, age, gender and level of education; (iii) the structure of employment in the informal sector; that is, categories of workers, employment by type of industry and by gender and level of education; (iv) the factors that influence choice of work in the informal sector and, (v) an analysis of financial potential of informal sector enterprises taking into consideration such factors as key indicators of financial potential, sustainability and expenditure patterns of the enterprises. The words 'entities', 'enterprises' and 'units' have been used interchangeably to denote informal sector work, both agricultural and non-agricultural.

5.2 Overview of informal sector entities involved in the study

5.2.1 Forms and classification of informal sector work

A mapping exercise was conducted to identify and classify types of informal sector enterprises (industries) in the study sites. The mapping also served as a platform for mobilising informal sector workers for FGDs and in-depth interviews as well as acting as a sampling-frame for the questionnaire survey. About 2537 informal enterprises were

mapped in both urban and rural study sites (urban= 1739 and rural=798) and classified into various industries (Table 5.1).

Table 5.1: Identification and classification of various informal economic entities

Groups of enterprises	Industry classification
1. Retail and wholesale shops selling a variety of mostly basic household consumables	Shop-keeping
2. Sports-bars; pubs; audio and video centres; electronics including radio, television sets and music systems, and photo studios	Entertainment
3. Small scale sale of vegetables and fruits, potatoes, nuts, buns, maize, among others	Food vending
4. Mobile money transfer services, internet and photocopy shops	Telecommunication
5. Workshops for repair of motor vehicles and electronics, plumbers, painters	Repair & maintenance
6. Local clothes, imported new and used clothes and shoes, salons, barber-shops, various beauty products including perfumes, necklaces; and massage parlours	Clothing & beauty industry
7. Informal medical facilities for humans and livestock, chemists, herbalists, traditional healers	Health & medical
8. Wood products (carpentry, wood-carving); pottery and all other forms of handiwork	Manufacturing & Craft
9. Eateries including restaurants and food kiosks as well as butcheries and fishmongers	Hotel & food kiosks
10. Public motor transport system not registered under the companies act as well as transportation by motorcycles	Transportation
11. Small scale agricultural entities including crop farming and livestock	Subsistence farming
12. Brick and block making, sale of construction materials including hardware shops	Construction
13. Fuel such as paraffin, charcoal and firewood	Energy
14. Stationery products, bookshops	Stationery
15. Scrap-metal, water-vending, housing estate agencies	Others

A total of 455 entities (rural= 129 and urban= 326) were recruited out of a target sample of 500 economic units (Table 5.2). From this table, food vending (20.6%) is the dominant non-agricultural informal sector entity in the urban area followed by manufacturing/craft (16.6%) and hotel and food kiosks (10.4%). In the rural area, transportation dominates the non-agricultural informal sector followed by manufacturing and crafts. These findings may not be comparable with those by the Kenya National Bureau of Statistics (KNBS) (2007) because of different methods of classification and the fact that the KNBS did a nation-wide study. Whereas the KNBS classified informal sector work into six categories: manufacturing (21.7%), building and construction (2.9%), wholesale, retail, hotels and restaurant (58.7%), transport and communication (3.0%), community, social and personal services (9.3%), and

others (4.5%), this thesis has identified 15 industry categories which provide a finer breakdown of informal sector entities (Table 5.2).

Table 5.2: Number and proportion of informal sector entities participating in the survey

Industry category	Rural		Urban		Total	
	No.	%	No.	%	No.	%
Food vending	1	0.8	67	20.6	68	15
Shop-keeping	3	2.3	27	8.3	300	6.6
Entertainment	1	0.8	25	7.7	26	5.7
Telecommunication	1	0.8	11	3.4	12	2.6
Manufacturing/ crafts	7	5.4	54	16.6	61	13.4
Cloth & beauty	1	0.8	49	15	50	11
Health & Medical	3	2.3	2	0.6	5	1.1
Repair & maintenance	0	--	10	3.1	10	2.2
Hotel/food kiosk	6	4.7	34	10.4	40	8.8
Transportation	8	6.2	16	4.9	24	5.3
Farming & livestock	97	75.2	1	0.3	98	21.5
Construction	1	0.8	9	2.8	10	2.2
Energy	0	--	11	3.4	11	2.4
Stationery	0	--	3	0.9	3	0.7
Others	0	--	7	2.2	7	1.5
Total	**129**	**100**	**326**	**100**	**455**	**100**

5.2.2 The informal sector as a source of livelihoods

Most workers in the informal sector relied on their enterprises as their main and often the only source of livelihood. For example, 85% of study participants in the urban site and 89% in the rural site stated that they depended wholly on the respective entities as their main source of income, which may mean that the enterprises and farms were somehow financially dependable to sustain informal sector populations. For those who did not depend on the sampled economic units as their main source of income, some of them relied on formal jobs (rural= 25% and urban= 48%); other informal sector work (rural= 25% and urban= 18%); and remittances (rural= 56.3% and urban= 33.3%). Findings on the informal sector as the main source of livelihoods for most workers in the sector are similar to Mbaye (2014) who noted that across Africa, between 80% and 90% of informal sector operators depend on their enterprises as the main source of livelihood. In Nepal, Timalsina (2007) observes that 85% of informal sector workers in the rural area fully depended on their respective economic entities as the main source of income.

Most of the economic units in the sample were small-scale, owned and operated by single individuals. In the agricultural informal sector for example, about 62% of farmers reported owning less than an acre of farmland. The small sizes of these economic units indicated limitations in their income generating potential even if they were sustainable.

5.2.3 Location of informal sector entities

In the urban area, 54% of enterprises were located on the roadside including road reserves and street pavements. Informal economic units in such locations are often disrupted by road expansions and forceful relocations by county authorities in a bid to decongest streets. Some of the operators may have licences but others operate illegally which renders them highly vulnerable to evictions and harassment by county authorities. On the other hand, about 32% of the enterprises were in commercially designated locations such as open-air markets and commercial premises; 12% were at residences and 0.9% of enterprises were mobile. The rural area had mainly farms comprising about 80% of informal economic entities and others were located in commercially designated market premises.

5.2.4 The legal status of informal sector entities

Non-agricultural informal sector economic units were likely to be registered with the local authority. In the rural area 61.1% of these entities were registered compared to 53.7% in the urban area. Most of those that were not registered reported paying daily rates to the local county council to be able to operate. These included mainly small-scale operators in make-shift structures or none at all, and involved such entities as food vending, cobblers and street hawking among others. The payment rates ranged from KSh 10 (US$ 0.11) to KSh 30 (US$ 0.33) per day depending on the space occupied.

5.3 Socio-demographic profiles of informal sector workers

Table 5.3 shows that in both study sites, most workers (73.2%) in the informal sector were household heads and the majority (70.6%) were married. Household sizes ranged from one to five members for about 81% of the workers in the rural area and 87% in the urban site. There was no significant difference (P=0.50) in household sizes of informal sector workers but workers in the urban site tended to have smaller household sizes. The mean household size was 4.8 members and 4.4 members respectively for rural and urban areas, which

showed that workers in the informal sector particularly in the rural study site tended to have larger households than the national average of four members per household.

Table 5.3: Socio-demographic characteristics of informal sector workers

Variables	Rural (%)	Urban (%)	Total (%)
Household heads	84 (65.1)	249 (76.4)	333 (73.2)
Marital status			
Married	98 (76)	222 (68.5)	320 (70.6)
Single	15 (11.6)	87 (26.9)	102 (22.5)
Divorced/Separated	4 (3.1)	8 (2.5)	12 (2.7)
Widowed	12 (9.3)	7 (2.2)	19 (4.2)
Household size			
1 – 2 members	45 (34.9)	124 (38.0)	169 (37.1)
3 – 5 members	60 (46.5)	159 (48.8)	219 (48.1)
6 – 10 members	22 (17.1)	38 (11.7)	60 (13.2)
11+ members	2 (1.2)	5 (1.5)	7 (1.5)
Gender			
Male	65 (50.4)	234 (71.8)	299 (65.7)
Female	64 (49.6)	92 (28.2)	156 (34.2)
Employment status			
Owner	119 (92.3)	240 (73.9)	359 (79.1)
Employee	10 (7.7)	85 (26.1)	95 (20.9)
Age			
<24 years	7 (5.4)	55 (16.7)	62 (13.6)
25 – 50 years	59 (45.7)	254 (77.9)	313 (68.8)
50+ years	63 (48.8)	17 (5.2)	80 (17.6)
Level of education			
None or preschool	8 (6.2)	15 (4.6)	23 (5.1)
Primary	61 (47.3)	137 (42.2)	198 (43.6)
Secondary	48 (37.2)	135 (41.5)	183 (40.3)
Post-secondary	12 (9.3)	38 (11.7)	50 (11.0)

There were more males (65.7%) than females (34.2%) working in the informal sector overall, however, the difference in gender of informal sector workers was significant only in the urban site (P= <0.001) where an overwhelming majority of workers (71.8%) were male. In the rural area, the gender of informal sector workers was about 50% for either gender. There was no clear explanation for the dominance of men in urban informal sector entities but a key informant explained that the urban area involved non-agricultural informal sector work such as manufacturing and crafts, transportation, repair and maintenance, among others which favoured men. Some FGD participants also explained that since the study involved questions around expenditure in the informal sector, some female own-account workers preferred their spouses to respond to the questionnaire because of cultural factors

which presumed that the male spouse was the head of the household and so had responsibilities in dealing with issues that concerned household welfare.

Most of the workers in the informal sector (79%) owned their economic entities either as employers or own-account workers. Employees comprised about 21% of informal sector workers (rural= 7.7% and urban= 26.1%), which showed that informal sector work in the urban area created more employment opportunities than those in the rural area.

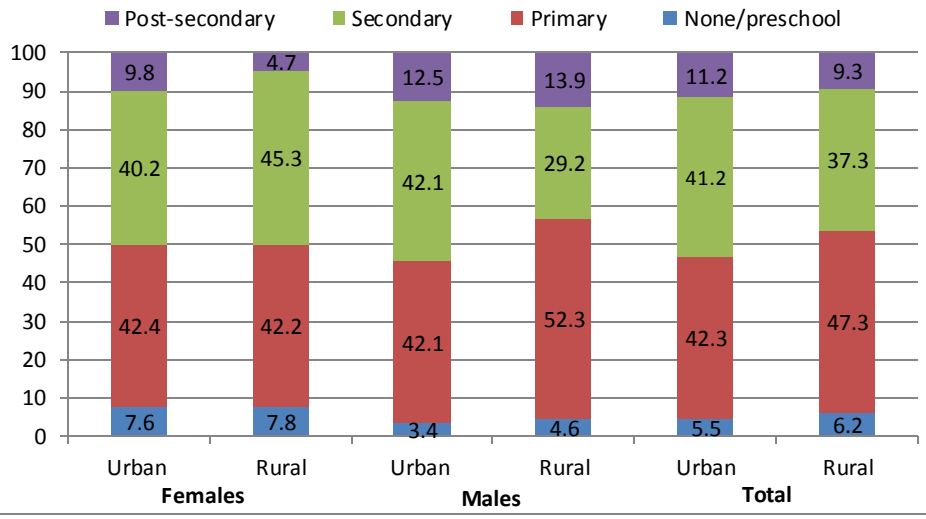
In terms of age, the informal sector involved younger workers in the urban area compared to the rural area. The mean age of owners/managers of informal sector entities in the rural area was 51.7 years with the majority aged between 50 – 75 years (49%) and those aged 25 – 50 representing about 46%. In the urban area, the mean age was 36.4 years and those aged 25 – 50 years represented the largest single share at about 78% of the workers. The difference in the mean ages of informal sector workers between the two study sites was significant (P=<0.001). This difference could be explained by existing literature (Meng, 2001, Nyakaana, 1997, Omondi, 1987) which suggest that urban areas attract mostly youths in search of employment after completing school and that due to lack of formal employment opportunities, the majority of them end up in informal sector work.

Educational attainment in the informal sector was relatively low with most workers in rural and urban locations having a mean of about eight years of schooling (7.5 years of schooling for the rural area and 8 years for the urban site). This means that in terms of educational attainment, informal sector workers generally did not go beyond primary level education. Level of education therefore seems to be an important determinant of work in the informal sector. However, as shown in the Table 5.3, about 11% of informal sector workers in total had post-secondary education and 40% (37% rural and 42% urban) had some secondary school education. Chi-square test showed no significant relationship between level of education and socioeconomic status in the rural area (P=0.90) but the relationship was significant in the urban area (P=0.01), which suggests that in the urban area higher levels of education in the informal sector lead to better socio-economic status. Since low levels of education limit chances of finding formal employment, it could partly explain why the majority in the informal sector (54% rural and 42% urban) considered themselves in the

second wealth quintile while about 30% for both sites considered themselves in the third wealth quintile. Few considered themselves in quintiles four and five, which combined gave a total of 0.8% for rural and 4.4% for the urban area. From a global perspective, educational attainment in the informal sector is generally low; for example, Ndiweni et al. (2014) show that in Zimbabwe about 80% of informal sector workers had a maximum Ordinary level certificate.

Findings of this study further show no significant differences in educational attainment between men and women in both rural and urban sites (P=0.09 and P=0.40, respectively) although a considerably higher percentage of women than men in the rural area had secondary level education and more men than women had post-secondary education in both sites (Figure 5.1).

Figure 5.1: Level of education by gender and location (rural and urban)



5.4 Structure of employment in the informal sector

5.4.1 Categories of workers in the informal sector

As demonstrated in Table 5.4, there were five types of workers in the informal sector: (1) own-account worker, who owned and operated their enterprises as individuals; (2) the employer, who engaged other people (employees) to help in running their economic enterprises; (3) the employee and (4) unpaid household worker. The fifth category relates to a few enterprises (1.3%) that were co-owned through partnership with friends, relatives or

spouses and the partnership could be by employers or own-account workers. The differences in the forms of employment in the informal sector between urban and rural study sites were found to be statistically significant (P= <0.001); that is, the urban area for example, had more employees (26%) than the rural area (6%) but there were more own-account workers in the rural area (88%) than there were in the urban site (70%).

Table 5.4: Informal sector employment status in urban and rural areas

Employment type	Rural (%)	Urban (%)	Total (Average)
Own-account worker	88.4	70.3	**75.4**
Employer	2.3	2.5	**2.4**
Paid employee	6.2	25.7	**20.2**
Unpaid worker	1.6	0.3	**0.7**
Co-ownership	1.6	1.2	**1.3**
Total	**100.0**	**100.0**	**100.0**

Pearson chi2(4) = 24.28 Pr = <0.001

In total about 75% of informal sector entities in both rural and urban study sites were own-account mainly because either the entities could not afford an employee or were too small to require extra manpower. Employees on the other hand, formed the second largest group of workers in the informal sector (6% rural and 26% urban). They had short- to long-term engagements without any written contract or time limits as to when the employment terms could be reviewed if at all. According to one employee, the only job security could have been the fact that they were relatives of the employer or had been recommended by a close friend of the employer. Employers in the informal sector were people already working in the informal sector or were employees in the formal sector with investments in the informal sector. Most FGDs submitted that any employer in the informal sector had more capital investment and potentially was much better off financially than other workers in the informal sector. Accounts from most FGDs in the urban area indicated that investment capital for own-account workers may range from street-side food-vending with capital as low as KSh 4,000 (US$ 48) to investments worth hundreds of thousands of shillings.

5.4.2 Employment by type of industry

As shown in Table 5.5, about 70% of informal economic units in the urban area were own-account. The mean number of employees per enterprise in the informal sector was 0.4 for rural and 1.0 for urban areas, which means that only a small percentage of the informal sector was able to employ anyone other than the owner. For example, in the urban area,

out of the 30% of enterprises that could employ an extra person, 21% had only one to two employees. Antoine (2004) and Mitullah and Wachira (2003) express similar findings in which up to 70% of informal enterprises are own account workers. However, a World Bank survey in Kenya by Daniels et al., (1995) gave a slightly different picture where 57% of non-agricultural enterprises had one worker, 31% had two workers, 11% had three to five workers and only 0.2% had between 11 and 50 workers. The slight differences in the findings could be attributed to the time period when the studies were conducted and possible differences in sampling.

Table 5.5: Number employed by type of industry in the urban area (%)

Industry category	Own account (No.) %	1 -2 (No.) % employees	3 – 4 (No.) % employees	5 – 10 (No.) % employees	10 – 20 (No.) % employees	Total (No.) %
Clothing & beauty	(36) 75.0	(10) 20.8	(2) 4.2	0.0	0.0	(48) 100.0
Food vending	(52) 77.6	(12) 17.9	(3) 4.5	0.0	0.0	(67) 100.0
Health & Medical	(2) 100.0	0.0	0.0	0.0	0.0	(2) 100.0
Hotel/food kiosk	(23) 67.7	(8) 23.5	(1) 2.9	(1) 2.9	(1) 2.9	(34) 100.0
Repair & maintenance	(9) 90.0	0.0	(1) 10.0	0.0	0.0	(10) 100.0
Manufacturing/ crafts	(36) 66.7	(10) 18.5	(3) 5.6	(4) 7.4	(1) 1.9	(54) 100.0
Telecommunication	(7) 63.6	(4) 36.5	0.0	0.0	0.0	(11) 100.0
Entertainment	(18) 72.0	(5) 20.0	(1) 4.0	(1) 4.0	0.0	(25) 100.0
Farming & livestock	(1) 100.0	0.0	0.0	0.0	0.0	(1) 100.0
Transportation	(9) 56.3	(2) 12.5	(3) 18.8	(2) 12.5	0.0	(16) 100.0
Shop-keeping	(19) 70.4	(7) 25.9	(1) 3.7	0.0	0.0	(27) 100.0
Stationery	(2) 66.7	0.0	(1) 33.3	0.0	0.0	(3) 100.0
Construction	(3) 33.3	(5) 55.6	(1) 11.1	0.0	0.0	(9) 100.0
Energy	(6) 54.6	(4) 36.4	0.0	(1) 9.1	0.0	(11) 100.0
Others	(6) 85.7	(1) 14.3	0.0	0.0	0.0	(7) 100.0
Total	**(229) 70.4**	**(68) 20.9**	**(17) 5.2**	**(9) 2.8**	**(2) 0.6**	**(325) 100.0.**

Some urban informal economic enterprises in such areas as hotel and food kiosks, manufacturing and crafts, telecommunication, entertainment and transportation exhibited a higher potential to employ several people but further statistical analysis revealed that the differences in the number of employees per industry is not significant (P= 0.59). However, such differences were significant in the rural area (P=<0.001) because of the dominance of agricultural informal sector which was the only major economic activity that was likely to have employees. In the rural area, 88% of workers were own-account and the remaining 12% employed either one or two people mostly in subsistence agriculture and transportation industries.

5.4.3 Employment by gender and level of education

The informal sector is dominated by men (72% for urban and 50.4% rural). In the urban area men almost exclusively dominated specific industries such as transportation (94%), manufacturing and crafts (91%), energy (91%), repair and maintenance (90%) and construction (89%). These industries were either perceived as masculine or required higher capital start-ups, which conventionally favours men. Women had a large presence in specific informal sector entities including food vending (46%), hotels and food kiosks (44%), clothing and beauty (33%), and shop-keeping (30%). The large presence of women in the low-capital food-vending industry could suggest that more women than men in the urban informal sector were likely to be of lower socioeconomic status. Tshuma and Jari (2013), in the South African context have similar findings in which men dominated certain industries considered masculine including mechanics and welding while women dominated clothing and beauty, hair-dressing and street vending. With regard to employment by gender, Ndiweni et al. (2014) and (ILO, 2002b) indicate that more women than men work in the urban informal sector. This is different to the findings of this study and other than contextual differences, the opposite findings could not immediately be accounted for and require further research.

In the rural area, there were more men than women in manufacturing and crafts (100%), health and medical (67%) and transportation (100%). Women were dominant in subsistence agriculture (55%) and shop-keeping (100%). Gender differences in employment by type of industry were found to be significant (P=<0.001 for urban and P=0.007 for rural).

In terms of education, a few industries such as health and medical and telecommunication tended to have more workers with post-secondary education. For example, 100% of urban and 66% of rural workers in the health and medical industry had post-secondary education, and 45% in the urban informal telecommunication industry had similar levels of education. The differences in employment in each type of industry by level of education were significant (P=0.04 for rural and P=0.009 for urban). Entities in the rural area that had participants with higher levels of schooling were health and medical, and manufacturing and crafts. The lowest levels of education were found among workers in industries such as hotel and food kiosks and transportation.

5.5 Factors influencing work in the informal sector

Both quantitative and qualitative components of the study revealed some important factors that contributed to choice of the informal sector as an employment destination (see Table 5.6 for the quantitative component). Of these factors, lack of formal employment opportunities (39.3% for urban and 30% for rural) stood out as the main reason for engagement in informal sector work. This meant that a large number of workers in the informal sector did not choose to work in the sector but were forced by circumstances of having to look for an alternative source of livelihood. Other factors included specific skills training in a given industry (only urban= 30%) and the need for better income (urban= 23.2% and rural= 24%). Engagement in the informal sector as a family trade (30%) was the third major driver of informal sector work in the rural area largely because farming was the main economic activity and farms were said to be passed on from one generation to the next.

Table 5.6: Reasons for choosing to work in the informal sector

Reason	Rural (%)	Urban (%)	Total (Average)
Could not find formal work	30.3	39.3	34.8
Trained in it	8.5	30.0	19.25
Family trade	30.2	2.5	16.35
Better income	24.0	23.2	23.6
Easy to start	5.4	3.1	4.25
Influenced by others	1.6	1.9	1.75
Total	**100.0**	**100.0**	**100.0**

In other literature, Tshuma and Jari (2013) identified three key reasons that motivated people to work in the informal sector in South Africa: lack of formal jobs (41%), the need for more income (40%) and to work from home (10%). In a sense, inability to find formal employment and need for more income seem to be the two main drivers of informal sector work in both South African and Kenyan contexts. The UNDP (2013a) report on youth employment in Kenya acknowledges that up to 41% of informal sector workers are seeking formal employment. Similarly, the qualitative component of this study in the urban area confirmed that lack of employment opportunities in the mainstream economy was the main driver of work in the informal sector. At least four FGDs clarified that risks such as unstable income, lack of career training and growth as well as lack of social protection provisions such as health and pensions, prompted a number of informal sector workers to be in constant search for formal work as long as they had competitive skills.

The problem of lack of competitive skills to work in the formal sector was discussed in six FGDs (urban=4 and rural= 2) as a driver of work in the informal sector. Poor skills training was linked to low levels of education among the majority of informal sector workers as explained by a key informant: *"…you realise that you never went far in schooling but life must continue: you want your own house, eat without begging, get married and have children…. You cannot do these without a source of income, so what do you do? Get a piece of land and make sense out of your life or else live as a beggar…"* (KI3, Rural).

Qualitative interviews identified other important factors that contributed to growth in informal sector work. Such factors included formal and informal training programmes geared specifically for work in the informal sector. According to a policymaker participating in the study, some formal training programmes in youth polytechnics such as dress-making, carpentry, welding and weaving were specifically designed to create self-employment, which in most cases ended up as informal sector entities.

The government, non-governmental organisations as well as influential individuals, specifically politicians, also play key roles in encouraging work in the informal sector. According to 10 community key informants (rural=1 and urban=9) and two urban FGDs, cases of mostly youths (and in some cases women groups) being mobilised regardless of skills to engage in some income-generating work were common. Such work included barber-shops, car-wash equipment, welding, carpentry, tailoring, transportation and various aspects of the entertainment industry. However, an urban key informant mentioned that most of these lines of work are masculine and tended to favour men than women and could partly explain the disproportionately high numbers of men in the urban informal sector.

5.6 Analysis of financial potential in the informal sector

The main idea behind the analysis of financial potential of informal sector entities was to measure their ability to support a prepaid health system whether under a contributory or non-contributory system. The objective is not to get to know how much money is in the informal sector but rather to understand whether the earnings are regular for workers and whether the enterprises are able to maintain regular fund flows for a prepaid health system

regardless of the amounts involved. An important consideration in a prepaid health system is the predictability of funding to ensure that service provision is not interrupted for lack of funds.

5.6.1 Indicators of financial potential

During focus group discussions, study participants were asked to state what shows that an informal sector entity is better or worse off financially compared to the others. The list of indicators were used in the survey questionnaire and study participants were asked to respond whether they '*Strongly agreed', 'Agreed', 'Disagreed' or 'Strongly disagreed',* with each of the indicators identified through FGDs. The results are presented in Table 5.7 for the urban area.

Table 5.7: Indicators of financial potential in urban informal sector enterprises

Indicator of financial potential	% Strongly agree	% Agree	% Disagree	% Strongly disagree	Total (%)
1. Physical structure in which business is conducted (permanent, temporary)	37.0	28.7	27.8	6.5	**100**
2. Licensed as opposed to unlicensed enterprises	43.8	26.5	23.2	6.5	**100**
3. Enterprises with employees	62.0	23.8	12.0	2.2	**100**
4. Legal location of enterprise	53.9	25.4	13.6	7.1	**100**
5. Membership of a health scheme or a saving scheme, formal or informal	61.7	28.7	8.0	1.5	**100**
6. Businesses with utility costs	70.7	23.2	4.9	1.2	**100**
7. Ownership of more than one enterprise	76.8	20.4	2.5	0.3	**100**
8. Size of space occupied by enterprise	68.1	18.0	10.2	3.7	**100**

From Table 5.7, the majority of respondents strongly agreed that the indicators as discussed during the FGDs were accurate measures of financial potential among urban informal sector entities. Strong indicators of financial potential in the informal sector include ownership of more than one business (77%), businesses with utility costs such as electricity, water and telephone (71%), businesses occupying large spaces (68%), enterprises with employees (62%) and enterprises whose owners belonged to a savings or health scheme (62%). Overall 77.2% of respondents either 'strongly agreed' or 'agreed' that the listed variables were accurate measures of financial potential of urban informal economic enterprises.

Analysis of financial potential for rural informal sector was divided into non-agricultural and agricultural informal sector because they had different indicators. Indicators of financial potential for rural non-agricultural informal sector were similar to those of urban informal sector. Overall, the findings show that about 67% of study participants either 'strongly agreed' or 'agreed' that the characteristics of rural non-agricultural informal enterprises as stated were appropriate measures of financial potential.

The most agreeable indicators of financial potential for rural non-agricultural informal sector included ownership of more than one business, businesses with utility costs, enterprises with employees as well as those whose owners/managers were members of a health insurance or savings scheme (Table 5.8).

Table 5.8: Indicators of financial potential in rural non-agricultural informal sector

Indicator of financial potential	% Strongly agree	% Agree	% Disagree	% Strongly disagree
1. Physical structure in which business is conducted	25.0	18.8	43.8	12.5
2. Licensed as opposed to unlicensed enterprises	31.3	28.1	25.0	15.6
3. Enterprises with employees	59.4	21.9	15.6	3.1
4. Legal location of enterprise	25.0	37.5	28.1	9.4
5. Membership of a health scheme or a saving scheme, formal or informal	56.3	18.8	15.6	9.4
6. Businesses with utility costs	78.1	12.5	6.3	3.1
7. Ownership of more than one enterprise	87.5	3.1	6.3	3.1
8. Size of space occupied by enterprise	53.1	25.0	18.8	3.1

For agricultural informal sector (Table 5.9), interviewees were asked to discuss indicators of lack of financial potential because it was what they were comfortable with. As demonstrated in Table 5.9, strong indicators of lack of financial potential included lack of land, and structure of the household where large households and those having elderly members or children were more financially strained. Enterprises whose owners had children not able to attend school or whose households skipped certain meals of the day also strongly indicated lack of financial potential. In summary, 67% of the study population

either 'strongly agreed' or 'agreed' that the indicators as presented in Table 5.9 were good indicators of lack of financial potential in the rural agricultural informal sector.

Table 5.9: Indicators of lack of financial potential in rural agricultural informal sector

Indicator	% Strongly agree	% Agree	% Disagree	% Strongly disagree
1. Lack of land	56.7	16.5	15.5	11.3
2. Households with the elderly and children	52.6	21.1	19.0	7.4
3. Residents of rented dwellings	41.7	16.7	15.6	26.0
4. Non-membership of a health scheme or a saving scheme, formal or informal	28.1	18.8	16.7	36.5
5. Inability to attend school	61.9	26.8	10.3	1.0
6. Small size of land under cultivation	29.9	26.8	23.7	19.6

What these tables (5.8 and 5.9) suggest is that the indicators identified through qualitative methods were, to a large extent, likely to be accurate measures of financial potential of informal sector entities. Some of these indicators were further analysed and presented in Table 5.10 to best understand the actual financial potential of agricultural and non-agricultural informal sector entities in rural and urban areas.

Table 5.10: Proportion of informal sector entities with key indicators of financial potential

Indicator:	**Rural (%) (Agricultural)**	**Rural (%) (Non-agricultural)**	**Urban (%)**
Permanent structures (*Land)	(*87.3)	61.1	43.8
Licensed entities	---	61.1	43.7
Enterprise has at least one employee	23.6	50.0	29.6
Enterprise located at legally designated area	93.7	72.2	43.7
Owner of enterprise belongs to a health insurance scheme	38.1	50.0	22.3
Owner of enterprise has other enterprises	18.7	27.8	21.0
Household has no children <18 and/or elderly	52.3	55.6	33.1

**Land was considered as a permanent structure and only applied to rural agricultural informal sector*

From Table 5.10, the rural area shows greater financial potential but this result is greatly influenced by ownership of productive agricultural land which is not found in many parts of Kenya. In the case of non-agricultural informal sector, enterprises in the urban area were most vulnerable: less were found in permanent structures, were licensed or located in

designated areas as compared to those found in the rural area. A higher proportion of rural non-agricultural enterprises have indicators of financial potential than those in the urban area as demonstrated in Table 5.10, however in terms of sustainability, the enterprises in both sites are about the same. This is discussed in the next sub-section.

5.6.2 Sustainability of enterprises as a measure of financial potential

Given the cross-sectional design, the study first acknowledges limitations in determining sustainability in relation to entities that were less than five-years old. However, judgement on the sustainability of such entities was based on the level of capital investment as judged from size of the stock. A sustainable informal sector entity was defined in this study as one that had lasted at least five years at the time of the survey. The 5-year period was based on findings by Wanjala and Were (2006) which showed that informal enterprises have a short lifespan with 40% having operated for less than two years and the rest were about five years old. At the same time, the Kenya government operates on a 5-year development plan after which a general election is held that potentially heralds new health policies. It is important to understand sustainability of informal enterprises because universal coverage requires predictable funding and if the informal sector has to prepay for health care their sources of income need to be sustainable for predictability in financial resources. Table 5.11 gives the proportion of agricultural and non-agricultural informal sector entities in rural and urban study sites that met the threshold of sustainability.

Table 5.11: Proportion of sustainable enterprises in the informal sector

Informal sector	Sustainable (%)	Unsustainable (%)
Rural (agricultural)	83.5	16.5
Rural (non-agricultural)	44.4	55.6
Urban (non-agricultural)	43.2	56.8

The table shows that agricultural informal entities were more sustainable than non-agricultural enterprises. Sustainability of agricultural informal sector was assessed based on questions about whether a farmer had experienced loses such as total crop failure or death of a milk-cow that made them unable to meet their expenses. The proportions of sustainable non-agricultural informal sector entities in rural and urban sites were almost the same (44% and 43%, respectively), meaning that they were exposed to more-or-less similar conditions that made them vulnerable to collapse. Since more rural non-agricultural

informal sector entities had the attributes qualitatively identified as key indicators of financial potential, they were expected to be more sustainable than those in the urban area. This is not the case and could be linked to the macroeconomic factors (discussed elsewhere in this chapter) including business competition and lack of market which could make rural non-agricultural vulnerable to collapse. The other reason could be that there are other indicators of financial potential for rural non-agricultural enterprises not fully captured in this study.

The study further analysed specific industries that were likely to be more sustainable than others. These are presented in Table 5.12, which demonstrated that the five most sustainable industries in the urban area included stationery (67%), repair and maintenance (50%), food vending (49%), shop-keeping (48%), and clothing and beauty (43%). The least sustainable were energy (18%), telecommunication (18%) and health and medical. In the rural area, the most sustainable were farming and livestock (90%), manufacturing and crafts (86%) and health and medical (100%). The least sustainable in the rural site were clothing and beauty (none sustainable), entertainment (none), hotel and food kiosks (17%), telecommunication (none) and transportation (about 13%).

Table 5.12: Sustainability by type of informal sector industry

Industry category	Sustainable (5+ years) %		Unsustainable (< 5years)	
	Urban	Rural	Urban	Rural
Food vending	49.2	100.0*	50.8	0.0
Clothing & beauty	42.6	0.0	57.5	100.0*
Construction	33.3	100.0*	66.7	0.0
Energy	18.2	0.0	81.8	0.0
Entertainment	40.0	0.0	60.0	100.0
Farming & livestock	100.0*	89.9	0.0	10.1
Health & Medical	0.0	100.0*	100.0*	0.0
Hotel/food kiosk	41.2	16.7	58.8	83.3
Manufacturing/ crafts	40.0	85.7	60.0	14.2
Repair & maintenance	50.0	0.0	50.0	0.0
Shop-keeping	48.2	33.3	51.9	66.7
Stationery	66.7	0.0	33.3	0.0
Telecommunication	18.2	0.0	81.8	100.0*
Transportation	33.3	12.5	66.7	87.5
Others	44.4	0.0	55.6	0.0
Total	**43.2**	**77.7**	**56.8**	**22.3**

For certain industries (marked *), although showing 100% sustainability or unsustainability, their true positions could be weak because only a few, sometimes just one member, was

represented in the sample. These include health and medical services (both rural and urban sites), farming and livestock in an urban area, and food-vending and construction in the rural site, each of which showed 100% sustainability but their representation in the sample was very low.

5.6.2.1 Measuring sustainability of informal sector entities

In analysing predictors of sustainability of enterprises, the lifespan of an enterprise was taken as the dependent variable. Using stepwise logistic regression, a number of independent variables were included in the analysis and the results are presented in Table 5.13. The model: $logit(p) = log\ (p/(1-p)) = \beta_0 + \beta_1 * x1 + ... + \beta_k * xk$. The base categories are as follows: Female (gender); Married (marital status); Households (with children); Entities with 'No employees'; Number of businesses (One); Monthly expenditure (KSh <5,500.00), and Socioeconomic status (Quintile 1).

Table 5.13: Analysis of sustainability of urban informal sector entities

Variables measuring sustainability	Odds Ratio	P>|z|	95% Confidence Interval
(**Gender**) *Male*	2.12	0.01	1.18 - 4.01
(**Marital status**) *Single*	0.16	<0.001	0.08 - 0.35
Divorced/Separated	1.83	0.47	0.35 - 9.60
Widowed	0.67	0.65	0.12 - 3.66
(**Household structure**) No children	0.53	0.05	0.28 - 1.01
(**Number of employees**) *1 – 2 workers*	4.19	0.03	1.13 - 15.47
3 – 4 workers	2.24	0.35	0.41 - 12.15
5 – 10 workers	1.65	0.14	0.84 - 3.22
11+ workers	0.92	0.96	0.04 - 19.03
(**Number of businesses**) *Two*	0.52	0.28	0.16 - 1.69
Three	0.05	0.01	0.005 - 0.50
(**Monthly expenditure**) *KSh 5,500 – 10,000*	0.35	0.002	0.18 - 0.68
KSh 10,000+	0.46	0.03	0.23 - 0.92
(**Socioeconomic status**) *2nd Quintile*	0.21	0.001	0.10 - 0.42
3rd Quintile	0.40	0.02	0.19 - 0.84
4th Quintile	0.40	0.24	0.09 - 1.83
5th Quintile	1.04	0.99	0.01 - 85.99

Number of observations = 312; LR chi2(20)= 84.5; Prob > chi2= <0.0001; Pseudo R2 = 0.198; Log likelihood = -171.7

The likelihood ratio chi-square of -171.7 with a p-value <0.0001 means that the model as a whole fits significantly better than a null model.

In the urban area (Table 5.13), gender significantly influenced sustainability of enterprises; that is, enterprises that were owned/managed by men were 2.12 times more likely to be

sustainable than those owned/managed by women (P=0.01, CI= 1.18 – 4.24). The difference in sustainability could also explain why the urban informal sector was predominantly male.

To some extent, marital status of urban informal sector workers had an impact on sustainability of the enterprises because, as suggested in the table, enterprises owned/managed by single workers were 84% (0.16 times) less likely to be sustainable than those run by married workers. This difference is significant (P= <0.001) and the narrow confidence interval (CI=0.08 – 0.35) indicates a very close association. However, for widows and separated workers, there was no significant difference in sustainability of informal sector enterprises. One reason highlighted during FGDs on why enterprises owned/run by workers who were not 'single' were more sustainable was that the non-single groups probably had greater social responsibility in that they were likely to have children who relied on them for support so had to ensure that they had a sustainable source of income. Such an observation could be supported by the finding that enterprises that were run/managed by workers whose households had no children were found to be 47% less sustainable than those managed by workers whose households had children. This difference was significant (P=0.05 and CI=0.28 – 1.01).

Having at least one employee was also found to be a strong predictor of enterprise sustainability. However, as the table shows, an enterprise with more than ten employees reduces its sustainability. Although this may appear as a contradiction, it could be explained by the fact that there were very few of such relatively large informal sector enterprises in the sample, which reduces chances of accurate prediction of their sustainability. Measured against own-account enterprises (enterprises with owner as the only worker), enterprises with one to two employees were 4.2 times more sustainable than own-account enterprises and this was the only difference that was significant (P=0.03 and CI=1.13 – 15.47). For the other categories (that is, enterprises with 3 – 4 employees and 5 – 10 employees) although they showed the likelihood of greater sustainability than own-account enterprises, the differences were not significant. Having employees was earlier cited as an important indicator of financial potential of an informal sector enterprise.

The findings in the urban area further suggest that enterprises whose owners engaged in more than one type of industry (diversified entrepreneurship) at the same time were less sustainable than those whose owners concentrated on one type of industry. For enterprises whose owners engaged in two or three different types of industries sustainability decreased by 48% and 95% respectively, the differences with the latter being significant (P=0.01 and CI= 0.01 – 0.5). There was an attempt in the FGDs to explain failure of enterprises whose owners diversified businesses. First, it was noted as a risk and insurance in that an entrepreneur could try to diversify investments with the hope that one would succeed; for example, a shop-keeping enterprise may also be a water-vendor. However, as noted in the FGDs, problems in management of a number of enterprises and the cost of renting space for the businesses could be factors against their sustainability.

Analysis of sustainability with regards to expenditure patterns and socioeconomic status (SES) was also conducted. Expenditure was measured in terms of money generated *from* the sampled informal economic units and spent at enterprise level, household level or individual level. Socioeconomic status (SES) was self-reported with study participants being asked to rank themselves using the pictorial depiction of SES in Figure 5.2. However, the self-reported SES was validated by comparing the results with monthly expenditure reports. The comparison is presented in Table 5.14.

Figure 5.2: A pictorial depiction of socioeconomic status presented to informal sector workers during the survey

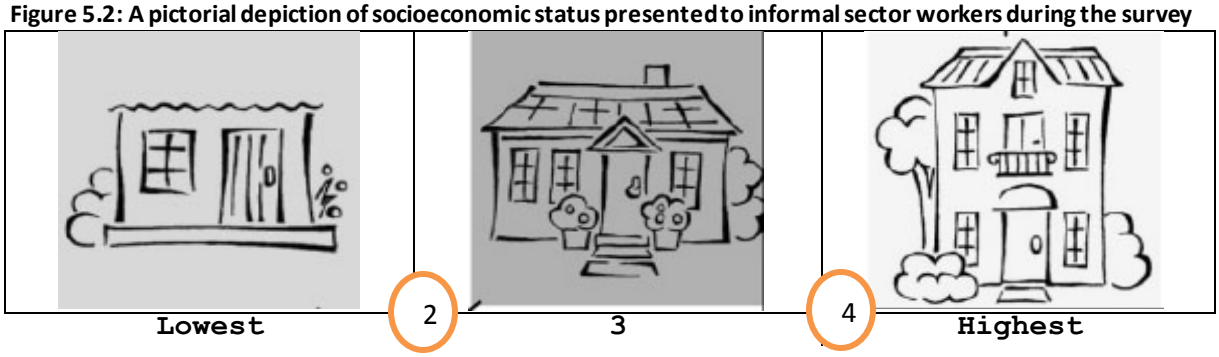


Table 5.14: Cross-tabulation of monthly expenditure and self-assessed SES

Monthly consumption(KSh)	Social economic status (1-lowest; 5-highest)%					
	Q1	Q2	Q3	Q4	Q5	Total
<5500	49.7	29.7	18.8	1.2	0.6	**100.0**
5500 - 10000	22.2	46.4	28.1	2.6	0.7	**100.0**
>10000	5.2	37.1	35.3	22.4	0.0	**100.0**

The table indicates that about 50% of respondents who spent the least amount identified themselves in the lowest quintile. The overall expenditure patterns tend to follow SES which indicates that the self-reported SES largely successful in depicting actual SES. The study refrained from using asset indices because the study was not at household level which made it difficult to control the validity of responses. Bitran (2014) explains that in most informal sector work there is usually little or no distinction between expenditure at household level and expenditure at enterprise level since these are not usually separate entities. Furthermore, close to 90% of informal sector workers indicated that the entities were their sole source of income.

The results of tests of association between expenditure patterns and SES were somewhat contradictory in that enterprises with higher expenditures and higher socioeconomic status, which were assumed to have a stronger financial base, were not as sustainable as expected. However, the opposite is true in the rural area (analysed in the next sub-section). Table 5.13 shows that, compared to enterprises that spent less than KSh 5,500 per month, sustainability of enterprises in the monthly expenditure categories of KSh 5,500 to 10,000 and over KSh 10,000, significantly decreased by 65% and 54% respectively (P=0.002; CI= 0.18 – 0.68 and P=0.03; CI= 0.23 – 0.92, respectively). In terms of SES, compared to Q1, sustainability decreased for enterprises ranked in Q2, Q3 and Q4 but increased for those ranked in Q5. These differences were significant only for Q2 and Q3 (P=0.001; CI=0.10 - 0.42 and P=0.02; CI=0.19 – 0.84, respectively). Possible explanations for these contradictions were: first, there was the likelihood of inaccurate estimates of true expenditure levels and socioeconomic status among informal sector investors in the urban area mainly for fear of attracting taxes because the informal sector in the urban area is often very apprehensive on issues of taxation. Secondly, the FGDs suggested that monthly consumption did not necessarily translate into SES because of other factors such as size of households and illnesses that could push up expenditures.

5.6.2.2 Predictors of sustainability of rural informal sector enterprises

An important predictor of sustainability of informal sector economic entities in the rural area was ownership of land. As shown in Table 5.15, there is a close association between owning land and sustainability (P= <0.001; CI= 0.01 – 0.14)[6].

Table 5.15: Analysis of sustainability of rural informal sector entities

Sustainability	Odds Ratio	P>|z|	95% Confidence Interval
Ownership of land	0.04	<0.001	0.01 - 0.14
(Socioeconomic status) Q2	9.95	0.003	2.21 - 44.70
Q3	2.31	0.252	0.55 - 9.63

Number of observations = 127; LR chi2(3)= 43.88; Prob > chi2 = <0.0001;
Pseudo R2= 0.3408; Log likelihood = -42.43

The FGDs had indicated that owning land is crucial even among non-agricultural informal sector workers because land was a fall back plan if other non-agricultural informal enterprises failed and lack of it would mean the risk of losing almost all means of livelihood in the rural area. On the other hand, although socioeconomic status to some extent was a significant predictor of sustainability in the rural area, the large confidence intervals rule it out from being a credible measure of sustainable of informal sector entities.

5.6.3 Financial potential of employees as opposed to enterprises

Different from enterprise owners, employees in the informal sector would also be expected to prepay for health care and so how regularly they earned their wages was important in understanding the predictability of financial resource flows into the prepaid system from the employees. Three variables identified through FGDs and in-depth interviews, namely employee status, days worked per week and regularity of pay, were used to test financial potential and the likelihood of sustainable income for informal sector employees (Table 5.16). Employees working full time, full week and were paid monthly or bi-weekly were said to be working for more stable enterprises and had more predictable income compared to employees on casual engagement, paid daily or occasionally or did not work a full week.

[6] There were no entities that reported to be in Q4 and Q5 in the rural area.

Table 5.16: Indicators of financial potential of informal sector employees

Indicator		Rural (%)	Urban (%)
Employee status	Full time employee	37.5	52.4
	Casual/Temporary	62.5	47.6
Days worked per week by employee	<5 days	16.7	22.0
	Full week (5 – 7 days)	83.3	78.0
Regularity of employee payment	Occasionally	12.5	20.0
	Daily	50.0	28.3
	Weekly	0.0	20.0
	Monthly	37.5	31.7

As demonstrated in Table 5.16, 63% of employees in the rural area were casual labourers who were paid daily or occasionally unlike in the urban area where 52% of employees were full time and paid mostly on a monthly basis. What this means is that payments for informal sector workers in the rural area were less regular compared to payments for the urban area such that, in terms of sustainably funding universal coverage, the urban informal sector employees would be more consistent in payment than their rural counterparts.

5.6.4 Expenditure patterns as a measure of financial potential

In the context of Bitran's findings regarding expenditure in the informal sector (Bitran, 2014), expenditure was analysed broadly to include workers and enterprises since the large majority of informal sector workers depended on their respective economic entities as the only source of income. Such broad analysis of expenditure would also capture other income sources for example other enterprises elsewhere not in the sample.

5.6.4.1 Mean monthly expenditure by industry

The minimum recorded monthly expenditure coming from money generated by an informal sector enterprise was KSh 1,500 (US$16.7) and the maximum was around KSh 70,000 (US$786.5) (Table 5.17). Urban informal enterprises spent more than rural entities with a mean monthly expenditure of about KSh 17,626 (US$195.8) compared to about KSh 7,009 (US$77.9) for the rural area. A smaller percentage (about 28%) of the urban informal sector spent less than KSh 5,500 (US 61.1) per month compared with the rural area where about 65% spent less than KSh 5,500 per month. Expenditure among urban informal sector entities was much higher than their rural counterparts; that is, about 34% of urban informal sector

workers were spending over KSh 10,000 (US$ 111.1) per month compared to 6% in the rural area. The differences in expenditure among informal sector entities between rural and urban was found to be strongly significant (P=<0.001), which suggests that in terms of financially supporting universal coverage, the urban area enterprises would be stronger sources of revenue than the rural ones. The differences in expenditure by industry were significant [Pearson chi2 (28)= 57.45 and P=0.001 within the urban site, and Pearson chi^2 (20)=66.45 and P=<0.001 within the rural area]. [Exchange rate: US$1.00= KSh 90.00]

Table 5.17: Mean monthly expenditure by type of industry (KSh)

Industry category	Rural	Urban
Food vending	3,500	14,629
Cloth & beauty	3,500	19,208
Shop-keeping	7,375	24,433
Manufacturing/ craft	17,667	16,717
Hotel/food kiosk	5,050	13,810
Entertainment	20,000	23,065
Telecommunication	3,500	29,825
Farming & livestock	4,925	3,500
Health & Medical	41,167	40,000
Repair & maintenance	----	19,361
Transportation	11,036	14,150
Stationery	----	43,875
Energy	----	19,300
Construction	35,00	24,313
Others	----	12,350
Average total	**7,009**	**17,626**

There were striking similarities as well as differences in monthly expenditures for specific informal sector industries between rural and urban study sites. For example in both study sites, industries such as manufacturing and crafts, entertainment, health and medical, and transportation had very narrow differences in expenditure meaning that whichever their location (rural or urban) they generated more-or-less about the same amounts of income (expenditure being a proxy for income).

In contrast, major differences in expenditure were noted in industries such as food vending, clothing and beauty, shop-keeping, hotel/food kiosk, telecommunication and construction. In these informal economic entities, higher expenditures, by large margins, favoured the urban area; that is, investing in these particular entities had higher financial potential in the urban area than the rural area.

A few studies had assessed monthly incomes of informal sector entities. In Kenya, Budlender (2011) noted that the average monthly income is KSh 12,000 for all informal sector entities and KSh 18,500 for non-agricultural informal sector. These are strikingly similar with this study findings where monthly incomes average KSh 12,317.5 overall, and KSh 17,626 for non-agricultural informal sector. In Zimbabwe, Ndiweni et al. (2014) show that average incomes in the informal sector are slightly higher than they are in Kenya with 45% of informal sector enterprises generating the equivalent of KSh 36,000 per month, 30% earn between KSh 22,500 and 36,000 and 10% at less than KSh 9,000 a month. In South Africa, Tshuma and Jari (2013) have recorded average monthly incomes in the informal sector ranging from the equivalent of KSh 10,000 to 40,000 for 40% of enterprises and less than KSh 5,000 for 12% of enterprises.

There were contradictions between qualitative and quantitative findings with regard to the mean expenditures particularly in the urban area. For example, while quantitative findings suggested otherwise, FGDs in the urban area were largely unanimous that food-vending, retail shop-keeping and energy were some of the lowest expenditure industries in the informal sector. Food-vending in particular was mainly perceived as a survival mechanism and a last resort activity but this could be in reference to specific types of food-vending especially those that involved low-capital investment and the products were hawked from one street to the other. Also, the FGDs regarded hotel and food-kiosks as one of the highest expenditure industries but quantitative findings indicated it was one of the lowest in the urban area. A possible reason for the contradiction could be explained by the fact that some owners of enterprises may deliberately give lower expenditure estimates for fear of attracting taxes, an issue that is common in the informal sector.

Qualitative data mainly in the urban area also indicated that industries such as entertainment, telecommunication, health and medical, transportation, repairs and maintenance and, manufacturing and craft were popular because they were more profitable. However, while transportation in particular was perceived as profitable, competition within the sub-sector greatly reduced its income margins. On the other hand, relatively higher expenditures in the construction and manufacturing and craft industries

were explained by the boom in the formal construction industry. A key informant explained: *"The informal manufacturing and construction industries supplement the demands of the country's formal construction industry and since there is a boom in the construction industry, the two informal industries benefit from a trickle-down effect…"* (KI8, Urban). A notable finding is the relatively very high expenditures in the health and medical entities which is hardly surprising given the rising costs of health care everywhere in the world.

Despite the possibility of profitable industries in the informal sector, there were a number of challenges facing various industries in the sector with direct and indirect financial implications. These are discussed below.

5.7 Factors limiting financial potential in the informal sector

There are a number of challenges facing informal sector industries that can render them vulnerable to financial ruin and even collapse. Specific challenges identified through FGDs and tested quantitatively are summarised in Table 5.18.

Table 5.18: Main causes of vulnerability in the informal sector

Main threats to informal sector work	Urban (%)	Rural (%)
1. Harassment/bribes by authorities	13.2	2.3
2. Eviction by authorities or landlord	37.7	3.9
3. Theft	16.7	2.3
4. Business competition /Oversupply	16.7	22.5
5. Natural disasters (e.g. adverse weather, crop, animal diseases)	7.6	20.2
6. Low capital and debts	6.9	35.7
7. Unstable commodity prices	1.3	13.2
Total	**100.0**	**100.0**

Similar constraints on informal sector incomes have been identified by Tshuma and Jari (2013) in South Africa. In the South African context however, lack of storage facilities emerged as the main challenge in the informal sector. Other key constraints were business competition and low profits, and lack of credit facilities.

Qualitative findings on challenges facing informal sector work identified some key issues, most of which were macroeconomic in nature and included unpredictable inflationary tendencies, high tax rates of imported products, high labour supply and stiff business

competition in the informal sector. Other challenges were health-related and also concerned the physical working environment in the informal sector.

5.7.1 Macroeconomic factors

The study was conducted during a period of unstable macroeconomic conditions, particularly with regards to inflation. Fluctuations in product prices made it difficult for informal sector entities such as in construction, and manufacturing and craft to estimate prices based on prior contractual agreements with clients. This often led to losses because when prices of raw materials rise after a contractual agreement, the informal sector worker had to absorb the extra cost. A key informant explained: *"When a client makes an order for windows or doors or beds, we calculate the cost of all the requirements on current prices but after making the quotation the next day prices increase but our clients don't want to hear about changes in pricing, so at times we go at a huge loss because we don't want to lose customers"* (KI4, Urban).

Tax rates on imported materials used in manufacturing and craft, repair and maintenance, and clothing and beauty industries, were said to be particularly high leading to lean profits and making business expansion difficult. A key informant explained: *"When we adjust our prices to cater for the taxes imposed by the government, our customers find our prices to be too high and this affects the rate of sales"* (KI4, Urban).

The last macroeconomic factor that led to poor financial performance in the informal sector was high unemployment rates which directly contributed to over-supply of labour. Cheap labour in the informal sector made not only finding work difficult but also poor pay for the employees in the sector. In an FGD a worker said: *"You leave in the morning hoping to find some work but sometimes you go for a full week without anything and when you find something the pay is pathetic...*" (Male, FGD1 Urban).

5.7.2 Health-related challenges

Lack of financial protection for most informal sector workers featured prominently during qualitative interviews. Study participants highlighted the burden of paying for health care out-of-pocket, which in many cases meant they could only afford poor quality services

because the alternative was unaffordable. Long-term illnesses in particular, required sustained spending and when done out-of-pocket had the real danger of bankrupting informal economic entities. A key informant in the rural area explained that: *"…there are growing cases of illnesses such as diabetes, high-blood pressure and cancer and these have long-term financial implications for households…. Where a business is the only source of income it could collapse and such cases are common here..."* (Female, FGD6, Rural).

Apart from the cost of treating an illness, study participants pointed out that inability to work as a result of ill health, particularly for own-account workers, led to losses where an economic activity had to be shut down or operated sub-optimally until the operator got well. The alternative of substitute labour was often characterised by poor returns because of the inexperience of the substitute labour and their costs. Bio-mechanical health problems also featured in the discussions and were said to be brought about by poor working conditions including lack of appropriate gear for entities such as welding and carrying heavy items. Certain health conditions such as respiratory illnesses were also precipitated by poor working conditions including congestion and pollution of the physical environment as well as exposure to adverse weather conditions. Forastieri (1999) recognises health problems in the informal sector and recommended a healthy working environment for sustainable development.

The last crucial factor affecting financial potential of informal sector entities was business competition mainly resulting from duplication of economic entities or products considered as either fast selling or easy to start. For example, an FGD participant stated: *"I knew there were many others selling vegetables, but what else could I sell? I did not have money to invest in a retail shop so whatever money I had I bought some vegetables to try my luck…."* (Female, FGD5, Urban). Business competition specifically contributed to low earnings because either the buyers were thinly spread among many competing businesses or businesses lowered prices to attract customers. In coping with competition, some owners of some economic entities adopted flexible approaches such as selling on credit to attract and retain customers. However, credit sales sometimes led to high indebtedness for some economic entities leading to inability to re-stock, which jeopardised their very existence.

Conclusion

The informal sector has many types of industries which employ a large number of people but the employment or work situation in the sector is fluid particularly in the non-agricultural informal sector where problems of labour mobility and oversupply, lack of job security and lack of specific skills as well as problems in the wider socio-economic and political context combine to make non-agricultural informal sector entities more vulnerable and less sustainable than the agricultural informal sector. On the other hand, while the agricultural informal sector could be more sustainable, its productivity is low because in most cases, the sizes of farms are quite small. In other words, in terms of financing universal coverage, the vulnerabilities in the informal sector including irregular income mean that very few of the non-agricultural informal sector can regularly prepay for health care. For the agricultural informal sector, despite more sustainability, the resource base is quite limited.

CHAPTER SIX: INFORMAL SECTOR WORKERS' EXPERIENCES OF HEALTH SERVICES UTILISATION: LESSONS FOR UNIVERSAL COVERAGE

6.1 Introduction

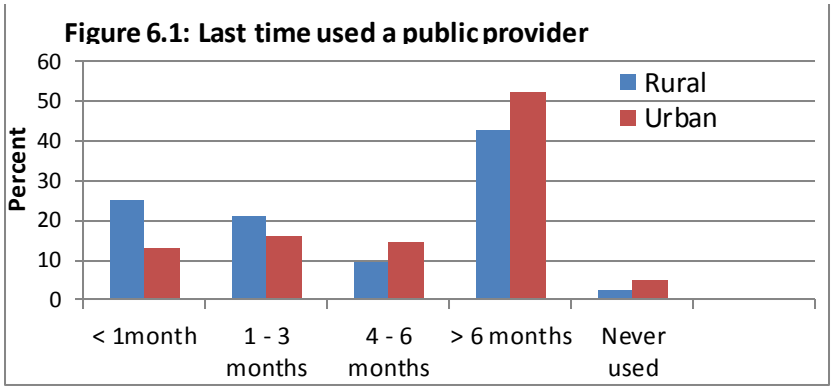
A major health policy debate current in Kenya is how to progress towards universal coverage where the use of health services is based on need regardless of population group and socioeconomic status. Under most universal coverage systems, public health facilities are the main providers of services because of the nature of funding, advanced infrastructural development including physical facilities and human resources, non-profit motivation and cost considerations. Improving public services is therefore paramount to the success of universal coverage policies in Kenya. A successful universal coverage system improves access to quality health services and provides financial risk protection for all. In Kenya, the health policy proposals for universal coverage prioritise access to public sector services for all population groups. For various reason highlighted by Tangcharoensathien et al. (2011), it is difficult to provide health insurance coverage for informal sector populations through a contributory system that is proposed by the Kenya government. Extending coverage to the informal sector in Kenya could be even more difficult because of the perceived poor quality of public sector health services. Improving public provision is central to making progress in universal coverage and so it was essential in this thesis to document the strengths as well as the problems and constraints in public services as experienced by informal sector workers and then draw key lessons for universal coverage.

To contextualise public sector services and utilisation, this chapter first analyses the most recent use of government health facilities by those in the informal sector and whether the use was for inpatient or outpatient care. Then using the 'Access framework' of availability, affordability and acceptability of services (McIntyre et al., 2009), the chapter proceeds to analyse the challenges faced by informal sector workers while seeking health services more generally but emphasising public sector health services. The analysis considers the strengths and weaknesses in public services as stated by informal sector workers, and what should be maintained or improved to promote use of public services and progress towards universal coverage. This chapter therefore, does not consider in much detail service utilisation and the cost associated with using services because it first needed to address qualitatively what

needs to be improved or maintained in public sector services for a future universal coverage system. Secondly, understanding the current experiences with public services among informal sector workers substantially informs their knowledge and attitudes towards prepaid health care and UHC, which are discussed in Chapter Seven.

6.2 Most recent use of public sector health providers

Study participants were asked in the survey to state the very last time they sought health services from a public provider, type of services sought and type of public facility used. Figure 6.1 shows that the single largest majority of respondents on average 47.5% (rural= 43% and urban= 52%) had used a public provider more than six months ago at the time of the survey and another 3.6% (rural= 2.3% and urban= 4.9%) had never used public facilities.



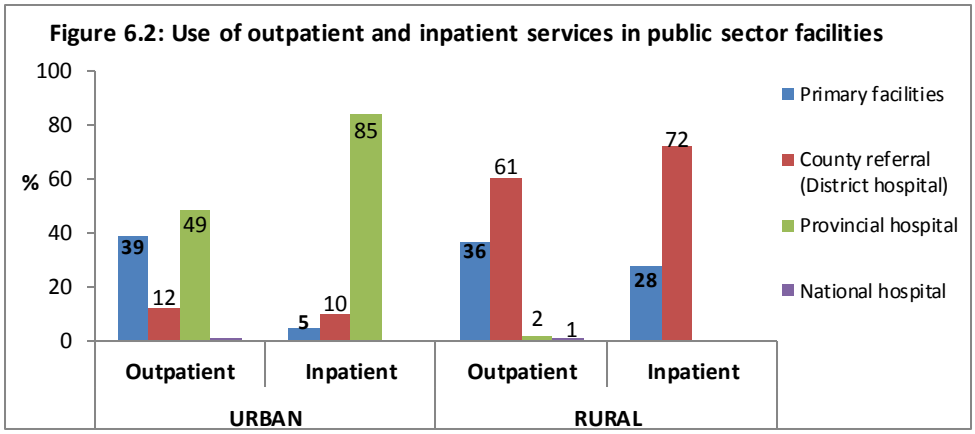
A total of about 55% and 43% in rural and urban sites respectively, had used a public provider 'less than six months ago' at the time of the survey which signalled a slightly higher utilisation of public services in rural than urban areas. However, a T-test conducted on the differences in utilisation between the two study sites was highly insignificant (P= 0.996), meaning that the usage of public sector health services among informal sector workers were more-or-less the same in the urban and rural areas.

There was no significant relationship between use of public facilities and socioeconomic status among informal sector workers given that about 32% of those who had never used the facilities were in the lowest quintile, 42% in Q2 and 26% in Q3. There were no observations in quintiles four and five. Further, Pearson's Chi^2 test for association between

various economic entities and the type of public sector facility used by informal sector workers was also not significant (P=0.88 and P=0.75 for rural and urban sites respectively).

With regard to the types of services (outpatient versus inpatient) that informal sector workers sought from public providers, outpatient care was the most frequent and accounted for about 87% and 86% of all visits to public facilities in rural and urban sites respectively. This is common everywhere around the world because utilisation of outpatient services is always higher than that of inpatient services. Most inpatient care as expected were referral hospitals (urban=85% and rural= 72%) (Figure 6.2).

Figure 6.2: Use of outpatient and inpatient services in public sector facilities



A clear pattern of utilisation of services by informal sector workers in both study sites is that the nearest referral hospitals (district hospital for the rural site and provincial hospital for the urban area) were the most used for either service. From the findings, most informal sector workers seeking outpatient care in public facilities did not use primary level facilities and this could be explained, first on the weak referral system, a characteristic of many health systems in low-income countries as indicated by Bossyns et al. (2006) and Bryan et al. (2010). Two other reasons for this pattern of use were highlighted during FGDs and in-depth interviews: the one was the likelihood of availability of services generally including drugs and perceived high quality diagnostic services even if one was to wait for a longer time. As a result many people self-referred with the knowledge that they were more likely to receive needed services at secondary facilities than at primary health facilities. Mahinda (2009) had expressed similar findings on why patients engage in self-referrals in Kenya. Most government funds for the health sector, according to various government reports, go to secondary level facilities hence the likelihood of availability of more services in these

facilities. The other reason was that the secondary facilities were considerably not far away from the population which minimised the cost of travel. County referral hospitals consist of level 4 and 5 facilities (formerly district and provincial hospitals) and national hospitals are the teaching and referral hospitals in Kenya.

The least used providers in the urban area were district and national hospital facilities, which from the researcher's own observation and information from the FGDs, were respectively far away and involved sometimes unaffordable transport and treatment costs. In the rural site, for similar reasons, the least used facilities were provincial and national hospitals. The FGDs also revealed that visits to higher level hospitals were only necessary when carers perceived an illness as serious without any referral from first-contact facilities.

The next section examines in some detail the access factors determining choice of facilities generally (both private and public), specific problems and constraints in public provision and improvements needed to facilitate progress towards universal coverage.

6.3 Quantitative summary of experiences with public provision

During the questionnaire survey, specific variables in service provision were listed and study participants were asked to state either 'True' or 'False' what their experiences were with each variable the very last time they used a government facility. The analyses of these experiences, both quantitative and qualitative, have adopted the *Access Framework* (McIntyre et al., 2009)*:* availability, affordability and acceptability.

To explain the three dimensions of the 'Access Framework': Availability is concerned with whether providers and services are delivered at the right place and time. It embodies the physical location of facilities, ability and willingness of providers to offer services, hours of service and whether the type, range, quality and quantity of services meet population health needs. Affordability involves full cost of services (direct and indirect) to an individual and whether the individual has the ability to pay. It includes direct costs such as price of services at the facility, cost of transportation and special diets. Indirect costs include lost income for the time spent at the facility. Acceptability entails expectations of health workers and patients and include mutual respect, cultural beliefs and perceptions of patients

including perceptions of provider competence (McIntyre et al., 2009). Table 6.1 gives a summary of the experiences of informal sector workers with public provision.

Table 6.1: Summary of experiences with government health providers

Experiences with government providers		Rural (%)		Urban (%)	
		True	False	True	False
Availability	Services were quick (No long queues)	40.3	59.7	23.9	76.1
	Facility was near	77.3	22.7	58.9	41.1
	All needed drugs were available	12.4	87.6	24.6	75.4
Affordability	Services were affordable	25.0	75.0	57.9	42.1
Acceptability	No bribes paid	86.6	13.4	76.5	23.5
	Health workers were respectful	86.7	13.3	74.3	25.7
	Health worker explained nature of illness	74.4	25.6	71.9	28.1
	Facility was clean	95.3	4.7	82.7	17.3

A key feature in the above summary is the high number of informal sector workers who reported that needed drugs were unavailable at the facilities (rural= 87% and urban= 75%). For informal sector workers in the rural area, unaffordability of services was also a problem experienced by a large percentage (75%). A lot of out-of-pocket expenditure goes into the purchase of pharmaceuticals and since these were unavailable at the facilities it means that a large number of these workers spent OOP and were potentially exposed to catastrophic expenditures. Unaffordable services means that many informal sector workers could either postpone treatment or opt for low-cost, low quality services.

The differences in the experiences, stated as 'True' or 'False' between rural and urban areas was not significant for all the three areas of the access framework: availability, affordability and acceptability (P= 0.809). However, when tested separately, only differences on issues about acceptability were found to be significant (P= 0.029); that is, informal sector workers in the rural area found public sector services more acceptable than their urban counterparts. What the test results mean is that in case of any interventions to improve service provision, while there could be no differences in approach, the urban area would require more emphasis on interventions related to acceptability of services.

6.4 Choice of health providers among informal sector workers

A number of factors were identified in the qualitative component of the study as determining the choice of a provider. The providers in question included public sector

health facilities, private hospitals and clinics (both high- and low-cost), traditional healers, chemists and other drug shops. Broad discussions during FGDs and in-depth interviews about key constraints and facilitators for choosing public providers and various types of private providers have been summarised in Table 6.2.

Table 6.2: Summary of factors considered in the choice of a provider by informal sector workers

Provider type	Who uses what providers and why?	Key constraints/problems
Public health facilities (government hospitals, health centres, dispensaries)	Used mostly by low-income earners. The main reasons for use are: a) Relatively low-cost treatment b) Proper diagnosis of illness which is ideal for children c) Treatment by qualified staff including specialist care	a) Lack of drugs b) Long waiting time c) Lack of commitment on some health workers
Faith-based and NGO facilities (these are considered as public facilities)	Used by both poor and well-off usually from targeted communities. The main reason for use are: a) Relatively low-cost b) High quality health services including proper diagnosis c) Respect for patients	Geographically sparse so may not be accessible to many people
Small low-cost private health facilities	Used by low-income groups often with low-levels of education. Main reasons for use are: a) Easily accessible (close to the population, easy payment terms, short time to get treatment) b) A patient does not have to undergo any tests that they are uncomfortable with, e.g. HIV test	a) Lack of diagnostic equipment b) Treatment by unqualified staff c) Generally low quality of care
High cost private facilities	Used by well-off individuals and those with medical cover. High quality services is the main reason for use	a) Very expensive
Chemists/Pharmacies and other drug shops	Used by people who have enough money to buy drugs from the pharmacy Main reasons for use are: a) Familiarity with illness/condition b) Illness is perceived as not serious and poses no threat to normal daily life c) Easy terms of payment (e.g. credit) because buyer and seller are from the same locality and probably know each other d) Lack of enough money to go to a formal health facility	a) Cannot treat illness perceived as serious b) Lack diagnostic test kits
Traditional healing including herbalists	Used by conservative cultures such as in coastal Kenya. Main reasons for use are: a) Herbalists and other traditional healers are easily accessible b) Easy payment terms c) Desperation with a long-standing illness; last resort when all else has failed	a) Not much confidence on their ability to treat and healing is often based on faith

Emphasis was given to public providers which merited more detailed analysis because of its relevance to health policy in Kenya. Using the Access Framework, the study explored the strengths and weaknesses in public services while identifying key constraints for improvement in a universal coverage system.

6.4.1 Availability of services

6.4.1.1 Skills of health workers

In terms of availability, two important issues were raised in both study sites that highlighted the strength of public sector services and seemingly attracted informal sector workers to

public providers. The first was that services at public facilities were offered by skilled health workers with adequate training and qualifications for their jobs even if their numbers may not be adequate. From most FGDs in both urban and rural areas, study participants expressed their confidence in public health workers to offer proper diagnosis and treatment. A participant in one FGD stated: *"…In a government hospital one can get a good doctor who would serve you well at once unlike in private clinics where they will treat in stages so that one is forced to keep going back"* (Male FGD4, Rural).

6.4.1.2 Availability of diagnostic and other equipment

The second strength in the public sector services as perceived by study participants in FGDs and in-depth interviews was availability of diagnostic and other equipment which made informal sector workers prefer public to private services. Such equipment, as indicated by some of those interviewed, were important in the diagnosis and management of various illnesses ranging from infectious to non-communicable diseases.

Despite the key strengths in availability of services which attracted informal sector workers to public providers, there were also a number of weaknesses in the public sector that informal sector workers had to cope with or avoided by opting for private sector services.

6.4.1.3 Drug shortages

Lack of drugs in public facilities was perhaps the most outstanding weakness in public services according to both qualitative and quantitative findings. This was the most discussed problem in public provision in both rural and urban locations and was said to contribute to a number of informal sector workers with stable incomes choosing private facilities. It also made a number of workers distrust the public sector to provide necessary services in the envisaged universal coverage system. From the quantitative findings, the number of informal sector workers who visited government facilities and indicated that they received all the prescribed drugs was very low (12% in the rural and about 25% in the urban), which indicates that drug supply remains a major weakness within public health system. Most study participants acknowledged that they would be unwilling to go to a public facility when they were unsure of finding the necessary drugs at the facility. The study participants were particularly concerned about situations where patients have spent most of the day waiting for services and paid all the basic charges such as consultation (card) fee then are told at the

end of the queue that there are no drugs and that they have to purchase from a private pharmacy. A male FGD participant in the rural area explained: "…*people give up on government services because you may queue for long hours but after consultation with a health worker, you are told that the prescribed drug is not available; so why waste a whole day at a government facility queuing for services that are not there?*" (Male, FGD7, Rural).

Concerns over lost income and indirect costs as a result of going to a public provider and getting no services also featured prominently in the discussions. However, in three of the FGDs (two rural and one urban), there was a general feeling that availability of drugs was a key factor in the public sector services and that many people would make the long queues as long as they were assured of getting the drugs that they needed. An FGD participant said: *"My observation is that as long as people are assured of good quality care which involves availability of all the prescribed drugs, anything else including long waiting hours are not so much a problem"* (Male FGD6, Rural).

Lack of drugs in public facilities may appear as a supply problem beyond the control of health workers but findings from FGDs and in-depth interviews noted that the shortages sometimes were artificially caused by corruption at the health facilities. Corruption and other financial malpractices such as unofficial (informal) payments were discussed in almost every FGD and among some key informants in both study sites. According to one FGD participant, artificial shortages of drugs in public facilities are meant so that a patient/caretaker is forced to purchase a drug even when it should have been free or at a subsidised rate. The FGD participant said: *"If you have money you will receive treatment at a government hospital and get all the drugs you need. What happens is that the health worker will prescribe drugs for you and tell you that in case you do not get the drugs, you should come back and inform him. When you go back, he will tell you that there is another health worker who can help and asks you to come back after ten minutes with money…"* (Female, FGD6, Rural). To emphasise the point on artificial shortages caused by corruption, a study participant said: *"… the pharmacists tell you that prescribed drugs are out of stock but as you leave, they inform you about this other person with the same drug who could sell it at half the cost at a private pharmacy. Since you are suffering and you see a chance to save*

money, if at all, you agree to the deal but you know that is not the right thing to do because there are notices alerting people to pay at designated places" (Male, FGD4, Urban).

6.4.1.4 Long waiting time

The second most discussed problem with public services was delayed services as a result of long queues. There were two types of queuing for services that were identified from qualitative interviews: queuing for services on a day-to-day basis which takes hours, and queuing for specialist services such as surgery and diagnostic tests for some illnesses which could take days, weeks or months. From the survey findings, waiting hours (on a day-to-day basis) were more of a problem in urban areas where 76% indicated that services were slow and had to wait long hours to receive them as compared to the rural area where about 60% said they waited for many hours for services. The lower reporting of long waiting time in the rural area could be attributed to the high presence of health facilities as 77% in the rural area compared to 59% in the urban site indicated that health facilities were not far away. However, it must be recognised that this reflects respondents' perceptions on waiting times and physical accessibility of facilities.

From the FGDs and in-depth interviews, long queues in public facilities stem from actual shortage of health workers but there are also shortages caused by absent health workers who get engaged in private practice. An FGD participant observed that: *"…movement between private and public health facilities makes particularly services by doctors inaccessible in public facilities and the workload on other health workers such as nurses could be too high which compromises the quality of services."* (Male, FGD3, Urban).

On queuing for services, some FGD participants and in-depth interviewees were particularly concerned with emergency situations such as accidents or urgent surgery where they said that waiting for medical attention in a public facility could be fatal. Said a key informant in the rural area: *"My daughter needed urgent tonsillectomy and the hospital told me to wait for a week for the next ENT specialist visit…. After a month, he had not come and I had to sell my calf to get the surgery done at a private hospital,"* (Male, FGD2, Rural). In some cases, patients or carers who felt delayed could resort to bribery to get faster medical attention as expressed in this statement: *"Sometimes one may feel that a child needs immediate medical attention and so if there is a long line and one has money, one will bribe the health worker to*

jump the queue…" (Female, FGD2, Rural). While the problem of bribery should concern policymakers, quantitative data revealed that it was not highly prevalent although it was much higher in the urban area where about 24% of individuals admitted to having paid a bribe compared to 13% in the rural area.

6.4.1.5 Opening hours

Usually, the closest public facilities to most of the population are primary health facilities (dispensaries and health centres) but most of these operate during the day only. The opening hours of these facilities featured as a problem across both study sites where participants in qualitative interviews stated that in emergency situations such as accidents and abrupt illness at night when the closest primary facilities are closed, the alternative is always low-cost private facilities within the vicinity. The advantage with these facilities in such situations, as noted by qualitative study participants, is that health worker(s) are flexible and available any time of the night to attend to emergencies.

6.4.1.6 Delays in providing needed services

This was not reported as very common and most of the discussions were based on information from third-parties. A few participants in the FGDs however, reported that some health workers, particularly nurses, deliberately 'dragged their feet' in providing needed services and as such contributed to the poor image of public provision. Although most study interviewees indicated that they had not experienced such problems with public providers, they agreed that based on third party information, inpatient care is particularly poor such that having an inpatient case at a public facility often gives the feeling that the patient is not well attended to so there is the need for constant visits by relatives. During an FGD, a participant narrated how an inpatient was deliberately neglected by nurses at a public health facility: *"….the catheter was blocked and he could not pass urine so I alerted the nurses about the problem but two days later, the catheter had not been changed. I became very angry and asked them if I had brought my husband to hospital for them to kill. That is when they removed the catheter…. From then onwards I kept asking myself whether we or the nurses should be the ones around patients for 24-hours and what do we pay them for…?"* (Female, FGD1, Rural).

Explaining the cause for the reluctance of some health workers to offer timely services, a key informant stated that certain levels of negligence in the public sector were due to lack of accountability among health workers. Said a key informant: *"You find that health workers, particularly nurses are so negligent in their duties such that they know very well the right thing to do but you find them seated and chatting as if they have no work... there is no one to put them to task and there is no one patients can complain to..."* (KI3, Urban). The key informant observed that lack of accountability among health workers was caused by poor reporting structures within public facilities where sometimes nurses of the same calibre may work in one location without an organogram.

On another case of unwillingness to offer timely services, an FGD participant reported having experienced deliberately delayed services as "punishment" from health workers for demanding to be attended to. He said: *"One day I came across someone who had been badly beaten by thugs in the night and had to rush him to the nearest hospital. At the hospital, the watchmen told me that the nurses were sleeping so I had to look for them and wake them up. That was my crime: waking up nurses to attend to an emergency. The nurses ordered me out of their room and told me that I will face the consequences. Can you imagine from dawn at 5.00am my patient was treated at 11.00am in the morning. That was my punishment for demanding to be seen by a health worker" (Male FGD5, Urban).*

In a few cases as reported in two FGDs, unwillingness to offer timely services could have extreme consequences for patients. For example, an FGD participant reported a case of a woman left alone to give birth at a facility with no health worker to attend to the newborn after delivery. The participant said of his experience: *"There was a time I took my wife to deliver at the local hospital and I filled all the necessary forms and made full payment as required then I left for home knowing fully well that she was now in good care at a hospital. When I came back to visit her the following day I found that the baby had inhaled the amniotic fluid and had respiratory problems just because the mother was not attended to during delivery,"* (Male FGD1, Urban).

At least on one ocassion, death was reported to have occured out of neglect of patients as demonstrated in the following statement: *"...I personally went to the nurse and informed her that there was a mistake with one of the patients with the way oxygen tubes were*

inserted but the nurse retorted, 'Go away, do you think I do not know? Go help her yourself.' The thing is that the patient was not taking in oxygen as she should have because the tubes had come out and she died right there in our full view" (Female FGD3, Urban).

From these narratives about lack of timely services, while it is widely acknowledged that public providers are understaffed and often overwhelmed by work, there are also problems of staff attitude that are well-documented to suggest that improving public provision needs to actively involve health workers in refining how they engage with patients.

6.4.1.7 Physical location of facilities

Physical location of public facilities did not feature so much as a major problem particularly in the rural area but as observed under 6.2, a number of people in the rural area mentioned distance to government hospitals, not primary care facilities, as a hindrance to their use of public health services. A key informant explained: *"…one might argue that health facilities are just around the corner but in actual sense a lot of people would like to use the hospital which is not as close as the dispensaries, so the distance to hospital may delay treatment seeking for a number of people here"* (Key informant, Male3). A quantitative summary (Table 6.3) indicates that fewer informal sector workers in the urban area (59%) perceived health facilities to be close to them compared to 77% in the rural area.

6.4.2 Affordability of services

Throughout qualitative discussions and interviews in both study locations, affordability of services emerged as the main reason many informal sector workers endured the inconveniences of public services. Asked why most informal sector workers still seek health services at government facilities when services were unsatisfactory, the response was that the alternative was too expensive or lacked some basic medical equipment and of poorer quality compared to government services. Asked who in particular goes to government facilities, a number of study participants submitted that public facilities are for low-income groups, an observation which reflects a skewed health system where use of certain health services are based more on ability to pay than need. A participant in an FGD in the rural area stated: *"People like us who are not formally employed are the ones who go to government facilities because we do not have much money to go to private facilities. When you go to the*

dispensary you just pay KSh 20 or 50, so we go there because it charges less than other facilities even though we take a whole day on the queue."

Comparing quantitative views on affordability of public health services between the two study sites, the survey showed that a lower percentage (25%) in the rural area found the public services to be affordable compared to 58% in the urban site who viewed the same services as affordable. From earlier findings in Chapter Five, an explanation to this difference in views on affordability of services between the study sites is likely to be the income gap in the informal sector entities which favoured the urban area. More specific analysis of affordability involved perspectives on direct and indirect cost of services.

6.4.2.1 Direct cost of services

Decisions on where to seek services among informal sector workers involved cost-comparisons between private and public sector services. From qualitative findings, careful cost comparisons by patients or carers suggested that public services are not always cheap and private is not always expensive. Where service costs between public and private providers were the same or not very different the natural option was a private provider because of quicker services. An FGD participant said: *"If an X-ray costs the same amount in public and private hospitals and you know that in private hospitals you will not be bothered by their health workers, you go to a private hospital"* (Male, FGD7, Rural).

At small private clinics which offered outpatient services only, a key informant in the urban area explained that sometimes it was cheaper to use their services because the combined cost of a public hospital including cost of transportation, opportunity costs, paying for hospital card, among others, was more than what a small private clinic nearby would charge. However, the main concern with the small private clinics was the likelihood of poor quality services. The key informant stated: *"It is easy to calculate the cost differences between public providers and these local private clinics and if one wants a cheap quick fix, the private clinics offer a better alternative. The problem however, is the poor quality of services one is likely to receive because some of these clinics are not licensed to operate, lack basic equipment and the quality of people running them is questionable,"* (KI3, Urban).

Small private clinics however, can enhance affordability of services based on their easy payment terms. For instance, the clinics could treat without having to pay immediately and offer easy payment terms including payment in-kind and in small instalments. People treated on credit and offered easy payment terms were often familiar with the clinic managers who needed assurance that the debtor would not default. A FGD participant observed: *"Sometimes we go to private facilities when we have no cash at hand to pay at government facilities because we know the health worker who owns the clinic and so we can get treated on credit. However, not all who know the health worker get similar treatment because the health worker must be assured that a patient or carer has some source of income to repay the debt, otherwise a substantial deposit will be required,"* (Male, FGD6, Urban). This indicates that private facilities are more accessible to people with some sources of income than they are to those without. For instance, the findings show that having a regular income may encourage some informal sector workers to go to private facilities because they could borrow money from colleagues if they did not have it at hand while assured that they have a source of income to repay the debt. In a sense, the findings show that affordable services (low cost or easy payment terms) other than drawing some people from public to private facilities, can also avoid counterintuitive and costly measures such as postponing treatment for lack of money.

Highlighting the problems of cost of services at a health facility, a casual worker participating in an FGD explained: *"…to be sick as a casual labourer is a very big problem but to be very sick as a casual labourer could be equated to the end of your world because you have no employer to run to and since you cannot work, it means there is no money to go to hospital, and most importantly to eat…one can easily die."* (Male, FGD1, Urban).

Apart from direct facility costs, the cost of transportation was a hindrance to the use of public facilities for some people in both study sites and sometimes patients could not afford crucial return visits for lack of money for transportation. A female FGD participant explained: *"…transport costs are unaffordable such that when a health worker requests for a return visit some of us cannot honour it because there is no money."* Often, the alternative for people who could afford cost of transportation was to purchase drugs from nearby chemists or informal drug shops. Transport costs associated with having to make several

trips to a public facility by carers visiting patients was often found to be costly to informal sector businesses both directly and indirectly because making the visits involved taking funds from businesses and/or closing down business to attend to patient needs.

6.4.2.2 Indirect costs

Indirect costs for informal sector workers mainly involved the potential of income or job losses as a result of spending many hours waiting for health services. The length of time spent at a facility involved lost opportunities which had direct consequences for the earnings of informal sector workers because some of the earnings depended on the amount of money raised in a day and since there are no leave days or sick leave, absence from work not only causes loss of income but also could lead to job losses or collapse of a business. A key informant observed: *"…to be honest, an informal sector worker almost has no right to be sick because if one is paid on commission or is a lone-worker, where will money come from when they are sick and not working? First, the one paid on commission will not be paid, instead someone could be immediately hired in their place; secondly, if you are an own-account worker and you have no support when ill, it means the business cannot open and when illness takes long, there will be no business…"* (KI3, Urban).

The anxiety over potential loss of a source of income sometimes forced some informal sector workers to abandon treatment to return to their income-generating entities and resort to self-treatment in the process. During the FGDs, men were particularly identified as having greater preference for self-treatment with fewer visits to facilities because of their cultural roles as household heads and had to spend their time in income generating entities to provide for the needs of the household. At least two FGDs in the urban area revealed that the thought of possible income losses as a result of time spent at a facility also contributed to bribery of health workers for faster services because when all is considered, the losses would be greater than the bribe to the health worker.

While there may not be lessons for UHC in such findings as easy payment terms because this would be mainly out-of-pocket, there could be vital lessons in cost-comparisons as these may help in defining and costing the benefits package under a universal coverage system.

6.4.3 Acceptability of services

Acceptability-related issues were raised in both study sites and mostly highlighted the strengths of public services although there were also a few problems relating particularly to the behaviour of some health workers towards patients and carers. The issues raised were trust in public provision, perceptions of health worker competence and relationship with patients as well as facility environment.

6.4.3.1 Trust in public provision

Information mainly from qualitative interviews shows that informal sector workers to a large extent trust public providers in two main ways: to deliver only necessary yet adequate treatment because they are not motivated by profits, and to offer the correct diagnosis and explanation for the nature of their illness and recommend appropriate treatment. A study participant explained: *"At private facilities, making money is the top priority but in a government facility your medical history is carefully taken and explained and you receive appropriate and adequate treatment..."* (Female, FGD1, Urban).

The quantitative survey confirmed that a high percentage of study participants (74% rural and 72% urban) had their illnesses diagnosed and explained to them at a government facility and adequate treatment offered, which gave them confidence in public services.

6.4.3.2 Perceptions of provider competence

The trust in public sector health services by informal sector workers was further enhanced by their belief that public health workers were properly trained and therefore competent to deliver quality services. A male FGD participant observed: *"We acknowledge problems with the behaviour of some health workers at government hospitals but one thing for sure is that they are all well-trained and competent health workers because the government does not employ non-qualified health workers"* (Male, FGD6, Urban).

On the other hand, disrespect for patients and carers as reported during FGDs in both study sites tend to erode the confidence that informal sector workers have in public sector health workers. However, cases of disrespect for patients were few with only five participants in total reporting to have experienced disrespectful health workers. Furthermore, the quantitative component of this study indicated that respect for patients and carers was high

with about 87% and 74% of respondents in rural and urban locations respectively indicating that they were treated with respect by a public sector health worker. In total, 22% of study participants stated that they had been disrespected health workers.

6.4.3.3 Cleanliness of facilities

Cleanliness at facilities seemed not to be a major problem in public services as confirmed in the quantitative survey where up to 95% of respondents in the rural site and 83% in the urban agreed that the facilities were clean. It also featured less prominently in qualitative discussions, an indication that health facilities were acceptably clean.

Earlier studies on access to health services in Kenya particularly by Chuma et al. (2010) had similar findings. The authors identified problems with all dimensions of access: availability (drug shortages, problems with opening hours and staff shortages); affordability (direct costs of services, informal payments and indirect costs including transportation), and acceptability (poor patient-provider relations, distrust in quality of services and effectiveness of treatment). Problems of access to services in Kenya are widely recognised and documented in various government reports (Government of Kenya, 2004, Ministry of Health, 2010, Ministry of Health, 2014a).

6.5 Summary of lessons for universal coverage and conclusion

Incentives to use public providers among informal sector workers in rural and urban areas are more-or-less the same, which merits broad-based interventions to facilitate progress towards universal coverage. Such usage among this population group is to a large extent not based on socioeconomic status or type of informal economic activity but is driven mainly by issues of affordability and availability of specific services. Some key highlights in public provision are the break-down in the referral system and inadequate services at primary level facilities which have contributed to large numbers of informal sector workers seeking care at secondary level facilities instead of primary facilities.

Of note also, although this is often an obvious fact, is the lack of financial risk protection in the informal sector since key services such as drugs were unavailable and generally all services remained unaffordable to the majority of informal sector workers, especially those in the rural areas. Further, unavailability of specialist care was also noted to lead to

potentially impoverishing health care costs when some people had to sell important assets to access such services.

An important component of universal coverage is that services need to be of sufficient quality to be effective. While informal sector workers indicated that public providers have a high potential to meet their health needs given their skilled manpower and diagnostic equipment, the sufficiency of overall services still needs to be further improved so that public provision could effectively launch universal coverage in Kenya.

More generally, it is not always a straightforward choice for many informal sectors workers regarding where to go for health services. Getting treatment or other health services often involves gambles and opportunity costs. In choosing government facilities for example, while relatively low-cost and treatment by skilled staff are attractive options, there is always the problem of long waiting hours to receive services and not getting the necessary drugs. For low-cost private facilities, they are accessible and settling medical bills can be in ways that are acceptable to the provider and convenient to the patient but one is at risk of poor diagnosis and generally low-quality medical care. Regardless of the inconveniences, government facilities still remain the most popular providers for the majority of informal sector workers for reasons already mentioned but this does not mean that government facilities are the providers of choice because private facilities are often seen as having better services but as being high cost.

With the current quality of services in the public sector, it would be difficult to convince informal sector workers to prepay for health care but this could change with overall improvements in service provision that emphasises availability of services, particularly in terms of the number of health workers (to reduce waiting times) and the routine availability of medicines. Such improvements would increase the chances of having a successful universal health system.

CHAPTER SEVEN: VIEWS OF INFORMAL SECTOR WORKERS IN RELATION TO FUTURE HEALTH SYSTEM

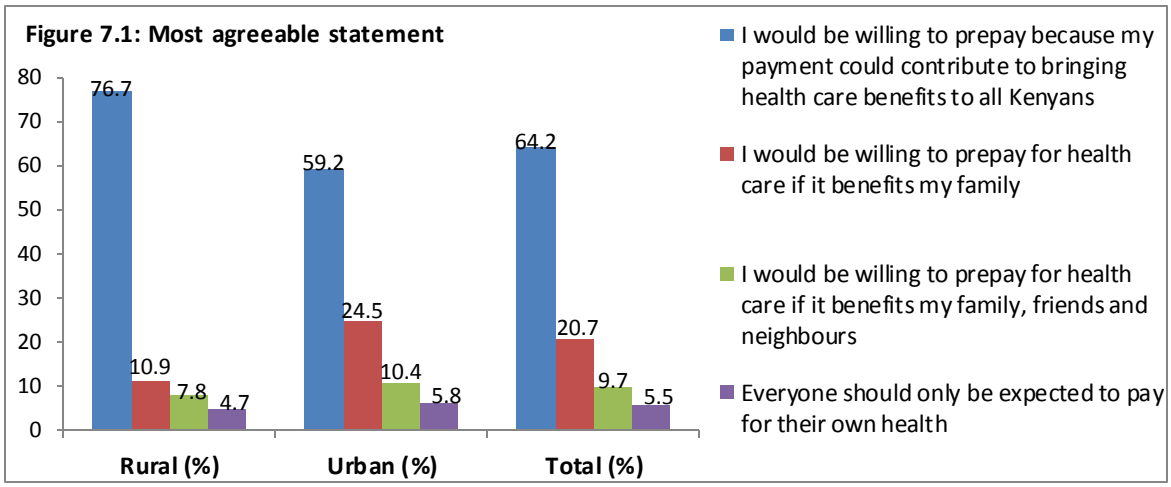
7.1 Introduction

Chapter Six explored in-depth the nature and quality of health services in the public sector and highlighted key issues that influence access to public sector services for the informal sector. The issues highlighted were believed to be some of the major barriers to the adoption of prepaid health care by informal sector workers. Chapter Seven now concentrates on the analysis of the nature of a future prepaid health system that would be acceptable to the informal sector and some of the key improvements needed in the public health sector to anchor prepaid health care and universal coverage. The chapter first explores the level of social solidarity in urban and rural areas to measure the potential for support for redistributive policies and then seeks to understand what prepaid health care means to the informal sector, their current knowledge and experiences with the public health insurer- the National Hospital Insurance Fund (NHIF), as well as potential barriers to compulsory prepaid health care. In the envisaged future health system, Chapter Seven also explores design preferences by the informal sector including sources of funds, the benefit package, pooling arrangements and management of the prepaid funds.

7.2 Social solidarity in the informal sector

Social solidarity as defined here is more in terms of empathy and commitment to the welfare of fellow citizens as far as health care is concerned, particularly at the national level rather than at the level of sub-national groups linked with kinship, religious, ethnic or regional ties. The first step in measuring solidarity among informal sector workers was an attempt to understand the level of support for redistributive health care policies that benefit all Kenyans. In this regard, study participants were given a list of statements and asked to choose one that they most agreed with. The choices were then analysed to understand whether they were driven by altruism or self-interest. The results are presented in Figure 7.1 and show that most Kenyans (about 64%) would support redistributive policies such as prepaying for health care to contribute to the improvement of health benefits for all Kenyans. However, the rural study site at 77% of all study participants, exhibited stronger

support for redistribution that brings health care benefits to all Kenyans compared to 59% in the urban site. Those opposed to redistribution at the national level were mainly in support of statements that served self-interests. Among this group, about 26% in total were either supportive of prepayment for health care only if it benefited their families (rural= 11% and urban= 25%) or were altogether opposed to redistribution (rural= 4.7% and rural= 5.8%). They favoured the individualist idea that everyone should be responsible for their own health. Although the percentage supporting an individualist view appears small, it could have some implications in nurturing community solidarity to support redistributive policies. About 10% in total for rural and urban study sites supported prepayment at sub-national level; that is, beyond the family level to include friends and neighbours hence basically supporting redistribution at community rather than national level. The differences between rural and urban areas in terms of the most agreeable statement were strongly significant (P=0.003) where solidarity with the rest of the country was stronger in rural than urban areas (Figure 7.1).

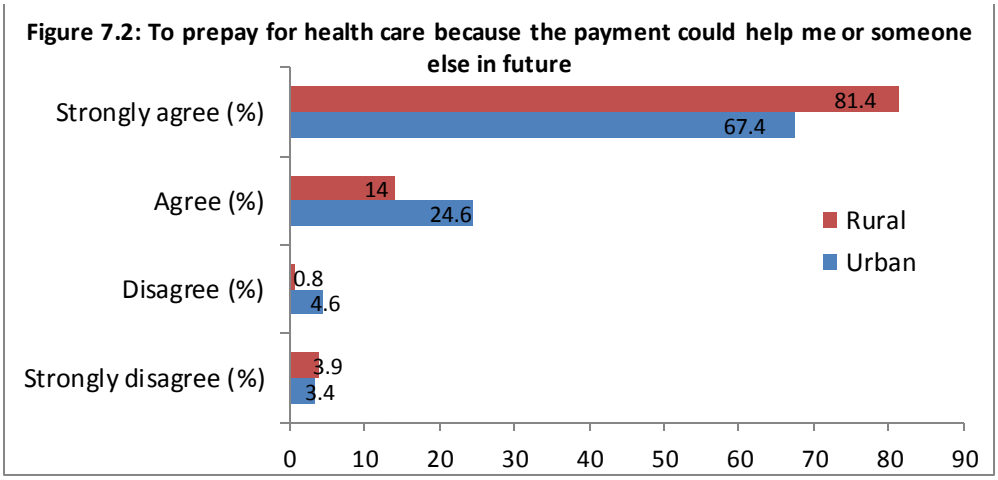


A multi-country study by Goudge et al. (2012) expressed more-or-less similar results where 62% of South Africans and 55% of Ghanaians supported progressive financing to support those least able to pay. In the same study over 75% of South Africans particularly among the insured were willing to prepay for health care but mainly for themselves and immediate family. Only 11% would prepay for those who are badly off. Among the wealth quintiles in South Africa, similar to this study findings, Goudge et al., (2012) show that social solidarity was lowest in the wealthiest quintile but highest in quintiles two and three as opposed to

the lowest quintile in this study. A similar pattern was reported in Ghana where more rural than urban dwellers favoured progressive financing.

The lower levels of altruistic values in the urban area could be explained by the diversity of cultures and ethnic groups, lack of kinship ties and loose connection of individuals and groups residing in urban areas. As the FGDs revealed, the urban area population, particularly those in the informal sector, do not form strong neighbourhoods as they tend not to live in one location for long, which makes it difficult for them to develop long-term relationships with one another. James and Savedoff (2010) and Stuckler et al. (2010) among other authors have stressed the importance of social solidarity to sustain redistributive policies such UHC. To further measure the level of social solidarity within the study sites, an altruistic statement was given to the study participants who were asked to indicate whether they '*Strongly agreed; Agreed; Disagreed or Strongly disagreed*' with the statement. The results, as presented in Figure 7.2, show that the rural area (81%) again had the largest number of those strongly in agreement with the following statement: *"Agree to prepay for health care because the payment could help me or someone else in future"* compared to 67% in the urban area. About 3.9% and 3.4% for rural and urban respectively strongly disagreed with the statement. The difference between the study sites in terms of agreement or disagreement with the statement was significant (P = 0.010) indicating that the level of social solidarity is stronger in the ethnically homogenous (rural) than the diverse urban site.

Figure 7.2: To prepay for health care because the payment could help me or someone else in future



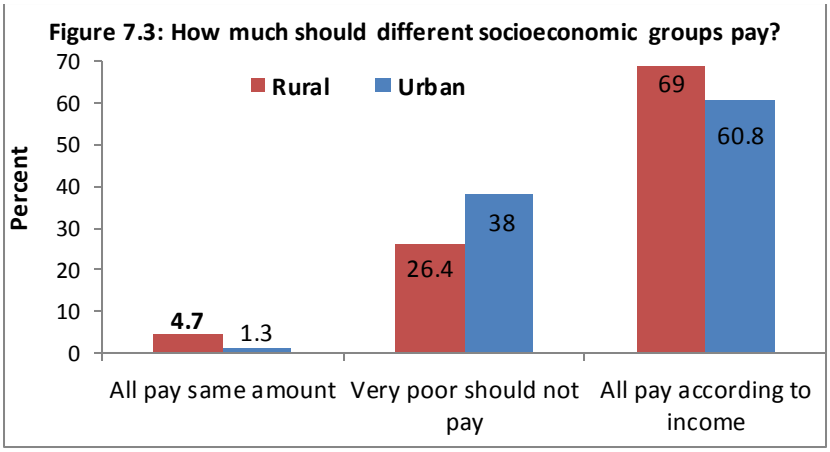
Pearson chi^2= 11.3; P = 0.010

Social solidarity across socioeconomic groups in each study site was also assessed for association but no significant differences were noted (P=0.19 urban and P=0.57 rural).

Specific to the urban area, about 72% in Q2, 69% in Q3 and 67% in Q5 strongly agreed to prepay to help themselves in future and anyone else. In the rural area, quintiles two (76%) and three (84%) had the majority in strong agreement to prepay to help themselves and anyone else in future. These results largely indicated high levels of support for redistribution policies in both study sites although this support was much stronger in the rural areas. This could be explained by three reasons: the rural area had a history with CBHIs and considerable NHIF activity so had relatively better familiarity with prepaid health care than urban areas as shown in the survey where 94% of rural respondents were aware of a prepayment scheme compared to 77% in the urban area. The other reason draws from the researchers' own experience of the study area. The rural area is ethnically homogeneous and bound by kinship ties where most people in a locality are somehow related by a common ancestor.

Social solidarity was further tested to understand who would support income-related redistributive policies in rural and urban areas. Overall, the results (Figure 7.3) show greater social solidarity with poorer groups because 69% in the rural and 61% in the urban study site supported prepayments that are income-related and a further 26% in the rural and 38% in the urban sites indicated that the very poor should not pay for health care at all. This suggests stronger unity among different income groups for equitable payments for health care. A small minority was in favour of everyone prepaying the same amount regardless of income status.

Figure 7.3: How much should different socioeconomic groups pay?



Even though there is evidence of strong social solidarity with the poor as demonstrated in Figure 7.3 with high support for payments according to income, this is limited among upper quintiles. Additional scrutiny showed that quintiles four and five were least supportive of an income-related prepayment system but support for such graduated payment was highest amongst the middle quintiles (Q2 and Q3). For example, in the rural area support for prepayment according to income was highest in Q2 (54%) and Q3 (31.5%) but lowest in the highest quintile (1.1%). Likewise for the urban area, among the highest quintiles - Q4 and Q5, only 3.1% and 1.5% respectively were in favour of income-related prepayments compared to 37% each in Q2 and Q3, and 22% in the lowest quintile. What this means is that social solidarity is stronger among low-income groups than it is in the high-income quintiles. Low social solidarity in the richest quintiles can negatively affect the principle of redistribution in UHC that requires income cross-subsidies from the richest to the poorest.

From qualitative findings, most respondents exhibited altruistic values as the main reason why they would prepay for health care. As suggested by one respondent in the urban area, it really does not matter whether the prepaid funds benefit a friend, a family member or someone they would never know but the important element was being able to help: *"People should help each other regardless of their differences…after all we are all human beings...one is not better or worse because they are different* [ethnically] *from us. If my prepayment for health care would help someone who is sick and does not have the means to access health care then I will feel happy for being able to help…"* (Male, FGD3 Urban).

Asked if ethnic differences could hinder social solidarity among Kenyans in pursuit of prepaid health care, a number of FGD participants in both sites agreed that ethnic divides, particularly under the current devolved governance system, could make a contributory prepayment mechanism unfeasible. A FGD participant said: *"We are a very united country and we would all want to contribute to a common good for all of us whether in helping each other access health care or any other contribution…but that is before politics mess up everything… (lots of laughter)… yes mess up, because some counties will feel that they are contributing more and not benefiting as much…."* (Male, FGD5 Rural).

A few people however, were less altruistic and stated that they would be reluctant to prepay for health care if they do not benefit from it at a personal or family level. Although this appeared as self-interest, the key concerns of this group of respondents could be linked to their experiences with the current prepayment schemes especially the NHIF and the scope of its benefit package as revealed in the following statement: *"I was a member of the NHIF for almost 10 years and never once benefited from their services because I was never an inpatient; so I clearly did not see the point of continuing my membership because I could not continue paying for something I did not benefit from"* (Male, FGD3).

In other qualitative findings, the uncertainty of illness occurrence and the possibility of falling into a medical poverty trap was a key driver for some people to prepay for health care in solidarity with others as captured here: *"Illness does not tell anyone when it is coming or of its magnitude that is why I would prepay for health care. You know, if I have contributed so little and my illness requires a lot of money way beyond my means, other people will pay for me because we are one in the same pool of funds. Likewise, if I do not fall ill my contribution will benefit someone who would otherwise die from lack of money to pay for health care"* (Female, FGD6 Urban).

The importance of social solidarity in UHC cannot be overstated. A number of authors (Oxfam, 2013, Harris et al., 2011, Ataguba and Akazili, 2010, Carrin and James, 2005) emphasise that social solidarity is necessary for optimal redistribution and effective cross-subsidisation. Oxfam (2013) further states that social solidarity between formal and informal sectors is necessary for progress towards universal health coverage. Such solidarity, according to Carrin and James (2005), should be innate within a society rather than imposed by policymakers to be able to implement and sustain cross-subsidisation. In summary, findings for this study show that the level of social solidarity in the informal sector is high especially among low-income groups. This should concern policymakers because income cross-subsidisation should target the rich and there is a real danger in nurturing, implementing and sustaining prepaid health care where wealthier populations are not supportive of redistributive policies. Hernandez (2002), Anttonen and Sipilä (2005) and Stuckler et al. (2010) have all argued for cohesive societies among all income groups as a condition for the success of redistributive policies.

The next sub-section discusses the experiences of informal sector workers with prepaid health care, underlining their knowledge and attitudes towards prepaid health care and concrete experiences with the National Hospital Insurance Fund (NHIF) which is the national public health insurer. The idea was to understand how current knowledge and experiences with existing prepayment schemes could influence the design of future prepayment mechanisms including potential constraints in translating high social solidarity noted above into actual prepayment now and in future.

7.3 Experiences with prepaid health care among informal sector workers

7.3.1 Attitudes towards prepaid health care

The questions around this topic focused on what it means to prepay for health care and what its advantages are. As learnt from the broader literature, the main objectives of prepaying for health care are to improve access to quality health services and to provide financial risk protection. These objectives were well understood and described by study participants who discussed them in some detail. In general, prepaying for health care was understood by the informal sector in terms of cross-subsidisation, an enabling factor in access to services and insurance against poverty if one were to sell one's assets to pay for health care on an out-of-pocket basis. These were captured in the following statement: *"What I heard about paying for health care in advance is that your money is used to pay for someone else's medical bill when you are not ill and when it is your turn then your medical expenses are paid for by other people and this would save you a lot otherwise if the medical bill is too high you would have to sell some of your property…"* (Female, FGD3 Rural).

On the importance of prepaying for health care, six key issues were raised in the FGDs and in-depth interviews from both study sites. These were the following: prepayment gives a sense of security, is a source of empowerment, a means of saving money, securing social relations, a means to promote quality health care and improved access to health services.

In terms of prepayment as a form of security, this was interpreted as some form of guarantee against the socioeconomic consequences of falling ill especially because illness is unpredictable. This was captured in statement from an FGD participant: *"Illness is like the devil and prepaying for health care is like getting saved, so by prepaying for health care one does not fear the devil…"* (Male6, FGD2 Rural). Besides, study participants stated that prepayment would help in maintaining social relations and avoiding conflicts because one would not have to borrow to pay medical bills. Defaulting in repaying debts was depicted as a source of social tensions and conflicts in the community. Chuma et al. (2007) had similar findings with regards to borrowing as a source of social conflicts in Kenya. Prepaying for health care was also seen as a guarantee of security to the mind; that is, recovery from illness was perceived as a combination of medicines and the state of mind. A peaceful mind, as noted by participants, is important if one is to recover quickly from illness: *"Prepaid health care is be good because when one is hospitalised they do not have to worry about mounting hospital bills and this state of mind will aid their recovery"* (Female, FGD3 Rural).

In the same context, prepaying for health care was regarded as a way of saving costs in the long term because, according to study participants, one does not have to meet health expenses on their own. Prepaid health care as a cost-saving measure would be more applicable to lower-income groups if it is progressively funded, but not for higher-income groups, which perhaps explains the lack of social solidarity amongst higher income groups. Overall, prepaid health care for most informal sector workers was a cheaper option than paying out-of-pocket as stated by a key informant: *"It is not a good thing to just sit there with the hope that when one is ill the neighbours will contribute towards costs of hospitalisation. One has to decide quite early to prepay for health care because paying OOP can be very expensive…"* (Male, IDI2 Rural). The lower costs of prepaid health care result from the capacity of a large pool to cross-subsidise and to bargain for lower prices. McIntyre et al. (2013) refer to Thailand's universal coverage scheme (UCS) which uses the strength of its membership size to negotiate lower prices.

Prepaid health care was also understood by most study participants in the qualitative component as a way to improve access to health services generally and as a means of

entitlement to specified services at designated health facilities that guarantee a minimum standard of quality, as observed by two study participants:

a) *"Prepaid health care will encourage people to visit a health facility at the earliest time possible and therefore improve the health status of all…."* (Male, FGD3 Urban).
b) "*Once people have prepaid for health care, they will not be afraid of the costs of visiting a health facility because they have paid and expect quality services. The facility visited will have to be formal where we expect better medical services as opposed to informal facilities…"* (Male9, FGD2 Rural).

Prompt access to health services was noted to be particularly important during illness emergencies where services would otherwise be inaccessible without money at hand. A participant noted: *"One can be in need of health care services at any time and if there was no money at hand it can be very difficult accessing health care… I believe that to be on the safe side prepaying for health care is important because there is a high level of guarantee that one will receive needed services"* (Female, FGD1, Urban).

Lastly, prepaying for health care was regarded by the majority of study respondents as a source of empowerment and improving both social and financial accountability at health facilities and in the government as a whole: *"Once we prepay for health care we will know what we have paid for unlike now when even with poor health services no one has the power to complain but when we prepay and do not find services that we have paid for we will have a voice to demand for adequate and improved quality services…. That way, the authorities will know better not to misuse our money, instead ensure that what is paid for is available when required…. It will be power to the people"* (IDI8, Rural). Jakab and Krishnan (2001) and Arhin-Tenkorang (2001) acknowledge the aspect of empowerment when extending coverage to informal sector populations as it increases their ability to make public institutions more accountable.

Based on the solidarity expressed for redistributive policies and the largely positive attitudes towards prepaid health care, study participants were asked to clarify why only a few of them were members of existing prepaid schemes. The responses revealed key barriers to prepayment ranging from lack of proper information regarding who can be a member of a

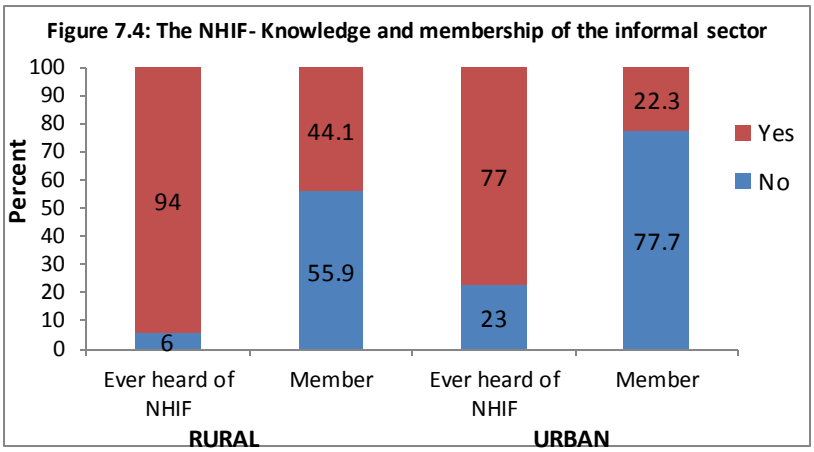
scheme, affordability of premiums, limited benefit package, reservations about proper management of funds and poor quality services. These issues are extensively discussed in subsequent subsections on experiences of informal sector populations with the NHIF and their recommended improvements that should define a future prepaid health system.

7.3.2 Experiences with the National Hospital Insurance Fund (NHIF)

The NHIF as a public entity is the largest health insurer in Kenya and being proposed to provide a platform for UHC in the country. The analysis of experiences of the NHIF by the informal sector concentrated on informal sector knowledge and membership of the NHIF to gauge their future expectations of a prepaid health system.

7.3.2.1 Knowledge and membership of the NHIF by the informal sector

From Figure 7.4, the rural area showed very high levels of awareness about the NHIF (94% compared to 77% in the urban area). One reason for the high awareness may be because the rural area had a long history of community-based health financing schemes so this familiarity with prepayment schemes aided their knowledge of other existing schemes such as the NHIF. High levels of knowledge about the NHIF also translated into higher membership in the rural area (40%) compared to 22% in the urban area. Together, the study sites record on average membership of about 31% which is above the national average given by the NHIF at about 7.0% of informal sector workers being members of the NHIF. According to key informants in both study sites, the above national average membership in the informal sector could be a misrepresentation because some alleged members were no longer contributing and so were ineligible for any benefits (i.e. this may reflect the percentage of the population who had ever been members of the NHIF). In the rural area, a key informant mentioned that many people who were previously members of the NHIF stopped contributing when the NHIF proposed increased contribution rates from KSh 160 (US$ 1.78) to KSh 500 (US$ 5.56) per month for informal sector populations. The key informant said: *"There were a number of people who were members of the NHIF here but since that time the NHIF announced their intention to more than double contribution rates many of us stopped contributing…we have stopped being members of the NHIF because we will not be able to afford the new rates…."* (KI7, Male, Rural).



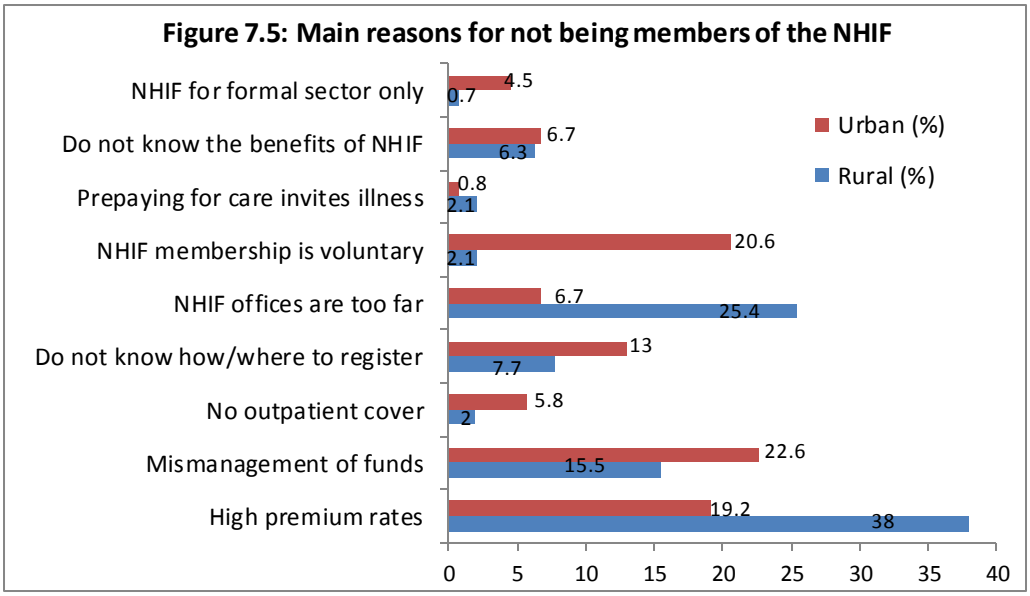
Further descriptive analysis shows that most members of the NHIF belonged to the upper two quintiles; for example, about 60% of Q4 and 33% of Q5 in the study were members of the NHIF compared to 12% for Q1 and 16% for Q2. This gives a strong indication of an existing relationship between SES and membership of the NHIF in both sites and suggests that many informal sector workers find the current NHIF rates unaffordable. Barriers to NHIF membership were extensively explored in the survey questionnaire and the results are presented below.

7.3.2.2 Main reasons for non-membership of the NHIF

"*The fund, like a fish, rots from the head....*"(Vulture, 2013).

During the survey, each respondent was asked to state two main reasons which made them not contribute to the NHIF. The results are presented in Figure 7.5.

Figure 7.5: Main reasons for not being members of the NHIF



The two main reasons for not joining the NHIF in the rural area in order of priority were high premium rates (38%) and the NHIF offices being too far away (25%). A third reason was concern over reported mismanagement of collected funds (16%). The NHIF has tried to address the problem of office location by decentralising membership registration centres and automating contributions either online or through mobile phone money transfers and so one does not have to be at the NHIF offices to contribute. However, the requirement for photographs and copies of identity documents for contributors and beneficiaries means that one has to be physically present at an NHIF office or representative to be registered. In the urban area, two key barriers to joining NHIF were: the suspicion that funds would be mismanaged (23%) and the fact that NHIF membership is voluntary (21%). About 19% of respondents indicated high premium rates as a third reason for not being members of the NHIF. Considering the total average, the two main barriers to NHIF membership in both study sites were high premium rates (25%) and concerns over mismanagement of NHIF funds (19%) although the fact that membership is voluntary also remains an important reason for not joining the NHIF particularly in the urban area. Voluntary membership is often an incentive for adverse selection where people most in need of health services are likely to enrol into the scheme. This is likely to place financial strain on the insurer because cross-subsidisation between healthy and sick and between rich and poor is limited through such adverse selection.

The disincentive to enrol in the NHIF was also highlighted in qualitative interviews which in addition suggested that punitive fines on defaulted payments and poor quality of public sector health services, where the NHIF covers all costs, were also other important hindrances to being members of the current contributory prepayment mechanism. The NHIF recently revised the punitive charges on defaulters from 500% to 25% of the defaulted total. Overall, qualitative findings suggested high premium rates, lack of outpatient coverage and corruption at the NHIF as the key barriers to NHIF membership. Below is a statement in the discussions that highlighted corruption at the NHIF: *"Everyone is hungry in this country but not people such as the ones employed to manage our funds at the NHIF. Between an NHIF officer and me, a hungry man, who should steal from whom? It happens the opposite way so we can never pay any money to the NHIF"* (KI7, Urban).

Evidence of corruption at the NHIF is in public domain and several media reports such as the ones in the newspaper posts presented below have concretised public opinion about the NHIF as a corrupt institution.

DAILY NATION WEDNESDAY, MAY 16, 2012

MPs' probe finds shocking details on NHIF scheme

Then Minister for Medical Services, Prof Anyang Nyongo with former permanent secretary Mary Ngare before the House Committee probing the NHIF saga on May 15, 2012. Photo/SALATON NJAU

Why NHIF may be too sick to provide healthcare to Kenyans

By Ma vulture On June 05, 2013

"The fund, like fish, rots from the head, and the man at the helm, ironically, oversaw the mess that has consigned the insurer to intensive care"

DAILY NATION FRIDAY, JULY 20, 2012

Fresh scandals unearthed in health scheme

Photo|FILE Clinix Healthcare Ltd Chief Executive officer Toddy Madahana (left) and chairman Jayesh Saini before the Parliamentary Committee investigating the NHIF scandal on May 15, 2012.

7.4 Preferred design features of a future prepaid health system

The design features of an acceptable future health system as visualised by informal sector workers in both study sites is presented in four parts: the choice of a financing mechanism by the informal sector; population coverage (who pays and who is covered?), broad definitions of the benefit package, and choice of organisation to manage collected funds.

7.4.1 Design element 1: Choice of financing mechanism

Study participants were asked what type of prepayment mechanisms would be most preferable if all Kenyans were to receive quality health care under a universal system. The choices were given in four categories: non-contributory (with the explanation that this largely involves financing from taxes); contributory (with examples being given of NHIF and CBHIs as the main financing agencies); a choice of both (for those non-committal on either financing arrangements) and choice of neither (for people not for any of the above). The results were presented in Figure 7.6.

Figure 7.6: Preferred prepayment mechanisms by the informal sector

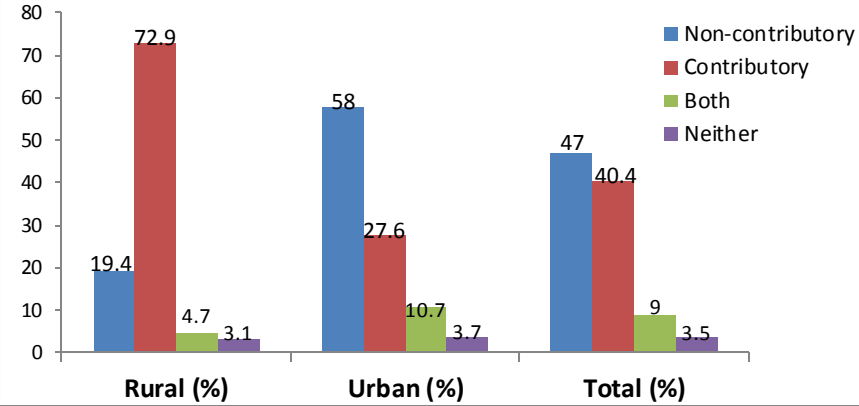


Figure 7.6 shows significant differences (P= <0.001) in the preferences between prepayment mechanisms between rural and urban populations. The rural area clearly favoured a contributory arrangement with about 73% of survey participants in favour compared to 28% in the urban area where non-contributory mechanisms were favoured by the majority (58%). Part of the explanation for this differential is the relatively long history of contributory schemes, mainly CBHIs, in the rural study site as had been mentioned previously. Other reasons for the choice of one over the other were apparent in the qualitative discussions (FGDs and in-depth interviews). There were however, general agreements on two issues: the one that both SHI and tax funded systems were capable of generating large amounts of funds in a single pool and the other that both systems are prone to embezzlement of funds. Study participants who favoured a non-contributory (general government revenue) financing mechanism discussed important reasons guiding their choice:

(i) **Ease of implementation and revenue collection:** A non-contributory system would be easier to implement because taxes are easily collected directly or indirectly as compared to collecting insurance premiums. Also there would be no requirement for extra administrative structures and costs of collection. A key informant observed: *"We would like health care for all to be funded through a tax system because taxes are much easier to collect than insurance contributions. Only the law needs to change, which does not cost much, and then people will be knowingly or unknowing paying for health care without the government having to more employ people to collect such money... "* (Male KI7, Urban). Developing countries that have attempted to expand coverage through contributory mechanisms have experienced difficulties which suggests that implementing non-contributory systems is likely to more successful than contributory systems in settings with large informal sector populations. Writing in the context of low- and middle-income countries, Tangcharoensathien et al. (2011) observe that implementing contributory schemes among large informal sector populations is not feasible.

(ii) **Less controversial:** A tax system would be less controversial as opposed to a contributory insurance scheme, which by design requires compulsory membership, was likened to 'head taxes' in the colonial days. A FGD participant argued thus: "*When I was growing up there was what the colonialists and immediate post-colonial government used to call 'head tax' whose collection was to be enforced by local chiefs. This kind of tax used to make villagers…terribly run away whenever the chief came calling. Now if you talk about compulsory contribution to the NHIF or something like that, you are saying that the chief will follow its implementation. Let us not go there because it was such a bad experience"* (Male3, FGD Urban).

(iii) **More sustainable:** A non-contributory system has a firmer foundation for sustainability for the following reasons: first, the chances of defaulting or dropping out as with the case with contributory schemes are limited; secondly, it is a government programme and citizens are entitled to certain levels of care whose provision they would hold the government accountable: *"I would support a tax system because all the taxes will be going to the government which will be expected to provide an agreed upon package of care whether we pay or not pay because it is already a deal…. But come to think of it, no one can claim to drop out of a tax system*

because money for health care will be based on taxes on consumables, among others" (KI3, Urban).

(iv) **Protects the poor and those with irregular income:** A tax funded system was believed to favour people with irregular income (informal sector) and poor people because they only pay upon consumption of specific taxable goods and services. In so doing the poor are likely to be more protected from inequitable payment compared to the contributory system. An FGD participant said: *"In one way or the other we all pay taxes directly or indirectly and the more one buys the more one pays. So I think a tax system will protect the poor who are likely to buy less of the taxable items or services"* (Male8, FGD Urban).

(v) **Less likely to be scuttled by political schisms:** This was documented in three FGDs in the urban site in which study participants argued that sharp political divisions current in the country could make a national contributory scheme difficult to implement because of the seemingly low levels of national integration. A participant explained: *"I am a Kenyan; I was born here and know this country very well. There are rich counties and very poor counties and these may not like each other for purely political and ethnic reasons. If people are going to be told that their contributions could be used anywhere in the country, you will see how politicians twist everything into a mess. So to me taxation would the best way forward"* (Female, FGD1 Urban).

Informal sector workers who preferred a contributory mechanism had two main reasons:

(i) **Familiarity:** Mostly in the rural area, study participants acknowledged that they were more familiar with contributory arrangements such as the NHIF and could not figure out how a tax-funded system would work. An FGD participant said: *"We are used to the schemes and they are what we would like to provide health care for all…"* (Female FGD1, Rural). Another participant added: *"We have several questions regarding a tax-funded system: how does it work? How will we know how much is collected for health care? Who will keep the money?"* (Female FGD3, Rural). A lot of these concerns about tax funding mirror a certain level of mistrust with the potential collecting agency (government) regarding proper use of tax funds for health care.

(ii) **Sense of disenchantment:** One could easily feel a sense of disenchantment with the government among study participants who were opposed to a non-contributory

mechanism. The general feeling in this population group was that there was nothing good that would come from the government. Although they supported a contributory mechanism, they preferred one that does not involve the government and emphasised that community organised schemes would be much better as they were more accountable to their members. One key informant observed:

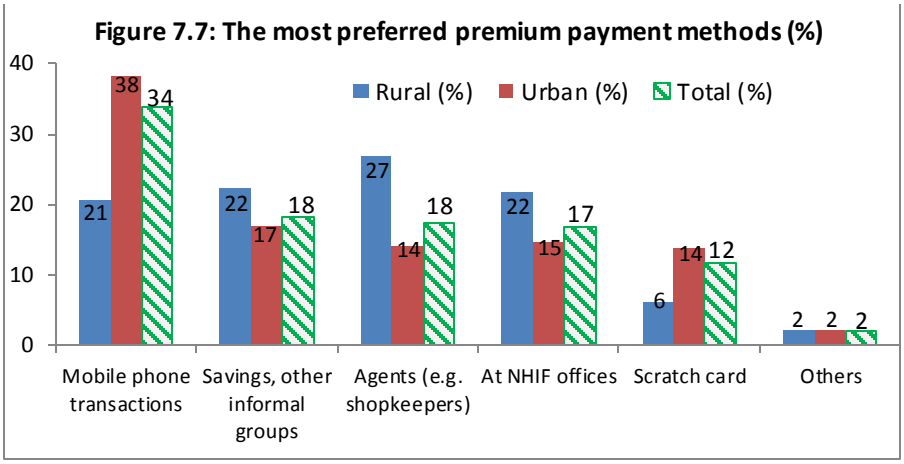
"We do not feel a part of this government…and so we cannot give it any more money to keep under pretence of providing free health care because we will never get free health care or anything from the government" (KI3, Urban).

Although the discussions on contributory and non-contributory mechanisms may appear polarising, within the Kenyan context however, premium payments would place a heavier burden on those without ability to pay but indirect taxes (for a non-contributory system), since they tend to be relatively equitable compared with premium contributions at least in some LMICs, would place more of the burden on those with ability to pay. This is the reason why a non-contributory system would be relatively less controversial.

Informal sector workers opposed to either mechanism were mainly concerned with corruption in government and indicated that they would rather pay for health care out-of-pocket to avoid their money being embezzled. Anxiety over mismanagement of funds, distrust in the ability of the government to deliver on the agreed upon package of care and affordability of premiums were some of the key issues that were mentioned in most FGDs as potential barriers to prepaid health care.

Further views on contributory mechanisms were elicited, given that the government policy is to introduce such a mechanism to finance UHC. Opinions from informal sector workers were sought on revenue collection strategies and types of pooling arrangements that they would prefer under such a scheme even if they did not support it. On strategies to collect revenue, most study participants both in the quantitative and qualitative components of the study stated that revenue collection should involve easy means of prepayment including devolved payment units and use of wireless technology such as mobile phones and internet. The NHIF is currently implementing these methods of revenue collection. Study participants were then asked to choose two premium payment strategies that they preferred most. Figure 7.7 illustrates the preferred premium payment strategies as proposed by informal

sector workers. The differences between rural and urban study sites on the preferred premium payment methods were significant (P=0.02).



Pearson chi^2 P=0.02

In the rural area, the two most preferred premium payment methods were small-scale businesses acting as agents for the insurance agency (27%) and through organisations such as savings and other informal community groups (22%). In the urban area, use of mobile telephony was most preferred (38%) followed by savings and other informal community groups (17%). Overall, use of mobile telephony to pay premiums was most popular (34%) followed by savings and other informal groups (18%).

The least preferred premium payment method in both study sites was use of scratch cards but this was mainly because scratch cards as a means of premium payment were, at the time of the survey, still a relatively new concept being rolled out by the NHIF and so was not well known by the study population. Overall, these are new findings that will help shape revenue collection policy for UHC under a contributory system.

With regard to how regularly the informal sector would like to pay their premium rates under the proposed contributory system, the results are presented in Table 7.1. This was intended to identify the most financially convenient way for the informal sector to make prepayments while accounting for income irregularities in the sector.

Table 7.1: Preferred frequency of premium contributions

Strategy	Rural (%)	Urban (%)	Total (%)
Contribute lump sum once a year	30 (23.3)	54 (16.7)	84 (18.6)
Contribute lump sum once every month	64 (49.6)	182 (56.4)	246 (54.4)
Pay monthly contributions in two instalments	0 (0)	11 (3.4)	11 (2.4)
Pay monthly contributions in weekly instalments	2 (1.6)	13 (4.0)	15 (3.3)
Pay monthly contributions in daily instalments	3 (2.3)	13 (4.0)	16 (3.5)
Pay monthly contributions in instalments any time in the course of the month	30 (23.3)	50 (15.5)	80 (17.7)
Total	**129 (100)**	**323 (100)**	**452 (100)**

On average, the table shows that more than half of informal sector workers (rural=, 50% and urban= 56%) would like to contribute health insurance premiums once a month; that is, pay in monthly lump sum. This response suggests two things: the one that the majority in the informal sector have regular income (monthly or bi-weekly as demonstrated in Chapter Five) even if the income is short term, and the other is that the current national insurance arrangement all along emphasised monthly contributions before the recent changes. Contributing a yearly lump sum was chosen by a total of about 19% of the informal sector workers (rural= 23% and urban=17%) indicating that most informal sector workers are unable to save substantial amounts of money and set it aside to prepay for health care once a year. People who chose to pay yearly lump sum in the rural area were mostly coffee and tea growers who expected to earn tea and coffee bonuses at the end of each year. Equally important is the relatively large numbers of informal sector workers who would like to contribute their monthly premiums in as many instalments as their income would allow; that is, 18% overall (rural= 23% and urban= 16%). This group would prefer to contribute their monthly premiums in small instalments at any time of the month whenever they had money. This choice indicates that a good number of informal sector workers face income uncertainties and are unsure when they could pay their premiums. Monthly instalments and an open number of instalments in a month were the most popular choices while fortnightly, weekly and daily instalments were least preferred in both study sites. The reasons for these preferences were not clear from the data but a statement from one study participant summarised the desire of some informal sector workers to contribute at any

time during the month when money is available: *"If there is a rule that everyone pays monthly lump sum then there will be a problem because not all of us earn regularly- sometimes we earn but sometimes we do not and so it will be difficult to set aside money for premium payment at the end of the month because our immediate needs would not allow us to do so…"* (Female, FGD6 Rural).

The NHIF has instituted reforms allowing informal sector workers to pay their monthly premiums in up to three instalments. Elsewhere the difficulty of prepaying yearly lump-sum premiums has been recorded in Rwanda (Government of Rwanda, 2010b) where timing of contributions coincided with other household obligations such as school fees which together made yearly contribution expensive, leading to defaults in payments.

Still under a contributory prepayment financing mechanism, the study sought to find out what pooling arrangement between social health insurance scheme and community-based schemes would be preferable to those in the informal sector. This was qualitatively explored and the key issues related to feasibility and sustainability of schemes, access to a large number of health facilities, economies of scale and breadth of coverage, as well as accountability to contributors. Most of the views on these issues favoured SHI except in the area of accountability where mostly rural area study participants observed that a CBHI is easy to manage because it involves a few people within a specific locality.

Opposition to the CBHIs in the urban area was very strong on one aspect: that such pooling arrangement would not be feasible because of the mobility of informal sector workers. A study participant observed that: *"We* (informal sector) *tend to migrate a lot to any part of the country in search of work or business opportunities, so I would prefer a scheme that is available everywhere of which CBHIs are not…"* (Male FGD6, Urban). In this context, SHI was defined as having a national reach with a network of health facilities that are accessible to any member anywhere in the country. Most study participants also stated that SHI is more sustainable because it is anchored by national legal statutes and so it remains the responsibility of the government to ensure that SHI works in the long term to safeguard the health of all Kenyans. As a national pool, study participants observed that SHI has the potential to generate more money for its expenditures without the risk of bankruptcy.

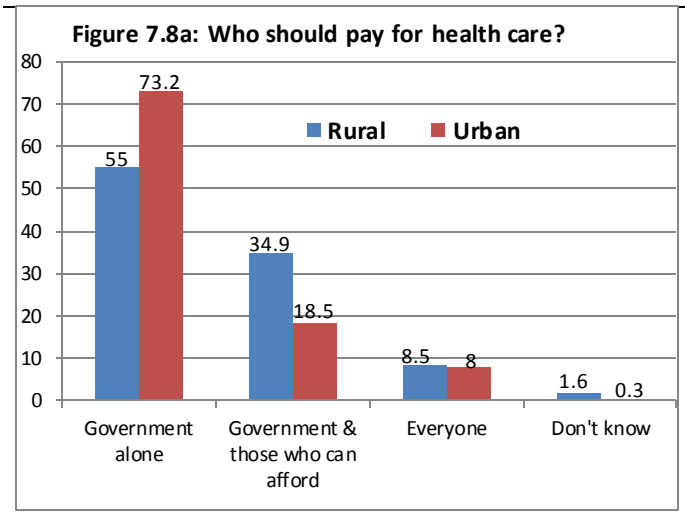
Beyond bankruptcy, a large pool of funds was seen as ensuring more benefits to the contributors as explained by a FGD participant: *"As a large pool, it* (SHI) *would have more money to purchase a wider range of services to members…"* (Female, FGD6 Rural).

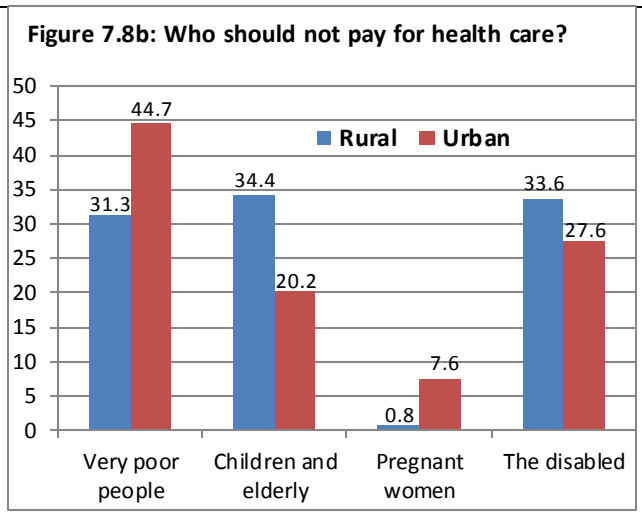
Finally, by arguing that "little efforts brought together would lift a heavy load", study participants showed awareness that SHI has the potential for greater economies of scale than CBHIs and would support such a mechanism to be able to provide comprehensive services to all Kenyans: *"When we all contribute a little strength here and there, we will be able to lift a huge load. The collective contributions from all of us will be able to provide comprehensive health services for all Kenyans including those who are too poor to contribute…"* (Male12, FGD3 Urban).

7.4.2 Design element 2: Population and cost coverage- who gets covered, who pays?

There was considerably high social solidarity with the poor and other vulnerable groups as observed early on. With a general view that all should benefit from services even if they had no money to pay, informal sector workers were asked to indicate where funds to provide services for everyone should come from and which population groups should not pay for health care even as they benefited from the same services. The dominant opinion particularly in the urban area was that the government should be the one paying for health care for everyone. This was partly because most study participants in this area supported a non-contributory system over a contributory mechanism, and partly because of the feeling that there is too much money going to waste within the government and improving efficiency in spending would generate money to pay for health care for all. The latter view was particularly expressed strongly in most qualitative discussions, which outlined the need for the government to do more to support citizens in terms of health care. Asked whether they were aware that government funding of health care for all would mean increased taxes, the general feeling was that such taxes had to be quite minimal and increases should be implemented only after the government implements governance measures such as efficient use of resources and eliminating corruption from the public sector. These are very important findings as they reflect recommendations by the WHO (2005a) and WHO (2005b) for countries to effectively and efficiently use resources at their disposal to facilitate progress towards universal coverage

Quantitative findings (Figures 7.8a and b) also indicated the desire by most study participants in both sites for the government to pay for health care for everyone as a matter of priority. In Figure 7.8a, about 73% in the urban area supported such an initiative compared to 55% in the rural area. For the rural area, lower enthusiasm for government intervention could be linked to their familiarity with a contributory mechanism and had expressed support for the same over a non-contributory arrangement.





Pearson chi^2 (17.45) P= 0.001

The rural area also showed higher support (about 35%) for a mix of funding involving the government and individuals who can afford to pay compared to about 19% in the urban area who had a similar view. About 9% from both study sites agree everyone should pay for health care which suggests no concern for those who cannot afford to pay. The differences between rural and urban areas in the choices regarding who should pay for health were significant (P= 0.001).

The concern for people who cannot afford to pay for health care is clearly demonstrated in Figure 7.8b where 38% overall (rural= 31% and urban=45%) agreed that the very poor should not pay for health care. The results also indicate that other groups who should possibly be exempted from paying for health care include the disabled, children and the elderly. However, pregnant women received the least support from those to be excluded (rural =0.8% and urban= 7.6%). This was because any pregnant woman who is unable to pay for health care would be poor who are already proposed for exemption.

7.4.3 Design element 3: Benefit package

This area was broadly presented as it is one that requires more technical considerations beyond the views of informal sector workers. As shown in Table 7.2, four scenarios were presented to study participants during the survey in which they were asked to choose one scenario that they felt was most appropriate and affordable for them. This was aimed at guiding the design of a benefits package in a future universal coverage system at least with input from potential beneficiaries.

Table 7.2: Broad design of a benefits package

Choice of scenarios	Rural (%)	Urban (%)	Total (%)
Scenario 1: Status quo with current NHIF rates for comprehensive inpatient care at public facilities only	63 (48.8)	75 (23.2)	138 (30.5)
Scenario 2: Comprehensive coverage for outpatient and inpatient services in public sector health facilities but with increased prepayment either at proposed NHIF rates (KSh 500 per month) or increased taxes	45 (34.9)	165 (50.9)	210 (46.4)
Scenario 3: Choice to use private health facilities but pay most of the bill out-of-pocket or from a private insurance arrangement	10 (7.6)	71 (21.9)	85 (17.9)
Scenario 4: None of the above	11 (8.5)	13 (4.0)	24 (5.3)
Total	**129 (100)**	**324 (100)**	**453 (100)**

The choice of the status quo in the rural area by the majority (49%) was not surprising given that they had emphasised high premium rates as the main reason for not being members of existing prepayment schemes and so higher rates in the scenario that was the most popular overall (2) was a deterring factor. The urban area on the other hand, had their major concern in the management of funds not affordability per se and as indicated in the table, the majority (51%) of them would prepay for a comprehensive outpatient and inpatient benefit package that is provided at public sector health facilities. A significant number (35%) in the rural area would also prefer to prepay for a similar benefits package. Overall, Table 7.2 suggests that 46% of informal sector workers would prefer tax increases or the proposed NHIF premium rate of KSh 500 per month if that would accord them access to comprehensive outpatient and inpatient services at public health facilities. However, the majority (51%) of those who preferred such an option were in the urban area compared to 35% in the rural area, probably due to urban informal sector workers being better off economically than their rural counterparts, as demonstrated in Chapter Five. About 31% in

total would stick with the status quo not necessarily because it meets their health needs but most likely because they cannot afford other options. The differences in the choices of the benefits package between the two study sites ware statistically insignificant (P=0.91).

7.4.4 Design element 4: Accountability measures in the management of prepaid funds

From the findings discussed before, one of the major concerns among informal sector workers who would want to prepay for health care was the management of prepaid funds particularly with reference to the NHIF. As a follow up to these concerns, study participants were asked to state how the management of a future prepaid system could be made more transparent to avoid corruption. From mainly focus group discussions, the areas that needed improvement in terms of managing a prepaid health system included the following: the type of institution to manage the funds and how the head of such an institution is appointed, transparency particularly with financial information but more broadly on information that the informal sector considered as critical for transparent management and the channels through which such information should be delivered.

These critical areas for transparency according to informal sector workers were followed up in the survey. In terms of preferred institution to manage prepaid funds, there were significant differences between urban and rural study sites (P= <0.001). In Table 7.3, the rural area preferred, by about 56%, that the institution to manage prepaid funds should be semi-autonomous (part government-part private) such as the NHIF. On the other hand, the single largest group in the urban area (about 41%) preferred the government to fully manage such an institution compared to 30% of the rural informal sector that preferred management by the government. The least preferred institutions for each site were a private entity in the rural area (14%) and a semi-autonomous state organ in the urban area (24%). Overall for both study sites, the national government was most preferred institution (38%) to manage prepaid funds followed by a private entity (29%). Considering the two most preferred institutions in order of priority for each study site, the rural area preferred a semi-autonomous organ and the national government and the urban preferred the national government and a private institution.

Table 7.3: Most preferred institution to manage prepaid funds for universal coverage

Type of institution	Rural (%)	Urban (%)	Total (%)
National government	39 (30.2)	133 (40.8)	172 (37.8)
Private institution	18 (14.0)	115 (35.3)	133 (29.2)
Semi-autonomous state organ	72 (55.8)	78 (24.0)	150 (33.0)
Total	129 (100)	326 (100)	**455 (100)**

Pearson chi^2 (45.60); P= <0.001

The explanations for such differences were found in the FGDs and through inference. The main reason for strong opposition to a private management institution in the rural area was that such an institution would increase costs of prepayment, which in the rural area was the main discouraging factor from prepaying for health care. In the urban area, the strong opposition for a semi-autonomous body such as the NHIF was linked to mismanagement of funds by the NHIF, which in the urban area was the key factor that discouraged prepayment for health care.

The choices receiving the greatest support of a semi-autonomous entity such as the NHIF and the national government to manage a prepaid system by rural and urban informal sector workers respectively, was somewhat surprising because public sentiments largely perceive both the government and the NHIF as corrupt and untrustworthy with public funds. In the view of the researcher drawn from contextual experience, the choice of government and an entity such as the NHIF were to some extent driven by compromise. For instance, the rural area had already indicated their preference for a contributory system so an institution moulded along the lines of the NHIF would clearly be their choice because a private entity would drive up costs. Likewise, the urban area, as demonstrated earlier, strongly preferred a non-contributory system so their choice of the government as the manager of prepaid funds was not unexpected. However, a private entity was also popular among urban informal sector workers (and had no significant difference with choice of the government, P= 0.07). In the opinion of the researcher judging by the statement below, the choice of the government over a private entity by urban informal sector workers was based on perception of sustainability and a sense of obligation (as captured in the following statement): *"Our idea is better the devil you know…! A private institution could decide one day that it is tired of managing our funds and just fold up leaving behind a host of problems*

but for the government…it will always be there and once it is agreed with the public that health care would be free because it is prepaid, there is that sense of obligation to honour its part of the deal. If that does not happen then the public will give it problems…" (Male, FGD4, Urban).

The second factor in transparent management, according to the perceptions of informal sector workers, was the appointment of the individual to head the institution to manage prepaid funds because they believed that the head of such an institution was highly responsible for its performance. As presented in Table 7.4, open processes of appointment of the head of the management institution, either through public vote or merit-based interviews, were most preferred.

Table 7.4: How to appoint head of institution managing prepaid funds

Appointment strategy	**Rural (%)**	**Urban (%)**	**Total (%)**
Public vote	58 (45.0)	198 (60.7)	256 (56.3)
Appointment by political authority e.g. president	22 (17.1)	26 (8.0)	48 (10.6)
Open appointment through interviews	49 (38.0)	98 (30.1)	147 (32.3)
Other	0 (0.0)	4 (1.2)	4 (0.9)
Total	**129 (100)**	**326 (100)**	**455 (100)**

Pearson chi^2 (14.69); P = 0.002

Overall a 56% majority (rural= 45% and urban= 61%) would like the appointment by public vote even though this may not be a political office and 32% prefer open interviews. Only about 11% prefer political appointment. There is a clear revolt against political appointment of the head the management institution because such appointments, according to study findings and other reports, have immensely contributed to the mismanagement problems experienced with the NHIF. An interviewee in the urban area explained his experience with the NHIF in the following statement: *"We are the ones to choose the person to lead the institution managing our funds because it is our money they manage… I mean look at people chosen for us in the NHIF. Instead of serving us they steal from us and we cannot do anything about it because we did not appoint them…"* (KI3, Urban).

The third issue among those suggested by the informal sector to improve transparency in future prepaid health system involved the demand for various kinds of information and the most preferred channel to deliver them. Table 7.5 presents a list of information needs that would be required by the informal sector from a future prepaid health system. For each item of information, study participants were asked to classify them as *'Very important or Important; Somewhat important or Not important'.*

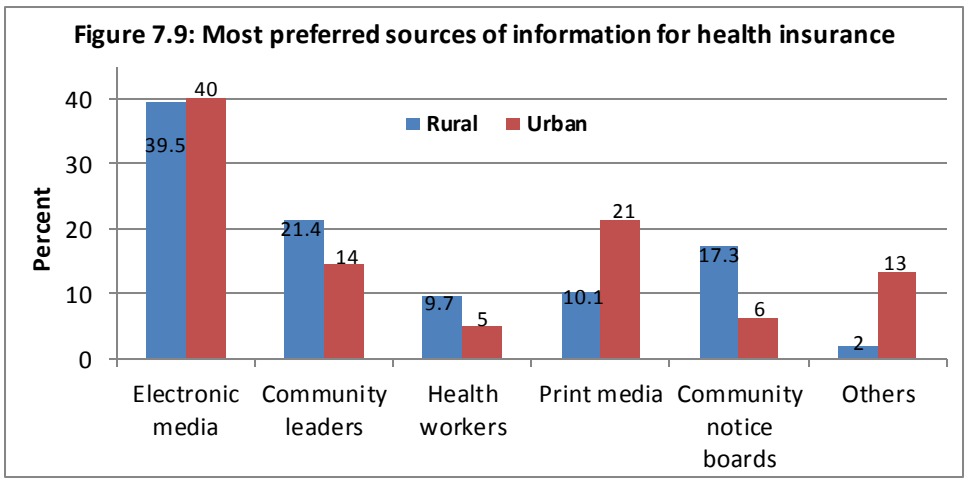
Table 7.5: Information required from the management of the prepaid funds by the informal sector

Type of information required	Rural		Urban	
	Very important or important (%)	Somewhat important or Not important (%)	Very important or important (%)	Somewhat important or Not important (%)
Financial statements	91.5	8.5	97.5	2.5
Service costs	89.1	10.9	94.2	5.9
Measures to avoid fraud	93.8	6.3	97.5	2.5
Improvements on quality	87.5	12.5	89.5	10.5
Service entitlements	93.0	7.0	94.4	5.6
Problems and resolutions	81.3	18.8	94.8	5.2
Making important appointments	77.0	23.0	96.3	3.7
Hospital accreditation	89.8	10.2	90.1	9.9
Average	**87.9**	**12.2**	**93.3**	**5.7**

There were no significant differences between rural and urban informal sector with regards to how they perceived respective types of information (P= 0.11). On average, about 88% and 93% in the rural and urban sites respectively regarded the information demands identified during the qualitative interviews as *'very important'* or *'important'*. These forms of information included information on financial statements, measures to eliminate fraud, health services that the public are entitled to, the costs of services purchased and steps taken in improving quality of services, among others.

Study participants were then asked to state their most preferred channels through which they would like to receive the specified information. There was no significant difference in the choices made by rural and urban informal sector (P= 0.33). From Figure 7.9, the electronic media especially the radio was the most preferred channel of information delivery with an average 40% (rural= 39.5% and urban= 40%) preference for both study sites. Community leaders were the second most preferred delivery channel in the rural area

(21%) while the second most preferred choice for the urban area was the print media (21%). Surprisingly, health workers were least preferred to pass on critical information about the management of prepaid health care. As discussed previously in Chapter Six, health workers were to some extent perceived negatively as either unfriendly to patients and caretakers or aiding corruption in public sector health facilities and these factors could have played a key role in the decision of the informal sector to leave them out on measures targeting corruption.



P= 0.33

From the FGDs and key informant interviews in both sites, radio communication was most preferred because of its wide reach. The advantage of the wide reach was that false information would be challenged especially by civil society groups which would verify its accuracy and in the process increase the chances of transparent management. A key informant explained: *"The radio is the best channel because nearly everyone listens to the radio and whenever false information is given, some big people especially in the NGOs will not let it pass. They will instead move to court to challenge it. That way, the managers of our funds will not be tempted to steal…."* (KI8, Urban). Previous findings on communication channels most preferred by the community showed a stronger preference for interpersonal communication than radio (Okungu and Gilson, 2014) but this was focused on drugs and involved a very small sample.

7.5 Summary of views on prepayment mechanisms

The choice of a prepayment system seems to be influenced by a number of key issues including familiarity and a system that guards against corruption and is sustainable for posterity. Secondly, in a contributory system, issues of affordability, particularly among informal sector workers with irregular income and the inability of such a mechanism to properly protect the very poor from inequitable contributions, emerged as important concerns for the informal sector. Thirdly, while the choice of comprehensive cover for outpatient and inpatients services was popular, affordability remains a key barrier where more than half of the informal sector indicated their inability to either pay actuarially-based contributions or agree to a tax increase to provide comprehensive coverage. Whichever the prepayment mechanism, the key issues to encourage public participation, according to the findings, include transparent management, affordability (in total cost or favourable contribution methods), quality of services (qualitative data) and equitable prepayments based on income. The quality of current services was extensively discussed in the FGDs and in-depth interviews and follow up made during the survey component of the study. It emerged that improved quality of public sector health services would best anchor universal health coverage. In this context, study participants were asked to identify and discuss further recommendations, based on their current experience with the health system, as a basis for improvements needed in future prepayment system.

7.6 Specific recommendations to inform a future prepayment system

Study participants were asked to indicate in the survey questionnaire the first, second and third priority issues that they would like improved in the public sector for a successful future prepayment system. These priority areas, as listed in Table 7.6, were identified during focus group discussions. From the table, there were only two critical areas where improvements are urgently required within the public health system. These are improvements in the time spent waiting for services and the supply of drugs. A total of about 49% on average (rural= 29% and urban= 58%) regarded waiting time as the first priority issue to be improved in public sector health provision. The problem waiting time was perceived by respondents to be more pronounced in the urban study site. Twice the percentage of respondents in the urban than in the rural area regarded waiting time as the first priority for improvement. In

the rural area, the greatest problem identified was lack of drugs with 69% of survey participants feeling that it was a first priority problem compared to 50% in the urban. Overall more than half (56%) of survey participants indicated lack of drugs as their first priority problem.

The rest of the perceived priority areas seemed not very critical as they were regarded as third priority issues by the majority in both study sites. What this means is that the last six issues listed in Table 7.6, while they persist, their perceived relative importance is low. There were no significant differences between rural and urban areas regarding issues given first, second or third priority (P= 0.17).

Table 7.6: Priority areas to improve in public sector health provision for universal coverage

	Rural priorities (%)			Urban priorities (%)			Total (%)		
Priority areas	**1st**	**2nd**	**3rd**	**1st**	**2nd**	**3rd**	**1st**	**2nd**	**3rd**
Reduced waiting times	31 (29.3)	55 (51.9)	20 (18.9)	139 (58.2)	67 (28.0)	33 (13.8)	170 (49.3)	122 (35.3)	53 (15.4)
Necessary drugs to be made available	86 (69.4)	35 (28.2)	3 (2.4)	152 (50.0)	137 (45.1)	15 (4.9)	238 (55.6)	172 (40.2)	18 (4.2)
Health workers to respect patients	2 (7.4)	7 (25.9)	18 (66.7)	7 (8.1)	34 (39.1)	46 (52.9)	9 (7.9)	41 (36.0)	64 (56.1)
The facility should be clean inside and outside	1 (7.1)	3 (21.4)	10 (71.4)	4 (4.6)	22 (25.0)	62 (70.5)	5 (4.9)	25 (24.5)	72 (70.6)
Eliminate informal payments at facilities	4 (10.8)	12 (32.4)	21 (56.8)	1 (3.0)	9 (27.3)	23 (69.7)	5 (7.1)	21 (30.0)	44 (62.9)
Health workers to explain nature of illness to patients	1 (3.6)	8 (28.6)	19 (67.9)	4 (5.6)	13 (18.3)	54 (76.1)	5 (5.1)	21 (21.2)	73 (73.7)
More facilities to be nearer to populations	2 (11.1)	2 (11.1)	14 (77.8)	2 (2.7)	16 (21.9)	55 (75.3)	4 (4.4)	18 (19.8)	69 (75.8)
Others	0 (0.0)	7 (25.0)	21 (75.0)	12 (21.1)	21 (36.8)	24 (42.1)	12 (14.1)	28 (32.9)	45 (52.9)

P= 0.17

From the qualitative component of the study, there were strong feelings among respondents that people generally would be unhappy with a health system that offers unacceptable standards of care. For example, the two problems of drug stock-outs and long queues featured prominently during the study and were noted as the most urgent problems worth attention within the public health sector. In the urban area, the suggested solution to long waiting time was hiring of more health workers. For drug stock-outs, a few recommended solutions included what already has been catered for in the current constitution; that is, cutting the supply bureaucracy by devolving purchase of drugs to health facilities. Another recommendation was a method to monitor health workers so that

they do not misuse facility drugs and that facilities themselves take steps to pre-empt drug shortages by placing orders in time. Curbing corruption in public facilities was also a recommended solution to the persistent drug shortages. A key informant observed: *"Health services in public facilities can greatly improve if corruption is eliminated…because it is not that there are no drugs but corruption among health workers create artificial shortages…"* (KI9, Urban).

Another way to improve services in the public sector, as noted by study participants, was to enhance accountability among health workers through establishing channels for complaints by patients and carers so that cases of disrespect, neglect of patients and absenteeism among health workers could be addressed. Highlighting lack of such channels, a FGD participant said: *"If we could have a platform where patients can register their complaints and ensure that they are followed up, then we could be heading somewhere but the current situation is that the head nurse for example, has been negligent or rude and the only person with whom you could follow up the matter is the same head nurse..."* (Male FGD1, Urban).

The suggested channels for complaints could be enhanced by a structured supervision of health workers so that problems such as absence from facilities can be minimised. A FGD participant explained: *"What we should have in public facilities is that in every shift should be a supervisor to do rounds ensuring that all patients are attended to, not that the nurses are sleeping and patients on the other hand are suffering"* (Male FGD3, Urban). Absenteeism did however not feature as a serious problem in primary health facilities.

Public sector services, according to a number of FGDs, could also be improved by changing employment contract terms especially for nurses from a permanent and pensionable basis to performance-based contracts. Study participants said that the current terms of contract (permanent and pensionable) do not commit health workers to regard patients as their clients. To emphasise the need for a change in employment terms, a study participant said: *"Salaries for private providers are paid depending on how many patients come to the facility; that is, how much money is made, and therefore private health sector employees often have better public relations than those in the public sector because of the need to attract more customers (patients)"* (Male, FGD6, Urban).

Conclusion

The element of social solidarity in support of redistributive policies is quite strong in both study sites but this could be put to the test where income-related prepayments are required, principally within a contributory prepayment system. Importantly, while there is a clear understanding of the concept of prepaying for health care and why this is important, this together with considerable social solidarity have not translated into actual prepayment participation by informal sector populations. The reasons for this could be based on the choice of a prepayment mechanism, its design as well as a number of social, economic and political factors that require interventions sometimes from outside the health system. In a nutshell, there are specific recommendations or demands by the informal sector including improved quality of services, better design (such as an acceptable prepayment mechanism, benefit package and accountability measures) that need to be considered in a future prepaid health system if informal sector workers are expected to be a part of it.

CHAPTER EIGHT: CRITICAL ASSESSMENT OF OPTIONS FOR COVERING THE INFORMAL SECTOR

8.1 Introduction

This chapter provides estimates of total financial resource requirements for UHC in Kenya using two financing scenarios and compares the financing implications for each scenario. The scenarios considered are: (i) a contributory mechanism (social health insurance - SHI) emphasising premium payments by all population groups; (ii) a non-contributory financing mechanism with funding from general government revenues, supplemented by premium contributions from the formal sector. In both scenarios pooling is under one entity, likely to be the NHIF which would serve as a strategic purchasing organisation.

The official government policy is that Kenya adopts a SHI to progress towards UHC. Under this financing scenario, all Kenyans including formal and informal sector workers, pensioners and the indigent belong and contribute premiums into one pool. Within this pool, formal and informal sector workers contribute premiums on a regular basis whereas the indigent are paid for by the government. The informal sector would contribute a flat-rate of KSh 500 (about US$ 5.44) per household on a monthly basis. The NHIF classifies pensioners under the informal sector. Contributions from the formal sector are based on salary scales and as presented in Chapter Two, these are highly inequitable. On average however, contributions from formal sector workers are about 2.4% of their gross pay.

Reflecting on the findings in earlier chapters related to a contributory financing mechanism, the indications are that this is a system that: (i) requires predictable incomes from the contributing populations in order to sustain health programmes; and (ii) needs strong popular support and social solidarity because, as highlighted in Chapter Three, SHI is difficult to enforce in the informal sector where incomes are difficult to estimate. The findings presented in earlier chapters indicate that incomes, particularly for the non-agricultural informal sector, are quite unstable. For this reason, under a contributory scenario, regular premium payments will most likely be disrupted as these enterprises struggle to sustain themselves and raise income for the workers. Likewise, although the agricultural informal sector shows less disruption in income, the earnings are very low and the workers in this

sub-sector might find it difficult coping with regular premium payments. As discussed in Chapter Seven the main concern with a contributory scheme for informal sector workers, particularly those in the rural area, is high premium rates. An increase in these rates by the NHIF from KSh 160 to KSh 500 per month effective April 1st 2015, even though it includes an expanded benefits package, is likely to put more financial pressure on many informal sector workers. In terms of popular support, the majority of the study population preferred a non-contributory financing mechanism which implies that the government's chosen contributory approach to UHC may prove unpopular with many people.

Based on the potential problems associated with a contributory financing mechanism in Kenya, it is advisable to also consider a non-contributory scenario as an option for financing UHC. Under this scenario, the government pays contributions directly to the NHIF on behalf of informal sector workers, the indigent and pensioners. The formal sector on the other hand, contributes premiums to the NHIF under statutory deductions on salaries. The contribution rates are similar to the ones under a contributory scenario. Findings in Chapter Seven suggested that, at least in the two study sites, a non-contributory mechanism, based on the method of revenue collection would be less controversial compared to the contributory mechanism even though the rural area preferred a contributory system owing to its past experience. However, these were just two study sites which could limit generalisation to reflect the national mood.

8.2 Introducing SimIns model methodology

SimIns ® Version 1.2 (WHO/GTZ, 2008) was used in the simulation. The *SimIns* 'User Guide' explains that *SimIns* makes it possible to analyse the relationships between expenditures under health insurance and other expenditures. Table 8.1 summarises data requirements for the simulation between 2013 and 2030 and what the final output looks like. SimIns models for a 10 year period, so the study first modelled from 2013 to 2023 and then used the 2023 data as second round input to extend the model to 2030.

The study did not consider any sensitivity analysis because the interest was in modelling the existing government plans. Although sensitivity analysis with different rates of enrolment, hence reaching full coverage over a far longer time period, would have added valuable

information to the study, the limitations of SimIns only allowing modelling for limited time periods made this unfeasible.

Table 8.1: Data input and output for SimIns Plus

Data input	Data output
1. Population structure including total population at baseline and growth rate, proportions of formal sector workers, informal sector and formal sector pensioners. Others include dependency ratio and workforce wages and pensions 2. Macroeconomy includes real GDP growth rate and interest rates 3. Health care costs involves unit costs for OP and IP services at various public and private facilities 4. Utilisation rates include use of OP visits and IP days per capita per year for various types of public and private facilities 5. Health insurance: Insurance coverage trends, contribution rates, subsidies and co-payments as well as administrative costs – note that for flat contributions or subsidies, SimIns requires the flat amount per person (rather than per household). The average household size in Kenya consists of five people.	1. Population structure (formal, informal, the indigent and pensioners) and trends in insurance coverage 2. Health care utilisation by insured and uninsured 3. Health insurance expenditure and revenue per annum 4. Health expenditure per capita - insured and uninsured 5. Private health expenditure and private expenditure per capita at facilities 6. Total health expenditure (THE) at facility level including real growth rate, THE per capita 7. Structure of THE at facility level including public and private health spending

The SimIns 'User Guide' indicates what SimIns Basic ® is able to model; for example, in a health financing policy that intends to expand insurance coverage to the informal sector, SimIns Basic® demonstrates the mix of contributions from government workers, formal private sector employees and informal sector workers as well as subsidies from government revenues required to balance expenditures and revenue. Secondly, SimIns Basic illustrates the financial effects of exemptions for the indigent as well as changes in co-payment rates and the breadth of the benefit package.

As a consequence of expanding coverage under a contributory mechanism, health facilities will be expected to gradually meet most of their expenses from payments by the health insurance organisation, meaning that there will be less funds going directly from general government revenue to support public sector facilities. In this context, SimIns Basic is able to demonstrate the trend in health insurance funding as it gradually replaces the flow of government funds into public sector health facilities. The aim of the simulation is therefore to demonstrate separately, the feasibility of UHC through (i) social health insurance supplemented by government revenues and, (ii) funding from general government revenues and supplemented by premium contributions from the formal sector.

A notable weakness with SimIns Basic is that it does not provide a complete picture of the total health expenditure as it does not include private health expenditure outside of health facilities (e.g. on self-treatment).

8.3 Details of the financing scenarios as used in SimIns model

Box 1 presents details of each financing scenario considered in the model.

Box 1: Summary of two financing scenarios explored in the SimIns Basic model

Scenario 1: Contributory system: SHI scheme
This scenario mirrors the government policy direction for UHC in which all Kenyans are expected to contribute premiums to a national health insurance scheme. This financing scenario retains most of the design features of the current public insurer, the NHIF, which is to be used by the government to anchor UHC. In this financing model, coverage through government funding plays a complementary role to premium contributions. With the majority of formal sector workers already covered by the NHIF, the design of a future scheme is targeted at gradually enrolling and retaining informal sector workers through a mix of strategies including wireless premium payments, devolved registration centres, and an expanded benefits package to include both outpatient and inpatient services. Formal and informal sector workers are expected to pay standardised premium rates but the indigent, identified through means-testing, are expected to be funded by the government. A means-testing strategy in identifying the indigent has been problematic in many settings as discussed in Chapter Three. All the population groups (formal sector workers, informal and indigent) are expected to be under a single national pool which is envisaged to achieve universal population coverage by 2030. The benefit package as proposed is comprehensive including basic outpatient and inpatient services, maternity and last expense cover. Outpatient services include consultation fees, laboratory investigation, drug administration and radiological examination, among others. Inpatient services include bed and theatre charges, nursing care, fees for personnel (physicians and surgeons) and drugs, among others. Utilisation of these services is expected to increase gradually as more people get covered. There will be no co-payments for using public sector facilities but those who choose to use private sector services are expected to co-pay between 2% of the costs for low-cost private sector facilities to 90% of the cost for high-end private facilities. Although the option of using private providers with co-payments exists, the NHIF is currently assessing the option of restricting its services to public sector facilities only to address cost-escalation. Should this be the case, there is expected to be pressure to significantly improve public sector services because as indicated in Chapter Seven, these services are perceived to be of low quality and lack value for money.

Scenario 2: Non-contributory system involving general government revenues as primary source of financing
This is an alternative scenario to SHI that is proposed for UHC in Kenya. Under this scenario, there are statutory premium deductions from formal sector workers including formal sector pensioners to complement government revenues in financing UHC. The rest of the population, that is informal sector workers and the indigent population would be covered through funding from general government revenues. What this means is that there will still be a single pool under the NHIF into which formal sector workers and the government pay their contributions. The non-contributory scenario is expected to rapidly increase population coverage and utilisation of services and should therefore be accompanied with rapid improvement in public sector services. Public spending on health care is also expected to grow rapidly to meet rising demand for health services for the entire population. The benefit package considered is comprehensive consisting of essential services similar to the SHI model but with more restrictions to public sector facilities. The assumption is that there will be no co-payments for those who use public facilities. On the other hand, wealthier individuals are more likely to use private services to complement those that they are entitled to from the public sector.

Table 8.2 provides a brief summary of key input data and assumptions for SimIns Basic but more details about these are presented in Appendix C, sections C1 to C5.

Table 8.2: Key input data and assumptions for UHC financing scenarios

Input	Contributory scenario	Non-contributory scenario
Population (Appendix C, C1)	1. Baseline total population size is 44.4million and growing at an annual rate of 2.5% to reach 56.8million and 67.6million in 2023 and 2030 respectively. 2. At baseline, the size of non-dependent population as a share of total workforce: formal sector workers (23.2%), pensioners (5.5%) and informal sector (71.3%). The annual growth rate in formal sector employment is estimated at 0.5% on average from the baseline until 2030, although private sector employment would grow at a much faster rate than in the public sector. The informal sector workforce was estimated to decline at an annual rate of 0.37% between 2013 and 2030 based on trends since 2004. 3. Estimates on growth rates of wages were set at 5% per annum for the formal sector and pensioners at 3% per annum.	
Macroeconomy (Appendix C, C2)	1. Real GDP growth rate is estimated at an average of 5.0% per annum between 2013 and 2030 and interest rates were set at 5% per annum on average.	
Health care unit costs (Appendix C, C3)	Unit costs for outpatient and inpatient services for public, non-profit and for-profit facilities were estimated based on evaluation of studies on unit costs. The unit costs were inflation-rated for 2013 prices and projected to estimate prices for 2030. However, a higher growth rate (14.6%) in unit costs was used for public sector services because these are currently under-resourced and significant increase in public funding is required to make services available and affordable for all.	
Utilisation rates (Appendix C, C4)	Utilisation rates were based on analysis of government documents and comparative analysis of the rates in other LMIC. The rates were set on average at 3.1 outpatient visits per capita per annum at the baseline and increasing to 4.0 in 2023 and finally to 4.3 OP visits per capita per annum in 2030. Average annual inpatient days per capita were at 0.255 at baseline, 0.287 by 2023 and 0.305 IP days per capita per year by 2030.	
Health insurance (Appendix C, C5)	1. Formal sector contributions gradually increased from the current level of 2.4% of gross pay at the baseline to a more realistic contribution rate of 6.5% from 2017 onwards. (Premium contribution rates of 6.5% would be difficult to implement in Kenya and likely to generate a lot of public resistance). 2. Pensioners contributions were varied from 2.4% of monthly pensions at the baseline to 4% from 2017 onwards 3. Contributions from the informal sector were set at KSh 6000 per household per annum at the baseline (or KSh 1200 per insured adult, child and principal contributor considering that the average household size consists of five people). These increased with inflation 4. Annual government subsidies per exempted individual were put at KSh 3000 per annum at baseline. This is based on estimated current government health expenditure per capita. With an average household size of 5, this would be equivalent to KSh15000 per household at the baseline. The subsidy amount was automatically increased in the model in line with inflation. NB/ The KSh6000 is the new NHIF contribution amount as from April 2015 and already seems like it could be high for many informal sector workers and the KSh15000 is based on current government spending on health, divided by the 'uninsured' (informal sector & indigent population). Government contribution per exempted person is higher than contributions from the informal sector because contributions from the latter are regarded as what they can afford and not necessarily what should adequately fund a given package of care. 5. Administrative costs gradually decreased from 12% of total revenue at the baseline to stand at 8% by 2023 and 7% from 2024 onwards. Although the NHIF administrative costs are currently very high (over 35% of total revenue) the study opted for a more realistic figure of 12% at the baseline given that NHIF data validity and reliability is questioned; i.e. large surplus is subsumed under administrative costs (Nicolle and Mathauer, 2010). The 12% estimate at the baseline is also within the range of 2% - 17% of total expenditures on administrative costs in middle-income countries (Nicolle and Mathauer, 2010)	1. Formal sector contributions gradually increased from 2.4% of gross pay at the baseline to stand at 6.5% from 2017 onwards 2. Pensioners contributions were varied from 2.4% of monthly pensions at the baseline to 4% from 2017 onwards 3. Government subsidies per exempted individual were put at KSh 3000 per annum at the baseline and automatically increased in the model in line with inflation 4. All informal sector workers and indigent populations were exempted 5. Administrative costs reduced from 12% to stay at 5% throughout the simulation consistent with estimates by Nicolle and Mathauer (2010) for such costs.

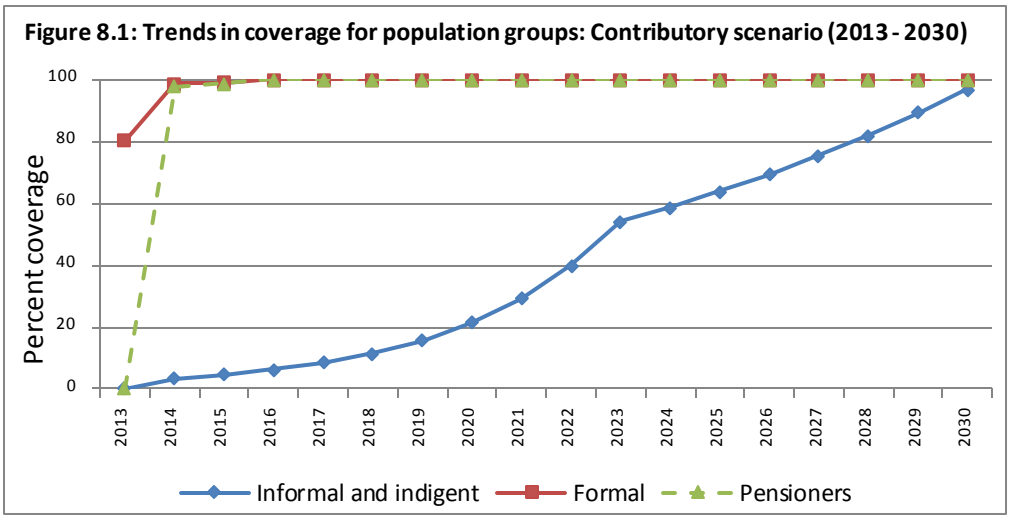
8.4 Modelling results

8.4.1 Trends in population coverage

The study acknowledges that achieving 100% population coverage is an ideal situation and may not be practical under the circumstances, and the pace of coverage is also likely to be

unrealistic, but the study explicitly uses government assumptions in the modelling. Figures 8.1 and 8.2 depict trends in coverage for different population groups (informal sector and indigent populations, formal sector workers and formal sector pensioners) under contributory and non-contributory scenarios, respectively. The contributory scenario shows gradual coverage increasing from about 0.1% of total informal sector and indigent populations at the baseline to about 54% in 2023 and 97% coverage of this group in 2030. The slow coverage of informal sector and indigent populations is often linked to the difficulties in identifying who is able or unable to contribute to a health insurance scheme (Schieber et al., 2012, Tangcharoensathien et al., 2011, Nguyen and Rama, 2007). The difficulty of enforcing laws on mandatory contributions in the informal sector has also been one of the main contributors to the slow pace of coverage of informal sector populations under a contributory scenario (Tangcharoensathien et al., 2011). The formal sector on the other hand, has high coverage (about 83% on average) at the baseline which immediately increases to 98% upon implementation of UHC policies and remains at about 99.9% for the remainder of the simulation. Coverage for pensioners also immediately rises from 0.1% at the baseline to immediately reach the level of coverage for formal sector workers on implementation of UHC policies. The rapid coverage for formal sector workers and pensioners is linked to the ease of identifying their incomes which makes them relatively easy to enrol into a mandatory scheme.

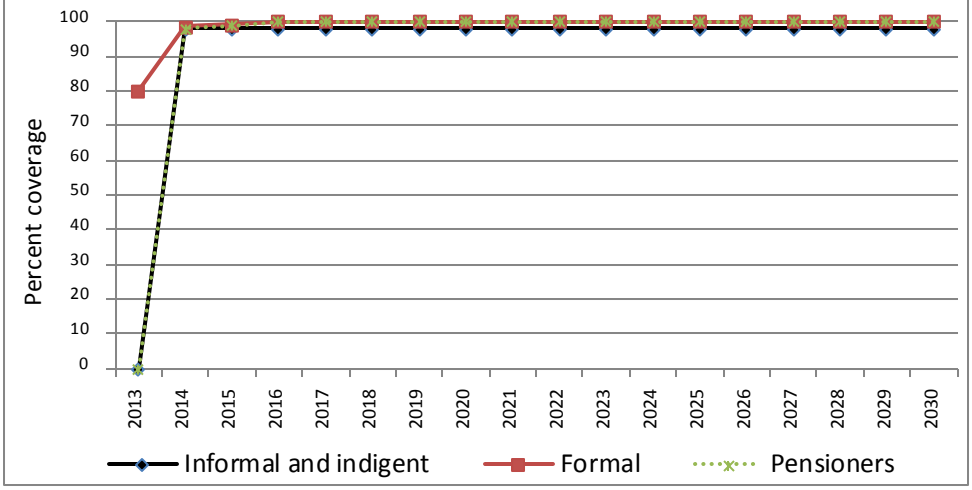
Figure 8.1: Trends in coverage for population groups: Contributory scenario (2013 - 2030)



Under the non-contributory scenario (Figure 8.2), coverage for informal sector and indigent populations as well as formal sector pensioners rapidly increase from about 0.1% at the

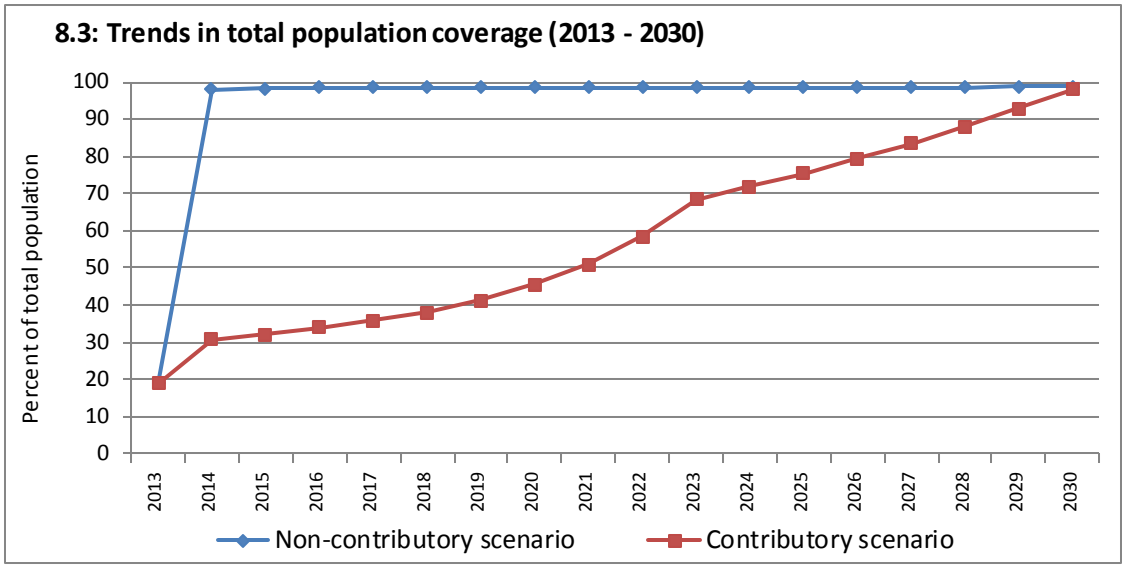
baseline to 98% upon implementation of the UHC policy and remains around this figure for the entire simulation. Non-contributory systems achieve universal population coverage in a short time because government subsidies are targeted at the entire population outside of formal sector employees. Trends in coverage for formal sector workers and pensioners in both scenarios follow similar patterns because coverage laws for these two populations groups are fairly easy to enforce.

Figure 8.2: Trends in coverage for population groups: Non-contributory scenario



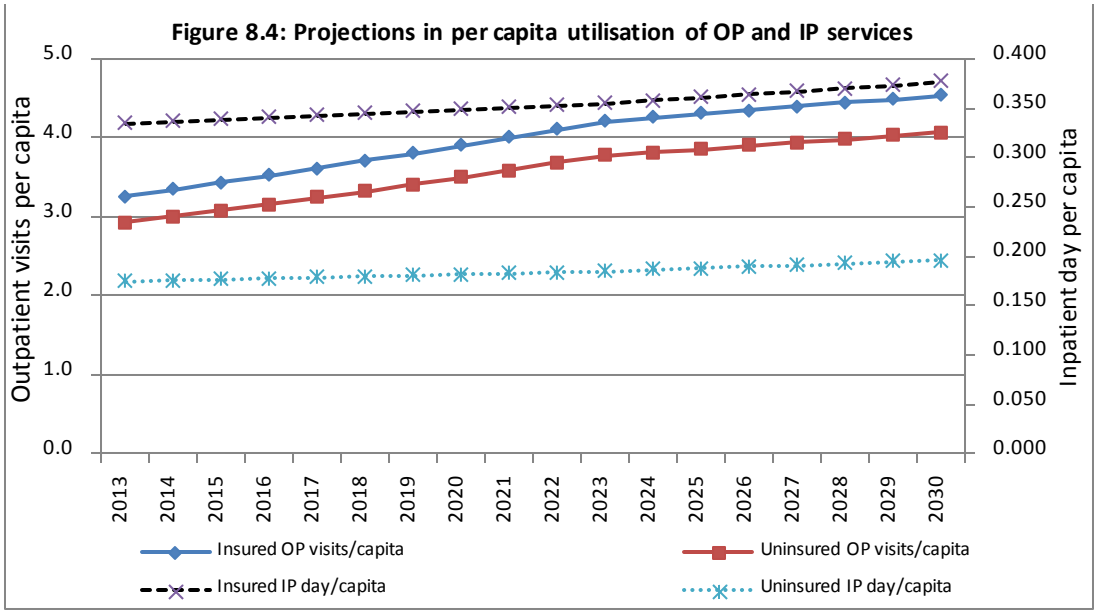
The trends in total population coverage in both scenarios is given in Figure 8.3 where coverage increases from about 19% at the baseline[7] to universal status in the second year of UHC implementation under non-contributory scenario. Total population coverage for the contributory scenario is gradual from about 19% at the baseline to 58.5% within a decade and finally to universal status in 2030. The slow pace in population coverage under the contributory scenario is often to the disadvantage of vulnerable groups who cannot afford premium payments. Oxfam (2013) confirms that contributory schemes often leave out the poor and other low-income groups who cannot afford to pay premiums.

[7] The Kenya Household Health Expenditure and Utilisation Survey (KHHEUS) 2014 indicates that the proportion of the total population insured is about 17% (+ or – 5) so the study estimates at the baseline are within this range.



8.4.2 Trends in utilisation of OP and IP services among insured and uninsured[8]

Figure 8.4 is a projection of annual outpatient visits and inpatient days per capita among insured and uninsured in both scenarios. On average, at the end of the simulation utilisation of OP services will stand at 4.3 visits per capita per year and 0.2685 inpatient days per capita per year. Low utilisation rates of IP services in particular, among the uninsured are strongly linked to the high costs of IP care where households could be required to pay large amounts of OOP payments at short notice.



[8] The utilization rates may appear to be very high but these were benchmarked with current trends in Kenya and the utilization patterns in universal systems such as Thailand so the study regards them as achievable rates.

There are also marked differences between contributory and non-contributory scenarios in the total number of outpatient visits and inpatient days, particularly in the initial period (Figure 8.5 for OP services and Figure 8.6 for IP services). The figures indicate that as a greater percentage of the population will be uninsured in the contributory than in the non-contributory scenario until 2030, and as average per capita utilisation rates are lower amongst the uninsured than the insured, there are considerably fewer total outpatient visits, and particularly inpatient days, under the contributory than the non-contributory scenario. However, at the end of the simulation, utilisation of both OP and IP services is about the same in both scenarios because both have achieved near-universal population coverage (Figures 8.5 and 8.6).

Figure 8.5: Trends in total annual outpatient utilisation between the two scenarios

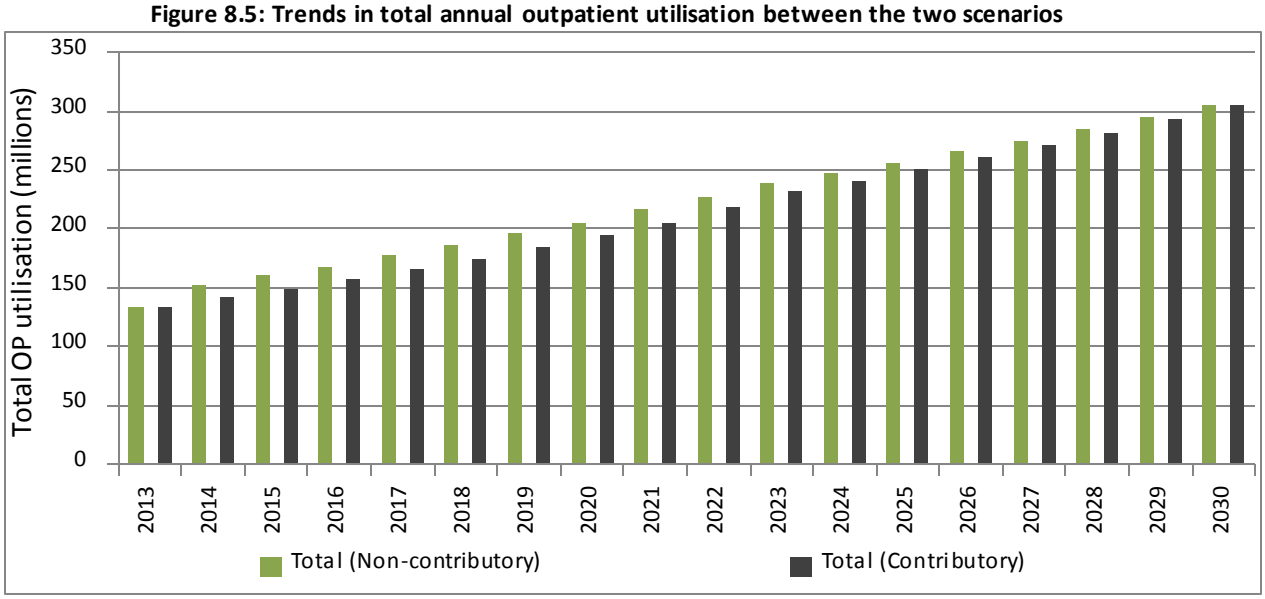
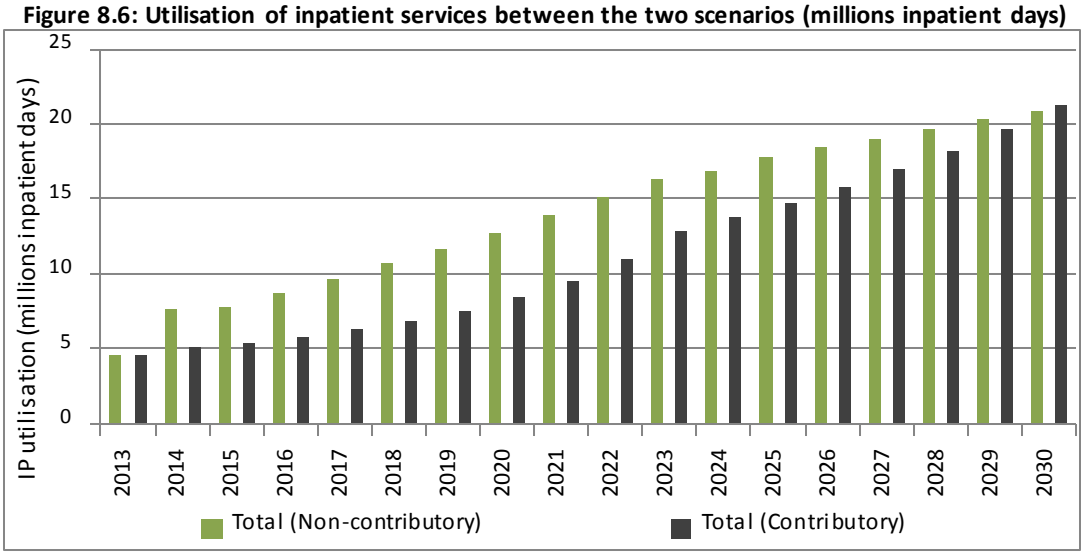


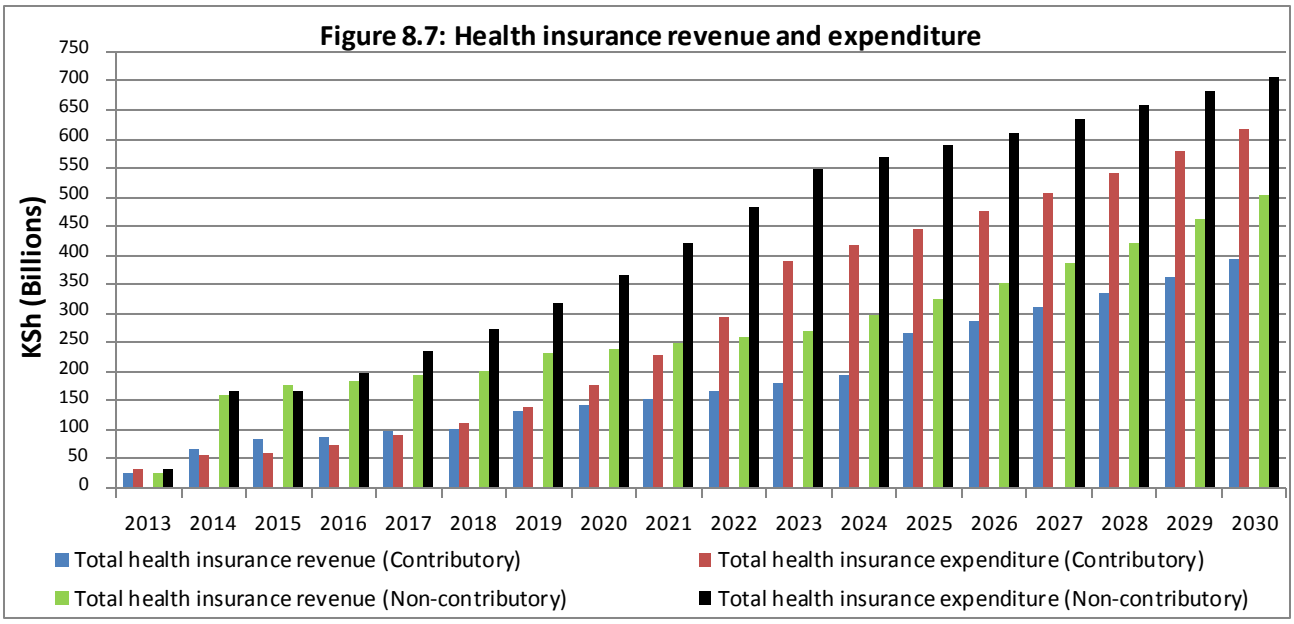
Figure 8.6: Utilisation of inpatient services between the two scenarios (millions inpatient days)



8.4.3 Health insurance revenue and expenditure (Constant prices)

As shown in Figure 8.7 both scenarios are unsustainable with the level of financing as inputted in the model and would be running into large deficits as more people get covered and utilisation rates and unit costs increase. In total, the contributory scenario in 2030 would have about KSh 395 billion in revenues compared to about KSh 619 in expenditures. The non-contributory scenario on the other hand would have about KSh 505 billion in revenues compared to about KSh 706 billion in expenditures.

Figure 8.7: Health insurance revenue and expenditure



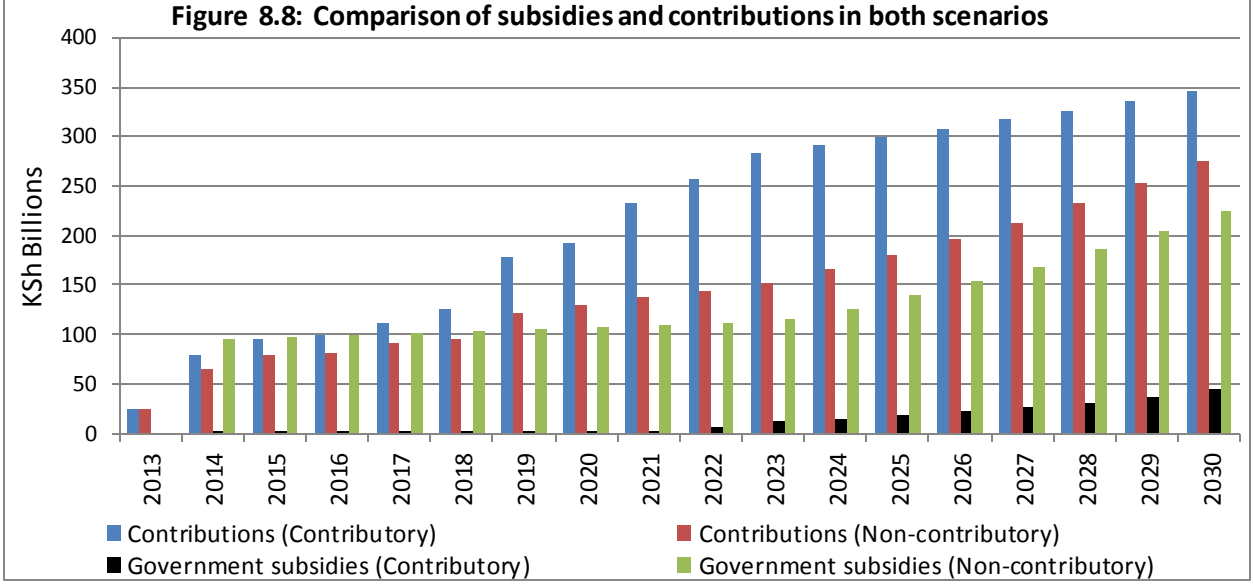
The non-contributory scenario shows potential to generate higher total revenues throughout the simulation. This is because contributions from the informal sector under the contributory scenario are very limited compared to what the government pays in subsidies on behalf of this population group under the non-contributory scenario. What this means is that in circumstances where informal sector workers would be required to contribute, the revenue generated would be minimal as contributions are not based on amounts that can finance a given package of care but rather on the economic circumstances in the informal sector. Second, as noticeable in the second year of implementation, revenues under the non-contributory scenario dramatically increased because the government had to put in more money in subsidies for informal sector and indigent populations as opposed to the gradual increments in contributions from informal sector workers in the contributory scenario. For further clarity, under the contributory scenario only indigents are exempted from contributions whereas informal sector workers contribute only KSh 6000 per year per household as opposed to KSh 15000 per household contributed by the government on behalf of the exempted population.

In terms of expenditure, the non-contributory scenario has nearly full population coverage in the second year of implementation and since far more people than in the contributory scenario are covered and receiving free services at the point of use, there is higher expenditure as opposed to the gradual population coverage expansion in the contributory scenario. Towards the end of the simulation, the gap in expenditure between the two scenarios is narrowed because both have achieved near-universal population coverage and costs and utilisation levels are the same. Total expenditure in the non-contributory scenario however, remains slightly higher because of slight differences in total population coverage between the scenarios (99% and 98% coverage respectively, for non-contributory and contributory scenarios).

Noting that the non-contributory scenario was unsustainable from the beginning as opposed to the contributory scenario which lasted a few years before running into deficits (Figure 8.7), it implies that government subsidies for the informal sector and indigent populations as modelled are insufficient and would have to be increased for sustainable financing. A comparative analysis of levels of key sources of revenue (subsidies and

contributions) is given in Figure 8.8 in which total government subsidies under the non-contributory scenario were higher than contributions only in the first five years of UHC implementation. As demonstrated later in Figure 8.12 under sustainable financing, government subsidies exceed contributions throughout the simulation. In the contributory scenario, total subsidies are very limited because they only target the indigent populations which form a small percentage of the total population and which are gradually identified for subsidies. A notable point is that there is not much difference in total contributions in both scenarios and they tend towards convergence at the end of the simulation which indicates that while the informal sector accounts for the largest share of the workforce (71% at baseline), it is only able to contribute a relatively small share of total contribution revenue.

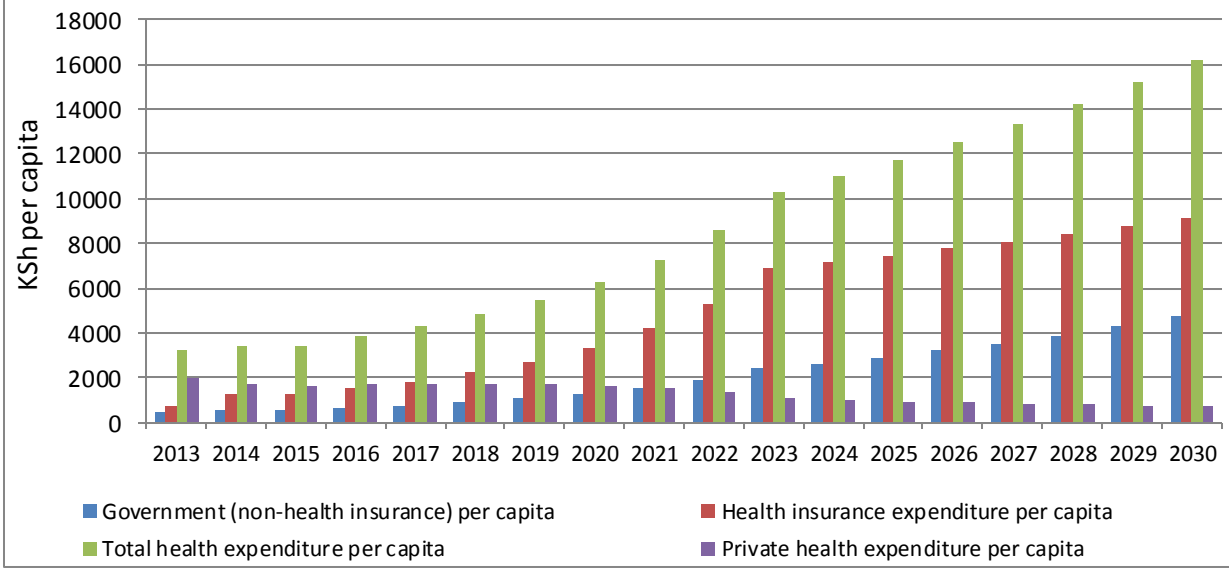
Figure 8.8: Comparison of subsidies and contributions in both scenarios



Expenditures per capita (Figures 8.9 and 8.10) suggest that a non-contributory scenario would cost less overall with total health expenditure (THE) per capita at health facilities coming to about KSh 15,700 at the end of the simulation compared to about KSh 16,200 for the contributory scenario. Although total health insurance expenditure figures in Figure 8.7 suggest otherwise, at the end of the simulation, there are almost a million more people insured under the non-contributory than contributory scenario. A two-tailed T-test on the differences in THE per capita are however, not statistically significant (P= 0.323) and are largely due to administrative costs and private health expenditure per capita which are higher in the contributory scenario than in non-contributory scenario. Government (non-

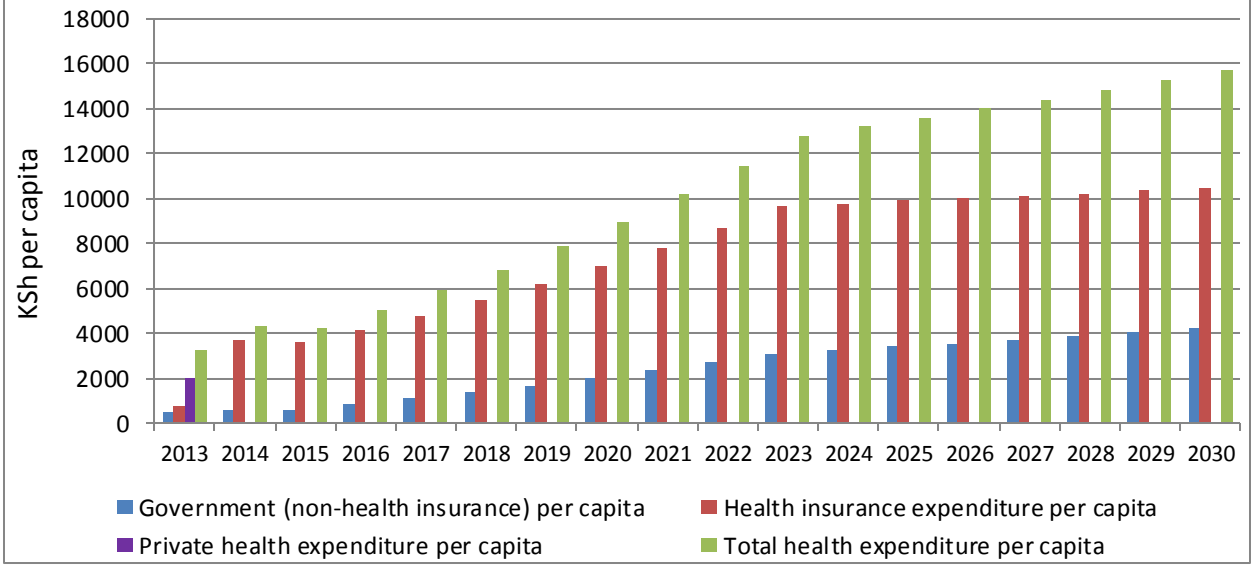
health insurance) expenditure per capita are distinctly higher in the contributory than in the non-contributory scenario but the differences from a two-tailed T-test are insignificant (P=0.485). Higher government (non-health insurance) spending in the contributory scenario is in line with overall higher THE in the contributory scenario. It indicates that the government would have to spend more money in non-health insurance areas to support a contributory scenario. Private health expenditure per capita reduces rapidly in the non-contributory scenario from KSh 1985 at the baseline to KSh 48 in 2023 but increases slightly to KSh 59 by 2030. On the other hand, private spending in the contributory scenario steadily reduces from KSh 1985 at the baseline to KSh 703 at the end of the simulation. It is not clear why private spending in the non-contributory scenario increases towards the end of the simulation.

Figure 8.9: Health expenditure patterns: Projections for contributory scenario



Finally, the non-contributory scenario has higher health insurance expenditure per capita than the contributory scenario throughout the simulation because there is universal population coverage in the former scenario from the very beginning. With more people insured, it means that the government through the MOH spends more in subsidies to provide health services to the entire population and consequently much higher service utilisation levels given higher utilisation rates among the insured. A test of significance reveals that the differences in health insurance expenditure per capita between the two scenarios is significant (P= 0.006).

Figure 8.10: Health expenditure patterns: Projections for non-contributory scenario



It is important to also consider what additional funding would be required to cover the deficit in each scenario. The non-contributory scenario requires that the government accounts for about 76% of the total health insurance expenditure (or KSh 424 billion in subsidies) by 2023 and increases to about KSh 431 billion in 2030 to ensure that all health insurance expenditure is covered and financial equilibrium achieved. On the other hand, under the contributory scenario the government would need to contribute about KSh 259.25 billion in subsidies (about 63% of the total of health insurance expenditure) by 2023 for financial equilibrium, which increases to about 271 billion in 2030. The non-contributory scenario has higher total government subsidies for health insurance because of the large population that is exempted from contributions and because government subsidies would need to be at a rate higher than the informal sector would have been able to personally contribute in premiums under the contributory scenario.

8.4.4 Towards sustainability in both scenarios

Noting that the two scenarios have large deficits a few years into implementation and are therefore unsustainable under prevailing levels of contributions and subsidies, there are a few options to increase revenues to ensure sustainable financing:

i) Restricting provision to public sector health services only. In the modelled arrangement, utilisation of private health services in both scenarios is quite low for

OP and IP services at about 25% of total for all the services at the end of the simulation.

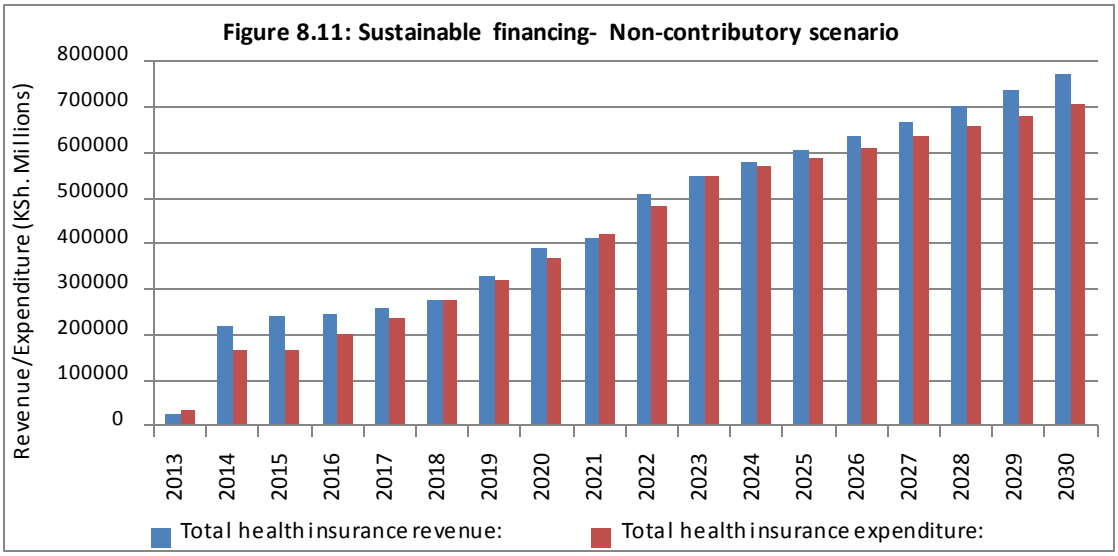
ii) The other option is to increase contributions from beneficiaries as well as government subsidies. Significant increases in government subsidies will require that the government looks for new and innovative sources of revenue to sustainably finance effective UHC. This includes an analysis of fiscal space with a view to improving efficiency in tax collection and in the use of available resources, and coming up with innovative taxes to increase revenue generally and for health sector in particular.

This study explores the second option without analysing fiscal space in much detail but significantly increased contributions from both formal and informal sector as well as government subsidies to the exempted populations (Table 8.3).

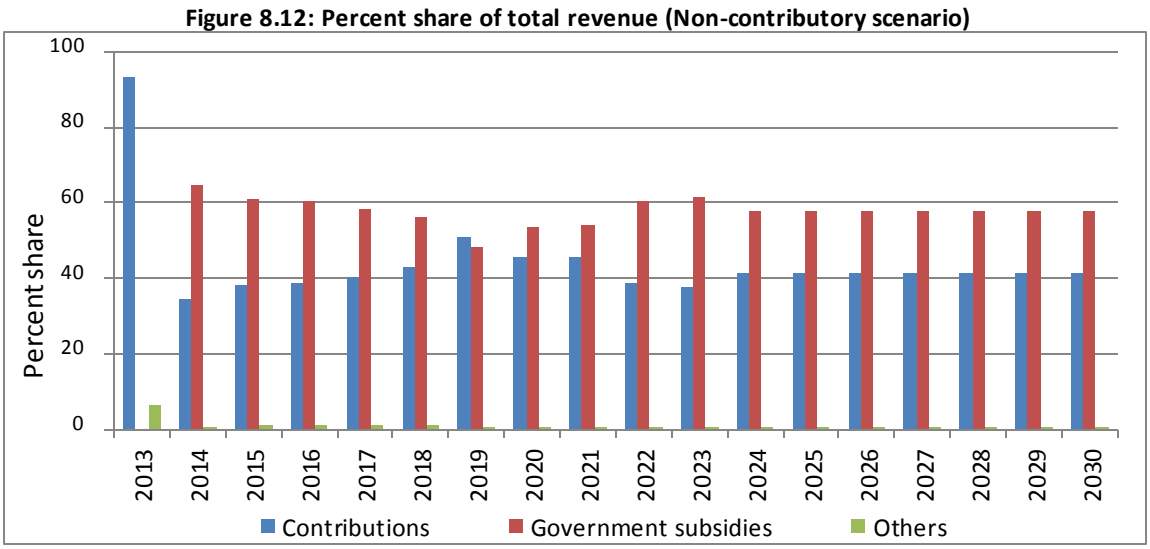
Table 8.3: Increased payments for sustainability

Scenario	Strategy for sustainability
Contributory scenario	1) Formal sector contributions increased from 2.4% at the baseline to 6% then 7.5%, 8% and finally 11% of gross pay from 2019 onwards 2) Pensioners' contributions were varied from 2.4% to 4% and finally 5% of pensions from 2019 onwards 3) Annual subsidies were put at KSh 4500 per exempted person at the baseline and reached KSh 15000 per exempted person within a decade 4) Annual contributions from the informal sector were started at KSh 2000 at the baseline and increased to KSh 3401 in 2023 and KSh 4536 in 2030 per insured adult, child and principal contributor. 5) Administrative costs were varied from 12% of total revenue at the baseline to 11%, 10% and 8% by 2023 and 7% from 2024 onwards.
Non-contributory scenario	1) Same as 1 – 3 above 2) All informal sector workers and indigent populations were exempted 3) Administrative costs reduced from 12% to stay at 5% throughout the simulation.

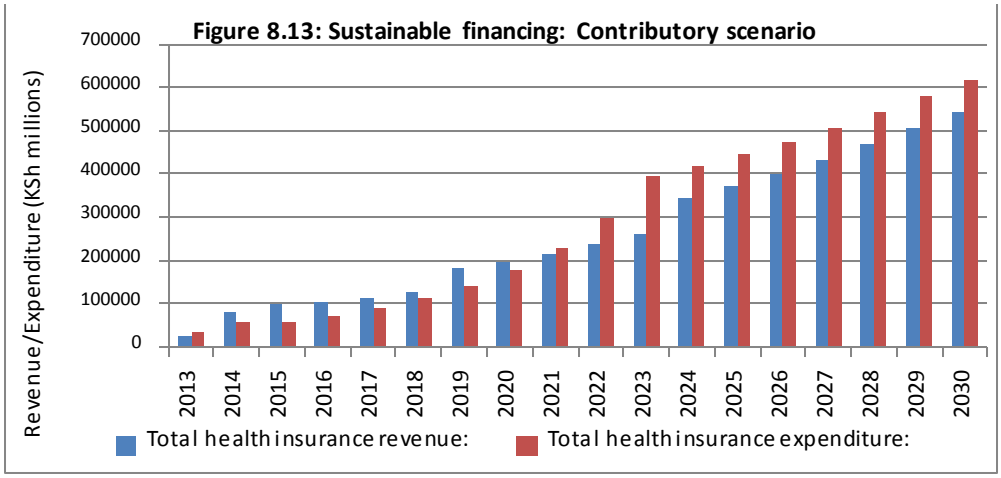
Given the above levels of contributions and subsidies, a non-contributory scenario shows considerable sustainability throughout the simulation with total revenue exceeding total expenditure by about KSh 67 billion in 2030 (Figure 8.11).

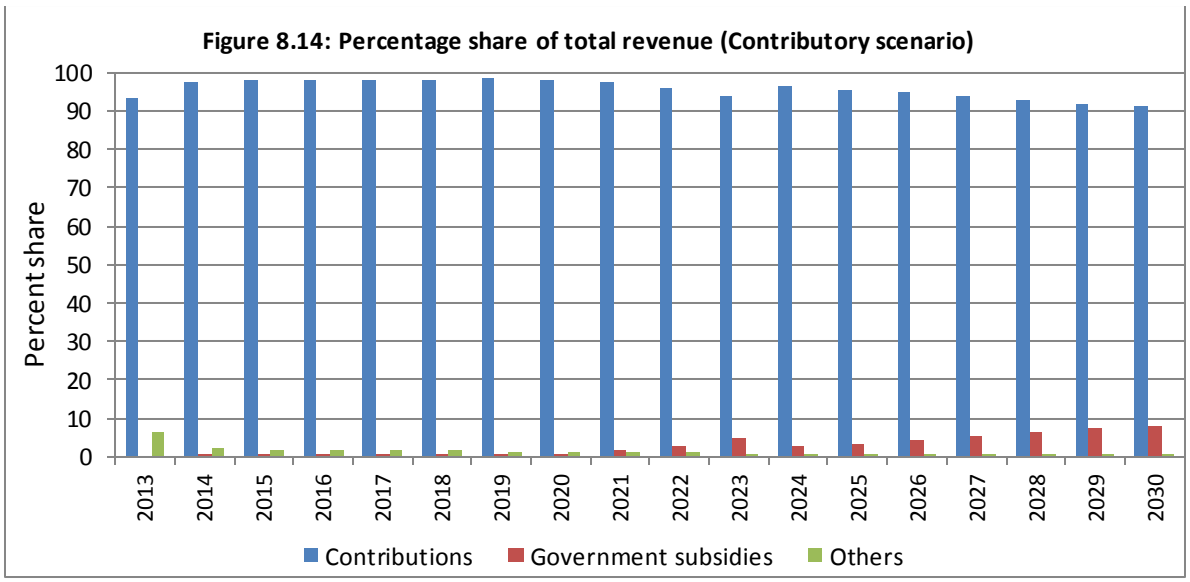


The main reason for sustainability in a non-contributory mechanism is the large amounts of government subsidies paid into the health scheme on behalf of informal sector and indigent populations. Total subsidies from tax revenues amount to about 58% of total health insurance revenue and total contributions from formal sector workers and pensioners accounting for about 41% of total revenue (Figure 8.12). From OECD literature, government spending on health as a percent of total health spending are as high as 80% in many non-contributory systems (OECD, 2014). It follows that at 58% of revenues coming from government subsidies as presented in the non-contributory scenario, more government subsidies may be required to ease the pressure of contributions from the formal sector and pensioners.



On the other hand, the contributory scenario is unsustainable after 2021 with total expenditure exceeding total revenues by about KSh 74.8 billion by 2030 (Figure 8.13). The reason for these differences in revenue and expenditure is that whereas contributions from the formal and informal sector workers are high (91% of total revenues), government subsidies on the other hand, are very low at only 8.2% of total revenue (Figure 8.14). Although data from OECD countries indicate that government subsidies may be as low as 5.0% of total health expenditure in contributory systems (Rovere and Skinne, 2012), the Kenyan case is different because the majority of potential contributors are in the informal sector where incomes are not only low but difficult to target in a contributory health financing system.





Less government subsidies and more in contributions is counterintuitive given the evidence of problems of affordability of premiums in Chapter Seven. The suggested levels of

contributions particularly from the informal sector are quite high and probably not sustainable given the nature of income flows in the sector. It is therefore imperative that, for sustainable contributory financing mechanism, the government needs to significantly increase its subsidies in order to lower contributions from both formal and informal sectors. This is a limitation of the SimIns model as it assumes that government will only make contributions for those who are exempted whereas the reality is that government often subsidises those who could make some contribution but only a small amount. The need to address levels of contributions is because persistent and significant increases in contributions would be unaffordable and likely to cause resistance from the entire population and each time will have to be strongly justified to be effected. As highlighted in Chapter Seven, increased NHIF rates led to dropouts from the fund by voluntary contributors, which is an indication that when contributions are mandatory people will resist any significant increases as they will have no option of dropping out. High premium rates were also cited by informal sector workers as a key barrier to enrolment into health schemes.

The huge difference in contributions between contributory and non-contributory scenario is that the informal sector populations are exempted from contributions in the latter but not in the former scenario. Despite contributions from the informal sector, the contributory scenario is still unsustainable meaning that the contributions from the informal sector are quite limited.

8.4.5 Potential expansion of fiscal revenue for financing healthcare

There is a major problem with regard to budget allocation for the health sector in Kenya. As highlighted in Chapter Two, the health sector receives a relatively low percentage of total government expenditure leaving it severely underfunded and the population exposed to potentially catastrophic OOP health expenditures. A number of ways may be used to increase fiscal space for healthcare in Kenya including shifting expenditure from other government functions to the health sector, increasing health insurance premium rates as well as tax rates, innovative financing, and efficiency in revenue collection and use of available resources, among other measures.

Increasing premium and/or tax rates may look unavoidable under the circumstances of unsustainable financing discussed above in an effort to provide necessary health services under UHC. Interviews with most policymakers seemed to support increased premium rates with the argument that the fiscal space is too limited to support a non-contributory system. One policymaker said: *"Look at the fiscal space...we hardly have enough money as a government to provide the most basic of needs; where will all the money to fund free healthcare for all come from if the informal sector is not made to contribute to funding healthcare?"* (Policymaker 3, MOH). However, the pattern of government spending suggests that before considering increased taxes or premium rates there is the possibility of increased government funding for the health sector under prevailing budgetary conditions mainly by shifting funding from other government sectors to the health sector. A comparative analysis with developing countries such as Ghana, Rwanda, Costa Rica, Brazil and Thailand indicates that Kenya ranks poorest in terms of key health expenditure indicators outlined in Table 8.4.

Table 8.4: Comparative expenditure indicators

Indicators	Kenya	Costa Rica	Brazil	Ghana	Rwanda	Thailand
Total health expenditure % GDP (2013)	4.5	9.9	9.7	5.4	11.1	4.6
Government health expenditure % THE (2013)	41.7	75.0	48.2	60.6	58.8	80.1
Government health expenditure % total government expenditure (2013)	5.9	28.0	8.0	10.6	22.3	17.0
Social security expenditure % Government health expenditure (2013)	13.1	79.3	0.0	22.2	11.2	9.1
Government health expenditure % GDP (2014)	2.0	8.0	4.0	3.0	6.0	3.0
Government expenditure % GDP (2014)	31.0	27.0	57.0	30.0	28.3	21.0

Sources: (WHO, 2014, WHO, 2015)

The countries used in the comparison have either taken steps towards high population coverage or have already attained UHC status. Given that total government expenditure in Kenya accounts for 31% of its GDP, which is well above countries such as Costa Rica and Thailand both with universal health systems, it should be a question of more priority to the health sector than increasing premium or tax rates. Compared to Costa Rica, Ghana, Rwanda and Thailand which have high population coverage, government health expenditure as a share of the national budget in particular needs to more than double if Kenya aspires

for UHC. Comparative data on expenditure by functions of government also show that Kenya spends least on health but devotes a higher proportion of the national budget to general public services[9] (17%), economic affairs (22%), defence (5.3%) and public order and safety (7.6%) (KNBS, 2014a). These are higher expenditure figures compared to a country such as Costa Rica which has a universal SHI financing system and spends less on general public services (3.3%), economic affairs (8.9%), and public order and safety (5.7%) (IMF, 2013). The EU also, on average, spends comparably low percentages of the budget on the same functions: general public services (14%), economic affairs (8.8%), defence (2.9%) and public order and safety (3.8%) (Eurostart, 2014). The expenditure patterns build a strong case for Kenya to re-evaluate its expenditure on various government functions with the view to giving greater priority than at present to the health sector similar to developing countries with UHC systems.

Two particular targets may be considered in highlighting the potential for higher revenue allocation to the health sector: (i) the government to allocate at least 5% of GDP for healthcare from domestic resources as suggested by McIntyre and Meheus (2014). The 5% is the financial estimate required to adequately finance UHC; (ii) honouring the Abuja commitment by SSA governments to allocate at least 15% of the national budget to the health sector (based on analysis of Kenya's budgets for financial years 2013/14, 2014/15 and 2015/16) (Table 8.5).

Table 8.5: Estimates of potential fiscal resources for healthcare

Financial Year	GDP (KSh billions)	5% of GDP for health (KSh Billions)	National Budget (KSh Billions)	15% national budget for health (KSh Billions)
2013/14	4760.00	238.00	1640.00	246.00
2014/15	5481.00	274.05	1700.00	255.00
2015/16	5755.05	287.75	1911.00	286.65

From Table 8.5, spending 5% of GDP on health or 15% of the budget potentially generate more funds beyond the KSh 217 billion recommended by the MOH Taskforce (2012) as the amount required to provide necessary health services to all Kenyans. In other words, if either strategy of increasing funding for the health sector were to be implemented, both

[9] General public services include internal security, infrastructure development, and electricity supply, among others.

have the potential to sustain UHC in Kenya. There is also the potential of allocating more than 5% of GDP to the health sector in Kenya because recent data by the World Bank (2014a) indicate that considerably poorer governments such as Afghanistan, Burundi and Cambodia spent up to 8% of GDP on healthcare.

There are a number of approaches to improving government revenue and increase funding for the health sector. Improving compliance in tax collection increases government revenues without necessarily having to increase tax rates. Kenya KNBS (2007), Indonesia (WHO, 2010b) and South Africa (Hausman, 2010) are some of the countries that have improved tax compliance to improve overall fiscal space. Closely related is the need to curb capital flight which is estimated by Boyce and Ndikumana (2012) to have cost Sub-Saharan Africa in excess of US$ 1.0 trillion as of 2010. McIntyre and Meheus (2014) suggest more global cooperation and improving transparency in reporting business activities among other measures in limiting capital flight.

In some cases, tax rates may have to be increased, for example in Kenya, mandatory social contribution as a form of dedicated tax is comparably low for a country that aspires to fund UHC on contributory basis. Premium contribution rates in developing countries such as Thailand (4.5% of gross pay for formal private sector workers) (Tangcharoensathien et al., 2010a) and Costa Rica (23% of gross pay) (Saenz et al., 2011) are relatively high. In high-income countries such as Germany and France premium contribution rates are as high as 14% of total wages and are able to provide needed coverage (2010). Some level of upward adjustments in premium contribution rates may be explored in Kenya.

McIntyre and Meheus (2014) also point to the potential of raising more government revenues from non-tax resources such as oil and other natural resources in countries with such resources. Recent oil and gas discoveries in Kenya could therefore be important sources of revenue to expand fiscal space particularly for healthcare once extraction begins. Some countries such as Zambia, Ghana, Gabon and Gambia have initiated innovative taxation to raise more revenues specifically for the health sector. These have been extensively discussed in Chapter Three and include such measures as levies on mobile phone companies, tax on international money transfers and surcharge on VAT, among

others (Tandon and Cashin, 2010, McIntyre, 2012). These may be replicated in Kenya to help in sustainable financing for UHC.

In a qualitative assessment of the reasons for low budgetary allocation to the health sector, policymakers at the National Treasury were quick to point out that the health sector already receives a lot of funds from donors. Although this may be true, donor funds, as discussed in Chapter Two, are concentrated in three disease areas- malaria, HIV/AIDS and TB, which leaves many other health programmes to share the funds that are left. The absorptive capacity of the health sector was also raised by two policymakers who argued that a lot of funds allocated to the health sector often go unused. Analysis of the absorptive capacity of the health sector from the period 2009 to 2012 showed that the sector on average utilised 85.3% of its budgetary allocation (Government of Kenya, 2012). There is room for improvement with respect to absorptive capacity but it is not the lowest among government sectors and it would be unrealistic as a basis for underfunding the health sector.

At least one policymaker confirmed during interviews that the health sector was not a priority expenditure area for the government. He explained that government spending was aligned to the delivery of Vision 2030 which aims to make Kenya a newly industrialised country by 2030. This is the reason the government consistently allocates large shares of the budget to the development of roads, railways and other infrastructure which it views as key to the delivery of Vision 2030.

An important finding during the interviews with policymakers was the lack of a united front among the health sector stakeholders. The lack of unity could affect the bargaining power for more funding for the health sector and the push for UHC. Subtle conflicts between officials at the NHIF and the MOH, between ministry technocrats and the executive arm of government, and between the MOH and non-government actors in the health sector mainly revolved around pooling and control of financial resources. Policymakers particularly at the NHIF felt that there were duplicated roles in improving financial risk protection and cited some initiatives such as fee waivers for children under five years, free maternal care, free treatment from HIV/AIDS, malaria and TB, which needed to be directly controlled by the NHIF to avoid the costs of having a fragmented health system. Duplicated administrative

costs associated with a fragmented system leads to health system inefficiencies which limit fiscal space for health.

Limitations of SimIns model

A notable limitation with SimIns is that it only models for 10 years and although the modelling work extended to 2030, there are problems in transition between the two models especially with regard to financial estimates. This was resolved by manually calculating revenue and expenditure based on trends from 2013 to 2023.

Conclusion

Both financing scenarios considered in the model require significant subsidies to be sustainable. In the contributory scenario, even though total direct contributions are higher than in the non-contributory scenario, the total revenues are minimal. This is because the amount contributed by the majority of the population (i.e. those in the informal sector) is quite limited but increasing premium contribution rates for this population group may not be feasible because they may not be affordable to the majority of the workers. It means that the informal sector in its current form, economically and structurally, may not be relied upon to make significant financial contributions to support UHC efforts. The easiest option would be for the government to subsidise the informal sector and the indigent populations not only for rapid population coverage but also to mobilise more revenue to finance health services for all. However, this financing strategy would come at a high cost to the government which will be obligated to find quick means of raising revenues to finance increased demand for health services. There is the potential to raise adequate revenue mainly through non-contributory mechanisms to sustainably finance UHC in Kenya. Prioritising the health sector with increased budgetary allocations and innovative financing involving dedicated taxes to the sector as well as efficient use of available resources are important steps towards sustainably financing UHC in Kenya.

CHAPTER NINE: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

9.1 Introduction

This chapter brings together key findings in the study to draw out conclusions and recommendations that are aimed at informing UHC policy reforms in Kenya and similar contexts elsewhere. The chapter provides a summary of the state of affairs in the informal sector in terms of aspects of its diversity and sustainability that are relevant to health insurance contributions and general healthcare financing. It also gives a clear picture of some of the needs and expectations of informal sector workers with regard to prepayment for healthcare, and ends with some critical insights on the merits as well as challenges of contributory and non-contributory financing mechanisms within the Kenyan context as emerging from the findings.

9.2 Reality of informal sector work

The informal sector is characterised by a large diversity of economic entities which are most manifest in the urban area. Among the various informal sector enterprises in the urban area, street vending is quite visible and consists of some of the lowest capital investments hence generally synonymous with poverty. That street vending is often seen as synonymous with poverty has also been documented by Adhikari (2011) in a study of street vending in Nepal. Generally, global literature has tended to associate the informal sector with poverty and low-incomes. Apart from the manifestations of urban poverty through street vending, low-income as a characteristic of the informal sector was evident from the findings of this study. Most informal sector entities were small-scale with almost 90% of all enterprises in the study employing not more than two workers and about 75% owned and run by individuals. The sizes of most of the entities suggested low-incomes to concur with other findings; for example, Becker (2004) estimated that nearly ¾ of informal enterprises globally are individually owned and operated. A notable point is that given the small scale operations of informal sector enterprises, they largely offer no realistic competition to the formal sector which is more likely to benefit from economies of scale and superior quality of goods and services. Nevertheless, the importance of informal sector economic entities at household and national levels cannot be over-emphasised. The entities are the main sources of livelihoods for the majority of workers in the sector (in this case 87%) and, according to

various literature sources, contribute significantly to employment and GDP in many developing countries (Ndiweni et al., 2014, Ncube, 2013, ILO & WTO, 2009, Chen, 2005).

Despite the important role of the informal sector in social and economic development, questions have been raised regarding the financial potential of the informal sector to prepay for healthcare particularly on a contributory basis. A contributory financing mechanism is the government's preferred policy for financing UHC in Kenya. The critical question is therefore whether informal sector entities can be relied upon to sustain a regular flow of funds for UHC. The findings of this study suggest widespread irregularity of incomes in the informal sector where only about 44% of entities can be regarded as sustainable and only about 35% of all employees reporting regular monthly pay. In essence, the majority of informal sector workers may not have a regular income. This could have financial implications for health programmes funded on a contributory prepayment basis because it would be difficult to predict periods when the majority of informal sector workers are able or unable to afford premiums costs.

Incomes in the informal sector are not only irregular but also low and this has implications for the amount of resources that can be realistically generated from the informal sector to support financing for UHC. The average income in the urban non-agricultural informal sector in the study sites is 61% lower than the average income in the formal sector. The ILO (2002a) indicates that incomes in the informal sector are on average 44% lower than those in the formal sector on a global scale; hence, the informal sector in Kenya has even more precarious incomes relative to the formal sector than the global average. These findings seem to validate the common notion of prevalence of low-incomes in the informal sector. Low-income can be relative but in circumstances where such income is irregular as was the case with a significant number of study participants, it may mean that a large number of informal sector workers struggle to raise enough income to meet basic household consumption on a day-to-day basis. What this suggests is that additional financial demands, especially those that require payments at regular intervals, could impose a considerable burden on many workers in the informal sector, particularly among the poorest or lowest income informal sector workers. Unless there are proven means to effectively exempt the

poor from making payments, it would be prudent to consider financing options that target exemptions to the entire informal sector population rather than sections of it.

There are a few studies that have disputed the generalisation that the informal sector is characterised by low-income and raised the prospects of raising income tax revenue from the informal sector. Graham et al. (1998), in a baseline study of women street vendors in Kenya, argue that the informal sector is able to pay income tax. While this may be possible for some informal sector workers and could contribute to sustainable financial flow for UHC and other government programmes, a number of factors would work against income tax collection from the informal sector in most developing country settings where the sector is largely unorganised. The difficulty in identifying and estimating income from the informal sector has been documented by others (Tangcharoensathien et al., 2011, Bargain and Kwenda, 2010). Despite these difficulties, monthly expenditure data used as proxy for income in this study show that most non-agricultural informal sector both in rural and urban study sites actually met the monthly taxable income threshold of about KSh 12000. However, incomes varied greatly between urban and rural areas and between the agricultural and non-agricultural informal sector. On average, income from non-agricultural informal sector entities in the rural area was found to be 30% higher than that of the agricultural informal sector. Expressing similar findings, Fox and Gaal (2008) acknowledge that generally incomes in the non-agricultural informal sector are higher than in the agricultural informal sector by up to 50%. The difference between this study and Fox and Gaal's conclusions could be related to sample size and study contexts. On the other hand, average cash income from the rural informal sector (both agricultural and non-agricultural) was 43% lower than the average for urban informal sector.

The overall observation is that there is income potential in the informal sector, an indication that when innovative approaches are put in place to tap financial resources from the sector, there is the possibility of raising significant funds for UHC. To achieve such a goal, McIntyre (2012) suggests that if the informal sector is to contribute to funding prepaid health care then measures such as indirect taxes, if designed appropriately to minimise regressive impacts, would be more effective and can contribute to larger fiscal space for general government expenditure and expenditure in health care in particular. Given that these

indirect tax mechanisms already exist, it would be less costly and administratively easier to increase indirect taxes than attempt to identify informal sector workers falling above the income tax threshold. Innovative taxation approaches including a simplified tax administration system in Indonesia (WHO, 2010b), levies on mobile phone companies and international remittances in Gabon as well as taxes on investment income in Zambia (McIntyre, 2012, Tandon and Cashin, 2010) are some ways of improving fiscal space for healthcare. On the whole, the recommendation for indirect taxes as a measure to draw resources from the informal sector confirms the belief that getting the informal sector to prepay directly for healthcare on contributory basis would be difficult.

Whereas fiscal measures such as indirect taxes could be used to generate additional government revenue from the informal sector, the sector faces various challenges that contribute to poor financial performance of many of the entities. As an indicator of poor performance, the findings in Chapter Five showed that less than half of informal sector entities, particularly non-agricultural enterprises, lasted more than five years. Noting that the non-agricultural informal sector has higher income than the agricultural informal sector yet is the most unstable further supports the notion of limited resource output and unpredictability of income in the sector.

Poor economic performance in the informal sector could be linked to several factors that emerged from the findings. These include harassment by local authorities, stiff competition within the sector, an unpredictable economic environment, hostile physical work environments and low levels of education alongside lack of formal training in skills such as management. Lack of formal training and low levels of education for example, were confirmed by study participants to lead to a deficit in skills in the sector. As highlighted in the qualitative findings, lack of skills makes the sector not only low-paying but also one where there are no distinct entry criteria; that is, anyone can work in the informal sector in the majority of the entities regardless of level of education. For example, as the findings demonstrate, there are both post-secondary school and non-schooled workers in similar entities such as informal manufacturing and hotel/food-kiosk industries. Moreover, the sector acted more as a last-resort for many who could not find formal employment with just about 19% of all workers having any form of training in their work.

Lack of distinct entry criteria and relatively low set-up costs makes entry into the informal sector quite easy. Such findings concur with conclusions by Verick (2006) who also identifies small scale operation and low technology in the list of some of the key reasons for the relative ease of entry into the sector. However, certain entities including health and medical involving conventional medicine, and telecommunication, have distinct entry criteria defined by the level of education. Given that the two types of entities had low representation in the survey, it means that low level of education in the informal sector is a likely barrier to certain types of investment in the sector especially those that require specialised skills, high set-up costs and high levels of technology.

The main reason for harassment of informal sector workers by government authorities is often illegal operations associated with lack of an operating license. Affordability of license fees was cited during the study as one of the reasons that discourage informal sector workers from registration and in the process expose their enterprises to demolitions and harassment by government authorities. Orwa (2007) and Mitullah (2003) have noted that apart from the level of license fees, the other major reason for entities operating without licenses is that operators find the registration process long and cumbersome without significant benefits.

9.3 Prerequisites for participating in prepaid healthcare by the informal sector

Some informal sector workers may have the economic power to prepay for healthcare but key issues that are not necessarily financial emerged in the study as important determinants of willingness to prepay for healthcare among the informal sector. Although legislation may make it mandatory for everyone to make prepayment contributions towards funding healthcare, the reality is that it is difficult to enforce such contributions in the informal sector. Therefore, it is important to make prepayment attractive in terms of the benefits associated with contributions. The issues identified in this study include accessibility and overall quality of public health sector provision, experiences with current prepaid systems (NHIF and government revenues) as well as social solidarity between different socioeconomic groups and under a devolved governance system. Many of these issues are as relevant to the success of a contributory as for a non-contributory system.

9.3.1 Access and quality of public sector health services

Most informal sector workers indicated that they often chose government facilities when seeking health care. The choice however, involved significant uncertainty related to the availability of services particularly drugs, timely services and specialist personnel as well as acceptability of the behaviour of some health workers. What this means is that although many informal sector workers choose public sector health facilities, the services are in many ways inaccessible and are of poor quality. The quality of services from government facilities, according to the majority of study participants, was lower than most mainstream private sector services. Other private services were informal and low-cost where the majority of the poor sought poor quality services. The choice of government facilities is therefore based on relatively low cost but at greater inconvenience compared with other providers. Concurring with these findings, Demery and Gaddis (2009) observe that the public health sector in Kenya cares for the majority (53%) of patients in the poorest quintile and the private sector provides for about 47% of this group but the private sector in this case is mainly informal where services are likely to be of poor quality.

As already noted, the trade-offs in healthcare seeking among informal sector workers reflects a major problem of access to public sector health services more generally. Access to quality services is an essential component in the progress towards UHC because as indicated in the findings people would be more responsive to prepaid health care with the guarantee of receiving adequate services of sufficient quality. In particular, the population would pay greater attention to value for money under a mandatory prepaid healthcare system and if this condition is not met there is the likelihood of public resistance to prepaid health care. Therefore, in the on-going UHC reforms, more attention should be paid to improvements in access and quality of public sector services as much as in its financing. In its current form, poor access to quality services generally has resulted in inequitable utilisation of health services across different socioeconomic groups and between geographical regions in Kenya. Surveys by the MOH (2009, 2004) indicate that the lowest income groups and those in rural areas use fewer services and are less likely than the well-off and urban dwellers to seek care when ill. This would need to be addressed in moving towards UHC.

The Government of Kenya has in a number of ways acknowledged and responded to some of the systemic problems within the public health sector that have limited access to quality services. Apart from initiating financing reforms for UHC, the government recently began equipping key hospitals throughout the country to improve quality of care. However this process has generated a lot of controversy with some stakeholders arguing that there are no personnel to operate some of the equipment. The devolved governance system has also been an important milestone in an effort to improve service delivery and quality. Devolution has given county governments the responsibility of health care delivery wherein they have the mandate to design health programmes that correspond with local health needs as well as independently draw budgets for financing these programmes. The extent to which these reforms have been successfully implemented within the counties is beyond the scope of this thesis. Other access problems identified in the findings require drastic changes in health worker attitudes because whereas quality services may be available at some facilities, deliberate delays by health workers in providing these services lead to serious dissatisfaction with public facilities. Changes in staff attitudes, for example in providing prompt services without deliberate delay, and respect for patients, would complement noted strengths in public provision such as availability of basic diagnostic equipment and the trust the public has in government facilities to provide only necessary services and well-trained health personnel, where they are available, to provide quality care.

9.3.2 Paying attention to experiences with current prepayment systems

There are seemingly genuine political efforts in support of UHC which the public should be receptive to. However, the findings suggest that experiences of the general public with existing public prepaid mechanisms, both contributory and non-contributory, would play an important role in accepting government initiatives for prepaid health care and progressing toward UHC. Particular attention therefore needs to be paid to these experiences whether positive or negative. The findings indicate that although the general understanding and attitudes toward prepaid health care among informal sector workers is supportive of UHC, their experiences with current publicly prepaid health care are largely negative. For example, despite high levels of awareness of the NHIF in the rural area very few informal sector workers were members. The key barriers cited for lack of membership included mismanagement of funds, unaffordable premium rates, limited benefits package and the

fact that membership is voluntary in the informal sector. A number of these barriers are related to the design of the prepayment system. Giedion and Bitran (2003) advise that appropriately designed prepaid systems help to improve sustainability of health insurance schemes by retaining members and ensuring regular flow of contributions.

The issue of corruption within the government and in the NHIF and the general perception that there is a lack of commitment to take action on corruption could be counter-productive for government-led efforts toward UHC. The current resistance by a number of trade unions and employers on an expanded NHIF mandate with increased premium rates is partly based on the lack of accountability in the NHIF (Oduor, 2015). Corruption as documented by various authors such as Wafula (2012) and Wrong (2009) as well as nearly all local media outlets in the country would make the public distrust government-led efforts to provide free healthcare at the point of service whether on a contributory or non-contributory basis. Corruption not only erodes trust but takes away large amounts of resources that could provide a wide range of services to a large number of people. The EU and AU (2011) joint report on social protection suggests that controlling corruption among other measures would improve fiscal space to advance coverage for informal sector populations in Sub-Saharan Africa. From the findings, the public clearly sees their role in fighting corruption and expressed their readiness to hold the government or institution entrusted with managing prepaid funds more accountable. A list of information demands including financial reports and mode of recruitment at management level, were suggested as measures of securing transparency in the management of prepaid funds and delivery of services.

9.3.3 Enhancing social solidarity

The literature recognises social solidarity as one of the important prerequisites for prepaying for health care. Although the study results showed strong social solidarity across the study sites, it was mainly concentrated among the lower socioeconomic groups. The level of social solidarity is a measure of support for redistributive policies such as UHC and its concentration among the poorer groups negates the element of cross-subsidisation between the rich and the poor in a prepayment system. Stuckler et al. (2010) emphasise that social solidarity among all population groups is essential in sustaining UHC. The apparent unwillingness of those in higher socioeconomic groups to use some of their wealth

to pay for poorer groups is unsurprising. Higher income groups are most affected by redistributive policies as they pay more to support the poor who may not be able to pay at all. Therefore, the implementation of redistributive policies creates the possibility of tensions among different socioeconomic groups especially where one feels taxed at the expense of the others. Anttonen and Sipilä (2005) and Hernandez (2002) have expressed similar views and argued that wealthier groups often resist redistributive policies which makes such policies prone to resistance and difficult to implement and could jeopardise progress towards UHC. Strong political leadership has often been mentioned as an important component to not only overcome resistance to redistributive policies such as UHC from some sections of the population but also to rally more financial resources to support UHC initiatives (Tangcharoensathien et al., 2013, Stuckler et al., 2010, Hernandez, 2002).

9.4 Contributory versus non-contributory financing mechanisms

A number of issues would influence UHC reforms whether under contributory or non-contributory financing. A few of these issues are cross-cutting and others are specific to the type of financing mechanism. Table 9.1 summarises some of this issues:

Table 9.1: Some key issues relevant to reforms for UHC in Kenya

Contributory financing	Non-contributory financing
• Difficult to implement and sustain due to low and unstable incomes in the informal sector, which are also difficult to identify	• Most sustainable and preferred by informal sector workers
• Raises potentially greater public resistance and is less politically acceptable.	• The potential for resistance from informal sector workers and high-income groups and their networks is considerably lower than a contributory approach to UHC
• Social solidarity could be particularly difficult to harness across the country because direct premium payments are very 'visible'	• Easier to implement than a contributory mechanism due to its potential indirectness in revenue collection
• Improved access to quality public sector health services, improved health sector governance and transparency would hasten the pace of UHC	
• Complexities arising from devolved governance system may pose some challenges in revenue collection and pooling for UHC across the country	
• The health sector needs to be given greater priority in government expenditure plans as UHC requires large amounts of money to be sustainable	

9.4.1 Contributory financing

The contributory scenario is the preferred government financing strategy for UHC in Kenya even though the evidence, both from primary data and modelling results, suggest that it may not be the most feasible to implement or the most sustainable option. Authors such as

Hsiao and Shaw (2007), McIntyre (2007), Mills (2007) and Letourmy (2010) observe that for historical reasons and the perception that tax revenues alone cannot finance UHC, many governments in developing countries are in favour of contributory schemes. However, a key observation from the study findings is that a contributory financing mechanism would be more difficult to implement than a non-contributory mechanism under the prevailing circumstances involving greater preference for non-contributory financing, large informal sector populations and resistance to increased premium rates, among others. The wider literature suggests that implementation of contributory mechanisms in countries with a large informal sector is problematic. Hyoung-Sun (2010) and Camara and Louisa (2013) report on problems of covering informal sector populations in the Philippines and Laos, respectively while Tangcharoensathien et al. (2011) is emphatic that a contributory system is impossible to implement because it is difficult to effectively collect premiums from the informal sector.

The contributory scenario could also experience higher public resistance given that negative past experiences with mandatory tax collection. For example head-tax in the colonial and immediate post-colonial administrations bear similarities with mandatory premium contributions. This would be a concern to the public as several study participants suspected that government officials would be harassing people in an effort to enforce mandatory premium contributions. This is likely to make a mandatory contributory financing mechanism more difficult to implement than a non-contributory system unless concerted efforts are made to educate the public on how it would operate. The design of a prepayment mechanism therefore needs to be carefully considered in ensuring that the concerns and expectations of informal sector workers are addressed.

The modelling results indicate that for a contributory system to be sustainable, premium contribution rates for both formal and informal sector populations would have to drastically increase. Such increases would prompt even greater resistance from the public. First, the informal sector generally has low and irregular income and many of them would be burdened by regular premium contributions that are considerably higher than at present. Secondly, there is extensive resistance to the current NHIF rates both from employers and contributors through their trade union representations (Oduor, 2015). Increasing premium

rates from 2.4% to 11% of gross pay for the formal sector and by almost 50% for informal sector workers to effectively anchor UHC as shown in the results of the model is likely to add to the social acrimony that has emerged under the newly implemented NHIF rates. It is also important that any increase in contribution rates should be carefully assessed in terms of the burden it will place on contributors. However, the contribution rates should be realistic in terms of financing a given package of services. The reality in the Kenyan context is that, as demonstrated in Chapter Eight, the current premium rates under the NHIF are unrealistically low at 2.4% of gross pay and the public needs to be made aware that such rates cannot sustainably finance UHC and would either have to be increased or the government needs to step in with significantly increased funding to the health sector.

9.4.2 Non-contributory financing

The non-contributory financing mechanism is the most preferred financing mechanism by informal sector workers. This is largely because of its potential indirectness in revenue collection where payment is likely to be based on ability to pay and its ease of implementation as has been documented elsewhere in the thesis. Indirectness in revenue collection makes the non-contributory system potentially less controversial than a contributory approach, although there is likely to be some resistance to tax increases from the public. Nevertheless, careful consideration of which taxes to increase or what types of innovative financing to pursue could reduce the potential for public resistance.

A distinct advantage of the non-contributory financing mechanism over the contributory one is its potential for sustainability at a relatively lower cost. A centrally managed non-contributory health financing system also has considerable potential to promote equity across geographic regions and socioeconomic groups McIntyre and Gilson (2005).

The other advantage of a non-contributory approach is its ability to increase population coverage to universal levels over a short period of time. However, increased population coverage comes with the challenge of very high costs in the initial stages because more people will use more services. Addressing this challenge of a high revenue requirement upon implementation could employ several strategies. Some of the strategies could include prioritising the health sector in the government budget, increasing tax rates, increasing premium contribution rates and implementing a phased coverage of certain services.

9.4.3 Cross-cutting issues

The need for increased government funding for the health sector has been demonstrated in chapters Two and Eight and is key to making progress toward UHC whether on a contributory or non-contributory basis. While the requirement for government funding may be more evident in a non-contributory system, it is critical to recognise that unless there are substantial government subsidies, population coverage will simply not increase as planned in a contributory system due to lack of affordability of insurance premiums for the majority.

It is no secret that the health sector is under-funded and would require greater priority in government spending to anchor UHC. Unfortunately, the health sector is currently not seen as a priority for government spending. Senior policymakers strongly believe that there is no fiscal space to increase funding for the health sector through general government revenues. In this respect, there has been considerable support from senior government policymakers for increasing NHIF premiums and to pursuing a contributory system to draw funds from the informal sector. The strength of government support for a contributory system could make the feasibility of pursuing a non-contributory approach quite difficult even though the evidence suggests it is the better of the two prepayment options in a number of respects.

Increased funding of the health sector is inevitable if meaningful progress is to be made in UHC efforts. However, the funding must be translated into improved access to quality services. The need to improve access to quality services to get the support of informal sector workers has been discussed but it is equally important for formal sector workers, particularly if they are expected to contribute more (whether through higher premiums or through increased taxes).

In terms of pooling resources for UHC either on a contributory or non-contributory basis, the Kenyan situation could prove politically complex. In the context of the devolved governance system, counties not only have semi-autonomous governance systems but also independent control of their budgets and have expressed the desire to run their health programmes according to their own design. The implication of devolution in this case is that the aspiration to have a central national pool for UHC, despite the health sector being one of the most devolved functions, is likely to create problems between the central and county

governments regardless of whether the financing approach is contributory or non-contributory. Furthermore, in circumstances where well-off groups are reluctant to support redistributive policies in an ethnically polarised country, richer counties may be reluctant to pool their resources to subsidise poorer ones especially where payments are direct as is the case with a contributory system. The findings pointed to potential problems associated with the political acceptability of a contributory mechanism and as such the fluid socio-political relations in the country can be easily exploited by politicians who are against redistribution across counties, especially where some counties will feel that they are contributing more funds than they use while others are utilising more services than the amount of money that they contribute.

The potential for resistance to redistribution under a contributory or non-contributory financing system for UHC would not be a new phenomenon especially from middle- to high-income groups and has been documented elsewhere (Anttonen and Sipilä, 2008, Hernandez, 2002). It is not just the higher income groups in the informal sector that are expressing individualist attitudes against redistributive healthcare financing but such attitudes have been documented among better resourced formal sector workers through their employers and trade unions in Kenya (Oduor, 2015). This implies that regardless of the financing approach, there is the potential that well-off groups and individuals could use their networks such as trade unions to make UHC implementation quite difficult. However, Stuckler et al. (2010) have suggested that such networks could be reined in by the political leadership.

9.5 Conclusion and recommendations

There is clear evidence that historically the government has given insufficient priority to the health sector in relation to government funding. For example, the health sector budget as a share of the national budget has consistently remained at less than 6% on average over the years compared to 15% which is the global average and the target recommended by the Abuja Summit. It is very clear that to sustainably finance UHC the health sector requires substantial financial input to be able to provide access to quality health services for all. It is noteworthy that any mandatory prepayment in this context– whether a premium to NHIF or taxes – are regarded as 'government funding' (e.g. both are included in government

expenditure on health measures in national health accounts). So whether contributory or non-contributory, increased government/mandatory prepayment funding is required.

Recommendation 1: Concerted efforts should be made to increase fiscal space specifically for healthcare. A starting point would be to critically examine government spending patterns particularly how the funds are allocated across sectors relative to other countries with the aim of identifying sectors whose expenditures can be reduced and reallocated to the health sector.

Recommendation 2: Even though total government expenditure as a share of GDP is relatively high at 31%, a long-term solution to increasing fiscal space and sustainably funding UHC would be seek additional domestic revenue sources. Towards this goal, innovative financing for the health sector needs to be seriously explored. Approaches such as indirect taxes on selected products and services (particularly those not consumed by the poor), taxes on tobacco and innovative financing mechanisms such as taxes on mobile phone companies, are among many options that could be explored in Kenya. Other measures such as increased efficiency in tax collection are crucial in enhancing overall fiscal space. Kenya has been credited with improved tax compliance in the past years and a recent report by Reuters (2015) indicated a 3.9% improvement in tax revenue collected for the fiscal year 2014/2015. Such improvements could be crucial in financing UHC.

Even though the government prefers a contributory system to a non-contributory one and has initiated policies to move towards UHC through a contributory approach, there is still the need to explore the non-contributory option to UHC. The government's main concern is the heavy financial responsibility that comes with a non-contributory approach but this financing strategy should be seen in the long-term where it comes at a lower overall cost than a contributory approach.

Recommendation 3: One of the main lessons learnt in Chapter Three as essential to expanding and sustaining coverage is that governments should set funding targets for the health sector. Two such targets discussed in Chapter Eight are the Abuja Commitment in which 15% of national budgets should dedicated to the health sector and 5% of GDP being used to fund healthcare. As the analysis prove in Chapter Eight, if Kenya Government could commit to any of these targets there is the likelihood of adequate funding for UHC in the short- to long-term.

Recommendation 4: There is a need to generate adequate evidence on the potential for expansion of fiscal space for UHC and the feasibility of a non-contributory financing mechanism. The high start-up costs associated with the non-contributory approach may be addressed through shifting expenditure from other sectors of the government, innovative financing, improving efficiency in spending including curbing corruption and other leakages as well as initiating phased coverage of specific services.

The current UHC proposals envisage a central risk pool for all Kenyans but as highlighted before, there are potential challenges with a central national pooling mechanism because the health sector is devolved and counties are keen to control their financial resources. Political differences bordering on ethnicity may come to play and scuttle national efforts for UHC.

Recommendation 5: A broad-based public consultation forum might be necessary to identify and resolve some of the potential problems associated with revenue collection and pooling in the on-going UHC reforms. In the same forum it would be worth discussing how a contributory scheme would be enforced among informal sector workers. Although the NHIF has come up with innovative ways of enrolment and revenue collection from the informal sector including decentralised offices, telephonic and other forms of wireless money transfers, it is unclear how these will be implemented to ensure increased enrolment and contributions from informal sector workers.

The relationship between the informal sector on the one hand, and local and national authorities on the other, has an impact on income, employment, growth and sustainability of informal sector entities. In the ongoing UHC-related reforms, it is necessary to recognise the income uncertainty in the informal sector and take specific measures to try to stabilise the sector to be more supportive of a contributory mechanism that the government prefers.

Recommendation 6: To help the informal sector, governments (national and county) could for example, create specially designated places for informal sector entities and issue operators with title deeds as well as make the licensing process of the entities shorter and more affordable to avoid harassment and demolitions by local authorities. Sparks and Barnett (2010) emphasise the need for an agreeable relationship between the informal sector and governments and suggested that the latter could improve the performance of

the informal sector by creating a supportive environment, improving infrastructure and basic amenities, as well as improving access to titles and credit. These measures are important for sustaining informal sector entities and in so doing create an environment for financial predictability from the sector's enterprises and empower its workers to be able to prepay for healthcare, whether in the form of insurance contributions or through indirect taxes that informal workers already contribute to.

Recommendation 7: It is difficult to identify informal sector incomes and enforce a mandatory contributory system among this population group. To be effective, measures such as identifying informal sector workers falling above a certain income threshold will have to be established even though such initiatives have proven difficult in many contexts such as Thailand and Philippines (Tangcharoensathien et al., 2011, Nguyen and Rama, 2007) and are unlikely to be successfully implemented in Kenya. The alternative would be to take steps to formalise labour in the informal sector. Swaminathan (1991) concurs that the absence of regulation and state recognition is the defining characteristic of the informal sector and if this can be rectified it would make incomes easier to target for either financing mechanism. The Kenya Revenue Authority has been in the forefront in advancing certain aspects of labour formalisation by requiring all small scale operators to have electronic cash registers (ETR) in order to bring some order and regulation in the profit-making informal sector. There are currently no policies to formalise informal sector labour which might make it even more difficult to enrol informal sector workers into a contributory scheme.

Recommendation 8: In rare cases, some level of 'coercion' could be necessary to enrol people into a contributory financing mechanism. In Costa Rica for example, in order to advance population coverage, people who failed to enrol in the SHI scheme were made to pay the full cost of services without subsidies (Enrique and Schieber, 2006). In South Korea coverage for informal sector workers was initially targeted towards employers to ensure that employees contribute to a scheme (Jeong, 2010).

Other problems including shortage of skills in the informal sector could be addressed through a skills development programme by the government and non-government actors to improve key entrepreneurship skills such as management in the informal sector and help towards product quality and sustainability of the entities.

The informal sector is highly receptive toward prepaid healthcare and have expressed the desire to pay even if they are not immediately using services so as to benefit those most in need. However, such positive gestures coming from informal sector workers need to be complemented with improved governance of the health sector to be sustainable.

Recommendation 8: Policymakers and other health sector actors should build on the positive attitudes of informal sector workers towards prepaid health care by first and foremost dealing with corruption to convince informal sector workers that prepaid funds would be transparently used. Secondly, issues around availability and affordability of services as highlighted in the findings will need to be closely addressed so that the population gets value for their money. Availability of diagnostic equipment, improved drug supply chain with products that meet population health needs and transparent financial reporting would go a long way in supporting the UHC course.

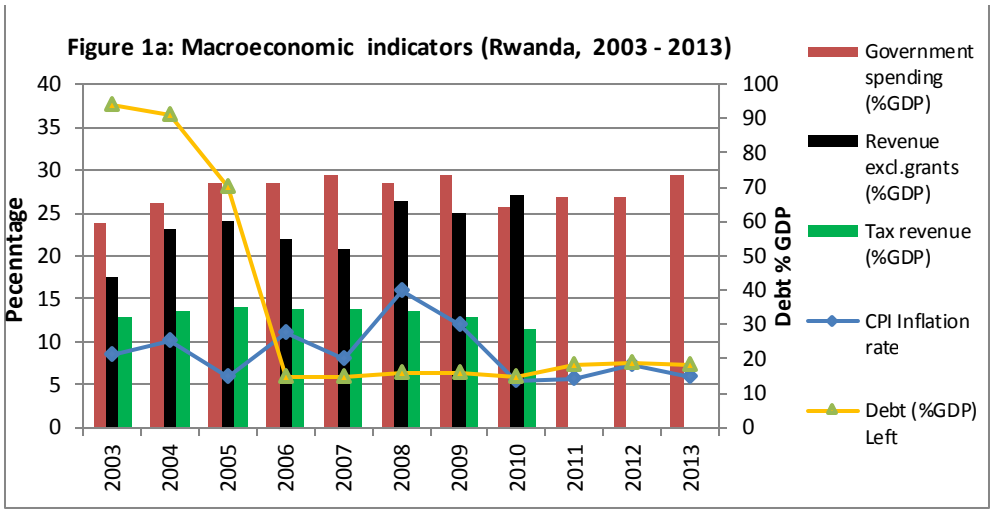
There is no doubt over the desirability of UHC but initiatives towards this goal particularly in Kenya need to account for a number of issues in the design of a prepayment mechanism, improvements in the quality of services in the public health sector and deliberations on the best strategies to raise more money for healthcare. While getting these three key issues right is essential, the adoption of either of the financing scenarios would need to resolve the main problems involving lack of financial protection and a situation where the greatest burden of paying for health care rests on the poor and low-income earners. In a nutshell, provision of financial protection and improving access to services, particularly to the informal sector as a basis for universal health coverage, is likely to improve health outcomes and other measures of social performance.

APPENDICES

APPENDIX A

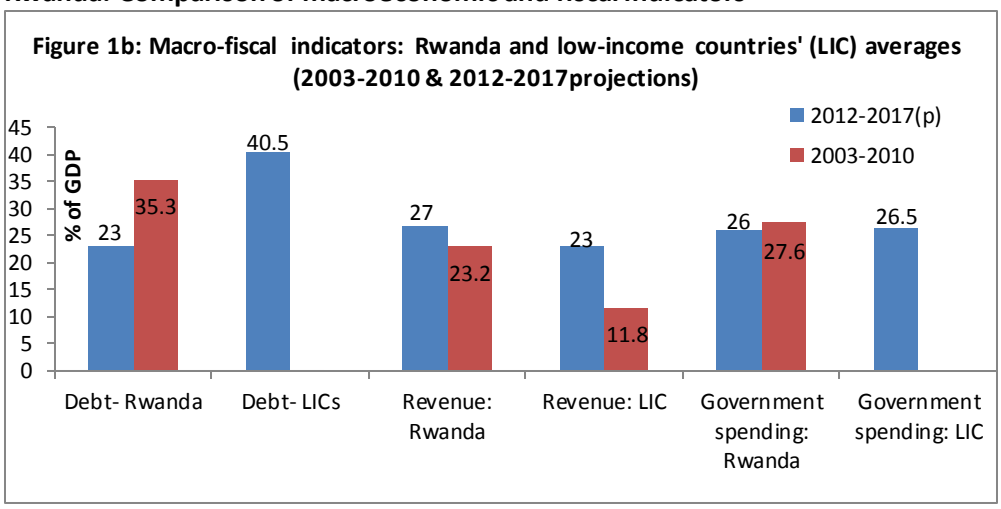
A1: RWANDA

Rwanda: Macroeconomic indicators, 2003 – 2013



Source: Pande et al., 2013; Government of Rwanda, 2010; Schneider et al. 2010

Rwanda: Comparison of macroeconomic and fiscal indicators



Source: Pande et al., 2013; Government of Rwanda, 2010

Rwanda's commitment to economic transformation has seen it operate above average in key fiscal and health system indicators compared to low-income countries in Africa. Per capita income was US$530 compared to US$428 on average for Africa's LIC as of 2013 and life expectancy is 59 years while Africa's average is 54 years. Maternal mortality remains high at 320/100000 although still above the average for Africa's low-income economies at 655/100000 (WHO, 2012a). The trend in MMR means that Rwanda is unlikely to meet the MDG for maternal health.

Rwanda: Trends in health system indicators

Table A.1: Rwanda- Health financing situation as depicted by selected indicators (2006-2011)

Indicators	2006	2007	2008	2009	2010	2011
General government health expenditure (GGHE) as % of government expenditure	22	22	22	22	23	24
Total health expenditure (THE) % GDP	10	10	9.2	9.8	10.4	11
GGHE % GDP	5.2	4.8	4.4	5.2	5.7	5.6
Out of pocket expenditure as % of THE	22	24	24	23	22	21
Private prepaid plans as % of THE	28	29	28	23	23	22
Total expenditure on health / capita at exchange rate	33	36	44	51	55	63
Social security funds as % of GGHE	3	3	3	3	9	11

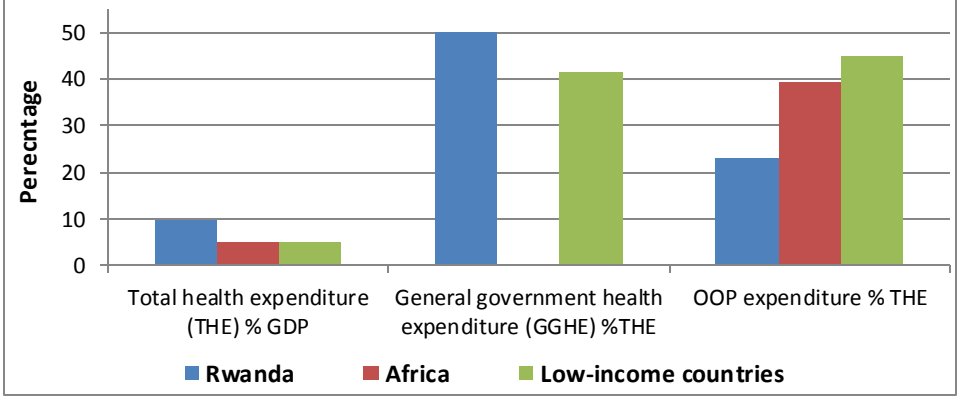
Sources: *WHO, 2012. Health expenditure series; WHO, 2012. Health expenditure atlas; World Bank, 2012. World development indicators*

Prioritisation of the health sector has significantly contributed to the amounts of prepaid funds which in turn have translated into reduction of OOP spending almost to the levels recommended by the WHO. By 2012, over 60% of total health expenditure was from public prepaid funds which reflected in high levels of population coverage even though most of these funds are from external sources.

Comparison of health system indicators between Rwanda, Africa and LIC

Rwanda performs better with THE representing 10% of GDP while the government contributes 50% of THE compared to 42% for LIC. The level of OOP spending in Rwanda at 23% is also lower than averages for Africa (39%) and LIC (45%).

Figure 1c: Indicators comparing Rwanda with African and Low-income countries



Source: *WHO, 2012; Pande et al., 2013*

APPENDIX A2: SRI LANKA

Sri Lanka- Macroeconomic and fiscal indicators

Figure 2a[1]: Macroeconomic indicators, Sri Lanka

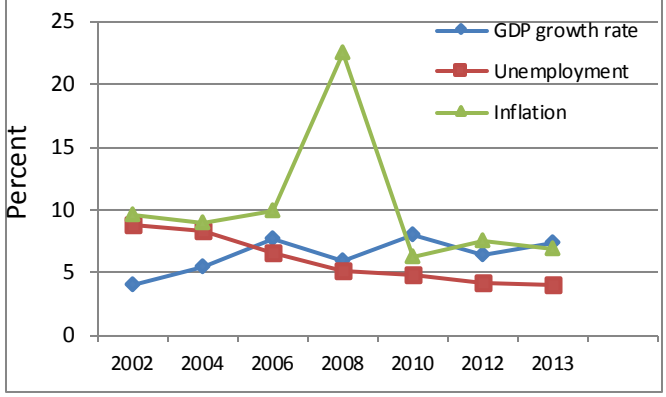
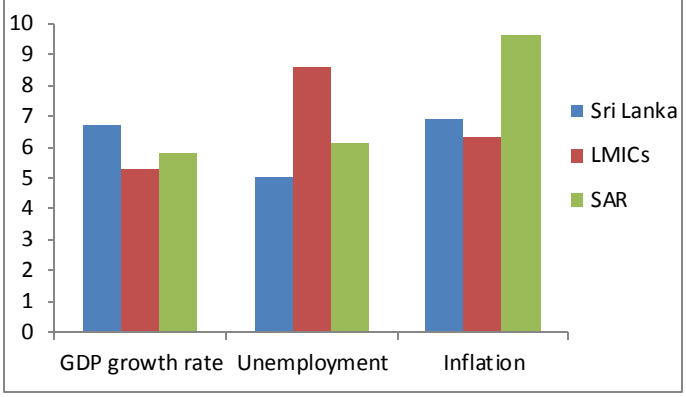


Figure 2a[2]: Projections, 2012 - 2017



Inflation trends seem to suggest a stable macroeconomic environment and are comparable to the averages in lower-middle-income countries. However, it is not clear why the tax revenues are considerably low but given the economic growth rate, there is room to improve revenue collection.

Figure 2b[1]: Fiscal indicators

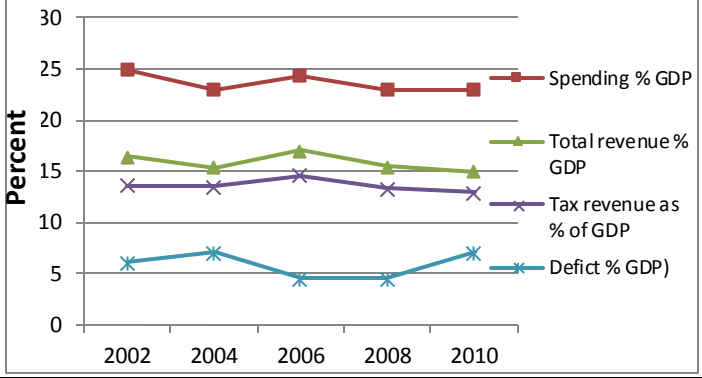
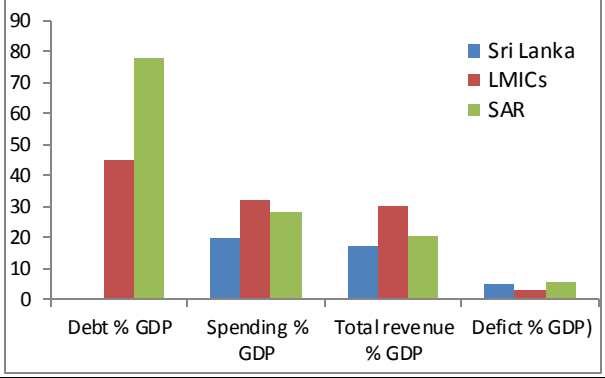
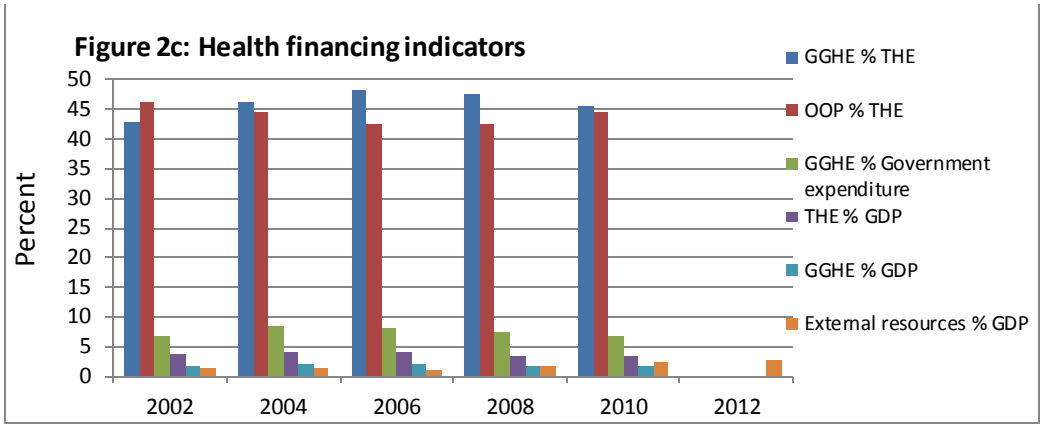


Figure b[2]: Fiscal indicators, average 2012 - 2017



As a share of total government expenditure, mandatory prepaid funds have not increased beyond 7% on average indicating some level of non-commitment from the government to sustainably finance and provide universal health services.

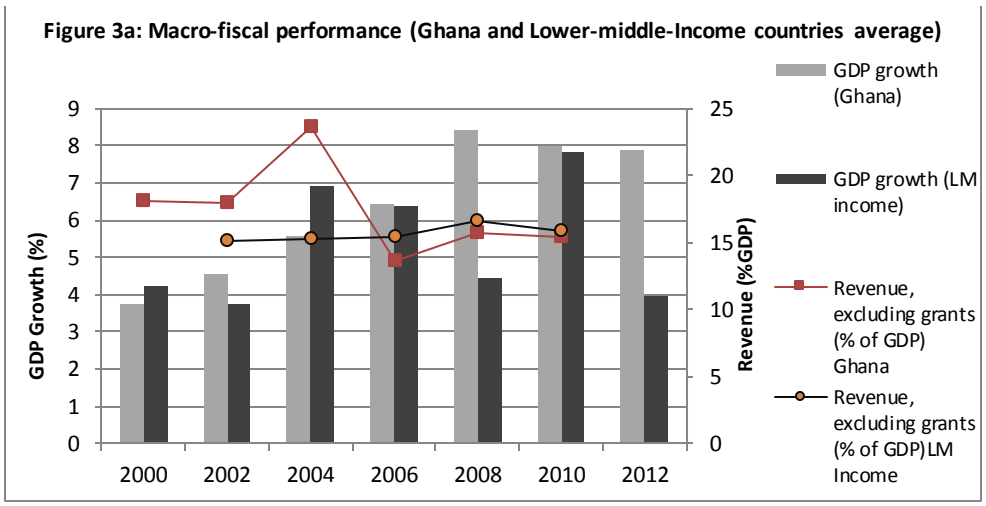
Sri Lanka- Health financing indicators



APPENDIX A3: GHANA

Ghana- Macroeconomic and fiscal indicators

There are evident fiscal challenges, for example in 2002 tax revenues relative GDP were 21.8% but dropped to 13.3% in 2010 despite higher economic growth rates.

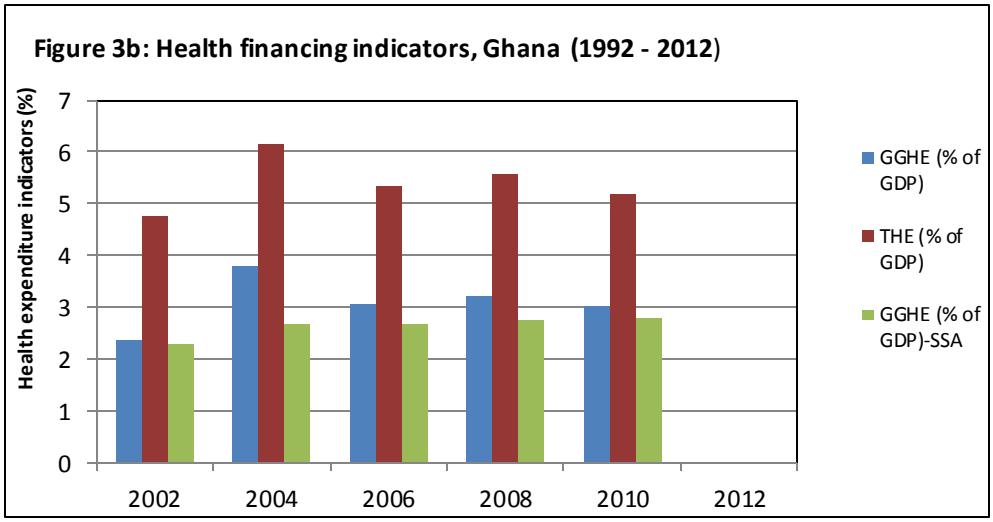


Source: *World Bank, 2012. World development indicators*

Ghana's economic growth rate is consistent with LMC average, indicating that the government can afford to increase health spending without altering other sector expenditure budgets.

Ghana- Trends in health financing indicators, 1992 – 2012

Figure 3b indicates inconsistency in funding from public sources: funds from mandatory prepaid sources (public health expenditure), have either remained the same or increased marginally or insignificantly from 2000 to 2012 compared to the rate of inflation. Total health expenditure as a percentage of GDP has remained at 5% (2000 – 2012) although this is at the WHO recommended level of 5% of GDP.



Source: *World Bank, 2012. World development indicator*

As a share of total government expenditure, government health expenditure (GGHE) at 12% has declined below the Abuja target (Figure 3c). However, compared to LMIC in the African region, Ghana continues to perform better in most financing sources including less reliance on donor funding. Figure 3c demonstrates that amounts paid OOP directly respond to any fluctuations in the level of mandatory prepaid funds. It means that even with the current weaknesses in the NHIS, more prepaid funds will reduce OOP payments, currently at 28% of THE.

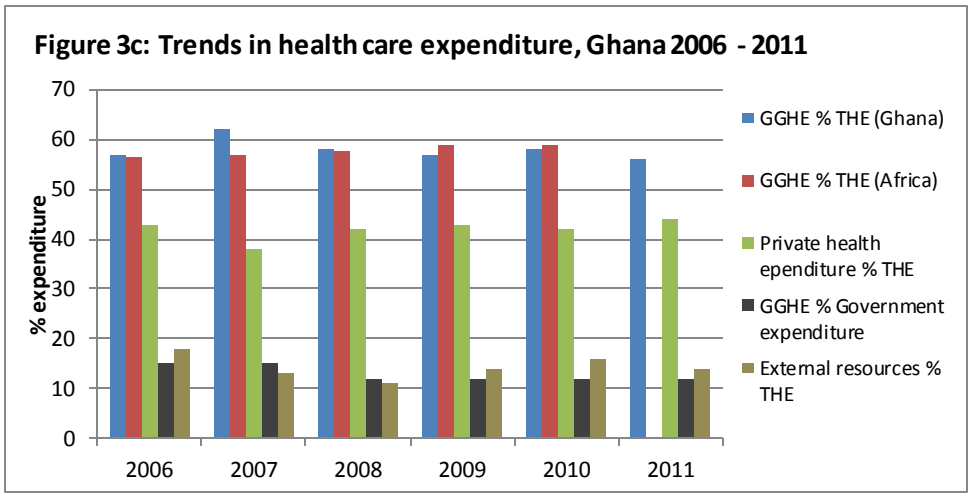


Figure 3c also reveals problems of cost coverage because total private resources as a share of total health expenditure overtime remain high (currently at 44% of THE).

APPENDIX A4: THAILAND

Thailand- Macroeconomic indicators

Apart from the disruption of the Asian economic crisis in 1998, Thailand has continuously registered high growth rates as indicated in Figures 4a[1] and 4b[1]. The GDP growth rate compares with the averages for low-and-middle-income countries (LMIC) and the East Asia and Pacific (EAP) region but the Thai unemployment and inflation rates are much lower than the averages for its contemporaries, which potentially guarantees it more fiscal space.

Figure 4a[1]: Macroeconomic indicators

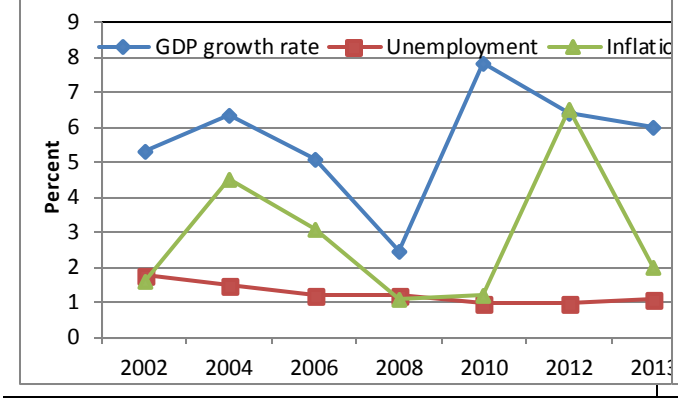
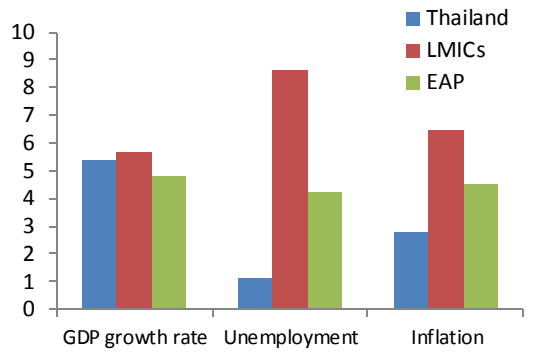


Figure 4a[2]: Macroeconomic indicators, 2012 - 2017



Sources: *World Bank, 2012; Pande et al. 2013*

Figure 4b[1]: Macro-fiscal context

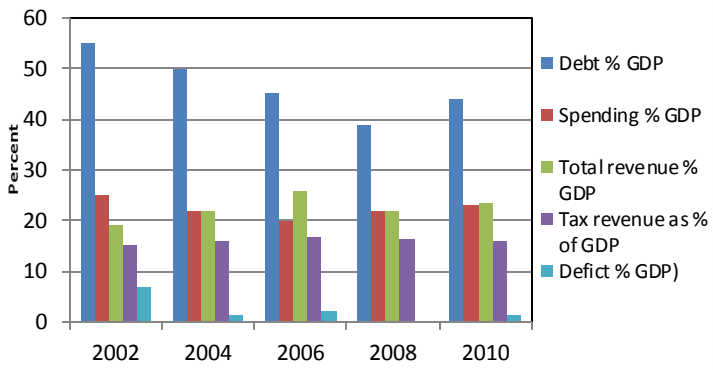
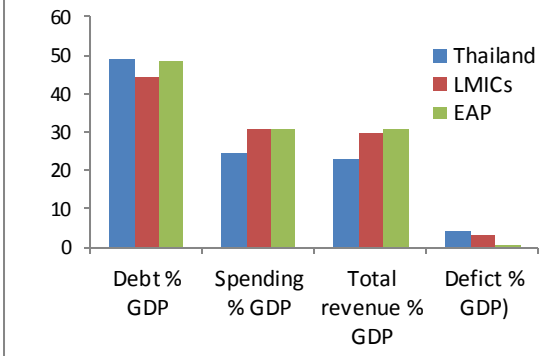
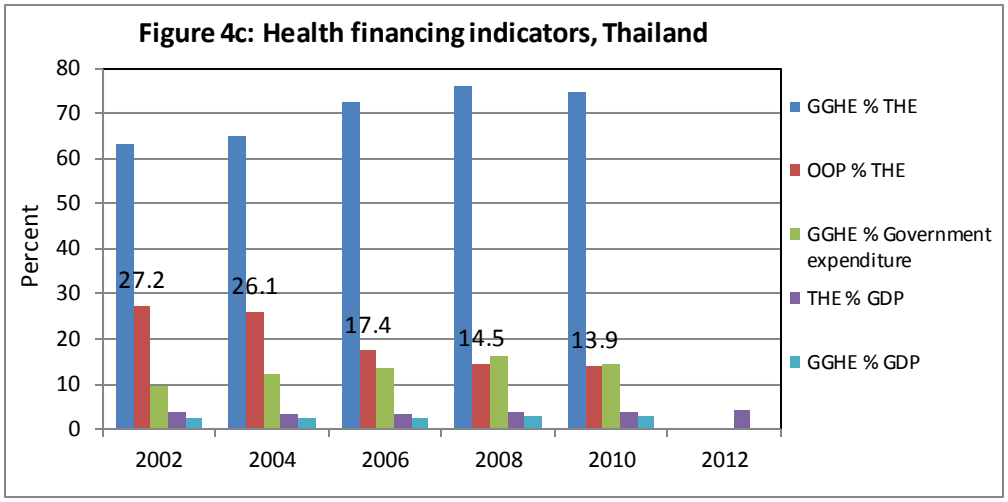


Figure 4b[2]: Macro-fiscal indicators, 2010



There is relative efficiency in the Thai financing systems. The WHO (2012) noted that modest amounts of resources- total government expenditure (23%) and government expenditure on health as a share of GDP (3%), were used to achieve high population, service and cost coverage, and better health outcomes. Outcomes such as declining OOP spending on a yearly basis mean better financial protection and access to services. Out-of-pocket spending has decreased from 42.5% in 1996 to 13.9% in 2010. Further, Tangcharoensathien et al. (2010b) note that incidence of catastrophic health sending reduced from 5.4% in 2000 to 2% in 2006 and the predominantly tax-funded universal system is progressive.



Source: *World Bank, 2012; Pande et al., 2013*

Table A2 is a summary of purchasing arrangement including agencies contracted for purchasing health services in Thailand.

Table 1.2: Purchasing agencies and provision for each of the pools

Pool	Purchasing agency	Provider payment mechanisms	Provision	Per capita expenses in Bahts (US$)
Universal Coverage Scheme (UCS)	National Health Security Office (NHSO)	Capitation for outpatient care and global budget plus case-based fee	Registered public providers in the district health system	1899 (61)
Social Security Scheme (SSS)	Social Security Office (SSO)	Capitation for inpatient and outpatient services plus additional adjusted payments for emergencies and high cost care	Registered public and private competing contractors	1900 (61)
Civil Servants Medical Benefits Scheme (CSMBS)	Comptroller General Department (Ministry of Finance)	Fee for service, direct disbursement to public providers and case-based fee for inpatient care	Free choice of public providers; no registration required	5000 (161)
Private voluntary scheme	Individual companies	-----	Mainly private provision	----

Sources: Tangcharoensathien et al., 2010b, Sekumphanit et al. 2009, Wilbulpolpraset and Thaiprayon, 2008

Appendix B: Data collection tools

Tool B1: Focus Group Discussion Guide

INFORMAL ECONOMIC ACTIVITIES AND CHALLENGES FACED BY WORKERS

For people not employed by the government or private companies, i.e. self-employed people e.g. farmers, small-scale businesses, jua-kali, vegetable vendors and other businesses:

1. Let us begin by talking about what people in this area who do not have formal jobs do to earn a living:
2. What are the INCOME generating ACTIVITIES in the area?
3. What are their SIZES? (e.g. land, shops, number employed, range of products, etc)
4. Who OWNS the activities (single / group ownership)?
5. What income generating activities have the majority of the area population? WHY?
6. What are some of the major challenges faced by people engaging in the income generating activities that you have mentioned?
7. When are DIFFICULT TIMES to carry out the activities? WHY?
8. Are there months of the year when money is difficult to come by? What happens? What do people do?
9. What PROBLEMS are encountered when carrying out the activities?

UTILIZATION OF HEALTH SERVICES, PAYMENT FOR CARE AND PRIORITY SERVICES

1. People have different choices on where to go for treatment or for any other health service. Where do most people in the informal sector around here go for medical services?
2. (What kind of people) Who goes to PUBLIC health facilities; WHY?
3. Who goes to PRIVATE facilities; WHY?
4. Who goes to TRADITIONAL healers; WHY?
5. Of these providers, which one would most people want to go to? WHY?
6. Which are the most commonly used services from these providers?
7. Who in the household decides where to seek treatment?
8. At each of the places where informal sector workers go for health care, what is the MOST COMMON METHOD of paying for the services?
9. What is your opinion about this method of paying for health care? Are there PROBLEMS with this method of payment? Which ones?
10. How else do people pay for health care?
11. How would most people in this area PREFER TO PAY for health care? WHY?
12. Which of these methods of paying for health care would you recommend for people in the informal sector? Why?

We discussed the kind of services that informal sector workers receive at the providers that you mentioned:

1. If you were to draw a list of the most important health services for the informal sector, which ones should come first? *Explain*
2. Are these services currently available at each of the providers you mentioned?

3. How do most people in the informal sector pay for these services?
4. How would most people want to pay for these important services?
5. Which health services cost people a lot of money? Why?

VIEWS HEALTH INSURANCE, WILLINGNESS TO PREPAY FOR HEALTH CARE AND PREFERRED PREPAYMENT DESIGN

We have discussed how most people in the informal sector pay for health care. There are different ways of paying for health care including paying out-of-pocket at the point of service and payments made in advance through the government or other organizations. By paying for health care in advance, one receives health services any time one falls ill without having to pay again.

1. In your opinion, is it a good idea to pay for health care in advance?
2. What sorts of health services do you think the informal sector would like to pay for in advance? Why?
3. In Kenya, there is NHIF that accepts advance payments for health care. Do you know about NHIF? What is good about NHIF? What don't you like about NHIF?
4. What should be done to get more people from the informal sector to join an organization like the NHIF?
5. What is the maximum that informal sector members would be willing to regularly pay in advance to such an organization?
6. Apart from NHIF, there are small community groups that also pay for health care in advance; do you know of any such groups? What is good about them? What is bad about them?
7. Which do you prefer between an organization such as the NHIF and the small schemes? Why?
8. Would you prefer a large group with many members or a small one? Why?

Both NHIF and small community health financing groups (CBHI) are examples of how health care can be paid for in advance. The other method of paying for health care in advance is TAXATION. In taxation, the government collects taxes from people who can pay then uses it to pay for everything including health care, education, military, etc.

1. Do you know of any FORMS OF TAXATION that people like you and others pay? How do people pay these taxes?
2. Do you think the health sector receives adequate funding from the government? Explain
3. What can be done to get more money to the health sector?
4. If the government were to increase funding for health care, everyone will need to pay higher taxes. Are you willing to pay more taxes so that more money can be raised for health care for all?
5. In what ways would people around here prefer to pay tax?
6. Which of these methods of paying for health care in advance (Taxation; NHIF; CBHI) is best for the informal sector? WHY?
7. The law may require that everyone pays for health care in advance by making regular payments for future illness costs. What is your opinion about compulsory payments for health care in advance?

[For payments made in advance for health care, there are two main ways how this can be done: ***Tax*** *(where a small part of one's income is paid to the government, and which is then used to pay for health services and other social services like education); and* ***Insurance***

schemes *(where people contribute regular amounts to a group/organization, then the collections are used to pay for health care costs for those who contribute. In health insurance schemes, people may organize themselves at community level; for example, some people in this area may decide to form their own group where they make regular contributions for future health care costs. Alternatively, everyone in this country can get involved in one large health group into which everyone contributes].*

VIEWS ON UNIVERSAL COVERAGE AND ABILITY TO PREPAY (ATPP) FOR HEALTH CARE

If the government together with some donors were to ensure that everyone has access to quality and timely health care, it would require that all of us who have some money make financial contributions to pay for health care in advance. This means that no one will pay for health care from their pockets at the facility. The essence of such a plan is that some would pay but may take a long time before getting ill meaning that people who need more health care but have no money would use other people's payments.

1. As members of the informal sector, what do you think of such a plan? How would you like to be involved?
2. Some informal sector workers can support such a plan by making regular contributions to pay for health care in advance. What would you look for so that you can tell that someone self-employed in a business or farming can afford to pay for health care in advance?
3. Among the main informal economic activities that you mentioned, which of them are more likely to make regular payments for health care, i.e. monthly, bi-monthly, etc? WHY?
4. What can make it difficult for self-employed people to pay for health care in advance?
5. Do the informal sector activities bring regular income however small? Which ones have reliable income? Which don't? Why?
6. What do we do with people who are too poor to pay for health care in advance?
7. How do we know that they cannot afford to pay for health care?

RECOMMENDATIONS FOR FUTURE FINANCING

1. What changes would most people like to have to make paying for health care in advance attractive to the informal sector?
2. What challenges are expected in trying to persuade the informal sector to pay for health care in advance?

Tool B2: Guide for In-depth Interviews at Community Level

NATURE OF INFORMAL ECONOMIC ACTIVITIES

1. There are many income generating activities that people engage in as self-employed or employees if they are not employed by the government, companies or any other formal jobs. Which are the most common income generating activities for people with no formal employment in this area?
2. Which income generating activities do most people engage in?
3. SIZES of the various activities (e.g. land, shops, number employed, range of products, etc)
4. Who OWNS these activities (single / group ownership)
5. What major problems are faced by people engaging in these activities?

UTILIZATION OF SERVICES, PAYMENT FOR HEALTH CARE AND PRIORITY HEALTH SERVICES

1. Health care can be sought in different places. Which are the main service providers in this area?
2. What kinds of PUBLIC service providers are available? Who are the main users of these providers? Why?
3. Are there PRIVATE providers? How much do they cost? Who uses them most? Why?
4. What other service providers are in the area? Who uses them most? Why?
5. Among these providers, which one has the majority of people seeking care? WHY?
6. Which providers are MOST PREFERRED by most people here? WHY?
7. How do MOST PEOPLE PAY for health care when they visit these providers?
8. What do you regard as the MAIN PROBLEMS with this method of payment for most people?
9. What OTHER METHODS of payment exist for the rest of the people?
10. Which of these payment methods would you recommend for informal sector workers? WHY?
11. What are the MAIN HEALTH PROBLEMS presented by both children and adults visiting these providers?
12. Are services for these health problems available? Are services SATISFACTORY?
13. Which health services would most people like to have at the health facilities in this area? WHY?
14. What health services are MOST IMPORTANT to women? Children? Men?
15. How do most people pay for these services?
16. Do you think there are problems with this method of payment? Which ones?
17. How would you like to pay for the most important health services? Would you recommend all people to pay for such services the same way?

[If not clear, explain that health care can be paid for from the pocket at the point of service or prepaid i.e. paid for in advance].

VIEWS ON HEALTH INSURANCE, WILLINGNESS TO PREPAY FOR HEALTH CARE AND PREFERRED PREPAYMENT DESIGN

1. In your opinion, which, between direct (out-of-pocket) payment and payment in advance for health care, is better? WHY?

2. Which organizations accept payments for health care in advance in this area?
3. What kind of people are members of each of these organizations?
4. What is good about an organization such as the NHIF? What don't most people like about NHIF? What about CBHI?
5. How can we make each of these organizations better for all people to pay for health care in advance?

[Explain that NHIF is a country-wide organization with many members while CBHI is a small one mainly involving people in a small area]

6. Which do you think most people in this area prefer between NHIF and the small schemes? Why?
7. What do you think most people here would prefer: a small scheme or a large one? Why?
8. The NHIF would like its members in the informal sector to pay between Ksh300 and Ksh500 per month. Are these rates affordable in this area?

You may already know that we can pay for health care in advance through organizations such as the NHIF and through small community health financing groups (CBHI). **Taxation** is a third way of paying for health care in advance, wherein the government collects taxes from people and companies then uses it to pay for everything including health care, education, military, etc.

9. Do you know of any FORMS OF TAXATION that people usually pay?
[Explain various forms of taxes]
10. Do you think the health sector receives adequate funding from the government? Explain
11. What can be done to get more money to the health sector?
12. If the government were to increase funding for health care, we will need to pay higher taxes. Do you think people in this area would be willing to pay more taxes so that more money can be raised for health care for all?
13. What kinds of taxes would be more appropriate for people without formal employment?
14. Of the various methods of paying for health care in advance: Taxation, NHIF and CBHI, which do you think can work best for the informal sector? WHY?
15. The law may require that everyone pays for health care in advance by making regular payments for future illness costs. Do you believe it is advisable to make it mandatory for everyone to have health care paid for in advance?
16. What should be done to encourage people in the informal sector to pay for health care in advance?

[For payments made in advance for health care, there are two main ways how this can be done: ***Tax*** *(where a small part of one's income is paid to the government, and which is then used to pay for health services and other social services like education); and* ***Insurance schemes*** *(where people contribute regular amounts to a group/organization, then the collections are used to pay for health care costs for those who contribute. In health insurance schemes, people may organize themselves at community level; for example, some people in this area may decide to form their own group where they make regular contributions for*

future health care costs. Alternatively, everyone in this country can get involved in one large health group into which everyone contributes].

VIEWS ON UNIVERSAL COVERAGE AND FINANCIAL POTENTIAL TO PREPAY FOR HEALTH CARE

By encouraging people to pay for health care in advance, the government would like to make sure that everyone, including the very poor who cannot pay, gets quality and timely health care. This means that people, who can pay some money however small, may help in paying for those who are less able. With this kind of payment, no one will pay for health care from their pockets at the facility.

1. In your opinion, is it acceptable for most people who contribute to also cater for the health of those who cannot contribute?
2. Who should pay for poor people who cannot afford to pay on a regular basis?
3. How does the community identify these very poor people? What do they have/not have that we consider them as too poor to pay anything?
4. There are people in the informal sector who are able to pay for health care in advance. What can tell that someone self-employed in a business or farming can afford to pay for health care in advance?
5. Among the main informal economic activities that you mentioned, which of them are more likely to make regular payments for health care, i.e. monthly, bi-monthly, etc? WHY?
6. What is likely to make it difficult for self-employed people to pay for health care in advance?
7. Do most self-employed people have regular income, even if low? Which informal economic activities have regular income? Which don't? Why?
8. How much can most people afford to pay on a monthly basis?

9. What OTHER INFORMATION would you like to share?

Tool B3: Questionnaire

Financial Protection for the Informal Sector Survey Questionnaire

District [___] **Site number [___|___|___]** **Economic Unit number [___|____|____]**

Informal Sector Survey Questionnaire

Interview the owner or a worker who is involved in the day-to-day running of the informal economic unit

0.0 Economic Unit No.			
0.1 District	Mathira East [____|____] Mombasa [____|____]		
0.2 Village	Name: [____|____]		
0.3 Date of interview	**DD**	**MM**	**YY**
0.4 Name of respondent			
0.5 Name of interviewer/Fieldworker			
0.6 Start time	_____AM/PM		
0.7 End time	_____AM/PM		
0.8 Results of interview (CODE)	Interview completed		
	Refused to participate		
	Partly completed		
	Respondent not found on third visit		
	Economic unit unattended		
	Not eligible		
Supervised/Checked by:			
FOR DATA ENTRY ONLY			
Entered by: 1st ENTRY	Name:…… Date:……		
Entered by: 2nd ENTRY	Name:…… Date:……		

Financial Protection for the Informal Sector Survey Questionnaire

District [___] **Site number [___|___|___]** **Economic Unit number [___|____|____]**

SECTION 1: CHARACTERISTICS OF THE INFORMAL SECTOR
SECTION 2: EXPERIENCES WITH PUBLIC PROVISION

1. 0 NAME of respondent: ***[****If more than one unit/department, interview all unit/department heads****]***		
1.11 Gender	M=1 / F=2	[___|___]
1.12 Age	[**Codes**]	[___|___]
1.13 Are you the head of your household?	Y=1 / N=2	[___|___]
1.14 Marital status	[**Codes**]	[___|___]
1.15 Your highest level of education	[**Codes**]	[___|___]
1.16 Is this business your main source of income?	Y=1 / N=2	[___|___]
1.17 ***[****If NO above****]*** What is the main source of income?	[**Codes**]	
1.18 Employment status? (*Probe with the* codes)	[**Codes**]	[___|___]
1.19 How many people including children are in your household?	No._____	[___|___]
1.20 How many are aged 5 years and below?	No.	
1.21 How many out of this number is aged below 18 years?	No._____	[___|___]
1.22 How many are aged above 75 years?	No._____	[___|___]
1.23 Do you singularly own and operate this business?	Y=1 / N=2	[___|___]
1.24 How many are employed in this business?	No._____	[___|___]
1.25 What is the business category (*Interviewer to categorise industry*)	[**Codes**]	[___|___]
1.26 How many sections does your business have? *(Interview **head** of each section)*	No._____	[___|___]
1.27 Why did you choose this type of business?	[**Codes**]	[___|___]
1.28 How long have you operated this particular business?	[**Code**]	[___|___]
1.29 How many other businesses does the owner of this business have?	No._____	[___|___]
1.30 Has any of your businesses collapsed in the last 5 years?	Y= 1 / N=2	[___|___]
1.31 Is this business registered?	Y=1 / N=2	[___|___]
1.32 What is the **main** reason for non-registration?	[**Codes**]	[___|___]
1.33 Location of the business (*Interviewer to record without asking*)	[**Codes**]	[___|___]
1.34 Type of structure (*Interviewer to record without asking*)	[**Codes**]	[___|___]
1.35 Who owns this business premises? (*Probe and select from the* **codes**)	[**Codes**]	[___|___]
1.36 What do you consider as the biggest threat to your business?	[**Codes**]	[__|___]
1.37 Do you get paid per: DAY (1); WEEK (2); MONTH (3); OCCASIONALLY (4) [*Don't ask own account business-person or employer*]	[**Codes**]	[___|___]
1.38 If paid DAILY, how many days a week do you work?	No._____	[___|___]
1.39 In total how much do you spend in a normal month?	[**Codes**]	[___|___]
1.40 For your economic status, where would you rank yourself in this picture?	Show Card	[___|___]
1.41 Does this business have an account where profits are regularly saved?	Y=1 / N=2	[___|___]
1.42 Size of land under cultivation (acres)	[**Codes**]	
1.43 Main crop grown	[**Codes**]	

Now I would like to know about your experiences in using public health facilities.

Could you please recall the very last time you used a public health facility?

Less than one month ago	1
One to Three months	2
Four to Six months ago	3
More than 6 months ago	4

Was the last use for:

Outpatient care?	**1**
Inpatient care?	**2**

What type of public health facility did you last use? *[RECORD name of facility]*

Type	**Facility Name**	
Dispensary		**1**
Health centre		**2**
District hospital		**3**
Provincial hospital		**4**
National hospital		**5**

2.4 I would like to read to you some of the experiences that people who visit public facilities sometimes talk about. You may answer '*True*' if you have faced a similar experience or '*False*' if you have not.

Q2.4 In the facility that you used	**TRUE**	**FALSE**
Services were quick (I did not have to wait too long on the queue)	1	2
All the drugs I needed were available (I did not have to buy prescriptions)	1	2
Health workers treated me with respect	1	2
The facility was clean including its environs and bed-linen	1	2
I did not have to bribe the health worker to get quick and good treatment	1	2
The health worker explained to me the nature of my illness and gave me appropriate treatment	1	2
I had no transport problems because the facility is near my home	1	2

District [___] Site number [___|___|___] Economic Unit number [___|____|____]

2.5 Based on the experiences that you and other people you know have had at public health facilities, could you choose THREE key areas in order of priority, which you would like to be improved to make services better for everyone? ***[****Let respondent list the THREE issues and mark with numbers 1 – 3****].***

PROBLEM	THREE KEY ISSUES
Waiting times should be reduced	
Necessary drugs should be available at all times	
Health workers should handle patients with respect	
The facility need to be kept clean both outside and inside	
No health worker should be given any un-receipted payments to offer treatment	
The health worker should explain to the patient the nature of their illness	
Facilities should be nearer to the population	
Other (specify)	

Have you ever heard of the NHIF?

Yes	No
1	**2**

*[If **NO**, move to **Q 2.9;** If **YES** continue with **Q2.7**]*

Are you a member of the NHIF?

Yes	No
1	**2**

*[If **NO**, move to **Q2.9;** If **YES** continue with **Q2.8**]*

Please tell me TWO MAIN reasons why you are not a member of the NHIF *[Tick any TWO mentioned by respondent]***:**

Q2.8. Reasons for non-membership	
Premium rates are unaffordable	1
I fear funds would be mismanaged	2
NHIF does not offer outpatient services	3
I don't know where to register and pay premiums	4
NHIF offices are too far away	5
It is voluntary to join NHIF	6
Paying before one is ill is an invitation for illness	7
No need to be a member because I'm never ill	8
Other (specify)	9

District [___] Site number [___|___|___] Economic Unit number [___|____|____]

SECTION 3: CONTRIBUTION MECHANISMS

Now I would like to ask you a few questions regarding paying for health care in advance and how, in your opinion, such payments could be done.

3.1 Who, in your opinion, should pay for health care in this country? *[Let the respondent answer but if there is no response, probe by reading out the options below for the respondent to pick ONE]*

Q3.1 Who should pay for health care?	**CHOICE**
The government alone should pay for health care for everyone	1
The government and those who can afford should pay for health care on behalf of everyone	2
Everyone should pay for health care	3
I do not know who should pay for health care	5

3.2 *The government does not have enough money to pay for everyone's health and is encouraging everyone to raise extra money and pay for health care in advance. Payments made in advance for health care are meant to take care of future illness costs so that no one has to pay anything at the hospital when they are ill. Payment in advance can be done in two ways: (1) Pay an additional tax to the government and then the government uses this extra money to pay for health care for everyone; (2) Contribute to a separate organization that collects money from all Kenyans and pays for their treatment costs whenever they fall ill.*

If everyone were to help in raising extra money to pay for health care, how would you like to raise this money? *[Read out the two options to the respondent]*

Q 3.2 Would you prefer:	
To pay additional tax to enable the government to pay for health care for everyone	1
To contribute directly into a separate organisation that pays for health care for everyone	2
Both ways are appropriate	3
Neither of the above is appropriate	4

3.3 Looking at your community, what kinds of people do you feel should NOT pay towards the extra money needed to pay for health care in advance for everyone? *[Mark ALL the groups that the respondent mentions as people who should not pay for health care and probe for more].*

Q3.3 Who should NOT pay for health care?	**CHOICE**
People who are proven to be very poor	1
Children and the elderly populations	2
Pregnant women	3
All disabled people	4
Other (specify)	5

3.4 In every community, there are usually poor people and others that are better off *(Show card and point out the different classes of people).* **With these groups of people in mind, if all were to pay for health care, how much should each group pay?** *[Show respondent Card on contributions levels and read out the corresponding options]*

Q3.4 How much *should the different groups of people pay for health care*?	
Everyone pays the same amount	1
Very poor people should not pay at all	2
All must pay something but pay according to their levels of income	3

3.5 By contributing for health care directly into the extra fund, people may prefer to pay their contributions in ways that they feel are easiest for them. Are you aware of any ways that you feel should be used to pay contributions? *[If no response, probe by reading out the options below for the respondent to choose TWO preferred options].*

Q3.5 TWO most convenient ways to pay premiums	
Use mobile phones to pay contributions (M-Pesa)	1
Buy scratch cards (similar to those of mobile phones) and use these to pay contributions	2
Use agents at local shops or within the area to pay contributions	3
Go to town and pay contributions at the offices in the urban areas	4
Use local groups such as SACCOs and agricultural societies	5
Other (Specify)	6

Financial Protection for the Informal Sector Survey Questionnaire

District [___] Site number [___|___|___] Economic Unit number [___|____|____]

SECTION 4: SOCIAL SOLIDARITY

Now I would like to know how you feel about paying for health care in advance.

4.1 I would like to read for you a statement and please indicate whether you *"Strongly agree; Agree; Disagree; or Strongly disagree"* **with this statement:**

	RATING			
	Strongly agree	**Agree**	**Disagree**	**Strongly disagree**
I would agree to prepay for health care because even though I may not be sick now, my contributions could help someone else or me in future	1	2	3	4

4.2 Which of the following statements do you agree with most ***(****CHOOSE ONE****)***

Q4.2 Statement MOST agreed with	**CHOICE**
Everyone should only be expected to pay for their own health care	1
I would be willing to pay for health care in advance if it benefits my family only	2
I would be willing to pay for health care in advance if it benefits my family, friends and neighbours	3
I would be willing to prepay because I understand my prepayment could contribute to bringing health care benefits to all Kenyans	4

District [___] Site number [___|___|___] Economic Unit number [___|____|____]

SECTION FIVE: DEFINING BENEFITS PACKAGE

5.1 If you were to pay in advance for health care every month, what would you like your payments to cover? I would like to read out for you some options that you could choose from. Please choose one that you feel is best for you and dependents and one that you can afford *[CHOOSE ONE].*

Q5.1 SCENARIO	**CHOICE**
You and all dependents are covered for all medical conditions, both inpatient and outpatient (meaning you don't have to pay anything whenever you or dependant seeks care) but you are required to visit public and faith-based health facilities only. For this you pay a total of Ksh 500 per month or Ksh 6000 per year	**1**
b. You and all your dependents are covered for all medical conditions but for inpatient care only (no outpatient care); you can seek care in public and faith-based facilities only. For this you pay Ksh 160 per month or Ksh 1,920 per year	**2**
You and dependents are covered for all medical conditions, both inpatient and outpatient. You can choose to go to any health facility (private, public or faith-based). If you choose to go to an expensive private facility, only a small part of the bill is paid, the rest you pay by yourself. For this you pay Ksh 500 per month or Ksh 6,000 per year	**3**
None of these choices suits my needs	**4**

5.2 *(For choice 'd' above)***If none of these choices meets your needs, how much can you afford to pay per month or per year to pay for all health problems for you and dependants, both inpatient and outpatient?_____**

5.3 Based on the choice you have made above (benefits package), you might prefer to pay your contributions- once yearly or in small amounts (instalments.) From your point of view, how would you prefer to pay your contributions? Would it be easy for you to pay *(Read the options and let the respondent pick one)***:**

Q5.3 Contribution strategies	**CHOICE**
At once every **year**	1
Once every **month**	2
In instalments **every two weeks** to make up the required monthly total	3
In instalments **weekly** to make up the stated monthly total	4
In instalments **daily** to make up the total amount required per month	5
In instalments **any time** there is money available to make up the monthly totals	6

District [___] Site number [___|___|___] Economic Unit number [___|____|____]

SECTION 6: PREDICTING FINANCIAL POTENTIAL TO PREPAY FOR HEALTH CARE

People have different financial abilities and there are groups within the informal sector who have some money and can afford to pay for health care in advance. I would like to seek your opinion regarding what issues to look out for in order to know about people in the informal sector who can afford to raise money to pay for health care in advance. I would like to read to you a list of things that may or not tell whether someone in the informal sector (including farmers) has the ability to prepay for health care. Simply respond by saying whether you ***'Strongly Agree; Agree; Disagree, or Strongly Disagree'*** *with what I read out.*

6.1 Non-farming informal sector enterprises (URBAN area & RURAL market ONLY)**:**

Q6.1 [URBAN and non-farming enterprise owners/managers] Predictors of financial potential to Prepay in Urban areas	**RATING**			
	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
Type of structure (permanent/temporary/no structure) can tell that an enterprise owner has ability to prepay for health care	1	2	3	4
Any enterprise that is licensed is likely to raise enough money to prepay for health care	1	2	3	4
An enterprise that employs one or more people generally shows ability to prepay for health care for the owner	1	2	3	4
Only business owners in legally allocated areas may have ability to prepay for health care	1	2	3	4
A business that occupies more than one room or a large space is able to prepay for health care	1	2	3	4
Businesses whose owners are members of a health scheme, a savings scheme (SACCO) or merry-go-round have ability to prepay for health care	1	2	3	4
Business owners who spend money on running costs such as employee wages, electricity, telephone and fuel can afford prepaid health care	1	2	3	4
Any enterprise owner with other businesses is likely able to prepay for health care	1	2	3	4
Gender of the business owner may indicate ability to prepay for health care	1	2	3	4

6.2 Predictors of financial potential to Prepay for health care in a highly productive agricultural rural setting

Q66.2 [RURAL AREA ONLY] **Predictors of financial potential to Prepay in the Rural area (farmers)**	**RATING**			
	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
Being a casual labourer could mean inability to prepay for health care	1	2	3	4
People who own no land are likely to be unable to prepay for health care	1	2	3	4
Households with many children and elderly people cannot afford to prepay for health care	1	2	3	4
Those living in rented dwellings in the village are too poor to prepay for health care	1	2	3	4
Informal sector workers whose children are often out of school for lack of money cannot afford to prepay for health care	1	2	3	4
Those who constantly miss some meals each day cannot prepay for health care	1	2	3	4
People who do not belong to a prepaid scheme or SACCO or merry-go-round cannot afford to prepay for health care	1	2	3	4
The size of land under cultivation is a sign of ability to prepay for health care.	1	2	3	4
The number of dairy cows is a sign of ability to prepay for health care.	1	2	3	4

District [___] Site number [___|___|___] Economic Unit number [___|____|____]

SECTION 7: MANAGEMENT OF COLLECTED FUNDS

7.1 If you were to recommend how to manage all the extra money collected to pay for everyone's' health costs, what kind of body would you like to manage this money to use it to buy health services for everyone? *[If no response, probe by reading out the options and then let the respondent choose ONE].*

Q7.1 Type of organization	**CHOICE**
The national government	**1**
A body that has no connection with the government at all	**2**
An organization with some connection to the government but has full control of the funds	**3**
Other (Specify)	**5**

7.2 How should the head of this organization holding the money be selected?

Q7.2 Selection strategy	**CHOICE**
Everyone should participate in electing the head of the organization	**1**
Either the president or the minister for health should appoint the person to head the organization	**2**
The head of the organization should be interviewed and selected by an independent panel	**3**
Other (specify)	**4**

7.3 By paying for health care in advance, people may need some information concerning the use of their money. *Please, state whether the kind information that I'm going to read is "**Very important**; **Important**; **Somewhat important** or **Not important**" to you.*

Q7.3 Is information on:	**Very Important**	**Important**	**Somewhat Important**	**Not Important**
Amount of money received and used over a period of time	1	2	3	4
The range of services on which money was spent	1	2	3	4
Measures to avoid fraud and other forms of corruption	1	2	3	4
Quality of care at health facilities	1	2	3	4
What to expect at health facilities so that patients are empowered to demand better services	1	2	3	4
Challenges facing the organization and what is being done to resolve them	1	2	3	4
Key appointments made and the procedure for such appointments	1	2	3	4
How health facilities are chosen to provide services	1	2	3	4
Other *(probe for any other '**Important**' or '**Very important**' information)*	1	2	3	4

7.4 How would you prefer the organization holding your money to get you the information that you need? (*Choose **TWO** most preferred channels*):

Q7.4 Preferred information source	**CHOICE**
Radio	**1**
Community leaders and local authorities	**2**
Health workers	**3**
Newspapers	**4**
Community notice-boards	**5**
Other (specify)	**6**

Financial Protection for the Informal Sector Survey Questionnaire

District [___] Site number [___|___|___] Economic Unit number [___|____|____]

SECTION 8. SOCIO-ECONOMIC STATUS AND ASSET INDEX

Q8.1	SOCIO-ECONOMIC STATUS		
	Walls of the main dwelling	Stone Brick/Blocks Mud Wood Cement Iron sheets 7. Other (specify)	[____I____]
	Roof of the main dwelling	Iron sheets Tiles Concrete Makuti Grass Tin Other (specify)	[____I____]
	Floor of the main dwelling	Cement Tiles Earth Other (specify)	[____I____]
	Does your household own the house?	Owns Rented No rent, doesn't own	[____I____]
	If house is rented, how much is paid on rent?	**Ksh**._____	
	Main source of drinking water	Piped into the house Piped within the compound Public tap Well/Bore hole River/Stream/Dam Other (specify)	[____I____]
	Toilet facility	Flush toilet Modern pit latrine Traditional pit latrine None	[____I____]
	Main source of cooking fuel	Firewood Kerosene Electricity Gas Charcoal Other (specify)	[____I____]
	Main source of lighting	Kerosene Electricity Solar Other (specify)	[____I____]
	Has your household ever faced food shortages for lack of money?	Yes No	[____I____]

District [___] Site number [___|___|___] Economic Unit number [___|____|____]

Q8.2 ASSET OWNERSHIP					
Does your household own:					
	Land	Y =1	N=2	DK=99	[___I___]
	Television	Y =1	N=2	DK=99	[___I___]
	Video/DVD	Y =1	N=2	DK=99	[___I___]
	Fridge/Freezer	Y =1	N=2	DK=99	[___I___]
	Cookers (Electric/Gas)	Y =1	N=2	DK=99	[___I___]
	Motorbike	Y =1	N=2	DK=99	[___I___]
	Vehicle	Y =1	N=2	DK=99	[___I___]
	Livestock (Cattle, sheep, goats)	Y =1	N=2	DK=99	[___I___]

THANK THE RESPONDENT FOR THEIR TIME AND INQUIRE IF THEY HAVE ANY ISSUES/QUESTIONS TO RAISE.

CODES

Q1.12 **Age in years** 1. 15<17 2. 18-<24 3. 25-<35 4. 36-50 5. 51+ 99. Don't Know	Q1.14 **Marital status** 1: Married 2: Single 3: Divorced /separated 4: Widowed	Q1.15 **Education level** 1. None 2. Nursery/pre-school 3. Primary 4. Secondary 5. College (mid-level) 6. University 7. Other (specify) 99. Don't Know	Q1.17 Main source of income 1. Formal job 2. Other business 3. Spouse 4. Remittance 5. Water vending 6. Farming 7. Other (specify)	Q1.18 **Employment status** 1. Employee full time 2. Temporary/Casual 3. Employer 4. Owner 5. Household worker 6. Partnership 7. Unpaid family worker 8. Unpaid apprentice 9. Other

1.25 Industry category 1. Food vending 2. Cloth & beauty 3. Shop-keeping 4. Hotel & Food kiosks 5. Manufacturing & Craft 6. Transportation 7. Repair & Maintenance 8. Health & Medical 9. Telecommunication 10. Entertainment 11. Construction 12. Farming & Livestock 13. Energy	Q1.27 **Why this particular business** 1. Trained in it 2. Family trade 3. Could not find formal employment 4. Market demand 5. Better income 6. Influenced by others 7. Easy to do/start 8. Other (_____)	Q1.28 **Years in Existence** 1. <1 2. 1-<5 3. 5-<10 4. 10-<15 5. 15-<18 6. 18-<35 7. Over 35years 99. Don't Know	Q1.32 **Reasons for non-registration** 1. Not necessary 2. Process too long 3. Expensive fees 4. Cannot afford bribes 5. Pay council daily 6. Other (specify) 99. Don't know	Q1.33 **Location** 1. Commercial premises 2. Industrial area 3. Open market 4. Jua-kali site 5. Mobile 6. Roadside/Street pavement 7. Residence 8. Farm 9. Other (Specify)_____ 99. Don't know

Q1.34 **Type of structure** 1. Permanent 2. Temporary (fixed) 3. Temporary (movable) 4. No structure 5. Handcart 6. Vehicle 7. Other (Specify)_____	Q1.35 **Occupancy of premises** 1. Own 2. Lease 3. Rented 4. Temporary license 5. Free occupation 6. Illegal occupation 7. Other (Specify)_____ 99. Don't know	Q1.36 **Main threats to business** 1. Eviction by local or central govt 2. Eviction by owner 3. Natural disasters (fires, rainfall, other accidents 4. Expiry of tenancy 5. Harassment/Bribes from authorities 6. Theft 7. Business competition 8. Low capital 9. Debts 10. Unstable prices of inputs (inflation) 11. Lack of markets 12. Pests 12. Other (Specify)_____ 99. DK	Q1.39 **Consumption per month (KSH)** 1. <2500 2. 2500 - 3500 3. 3501 - 4500 4. 4501 - 5500 5. 5501 - 6500 6. 6501 - 7500 7. 7501 - 10000 9. Over 10000 99. DK

Q1.19 **Total number of people in household** 1. 1 – 3 2. 4 – 6 3. 7 – 10 4. 11 – 15 5. 16 – 20	**Q1.20** **No. of children <5 yrs** 1. 1 – 3 2. 4 – 6 3. 7 – 10 4. None	**Q1.21** **No. of children <18 yrs** 1. 1 – 3 2. 4 – 6 3. 7 – 10	**Q1.22** **No. of people aged >75 years** 1. 1 – 2 2. 3 – 4 3. 5 – 6 4. None	**Q1.24** **No. employed in business** 1. 1 – 2 2. 3 – 4 3. 5 – 10 4. None (owner only) 5. 11 – 20
Q1.26 **No. of Sections in this Business** 1. One 2. Two 3. Three 4. Four 5. Five	**Q1.29** **How many other businesses owned** 1. One 2. Two 3. Three 4. None 5. Five 6. Six 99. Don't Know	**Q 1.38** **No. of days work in a week** 1. 1 – 2 2. 3 – 5 3. 6 – 7	**Q2.8** **Why not NHIF member?** 9. Don't know the benefits of NHIF 10. It is for formal sector employees only 11. Don't know cost of premium 12. Long process to join NHIF 13. Never bothered to be a member	
Q3.3 **Who should not pay extra?** 5. Orphans 6. People with chronic conditions 7. Everyone should pay	**Q3.5** **Convenient ways to pay** 6. Tax on income 7. Bank deposits	**Q 5.2** **How much can you afford per year for comprehensive cover** 5. 500 – 1000 6. 1001 – 1500 7. 1500 – 2000 8. 2001 – 3000 9. 3001 – 4000	**Q7.1** **Type of Organization** 4.	**Q7.2** **How to appoint head of the organization** 4.
Q7.3 **Important information needed by contributors**	**Q7.4** **Ways to disseminate information** 6. Internet 7. Phone sms	**Q 8.1e** **How much paid in rent (KSH)** 1. 500 – 1000 2. 1001 – 2500 3. 2501 – 3500 4. 3501 – 4500 5. 4501 – 6000 6. 6001 – 8000 7. 8001 – 10000 8. Over 10000	**Q 1.42** **Size of farm under cultivation** 1. <1acre 2. 1 – 2 acres 3. 2 – 4 acres 4. 5acres +	**Q1.43** **Main crop grown** 1. Coffee 2. Tea 3. Garden crops (horticulture) 4. Maize 5. Other (specify)

Tool B4: Guide for In-depth Interviews

a) Policymakers NHIF

Health financing situation

1. What is your opinion about the way health care is currently funded in Kenya?
   - What are the sources of funds?
   - Who decides on the amounts to allocate to the health sector?
   - What services are provided? Are the services provided adequate?
   - Who benefits from the services provided?

2. In your opinion, do you feel that the NHIF has effectively played its part in making health care more accessible to Kenyans?
   - Where has the NHIF succeeded most? Where has it failed most?
   - What needs to be improved?

Views on universal coverage and priority services

3. There are some discussions about provision of health care for all citizens (universal coverage). How should this be achieved?
   - In your opinion, what are the possible financing sources for universal coverage?
   - Who should manage funds from each of the sources?
   - In deciding the kinds of services to be provided under a universal system, which services do you regard as most important?

Prepayment design and financial protection for the informal sector

4. What is the prospect of a universal system through contributory health insurance schemes such as the NHIF?
   - How can contributory health insurance be made attractive to everyone?
   - If you were to make changes in NHIF, what would you want to change?
   - What should the NHIF do to ensure that the informal sector is more receptive to NHIF membership?
   - Is there a better approach to provide financial protection for the informal sector?
   - What other financing alternatives should be explored to provide coverage to the rest of the population (i.e. those who are not working in the formal or informal sectors)?
   - Could the NHIF learn anything from other health care schemes in the country? Explain
5. What are the current challenges in covering the informal sector?
   - Revenue collection
   - Stability of incomes
   - Trust and solidarity
   - Knowledge and attitudes toward prepaid health care

6. In circumstances where the informal sector is required to pay into a risk pool, how can groups within the sector that are able to prepay for health care be identified so that those least able to pay can be subsidized?
7. What are the possibilities of a tax designed to target the informal sector specifically?

Purchasing and provision of services

8. From the mentioned sources of funds, how could the funds be collected and pooled?
    - Should all funds be combined in a single pool or should there be separate pools to cover different groups? Why?
    - Who should purchase health services? Why?
    - Who, in your opinion should provide the services purchased?
    - In your view, how should the providers be paid? Why?

b) Policy-Makers: Ministry of Health

Topics:

- Tax funding and how to get it to the poor
- Roadmap to UC
- Current funding arrangements
- Funding arrangements to cover the informal sector

Health financing and policy trajectory

1. What is your opinion about the way health care is currently funded in Kenya?
    - What are the sources of funds?
    - Who decides on the amounts to allocate to the health sector?
    - What services are provided? Are the services provided adequate?
    - Who benefits from the services?
2. What are the main concerns about health financing in Kenya?
    - What policies are being put in place to address these concerns?
    - What are some of the main highlights of these policies?
    - When do we expect them to be implemented and fully in operation?
    - What are some of the challenges to the implementation of the policies?
    - What kind of support is needed for the policies to become operational?

Views on universal coverage and priority services

3. There are some discussions about providing affordable health care for all Kenyans (universal coverage). What is the feasibility of achieving a universal health system?
    - What are the possible financing sources for universal coverage?
    - How should funds from each of the sources be managed?
    - What are the health services that you feel should be covered under a universal system? Why?
    - How should a package of health service benefits be determined?

4. The civil service has its own health insurance coverage, why did the government choose to organize and subsidize coverage for civil servants and not the rest of Kenyans?
    - What would you say about coverage for civil servants? Could it have been done in a different way?
    - Do you foresee all Kenyans getting covered?
5. How is the ministry streamlining health financing in the country to ensure that all Kenyans have access to quality health care in line with the new constitution?

Prepayment design and financial protection for the informal sector

6. In your opinion, what financing arrangement can provide effective financial protection to the whole population?
    - Can tax funds be used to provide adequate health care for all?
    - What can be done to expand the tax base and the tax revenue collected?
    - In your opinion, what should be done to increase amounts allocated to health care from the government budget?
    - What are your views about earmarked taxes for health care? Which good/services should be targeted?
    - Is meeting the Abuja target (15% of the budget) feasible?
    - How can 15% of the budget improve health care in Kenya?
    - What do you feel are the challenges to meeting this target?

7. What are the prospects of a universal system through contributory insurance schemes?
    - What kind of scheme is most preferred by the ministry/government? Why?
    - How can the informal sector be covered through such schemes?
    - The current financial protection policies through NHIF do not seem to reach the informal sector, what should be done to improve the situation?
8. Under a universal system, how will the informal sector be covered?
    - In circumstances where the informal sector is required to pay into a risk pool, how can informal sector groups that are able to prepay for health care be identified?
    - What are the possibilities of a tax designed to target the informal sector specifically?
    - What challenges are there in trying to provide financial protection to the informal sector?

Purchasing and provision of services

9. From the mentioned sources of funds, how will the funds be collected and pooled?
    - Should all funds be combined in a single pool or should there be separate pools to cover different groups? Why?
    - Who should purchase health services? Why?
    - Who, in your opinion, should provide the services purchased?
    - In your view, how should the providers be paid? Why?
10. What must be done to achieve effective universal coverage in Kenya?

- How do we ensure that people go to health facilities for treatment instead of relying on poor quality OP clinics, chemists, shopkeepers…?

c) Policymakers: Ministry of Finance

Health financing and taxation

1. What is your opinion about the way health care is currently funded in Kenya?
   - What are the sources of funds?
   - Who decides on the amounts to allocate to the health sector?
   - What services are provided? Are the services provided adequate?
   - Who benefits from the services?
2. In your opinion, can tax funds be used to finance health care for all in Kenya?
   - What may be the economic and social consequences of providing health care for all Kenyans through tax funds?
   - How does the treasury decide how much should be allocated to health care? Is the health ministry involved in this decision? If so, how?
   - What do you think should be done to increase funding for health care?
   - What can be done to expand the tax base and the amounts collected? Is there room to improve tax collection methods?
   - What is the feasibility of ear-marked taxes for health care? What goods/services can be targeted? Why?
   - Are there possibilities of introducing a specific taxation method to target the informal sector?
3. Apart from tax funding, what other funding arrangements should be explored to provide affordable health care for all Kenyans?
   - How can the informal sector be involved in such a system?
   - In circumstances where the informal sector is required to pay into a risk pool, how can informal sector groups that are able to prepay for health care be identified?
   - What challenges are expected in trying to provide financial protection to the informal sector?
4. What challenges exist in efforts to provide adequate and affordable health care for all Kenyans?
   - Political
   - Economic
   - Social
5. How can these challenges be overcome?

d) Policymakers: External Agencies

Health financing situation

1. What is your general opinion about the way health care is currently funded in Kenya?
   - Sources of funds (current funding arrangements)
   - What changes would you like to see?
2. As development partners, where do you see yourself fit in improving the health care financing situation for purposes of universal coverage?
   - What is your opinion regarding health system governance and accountability in Kenya?
   - How can the government improve efficiency in the use of funds and service delivery?
   - Do you foresee an end to external funding for health care?
   - (SWAP)There have been calls to streamline donor funds for health care so that the funds are used as part of government budget for health care rather than for specific health programmes.... How far is Kenya in this regard?

Views on universal coverage and priority services

3. With your understanding of the Kenyan context, which is the most feasible policy approach to universal health coverage? Why?
   - Tax funding:
     i. How to expand the tax base
     ii. Earmarked taxes for health care
     iii. Getting tax funds to the poor
   - Contributory insurance:
     i. Social health insurance
     ii. Community-based health insurance
   - Any other arrangement?
4. What do separate health insurance arrangements for civil servants and teachers mean for universal coverage and equity?
   - Is it likely to facilitate universal coverage?
   - Where does such an arrangement leave the rest of Kenyans?
   - Are these private pools within a national insurer?
5. Providing financial protection for the informal sector is a difficult undertaking for many developing countries. How can development partners help Kenya to provide coverage for the informal sector in particular and the rest of the population in general? What policy advice would you give the government for informal sector coverage?
   - Technical capacity
   - Organization
   - Subsidy
6. Not all services can be covered in a universal system, what constitutes the basic benefit package of care from an international perspective?
   - What services do you feel should be prioritized in the Kenyan context?

7. There have been a number of declarations aimed at improving health care, particularly for the poor: Alma Ata; Paris; Abuja, etc.
    - Do we need these milestones?
    - What do you think are the reasons for Kenya's failure to meet the objectives of these milestones?
8. In your opinion, what lessons can Kenya learn from other countries in terms of health financing and providing coverage for the informal sector?

Tool B4: Guide for In-depth Interviews

a) Policymakers NHIF

Health financing situation

1. What is your opinion about the way health care is currently funded in Kenya?
    - What are the sources of funds?
    - Who decides on the amounts to allocate to the health sector?
    - What services are provided? Are the services provided adequate?
    - Who benefits from the services provided?

2. In your opinion, do you feel that the NHIF has effectively played its part in making health care more accessible to Kenyans?
    - Where has the NHIF succeeded most? Where has it failed most?
    - What needs to be improved?

Views on universal coverage and priority services

3. There are some discussions about provision of health care for all citizens (universal coverage). How should this be achieved?
    - In your opinion, what are the possible financing sources for universal coverage?
    - Who should manage funds from each of the sources?
    - In deciding the kinds of services to be provided under a universal system, which services do you regard as most important?

Prepayment design and financial protection for the informal sector

4. What is the prospect of a universal system through contributory health insurance schemes such as the NHIF?
    - How can contributory health insurance be made attractive to everyone?
    - If you were to make changes in NHIF, what would you want to change?
    - What should the NHIF do to ensure that the informal sector is more receptive to NHIF membership?
    - Is there a better approach to provide financial protection for the informal sector?
    - What other financing alternatives should be explored to provide coverage to the rest of the population (i.e. those who are not working in the formal or informal sectors)?
    - Could the NHIF learn anything from other health care schemes in the country? Explain
5. What are the current challenges in covering the informal sector?
    - Revenue collection
    - Stability of incomes
    - Trust and solidarity
    - Knowledge and attitudes toward prepaid health care

6. In circumstances where the informal sector is required to pay into a risk pool, how can groups within the sector that are able to prepay for health care be identified so that those least able to pay can be subsidized?
7. What are the possibilities of a tax designed to target the informal sector specifically?

Purchasing and provision of services

8. From the mentioned sources of funds, how could the funds be collected and pooled?
    - Should all funds be combined in a single pool or should there be separate pools to cover different groups? Why?
    - Who should purchase health services? Why?
    - Who, in your opinion should provide the services purchased?
    - In your view, how should the providers be paid? Why?

b) Policy-Makers: Ministry of Health

Topics:

- Tax funding and how to get it to the poor
- Roadmap to UC
- Current funding arrangements
- Funding arrangements to cover the informal sector

Health financing and policy trajectory

1. What is your opinion about the way health care is currently funded in Kenya?
    - What are the sources of funds?
    - Who decides on the amounts to allocate to the health sector?
    - What services are provided? Are the services provided adequate?
    - Who benefits from the services?
2. What are the main concerns about health financing in Kenya?
    - What policies are being put in place to address these concerns?
    - What are some of the main highlights of these policies?
    - When do we expect them to be implemented and fully in operation?
    - What are some of the challenges to the implementation of the policies?
    - What kind of support is needed for the policies to become operational?

Views on universal coverage and priority services

3. There are some discussions about providing affordable health care for all Kenyans (universal coverage). What is the feasibility of achieving a universal health system?
    - What are the possible financing sources for universal coverage?
    - How should funds from each of the sources be managed?
    - What are the health services that you feel should be covered under a universal system? Why?

- How should a package of health service benefits be determined?

4. The civil service has its own health insurance coverage, why did the government choose to organize and subsidize coverage for civil servants and not the rest of Kenyans?
   - What would you say about coverage for civil servants? Could it have been done in a different way?
   - Do you foresee all Kenyans getting covered?
5. How is the ministry streamlining health financing in the country to ensure that all Kenyans have access to quality health care in line with the new constitution?

Prepayment design and financial protection for the informal sector

6. In your opinion, what financing arrangement can provide effective financial protection to the whole population?
   - Can tax funds be used to provide adequate health care for all?
   - What can be done to expand the tax base and the tax revenue collected?
   - In your opinion, what should be done to increase amounts allocated to health care from the government budget?
   - What are your views about earmarked taxes for health care? Which good/services should be targeted?
   - Is meeting the Abuja target (15% of the budget) feasible?
   - How can 15% of the budget improve health care in Kenya?
   - What do you feel are the challenges to meeting this target?

7. What are the prospects of a universal system through contributory insurance schemes?
   - What kind of scheme is most preferred by the ministry/government? Why?
   - How can the informal sector be covered through such schemes?
   - The current financial protection policies through NHIF do not seem to reach the informal sector, what should be done to improve the situation?
8. Under a universal system, how will the informal sector be covered?
   - In circumstances where the informal sector is required to pay into a risk pool, how can informal sector groups that are able to prepay for health care be identified?
   - What are the possibilities of a tax designed to target the informal sector specifically?
   - What challenges are there in trying to provide financial protection to the informal sector?

Purchasing and provision of services

9. From the mentioned sources of funds, how will the funds be collected and pooled?
   - Should all funds be combined in a single pool or should there be separate pools to cover different groups? Why?
   - Who should purchase health services? Why?
   - Who, in your opinion, should provide the services purchased?
   - In your view, how should the providers be paid? Why?

10. What must be done to achieve effective universal coverage in Kenya?
    - How do we ensure that people go to health facilities for treatment instead of relying on poor quality OP clinics, chemists, shopkeepers…?

c) Policymakers: Ministry of Finance

Health financing and taxation

1. What is your opinion about the way health care is currently funded in Kenya?
    - What are the sources of funds?
    - Who decides on the amounts to allocate to the health sector?
    - What services are provided? Are the services provided adequate?
    - Who benefits from the services?
2. In your opinion, can tax funds be used to finance health care for all in Kenya?
    - What may be the economic and social consequences of providing health care for all Kenyans through tax funds?
    - How does the treasury decide how much should be allocated to health care? Is the health ministry involved in this decision? If so, how?
    - What do you think should be done to increase funding for health care?
    - What can be done to expand the tax base and the amounts collected? Is there room to improve tax collection methods?
    - What is the feasibility of ear-marked taxes for health care? What goods/services can be targeted? Why?
    - Are there possibilities of introducing a specific taxation method to target the informal sector?
3. Apart from tax funding, what other funding arrangements should be explored to provide affordable health care for all Kenyans?
    - How can the informal sector be involved in such a system?
    - In circumstances where the informal sector is required to pay into a risk pool, how can informal sector groups that are able to prepay for health care be identified?
    - What challenges are expected in trying to provide financial protection to the informal sector?
4. What challenges exist in efforts to provide adequate and affordable health care for all Kenyans?
    - Political
    - Economic
    - Social
5. How can these challenges be overcome?

d) Policymakers: External Agencies

Health financing situation

1. What is your general opinion about the way health care is currently funded in Kenya?
    - Sources of funds (current funding arrangements)
    - What changes would you like to see?
2. As development partners, where do you see yourself fit in improving the health care financing situation for purposes of universal coverage?
    - What is your opinion regarding health system governance and accountability in Kenya?
    - How can the government improve efficiency in the use of funds and service delivery?
    - Do you foresee an end to external funding for health care?
    - (SWAP)There have been calls to streamline donor funds for health care so that the funds are used as part of government budget for health care rather than for specific health programmes.... How far is Kenya in this regard?

Views on universal coverage and priority services

3. With your understanding of the Kenyan context, which is the most feasible policy approach to universal health coverage? Why?
    - Tax funding:
        i. How to expand the tax base
        ii. Earmarked taxes for health care
        iii. Getting tax funds to the poor
    - Contributory insurance:
        i. Social health insurance
        ii. Community-based health insurance
    - Any other arrangement?
4. What do separate health insurance arrangements for civil servants and teachers mean for universal coverage and equity?
    - Is it likely to facilitate universal coverage?
    - Where does such an arrangement leave the rest of Kenyans?
    - Are these private pools within a national insurer?
5. Providing financial protection for the informal sector is a difficult undertaking for many developing countries. How can development partners help Kenya to provide coverage for the informal sector in particular and the rest of the population in general? What policy advice would you give the government for informal sector coverage?
    - Technical capacity
    - Organization
    - Subsidy
6. Not all services can be covered in a universal system, what constitutes the basic benefit package of care from an international perspective?
    - What services do you feel should be prioritized in the Kenyan context?
7. There have been a number of declarations aimed at improving health care, particularly for the poor: Alma Ata; Paris; Abuja, etc.
    - Do we need these milestones?

- What do you think are the reasons for Kenya's failure to meet the objectives of these milestones?

8. In your opinion, what lessons can Kenya learn from other countries in terms of health financing and providing coverage for the informal sector?

APPENDIX C: SIMINS BASIC® DATA INPUT ASSUMPTIONS AND JUSTIFICATION

Appendix C, C1: POPULATION STRUCTURE

Demography: *Population projection*

Kenya's total population as of December 2013 was 44.4 million people (IEconomics, 2014, FAO, 2014) . To estimate total population by 2030, the following sources were considered: Government of Kenya (2011); the Food and Agricultural Organisation (FAO)(FAO, 2014) (high variant); the United Nations Department of Economic and Social Affairs/Population Division (UNDESA/PD) (2011) (medium variant); the World Bank (2013a) and the Pardee Centre for International Futures (PCIF). Projections from each these sources using base year population of 44.4 million people are presented in Table 8.1.

Table 8.1: Population projections from different sources

Source	Base year 2013 (Millions)	Population 2030 (Millions)	Average annual growth rate (%)
Government of Kenya	44.4	66.45	2.40
FAO (High variant)	44.4	67.01	2.45
UNDESA/PD (Medium variant)	44.4	67.78	2.52
World Bank	44.4	69.83	2.70
PCIF	44.4	67.22	2.47
Author's projections	44.4	67.56	2.50

Estimates of annual population growth rate from most of the sources above (FAO, UNDESA/PD and PCIF) average about 2.5%. A 2.5% growth rate was therefore used to estimate population sizes between 2013 and 2030.

Workforce and dependency projections

Calculations of the proportion of the population that is in the workforce were based on data from the KNBS (2014b). In the calculations (Table 8.2), the workforce totals 9.77 million. The KNBS (2014b) reports that a total of 2.27 million individuals are working in the formal sector and together with their dependants constitute 20% of the population (or 8.88 million people), which means there are 2.91 dependants per formal sector worker. There was need to estimate the total number of pensioners from the formal sector and according to KIPRRA (2013) (2013), the population is structured as follows: formal sector represents 20% of the population and the informal sector constitutes 80% including indigent populations (20%) and pensioners. From the KNBS (2014b) data, one in 2.29 formal sector workers is employed in the public sector. Data available were for the number of pensioners in the public sector only (162,217 individuals according to the Ministry of Finance, Pensions Department, (2014) so it was estimated that the number of pensioners from the private sector is 2.29 times higher than from the public sector such that the total number of pensioners comes to: [(162,217*2.29) + 162,217 = 533,694 (0.534million) pensioners]. The Pensions Department reports that government pensioners had a total of 58,700 dependants as of July 2014 (i.e. 0.362 dependants per pensioner). So out of approximately 0.534million

pensioners, the total number of dependants would be: [534,000*0.362= 193,308]. So pensioners plus their dependants make a total of 727,308 people (i.e. 5.47% of the workforce or 1.6% of the population).

This left a total of 34.8 million people (or 78.4% of the population) in the informal sector including 20% who are indigent (the equivalent of 2.22million individual workers). The Kenya Integrated Household Budget Survey (KIHBS) (Government of Kenya, 2006) observes that the average household size in Kenya comprises of 5.0 members (i.e. one member and four dependants). Since it is already known the number of dependants among pensioners and formal sector workers, it was assumed that each informal sector worker has 4.0 dependants. So for the indigent this translates into 1.78 million workers (18.22% of the workforce) and 7.1million dependants. Of the remaining 25.92 million workers in the informal sector, there are 5.184 million workers (53.1% of the workforce) and 20.74million dependants.

Table 8.2: Population groups, workforce distribution and dependants

Population groups	Workforce (millions)	% Workforce	Dependants per worker	Population group (millions)	Population group % Total Population
Formal sector	**2.27**	**23.24**	**2.91**	**8.88**	**20.0**
(a) Government	*0.69*	*7.06*	*2.91*	*2.70*	*6.08*
(b) Private sector	*1.58*	*16.18*	*2.91*	*6.18*	*13.92*
Formal sector pensioners	**0.534**	**5.47**	**0.36**	**0.73**	**1.6**
Informal sector	**6.964**	**71.29**	**4.00**	**34.80**	**78.4**
(a) Indigent	*1.780*	*18.22*	*4.00*	*8.88*	*20.0*
(b) Non-indigent	*5.184*	*53.07*	*4.00*	*25.92*	*58.4*
Total	**9.77**	**100.0**	**2.82**	**44.41**	**100.0**

Data sources: KIPPRA, 2013; Kenya National Bureau of Statistics, 2014 and author's own calculations

In terms of dependency ratio: [44.4million (total population) – 9.77million] = 34.64 million dependants (or 78.02% total dependency). The percentage of child dependants was calculated from a report by the Kenya National Bureau of Statistics (2014b). From the report, there were a total of 23.6million people aged below 19 years, which translates to 68.1% of all dependants. The World Development Indicators (World Bank, 2013b) showed that there is declining dependency in Kenya and in lower-middle-income countries although at a much faster rate in the latter than the former. It was therefore assumed that Kenya's dependency ratio will decline at an average annual rate of 0.55% from 2013 to 2023 and then decline at an average annual rate of 1.0% from 2024 to 2030. This assumption was based on the observation of data from the World Development Indicators (World Bank, 2013b) which showed that when average dependency ratio in lower-middle-income countries started to decline at 0.55% per annum (1980 – 1990) it took 10 years to start declining at a rate of 1.0% per annum and has remained at about the same rate to date. This assumption on the trend of dependency is further strengthened by the fact that population growth rate is expected to slow down from the current 2.5% to 2% in 2030 (Government of

Kenya, 2013a). Overall dependency therefore decreases from 78.02% currently to 68.8% in 2030 and child dependency as a proportion of dependants increases from 68.1% in 2013 to 74.8% in 2030 (Table 8.03). Such a trend is based on the fact that population growth rate is relatively high at 2.47% per annum and accompanied by improving economic conditions and growing employment, the proportion of adult dependants will decline such that the child dependency as a proportion of overall dependency will be larger than it is currently. Lower-middle-income countries average rates were chosen as comparator because Kenya recalculated its GDP such that the GDP per capita is estimated at US$ 1,136 which makes it a lower-middle-income country (World Bank, 2014a).

Table 8.3: Dependency ratio and decline rate according to the World Bank, 2013

	1980 – 1990	1991 – 2000	2001 – 2010	2011 – 2013	2013 - 2023	2024 - 2030
Kenya						
Dependency ratio	112.8 – 106.9	105 – 88.4	87.1 – 82.4	82.2 – 78.0	78.0 – 73.8	73.04 – 68.8
Average decline rate (%)	0.51	1.88	0.70	0.38	0.55	1.0
% Dependants who are children	--	---	---	---	68.1 – 71.9	72.3 – 74.8
Average growth rate	---	---	---	---	0.55	0.55
Average Lower-middle-income						
Dependency ratio	79.2 – 75.1	74.6 – 67.2	66.3 – 59.6	59 – 57.9	57.9 -	----
Average decline rate (%)	0.55	1.01	1.21	0.93	0.93	----

Data source: World Bank (2013), World Development Indicators (author's calculations)

The model seems to regard 'self-employment' as synonymous with 'informal sector'. Even though this is not conceptually appropriate it was assumed that the model's category of self-employment is in fact the informal sector so that all population groups are captured in the model. Several estimates by the government and most recently by KIPPRA (2013), although lacking details, give the percentage of the workforce in the informal sector at 83% but this also includes the indigent population and pensioners. However, calculations based on data from the Kenya Bureau of Statistics (2014b) indicates the exact size of populations out of formal employment is 76.8% of which 5.5% are pensioners. This means that the real size of the informal sector is 71.3% including non-indigent workers (53.1%) and indigent workers (18.2%) (Table 8.4).

Data from the Kenya National Bureau of Statistics (KNBS) for the last 14 years indicate that the public sector employment declined at an average annual rate of 0.03% from 1999 to 2013. Over the same period, the private (formal) sector grew at an average annual rate of 3.28%. However, according to the Kenya Institute of Public Policy Research and Analysis (2013), the same period (1999 to 2013) experienced declines in formal sector growth with the private sector registering job losses at an annual rate of 1.79% (from 18% of the total workforce to 14%) and the public sector at -6.5% annually (i.e. from 14% of the workforce in

1999 to 6.0% in 2013). The informal sector on the other hand grew at an annual rate of 1.25% in the same period.

The contradiction in reporting employment patterns from these two highly professional government institutions may be the fact that the KNBS estimates include employment patterns in the informal sector. Nevertheless, the reports from the two institutions are still contradictory and it was imperative to understand employment patterns particularly after devolved governance in other countries because devolution is likely to create more jobs both in private and public sectors in Kenya. However, the only study we could find that measured employment growth rate after devolved governance systems was Bivand et al. (2010) in a study in the UK between the period 1999 and 2008. Bivand and colleagues demonstrate that total employment in the devolved regions- Scotland, Wales and Northern Ireland- grew at a higher rate than other regions. On average, these regions registered annual employment growth rate at 0.59% in both public and private sectors.

The UK and Kenya are totally different regions and it cannot be confidently said that Kenya's employment rates after devolution will grow at a similar rate but we used a lower annual growth rate of 0.50% to project employment trends in both public and private sectors from base year 2013 to the end of the simulation. Besides, an analysis of employment growth patterns in the period 1995 – 2008 in low- and middle-income countries by Cho et al. (2012) show that average formal employment growth rate in South Asia and Sub-Saharan Africa hardly go beyond 0.50% per annum.

Data on growth trends of the pensioner population was lacking so a decision was made to estimate the growth rate of formal sector pensioners from the general growth rates of the elderly population in Kenya. The Partners in Population and Development (2012) estimated that the elderly population in Kenya (ages 65+) would grow from about 1.5% of the population in 2009 to about 2.27% by 2030, which represents an annual growth rate of 2.0%. Given these growth trends, it means the informal sector workforce will be declining at an average annual rate of about 0.369% from 2013 to 2030.

Wages projection

In both the formal private and public employment, average wage growth rate of 5.0% per annum was used based on recent trends (2006-2010) by KIPPRA (2013). The growth rate in wages is in tandem with inflation rates and higher than 2.6% average rates for Africa (ILO, 2012a) and 2.4% average growth rate projected by the (World Bank, 2007) between 2001 and 2030. Earlier wage growth rates for Kenya showed wider discrepancies between government wages and private sector wages (i.e. 6.7% per annum between 2008 and 2013 compared to 3.5% in private sector wages). However, this was a harmonisation period to bring public sector wages at par with private sector wages. The current estimated ratio of public to private formal sector wages is 1.1 and when projected to 2030 the ratio of formal public to private wages is 1.18.

Pensioners' wages increase at a fixed rate of 1.5% per annum according to state statutes. This rate was used only for the baseline. It was assumed the rate will change to reflect inflationary tendencies. Based on this assumption a growth rate of 3.0% was used to project pensioner wages.

Appendix C, C2: MACROECONOMY

For purposes of triangulation, data for inflation rates were obtained from the following sources: the World Bank (2014b), Government of Kenya (2013b), and the African Development Bank (2014) forecasts on Kenya's economy. Average inflation rate was set at 5.5% between 2013 and 2023 and 4.2% from 2024 to 2030. The model automatically calculates interest rates in the basic model.

Appendix C, C3: UNIT COSTS

Table 8.5a presents unit cost estimates at various levels of public provision as presented by different authors. The dates shown in author columns represent the year when data for computation of unit costs were collected. All unit costs were inflation-adjusted at an average annual rate of inflation at 7.8% (between 2004 – 2013), 8.43% (2007 – 2013) and 8.99% (2008 – 2013), (World Bank, 2013b) (Table 8.5b). The only year we did not use the actual inflation figure in calculating the averages for the above periods was 2008 because the country was in a state of war which pushed up inflation rates beyond reasonable limits.

Table 8.5a: Unit costs per outpatient visit and per inpatient day from different authors

Provider category	WHO/GTZ, Date:2004	WHO-CHOICE Date: 2008	Flessa et al., Date: 2007	Chuma et al., Date: 2007
Dispensary (OP)	212.0	227.6	174.0	114.0
Health Centre (OP)	222.0	227.6	223.0	114.0
County Hospital (OP)	571.0	326.9	476.0	366.0
County Hospital (IP)	1516.0	897.5	2523.7	1100.0
National Hospital (OP)	623.0	395.0	1409.0	963.0
National Hospital (IP)	2751.0	1185.0	4921.0	2890.0

Table 8.5b: Inflation-rated to 2013 unit prices

Provider category	WHO/GTZ,	WHO-CHOICE	Flessa et al.,	Chuma et al.,
Dispensary (OP)	391.07	326.60	264.37	173.20
Health Centre (OP)	409.51	326.60	338.81	173.20
County Hospital (OP)	1053.30	469.09	723.21	556.08
County Hospital (IP)	2796.50	1287.88	3834.36	1671.27
National Hospital (OP)	1149.22	566.81	2140.75	1463.12
National Hospital (IP)	5074.64	1700.43	7476.67	4390.89

A decision on the data to use to estimate unit costs considered the robustness and clarity of methodology of each study. The following were eliminated: (i) WHO-CHOICE (2011) based on the fact that the unit costs were not country specific and unclarity over exact costs of drugs and diagnostics; (ii) WHO/GTZ (2004)because there was no explanation on how unit cost were calculated. This left Flessa et al. (2011) and Chuma et al. (2012) but a more robust methodology was presented by Flessa et al., 2011. We did not exactly use Flessa and colleagues' categorisation of facilities but rather used government classifications and so we had to combine some facilities as reported by Flessa and colleagues then get average unit costs.

Table 8.6: Projected unit costs from Flessa et al. 2011

Facility	Base year 2013	Target 2023	Target 2030
Dispensary (OP)	265.55	460.53	614.23
Health Centre (OP)	340.33	590.21	787.20
County Hospital (OP)	726.45	1259.83	1680.29
County Hospital (IP)	3106.49	5387.35	7185.38
National Hospital (OP)	2150.35	3729.20	4973.81
National Hospital (IP)	7510.20	13024.40	17371.28
Private non-profit (OP)	1205.66	2090.89	2788.72
Private non-profit (IP)	6058.83	10507.39	14014.22
Private for-profit clinic (OP)	1297.23	2249.69	3000.53
Private for-profit clinic (IP)	18116.97	31418.95	41904.99
Private for-profit hospital (OP)	2952.34	5120.04	6828.84
Private for-profit hospital (IP)	20606.13	35735.72	47662.47

It was not sensible to go along with simply inflation-rated unit costs from 2007 to 2030 as above because that would be highly skewed towards the private sector. The skewedness is partly to due to under-resourcing of the public sector and lack of strategic purchasing and other cost containment measures especially in the private sector. A Ministry of Health task force in 2012 estimated that public facilities should get about twice the funding that they currently receive to improve service delivery to acceptable levels (Bourbonnais, 2013). Such rapid investment in the health sector may not be possible given past trends in funding from the government. On this basis we can assume that, while funding for the health sector may not more than double as recommended by the taskforce, the funding would increase at a rate twice higher than the prevailing inflation rates to better approximate future unit costs and the need to anchor universal coverage. On this basis a 14.6% rate from 2007 to 2013 was used to estimate public provider unit costs for base year 2013. Implementation of strategic purchasing as more people get covered and coupled with competition from improved services in the public sector will put pressure on the private sector to have reasonable prices such that with over a period of time there would be a tendency towards convergence of unit costs between public and private services. On this basis it was assumed that average unit costs for private facilities increased at half the rate for public sector (i.e. 7.3%) from 2007 to 2013.

To estimate unit costs for 2013 and 2023, it was argued that resourcing of public sector facilities will continue to grow at a rate similar to projected inflation rates; that is, about 5.5% per annum. It was assumed that strong policies will reign in rising expenditure including implementation of cost-containment policies such strategic purchasing such that 5.5% annual increase in costs would only be sustained from 2013 and 2023 after which unit costs would increase at a much lower rate. The WHO/GTZ (2004) had estimated that unit costs would be rising at an annual rate of 2.0%. This percentage was used to estimate unit costs from 2024 to 2030 for public sector services. For private sector services, the need to have reasonable prices will mean that growth rate in unit prices would be much lower than they are in the public sector. About 2.0% annual growth rate was used to estimate unit prices from 2013 to 2023 and then 1.0% annual growth rate from 2023 to 2030 for the private health sector (Table 8.7). Flessa et al. (2011) had noted very limited differences in OP and IP unit costs for non-profit providers so only one category each for OP and IP services were used.

Table 8.7: Projected unit costs for OP visits and IP days per capita per annum

Facility	Base Year 2013	2023	2030
Dispensary (OP)	394.15	679.67	780.72
Health Centre (OP)	505.14	871.07	1000.58
County Hospital (OP)	1078.24	1859.32	2135.77
County Hospital (IP)	4610.83	7950.93	9133.12
National Hospital (OP)	3191.68	5503.74	6322.07
National Hospital (IP)	11147.08	19222.07	22080.12
Private non-profit (OP)	1205.66	1469.69	1575.71
Private non-profit hospital (IP)	6058.83	7385.68	7918.45
Private for-profit clinic (OP)	1297.23	1581.32	1695.39
Private for-profit clinic (IP)	18116.97	22084.49	23677.56
Private for-profit hospital (OP)	2952.34	3598.89	3858.50
Private for-profit hospital (IP)	20606.13	25118.76	26930.71

Appendix C, C4: UTILISATION

The table below presents the distribution of outpatient (OP) and inpatient (IP) utilisation patterns by type of provider according to the Ministry of Health (2014).

Table 8.8: Distribution of OP visits and IP admissions as at 2013

Facilities	% Outpatient visits	% Inpatient admissions	Admission rates	IP days per capita
Government Dispensary	22.1	0.0	0.0	0.0
Government Health centre	18.0	7.6	0.0029	0.0193
Government hospitals	18.3	48.3	0.0184	0.1230

Private-not-for-profit (PHC)	5.1	1.3	0.0005	0.0033
Private-not-for-profit hospitals	3.5	16.5	0.0063	0.0420
Private clinics/health centre	10.3	2.8	0.0011	0.0071
Private hospitals	6.9	20.0	0.0076	0.0509
Chemists	13.2	0.0	0.0	0.0
Traditional healers	0.4	0.0	0.0	0.0
Nursing/maternity homes	0.3	1.8	0.0007	0.0046
Others	1.9	1.7	0.0006	0.0043
Total	**100.0**	**100.0**	**0.038**	0.2546

Source: Ministry of Health, 2014 (Household health expenditure and utilisation survey)

For our own work, all OP utilisation cases that were not classified as government were regarded as non-government (private) OP visits including visits to chemists, traditional healers and others. For IP utilisation rates, all government IP services were classified under government hospitals since no primary facility is expected to offer IP services and most of the health centres that do so are known as sub-county (sub-district) hospitals and so were classified under hospitals. Private-not-for-profit health centres offering IP services were classified under private not-for-profit hospitals. Under private for-profit facilities, all private health centres/clinics, nursing/maternity homes and others were all classified under private hospitals. The 2009 public expenditure review report states that the non-government (private) sector controls about 96% of health clinics, maternity and nursing homes and about 90% of medical centres (Government of Kenya, 2009). We assumed that government maternity hospitals were classified under government hospitals in the surveys such that all maternity and nursing homes shown in the report were classified as private (Table 8.8).

In the 2013 household health expenditure and utilisation surveys (HHEUS) (Government of Kenya, 2014), total outpatient visits for public and private facilities were 3.1 per capita per year. Total IP days per capita were calculated from the same report which gave IP utilisation rate of 0.038 admissions per person (38 admissions/1000) and on average 6.7 days of hospital stay. So 0.038*6.7= 0.255 inpatient days per capita per year in total for private and public facilities. So the Base Year 2013 utilisation rates were 3.1 OP visits per person per year and 0.255 inpatient days per capita per year. The base year percentage distribution of utilisation of services per provider (Table 8.8) was used to calculate OP and IP utilisation rates for all providers. The results are presented in Table 8.8. To allocate public hospital OP visits per capita per annum between national referral and county hospitals, utilisation rates at the Kenyatta National Hospital (KNH) were taken as representative of national referral facilities. Based on the KNH data, the OP visits per capita were calculated: [0.6million (total OP visits) /44.4million (total population) = 0.0135] although this figure changes slightly to 0.0136 when percent OP visits (0.44%) at national referral facilities is multiplied by total OP visits (3.1). The latter figure has been used in subsequent calculations.

Outpatient services for Target Years 2023 and 2030

For the sake of the model it was decided that all utilisation rates falling under 'Others' including traditional healers and chemists will be shared among (private) non-government facilities using the percentage distribution of total OP visits per annum in Table 8.8.

To calculate OP visits per capita per year 2023 target, it was argued that upon implementation of universal coverage policies, utilisation often increases. An estimated increase of 60% was used on the basis of a report by the NHIF (2014) indicating that OP visits in a scheme covering civil servants and armed forces increased by 60% within a year of implementation. At the same time, utilisation of maternity services increased by between 10% and 100% in various government facilities across the country (Kenya) after user fees for delivery were removed in 2013 (Bourbonnais, 2013). Xu et al. (2006) and McIntyre (2012) had estimated similar rates (about 60%) of increase in OP visits upon enactment of policies that made health care free at the point of service. he WHO (2013a) in SARA (service availability and readiness assessment) tool recommends 5.0 OP visits per capita per year but this has not been achieved in any developing country with a universal system and is unlikely to be the case in Kenya so instead of 5.0 OP visits per capita per year it was estimated that by 2030 under a contributory system, the total OP visits per capita per year will be about 4.3 which is close to the average annual OP visits per capita in Thailand (Table 8.9).

Total OP visits at public facilities stands at 58.4% of total OP visits as of 2013 (Ministry of Health, 2014a). To estimate total OP visits in public facilities in 2023, reference was made to Limwattananon et al. (2012) in a study in Thailand where universal coverage scheme (UCS) increased OP visits by 25% entirely in public sector facilities. Bates and Annear (2013) also confirm that public facilities provide over 70% of health services mostly to the larger majority of Thai's covered under UCS. It was therefore estimated that by 2023 OP visits to public sector facilities will increase to about 73% of total OP visits (i.e. 58.4*1.25= 73%).

If OP visits to public providers would be 73% of total OP visits, it was argued that by 2030 public providers are likely to account for about 78% of total OP visits per year. This was based on evidence from Rwanda and Thailand. In Rwanda, a country with high population coverage, primary facilities accounted for about 90% of all OP visits (Government of Rwanda, 2013). Also literature from countries such as Thailand which have universal systems suggest that about 70% of OP services are provided by government facilities. Adjustment of total government OP provision was done upwards to 78%. Sharing 78% of total OP visits between government primary health facilities and hospitals was based on the percentage distribution of total OP visits by provider category in 2023. The remaining 22% of annual OP visits was shared among non-government providers.

Table 8.9: Distribution of annual per capita outpatient visits by type of provider

Provider category	2013 %OP Services	2013 OP/Capita	2023 %OP Services	Target 2023 OP/Capita	2030 %OP Services	Target 2030 OP/Capita
Government primary care	**40.10**	**1.243**	**50.13**	**2.005**	**53.56**	**2.303**
Dispensary	22.10	0.685	27.63	1.105	29.52	1.269
Health Centre	18.00	0.558	22.50	0.900	24.04	1.034
Government hospitals	**18.30**	**0.567**	**22.88**	**0.915**	**24.44**	**1.051**
County referral	17.86	0.554	22.33	0.893	23.85	1.026
National referral	0.44	0.0136	0.55	0.022	0.59	0.025
Private-not-for-profit	**13.70**	**0.425**	**8.89**	**0.356**	**7.24**	**0.311**
Primary facility	8.10	0.251	5.25	0.210	4.28	0.184
Hospital	5.60	0.174	3.64	0.146	2.96	0.128
Private for-profit	**27.90**	**0.865**	**18.11**	**0.724**	**14.76**	**0.635**
Clinics/health centre	16.40	0.508	10.65	0.426	8.68	0.373
Hospitals	11.50	0.357	7.46	0.298	6.08	0.261
Total	**100.0**	**3.1**	**100.0**	**4.0**	**100.0**	**4.3**

Inpatient services for Base Year 2013 and Target Years 2023 and 2030 (Tables 8.11 and 8.12)

Baseline inpatient days per capita were calculated as follows: multiply percentage admissions for each provider by total admission rate (i.e. 0.038) to get admission rates for each provider category then multiplying the admission rates at each level of provision by total number of inpatient days (6.7) (Table 8.11). Splitting IP days per capita between government facilities was facilitated by data from the Kenyatta National Hospital (KNH) according to which: [0.089million (annual IP cases)*6.7 IP days/44.4million (total population)= 0.0134 IP days per capita per year. Out of a total of 0.1423 IP days per capita for public hospitals there is 0.1289 IP days per capita per year for county referral hospitals.

The admission rates at baseline are 55.8% for public facilities and 44.2% for private facilities of which non-profit facilities accounted for 40.5% of the 44.2%. Upon attainment of UC in 2030, overall admission rates would have increased by 20%. This assumption is based on evidence given by McIntyre (2012) who states that utilisation of hospital services tend to increase minimally by around 20% upon implementation of UC coverage policies. Limwattananon et al. (2012) also observed the probability of 18% increase in utilisation of IP services at public facilities in Thailand over a period of about 10 years after attainment of UHC. However, suchan increase would be in public services only because the effect of UHC policies will be most felt by those currently without coverage; that is, the indigent population and informal sector workers. Assuming that utilisation IP services in the private sector remain the same as there are no incentives to increase their use, it means that the public sector would account for 76% of IP services by 2023 up from 56% in 2013. Little variation is expected in the utilisation rate up to 2030.

To calculate IP days per capita for target year 2030 the assumption was that 75% of all IP services will be publicly provided and the remaining 25% going to none private providers. The 75% rate is based on estimates that admission rates will be much higher in 2030 and close to admission rates in a middle-income country such as Thailand. As of 2009 Thailand's universal coverage scheme (UCS) reported 90 admissions/1000 (ILO, 2009). The UCS members are mostly informal sector workers. The admission rate of 0.09 gives 3.39 hospital days, i.e. 0.3051 IP days per capita per annum. Reliability of these figures were triangulated using two additional sources: (i) current hospital days from none government hospitals in Kenya are on average 3.74 days (Mbogo and Otini, 2011). These hospitals represent higher levels of care compared to public facilities and it was assumed that with a universal system in Kenya, public services would improve to match private provision. (ii) Public hospitals in Sri Lanka with hospital days of about 3.6 days) (Medical Statistics Unit, 2008).

For 2023 IP utilisation targets, assuming that admission rate increases steadily, it means that admission rates in 2023 will be 0.063 (i.e. 63 admissions per 1000) increasing at an average annual rate of 5.25% to reach 0.09 in 2030. The admission rates for various providers were then calculated and multiplied by hospital days to estimate inpatient days per capita per annum for 2023. The total inpatient days per capita was therefore estimated at 0.2865 for 2023 and 0.3051 for 2030 (Table 8.10).

Table 8.10: Admission rates and inpatient days per capita per year

IP Provider category	Admission rate 2013	Inpatient day/Capita	Admission rate 2023	Inpatient day/ Capita 2023	Admission rate	Inpatient day/ Capita 2030
County Referral	0.0192	0.1289	0.0383	0.1742	0.0540	0.1831
National Referral	0.002	0.0134	0.0096	0.0435	0.0135	0.0458
Private Non-profit	0.0068	0.0453	0.0068	0.0309	0.0101	0.0343
Private for-profit clinic	0.0017	0.0114	0.0015	0.0069	0.0023	0.0076
Private for-profit hospital	0.0083	0.0555	0.0068	0.0309	0.0101	0.0343
Total	**0.038**	**0.2545**	0.0630	0.2865	0.0900	0.3051
Hospital days	**6.7**		**4.55**		**3.39**	

Utilisation by insured and uninsured groups

In calculating differences in utilisation of OP and IP services between insured and uninsured populations, reference was made to the MOH-Kenya (2009) household survey. In the survey, for every OP visit by insured persons there were 0.8966 OP visits by uninsured. For IP services, the rate of admission among insured persons was 0.048 per annum against 0.025 per annum for the uninsured (i.e. for every admission among insured persons there were 0.521 admissions among the uninsured). These utilisation rates of OP and IP services were used to estimate total OP visits and IP days per capita per year for insured and uninsured populations in all types of providers (in the public dispensary for example, OP

visits per annum among insured persons is: 0.685/1.8966= 0.3612; and among the uninsured OP visits would be: 0.685*0.8966/1.8966= 0.3238) (Table 8.11).

Table 8.11: Baseline annual OP visits and IP days per capita by provider category

Provider	2013 rates	Uninsured	Insured
Public Dispensary (OP)	0.685	0.3238	0.3612
Public Health Centre (OP)	0.558	0.2638	0.2942
Public County Hospital (OP)	0.554	0.2619	0.2921
Public County Hospital (IP)	0.1289	0.0442	0.0847
Public National Hospital (OP)	0.0136	0.0064	0.0072
Public National Hospital (IP)	0.0134	0.0046	0.0088
Private non-profit (OP)	0.425	0.2010	0.2240
Private non-profit(IP)	0.0453	0.0155	0.0298
Private profit clinic (OP)	0.508	0.2402	0.2678
Private profit clinic (IP)	0.0114	0.0039	0.0075
Private profit hospital (OP)	0.357	0.1688	0.1882
Private profit hospital (IP)	0.0555	0.0190	0.0365

Utilisation by pensioners

Utilisation rates for IP and OP services among pensioners considered evidence from Xu et al. (2006) who observed that pensioners were 67% and 61% more likely to use OP and IP services respectively than other population groups. These findings were significant for OP services (P=0.001) but not for IP services (P=0.078). The findings by Xu et al. (2006) were about similar to those by the MOH (2009) where the household health expenditure and utilisation survey (2007) indicated that OP visits per annum for pensioners (65+ years) were 63% higher than other population groups. Henceforth utilisation rates for pensioners were adjusted upwards by 65% being average estimates by MOH and Xu and colleagues (Table 8.12). Pensioners are considered as part of the formal sector and their coverage would be as easy as covering the formal sector because of the ease of identifying their incomes.

Table 8.12: Pensioners' annual OP visits and IP days per capita by provider category

Provider	2013	Uninsured	Insured	Target 2023	Target 2030
Public Dispensary (OP)	1.1302	0.5343	0.5959	1.8233	2.0939
Public Health Centre (OP)	0.9207	0.4353	0.4854	1.4850	1.7061
Public County Hospital (OP)	0.9141	0.4321	0.4820	1.4735	1.6929
Public County Hospital (IP)	0.2075	0.0711	0.1364	0.2932	0.3349
Public National Hospital (OP)	0.0224	0.0106	0.0118	0.0363	0.0413
Public National Hospital (IP)	0.0216	0.0074	0.0142	0.0303	0.0346
Private non-profit (OP)	0.7013	0.3315	0.3698	0.5874	0.5132
Private non-profit (IP)	0.0730	0.0250	0.0480	0.0559	0.0551
Private profit clinic (OP)	0.8382	0.3963	0.4419	0.7029	0.6155
Private profit clinic (IP)	0.0184	0.0063	0.0121	0.0142	0.0116
Private profit hospital (OP)	0.5891	0.2785	0.3106	0.4917	0.4307
Private profit hospital (IP)	0.0893	0.0306	0.0587	0.0686	0.0565

Table 8.13: Annual OP visits and IP days per capita by provider category for Base Year 2023

Provider category	Rest of population			Pensioners		
	Base Year 2023	Uninsured	Insured	Base Year 2023	Uninsured	Insured
Public Dispensary (OP)	1.1050	0.5072	0.5978	1.8233	0.8619	0.9613
Public Health Centre (OP)	0.9000	0.4131	0.4869	1.4850	0.7020	0.7830
Public County Hospital (OP)	0.8930	0.4099	0.4831	1.4735	0.6966	0.7769
Public County Hospital (IP)	0.1742	0.0800	0.0942	0.2932	0.1004	0.1928
Public National Hospital (OP)	0.0220	0.0101	0.0119	0.0363	0.0172	0.0191
Public National Hospital (IP)	0.0435	0.0200	0.0235	0.0303	0.0104	0.0199
Private non-profit (OP)	0.3560	0.1634	0.1926	0.5874	0.2777	0.3097
Private non-profit(IP)	0.0309	0.0142	0.0167	0.0559	0.0191	0.0367
Private profit HC (OP)	0.4260	0.1955	0.2305	0.7029	0.3323	0.3706
Private profit HC (IP)	0.0069	0.0032	0.0037	0.0142	0.0049	0.0093
Private profit hospital(OP)	0.2980	0.1368	0.1612	0.4917	0.2324	0.2593
Private profit hospital(IP)	0.0309	0.0142	0.0167	0.0686	0.0235	0.0451

Appendix C, C5: HEALTH INSURANCE

Percentage population groups insured (exempted included) (%): The total population with health insurance is about 18% which means that just about 0.1% of the informal sector population is covered. Under the contributory scenario, the Government of Kenya plans to cover 54% of informal sector and indigent populations by 2023 and attain universal population coverage by 2030. The high rates of coverage for the informal sector may be supported by current new and aggressive strategies being employed by the NHIF to enrol the informal sector as well as a constitutional requirement that makes it mandatory for every Kenyan to enrol into a health insurance scheme. Our reference for 53% coverage by 2023 is based on the MOH/WHO/GTZ 2004 mission (WHO/GTZ, 2004) which had projected that a coverage rate of about 53% of the informal sector is achievable within ten years of moderate implementation scenario. Under an alternative scenario (non-contributory), total population coverage would be attained in the second year of implementing UHC policies.
Other dependants: Coverage for other dependants was presumed to be coverage of dependants of formal sector employees and was put at 65% of the total dependant to bring the proportion of the insured to about 18% of the population.

Percentage population groups insured that are exempted (%): Under the contributory scenario, data input for this section was assumed to represent the indigent population and was put at 0% of the total population at the baseline to reach about 7.0% in 2023 and 20% of the population in 2030. The assumption was that only populations that are unable to contribute to the scheme would be exempted. These can only be indigent groups which are almost entirely found in the informal sector and constitute about 20% of the population.

Under non-contributory scenario, the percentage groups insured that are exempted was put at 0% at the baseline and 100% onwards from the second year of implementation. The population groups here are the informal sector and indigent populations representing 78.4% of the population.

Table 8.14: Informal sector population

	Millions	% of Population
Total informal sector population (including dependants)	34.80	78.39
Indigent people of working age	1.78	4.01*
Dependants of indigents	7.10	15.99*
Non-indigent population (including dependants	25.92	58.38

*Percent of total population exempt from contributions under contributory scenario

About 80% of formal sector workers (public and private) and their dependants are covered by the NHIF at the baseline which should rise to about 99% from the second year of UHC implementation in both scenarios. The same trend applies for formal sector pensioners because their incomes are equally easy to identify.

Health insurance contributions: The rates (2.4% of gross income from the formal sector and flat-rate contributions of KSh 6,000 per household per annum from the informal sector) are stipulated by the NHIF guidelines on contributions. Contributions are per household so dependants (both adults and children) do not contribute.

Subsidies to health insurance: Under a contributory financing mechanism, the model considers premium contributions as follows:

- Formal sector contributions gradually increased from 2.4% of gross pay at the baseline to stand at 6.5% from 2017 onwards;
- Pensioners contributions were varied from 2.4% of monthly pensions at the baseline to 4% from 2017 onwards;
- Government subsidies per exempted were put at KSh 3,000 at the baseline and automatically increased in the model in line with inflation;
- Contributions from the informal sector were set at KSh 6,000 per household per annum at the baseline (or KSh 1,200 per insured adult, child and principal contributor). These increased with inflation;
- Administrative costs gradually decreased from 12% of total revenue at the baseline to stand at 8% by 2023 and 7% from 2024 onwards.

In the non-contributory scenario, the following assumptions were made:

- Formal sector contributions gradually increased from 2.4% of gross pay at the baseline to stand at 6.5% from 2017 onwards;

- Pensioners contributions were varied from 2.4% of monthly pensions at the baseline to 4% from 2017 onwards;
- Government subsidies per exempted were put at KSh 3,000 at the baseline and automatically increased in the model in line with inflation;
- All informal sector workers and indigent populations were exempted;
- Administrative costs reduced from 12% to stay at 5% throughout the simulation.

Contributions from the formal sector were based on comparisons from countries with universal coverage systems where a section or the entire population was expected to contribute a percentage of their income for health insurance (OECD, 2010). Contribution rates from the informal sector are as stipulated by the NHIF and so sensitivity analysis did not consider lower contribution as there is already evidence that contributions at KSh 6,000 per year are unsustainable. However, higher rates were considered in an effort to find sustainable financing for the contributory scenario.

Co-payment rates for non-government facilities (% of average cost per health service): There are no co-payments for public sector health facilities. For non-government facilities, estimated co-payment rates were based on NHIF experience where co-payments vary from 2% of the total cost for low-cost non-government facilities to 90% for the high cost private facilities. It was assumed these co-payment rates will not change for the entire duration of the simulation because they are based on recent statutes.

Reserves, administrative costs and other non-health care costs (in % of health care expenditure of the insurance): The MOMS-Kenya[10] (2012) states that surplus funds (reserves) would be maintained at about 4% from the second year of implementation of UHC. The WHO/GTZ mission to Kenya in 2004 recommended health insurance cash reserve level at 3% of total health insurance expenditure. It was not immediately apparent what the international best practice is in terms of health insurance cash reserve levels so reserve levels for the UHC scheme was estimated at 6% of total revenue for the first two years then drop off to 3% for the entire simulation due to efficiency gains and economies of scale.

For administrative costs, we use the international best practice to estimate such costs for the entire period of the simulation even though the WHO-GTZ mission to Kenya in 2004 recommended administrative costs at 5% of total health insurance expenditure within five years of implementation. The international best practice for administrative costs should range from 10% to 12% of total health insurance expenditure (MOH-PER, 2007) so based on international best practice it was estimated that administrative costs for the contributory system would be 12% for the first two years of implementing UHC then with efficiency improvements continue to drop off to 10%, 9% (2018 – 2020) and 8% (2021 – 2023) and 7% from 2024 to 2030.

[10] Ministry of Medical Services (MOMS)

REFERENCES

ABELA, A. M. 2004. Solidarity and religion in the European Union: A comparative sociological perspective. *In:* XUEREB, P. G. (ed.) *The Value(s) of a Constitution for Europe.* Malta: European Documentation and Research Centre, University of Malta.

ADHIKARI, D. B. 2011. Income generation in informal sector: A case study of the street vendors of Kathmandu Metropolitan City. *Economic Journal of Development Issues* 13 & 14.

AFRICAN DEVELOPMENT BANK 2008. Kenya country strategy paper 2008 - 2012. Addis Ababa: African Development Bank.

AFRICAN DEVELOPMENT BANK 2013. Country overview. African Economic Outlook.

AFRICAN DEVELOPMENT BANK 2014. Kenya economic forecast. Tunis: African Development Bank.

AGYEPONG, I. A. & ADJEI, S. 2008. Public social policy development and implementation: a case study of the Ghana National Health Insurance scheme. *Health Policy and Planning,* 23**,** 150-160.

AHOOBIM, O., ALTMAN, D., GARRETT, L., HAUSMAN, H. & HUANG, Y. 2012. The New Global Health Agenda: Universal Health Coverage. New York, USA: Council on Foreign Relations.

AKAZILI, J., GARSHONG, B., AIKINS, M., GYAPONG, J. & MCINTYRE, D. 2012. Progressivity of health care financing and incidence of service benefits in Ghana. *Health policy and planning,* 27 Suppl 1**,** i13-22.

ANANGWE, A. 2008. Health sector reforms in Kenya: User fees. Dakar: CODESRIA.

ANTOINE, M. 2004. *Business development services, unemployment and the Kenyan informal sector.* Master of Arts in Law and Diplomacy, the Fletcher School, Tufts University.

ANTTONEN, A. & SIPILÄ, J. 2005. Universalism: An idea and principle in social policy. Kalevantie: University of Tampere.

ANTTONEN, A. & SIPILÄ, J. 2008. Comparative approaches to social care: Diversity in care production modes. In Pfau-Effinger, Birgit and Geissler, Birgit (eds) Care and social intergration in European societies. Bristol: The Policy Press.

ANTTONEN, A. & SIPILÄ, J. 2011. Universalism: An idea and principle in social policy. Kalevantie: University of Tampere.

APOYA, P. & MARRIOTT, A. 2011. Achieving a shared goal: Free universal health care in Ghana. London: Oxfam International.

ARHIN-TENKORANG, D. 2001. Health insurance for the informal sector in Africa: Design features, risk protection, and resource mobilization. *Health Nutrition and Population Discussion Paper.* Washington DC: World Bank.

ARYEETEY, G. C., JEHU-APPIAH, C., SPAAN, E., AGYEPONG, I. & BALTUSSEN, R. 2012. Costs, equity, efficiency and feasibility of identifying the poor in Ghana's National Health Insurance Scheme: empirical analysis of various strategies. *Trop Med Int Health,* 17**,** 43-51.

ARYEETEY, G. C., JEHU-APPIAH, C., SPAAN, E., D'EXELLE, B., AGYEPONG, I. & BALTUSSEN, R. 2010. Identification of poor households for premium exemptions in Ghana's National Health Insurance Scheme: empirical analysis of three strategies. *Trop Med Int Health,* 15**,** 1544-52.

ATAGUBA, J. E. & AKAZILI, J. 2010. Health care financing in South Africa: Moving towards universal coverage. *CME* 28**,** 74 - 78.

BANDARA, A. 2011. Emerging health issues in Asia and the Pacific: Implications for public health policy. *Asia-Pacific Development Journal* Vol. 12**,** 33-58.

BARGAIN, O. & KWENDA, P. 2010. The informal sector wage gap: New evidence using quantile estimations on panel data. *IZA Discussion Paper No. 4286.* Bonn, Germany: Institute for the Study of Labor (IZA).

BATES, C. & ANNEAR, P. 2013. Lessons learned from Thailand's universal health care scheme: Institutional and organisational arrangements. Melbourne: University of Melbourne.

BECKER, K. F. 2004. The Informal Economy. SIDA Report.

BITRAN, R. 2014. Universal health coverage and the challenge of informal employment: Lessons from developing countries. *Health, Nutrition, and Population (HNP) Discussion Paper.* Washington, DC: The World Bank.

BIVAND, P., BELL, L., VAID, L., WHITEHURST, D. & WAN, K. 2010. The impact of devolution: Employment and employability. London: Joseph Rowntree Foundation.

BOSSYNS, P., ABACHE, R., ABDOULAYE, M. S., MIYE, H., DEPOORTER, A. M. & VAN LERBERGHE, W. 2006. Monitoring the referral system through benchmarking in rural Niger: an evaluation of the functional relation between health centres and the district hospital. *BMC Health Serv Res,* 6**,** 51.

BOURBONNAIS, N. 2013. Implementing free maternal health care in Kenya: Challenges, strategies and recommendations. Nairobi: The Kenya National Commission for Human Rights.

BOYCE, J., K. & NDIKUMANA, L. 2012. Capital Flight from Sub-Saharan African Countries: Updated Estimates, 1970 - 2010. Massachusetts: Political Economy Research Institute, University of Massachusetts, Amherst.

BRYAN, L., CONWAY, M., KEESMAAT, T., MCKENNA, S. & RICHARDSON, B. 2010. Strengthening sub-Saharan Africa's health systems: A practical approach. McKinsey & Company.

BUDLENDER, D. 2011. Statistics on informal employment in Kenya. *Wiego Statistical Brief No 5.* WIEGO: Women in Informal Employment Globalising and Organising (WIEGO).

CAMARA, B. O. & LOUISA, Z. Y. 2013. Extending healthcare to the informal sector in Laos. Singapore: Lee Kuan Yew School of Public Policy (LKY School), National University of Singapore.

CARRIER, J. & KENGDALL, I. 1998. *Health and the National Health Service: Conflict and change in Britain- a new audit,* London, the Athlone Press.

CARRIN, G. & JAMES, C. 2005. Social health insurance: Key factors affecting the transition towards universal coverage. *International Social Security Review,* 58**,** 1 - 15.

CARRIN, G., JAMES, C., ADELHARDT, M., DOETINCHEM, O., ERIKI, P., HASSAN, M., VAN DEN HOMBERGH, H., KIRIGIA, J., KOEMM, B., KORTE, R., KRECH, R., LANKERS, C., VAN LENTE, J., MAINA, T., MALONZA, K., MATHAUER, I., OKEYO, T. M., MUCHIRI, S., MUMANI, Z., NGANDA, B., NYIKAL, J., ONSONGO, J., RAKUOM, C., SCHRAMM, B., SCHEIL-ADLUNG, X., STIERLE, F., WHITAKER, D. & ZIPPERER, M. 2007. Health financing reform in Kenya - assessing the social health insurance proposal. *S Afr Med J,* 97**,** 130-5.

CHARMES, J. 2012. The informal economy worldwide: Trends and characteristics. *Margin: The Journal of Applied Economic Research* 6**,** 103 -132.

CHEN, M. The informal economy: A global perspective. The Informal Economy in Ghana: A Comparative Perspective, 2005 La Palm, Accra. WIEGO.

CHO, Y., MARGOLIS, D., NEWHOUSE, D. & ROBALINO, D. 2012. Labor markets in low- and middle-income countries: Trends and implications for social protection and labor policies. *Social Protection and Labour, Discussion Paper No.1207.* Washington, DC: the World Bank.

CHUMA, J., GILSON, L. & MOLYNEUX, C. 2007. Treatment-seeking behaviour, cost burdens and coping strategies among rural and urban households in Coastal Kenya: an equity analysis. *Trop Med Int Health,* 12**,** 673-86.

CHUMA, J., MUSIMBI, J., OKUNGU, V., GOODMAN, C. & MOLYNEUX, C. 2009. Reducing user fees for primary health care in Kenya: Policy on paper or policy in practice? *Int J Equity Health,* 8**,** 15.
CHUMA, J., OKUNGU, V. & MOLYNEUX, C. 2010. Barriers to prompt and effective malaria treatment among the poorest population in Kenya. *Malar J,* 9**,** 144.
CIC 2014. Assessment of the implementation of the system of devolved government: From steps to strides. Nairobi: Commission for the Implementation of the Constitution.
COLLINS, D., QUICK, J. D., MUSAU, S. N., KRAUSHAAR, K. & HUSSEIN, I. M. 1996. The fall and rise of cost sharing in Kenya: the impact of phased implementation. *Health Policy Plan,* 11**,** 52-63.
COMMISSION ON REVENUE ALLOCATION 2013a. Kenya county fact sheets. 2nd edition ed. Nairobi: Government of Kenya.
COMMISSION ON REVENUE ALLOCATION 2013b. Policy on the criteria for identifying marginalised areas and sharing of the equalisation fund. Nairobi: Government of Kenya.
COOPER, R. S., KENNELLY, J. F. & ORDUNEZ-GARCIA, P. 2006. Health in Cuba. *International Journal of Epidemiology,* 35**,** 817-824.
DANIELS, L., MEAD, D. & MUSINGA, M. 1995. Employment and income in micro and small enterprises in Kenya: Results of a 1995 Survey. Washington, DC: World Bank.
DE ALWIS, D. & CHRISTOPHER, C. 2013. The state of Sri Lanka's healthcare. Available: http://www.thesundayleader.lk/2012/11/10/the-state-of-sri-lankas-healthcare/.
DEL ROCÍO, S. M., BERMÚDEZ, J. L. & ACOSTA, M. 2010. Universal coverage in a middle income country: Costa Rica. *World Health Report (2010), Background Paper, 11.* Geneva: World Health Organisation.
DELOITTE CONSULTING LIMITED 2011. Strategic review of the National Hospital Insurance Fund - Kenya. Nairobi: Ministry of Medical Services (MOMS).
DEMERY, L. & GADDIS, I. 2009. Social spending, poverty and gender equality in Kenya: a benefit incidence analysis. Nairobi: GTZ.
DHELI GROUP 2005. Methods of evaluation of data quality of surveys on the informal sector and informal employment: Quality of informal sector data in Kenya. Nadi, Fiji.
EDWARDS, J. & BATLEY, R. 1978. *The politics of positive discrimination: An evaluation of the urban programme 1967-1977,* London, EDWARDS, J. & BATLEY, R. 1978. The politics of positive discrimination: An evaluation of the urban programme 1967-1977. London: Cambridge University Press.
ENRIQUE, G. P. & SCHIEBER, G. 2006. Health Financing Revisited: A Practitioner's Guide. Washington DC: World Bank.
EU & AU 2011. Social protection in Africa: Sharing experience on the informal economy. *European Union and African Union Capacity Building Workshop* Nairobi: European Union and African Union.
EUROSTART 2014. Evolution of total government expenditure, EU-28 (2006 - 2013). 02/08/2015 ed.: Eurostat.
FAO 2014. Population prospects in the Nile Basin. Geneva: Food and Agriculture Organisation (FAO).
FLESSA, S., MOELLER, M., ENSOR, T. & HORNETZ, K. 2011. Basing care reforms on evidence: the Kenya health sector costing model. *BMC Health Serv Res,* 11**,** 128.
FORASTIERI, V. 1999. Improvement of working conditions and environment in the informal sector through safety and health measures. Geneva: International Labour Organisation.
FOX, M. L. & GAAL, M. S. 2008. Working out of poverty Washington, DC: World Bank.
FRAKT, A. 2010. Estimating hospital cost shift rates: A practitioners' guide. Boston: Boston University School of Public Health.

GARRETT, L., CHOWDHURY, A. M. & PABLOS-MENDEZ, A. 2009. All for universal health coverage. *Lancet,* 374**,** 1294-9.
GATTINI, C. & RUIZ, P. 2012. Health in South America: Health situation, policies and systems, 2nd Edition. Washington, DC: Pan-American Health Organisation.
GIEDION, U. & BITRAN, R. 2003. Health insurance for informal sector workers. Washington, DC: World Bank.
GILSON, L. & MCINTYRE, D. 2005. Removing user fees for primary care in Africa: the need for careful action. *BMJ,* 331**,** 762-5.
GODDARD, M. & SMITH, P. 2001. Equity of access to health care services: theory and evidence from the UK. *Soc Sci Med,* 53**,** 1149-62.
GOODHART, D. 2004. Too Diverse? . *Prospect.* February ed.
GOUDGE, J., AKAZILI, J., ATAGUBA, J., KUWAWENARUWA, A., BORGHI, J., HARRIS, B. & MILLS, A. 2012. Social solidarity and willingness to tolerate risk- and income-related cross-subsidies within health insurance: experiences from Ghana, Tanzania and South Africa. *Health Policy Plan,* 27 Suppl 1**,** i55-63.
GOVERNMENT OF KENYA 2004. Providing quality health care to all Kenyans: Sessional paper no. 2 of 2004 on National Social Health Insurance in Kenya. Nairobi: Ministry of Health.
GOVERNMENT OF KENYA 2006. The Kenya Integrated Household Budget Survey Nairobi: Government of Kenya.
GOVERNMENT OF KENYA 2009. Ministerial public expenditure review 2009. Nairobi: Ministry of Medical Services (MOMS).
GOVERNMENT OF KENYA 2010a. Budget speech, fiscal year 2010/11. Nairobi: Ministry of Finance.
GOVERNMENT OF KENYA 2010b. Budget speech: Fiscal Year 2010/2011. Nairobi: Ministry of Finance.
GOVERNMENT OF KENYA 2011. Kenya population data sheet. Nairobi: Government of Kenya.
GOVERNMENT OF KENYA 2012. Health Sector Working Group Report: Medium Term Expenditure Framework (MTEF) for the period 2013/14-2015/16. Nairobi: Ministry of Health.
GOVERNMENT OF KENYA 2013a. Kenya population situation analysis. Nairobi: National Council for Population and Development (NCPD).
GOVERNMENT OF KENYA 2013b. Statistical release: Gross domestic product. Nairobi: Kenya National Bureau of Statistics.
GOVERNMENT OF KENYA 2014. The Kenya health expenditure and utilisation survey, 2013. Nairobi: Ministry of Health.
GOVERNMENT OF RWANDA 2009. Rwanda health financing policy. Kigali: Ministry of Health.
GOVERNMENT OF RWANDA. Building a partnership for non-communicable disease control in Rwanda. First National Workshop on Non-Communicable Disease, 2010a Kayonza District, Rwanda.
GOVERNMENT OF RWANDA 2010b. Rwanda National Health Insurance Policy. Kigali: Ministry of Health.
GOVERNMENT OF RWANDA 2011. Rwandan Ministry of Health mid-term review. Kigali: Ministry of Health.
GOVERNMENT OF RWANDA 2013. Community-based health insurance annual report FY 2012/2013. Kigali: Ministry of Health.
GRAHAM, A., MITULLAH, W. V. & KOPIYO, G. 1998. Baseline survey of women street vendors in Kenya. Nairobi: MATRIX Development Consultants and DFID.
GUNATILLEKE, G. 2009. Negotiating Development in an Evolving Democracy – Lessons from Sri Lanka. *Havard Asian Pacific Review* [Online]. Available: http://www.margasrilanka.org/reading_negotiating-develop-mentinan-evolving.htm.

GUPTA, S., CLEMENTS, B. & COADY, D. 2012. The challenge of health care reform in advanced and emerging economies. *In:* CLEMENTS, B., COADY, D. & GUPTA, S. (eds.) *The economics of health care reform in advanced and emerging economies.* Washington D.C: International Monetary Fund.

HANVORAVONGCHAI, P. 2013. Health financing reform in Thailand: Toward universal coverage under fiscal constraints *UNICO Study Series 20.* Washington DC: The World Bank.

HARRIS, B., NXUMALO, N., ATAGUBA, J. E., GOVENDER, V., CHERSICH, M. & GOUDGE, J. 2011. Social solidarity and civil servants' willingness for financial cross-subsidization in South Africa: implications for health financing reform. *J Public Health Policy,* 32 Suppl 1**,** S162-83.

HAUSMAN, D. 2010. *Reworking the revenue service: Tax collection in South Africa, 1999–2009,* Princeton, NJ, Princeton University Press.

HEALTH POLICY PROJECT 2013. Policy changes to benefit women: Ministry of Health implements free maternity services nationwide. Nairobi: Health Policy Project.

HERNANDEZ, D. 2002. Universalism versus selectivism in the provision of social welfare: A case study addressing adverse selection and moral hazard in social policy in Colombia. Bogota: National University of Columbia.

HSIAO, W. C. & SHAW, R. P. 2007. Social health insurance for developing countries. *WBI Development Studies.* Washington, D.C.: World Bank Institute and Havard University.

HYOUNG-SUN, J., H. 2010. Expanding insurance coverage to informal sector populations: Experience from Republic of Korea. *World Health Report, Background Paper, 38.* Geneva: World Health Organisation.

IECONOMICS 2014. Kenya: Population forecast. http://ieconomics.com/kenya-population-forecast: IECONOMICS.

ILO 2002a. Decent work and the informal economy: Report of the Director-General, International Labour Conference, 90th Session, Report VI. Geneva: International Labour Office.

ILO 2002b. Women and men in the informal economy: A statistical picture. Geneva: International Labour Organisation.

ILO 2003. Report 1, General Report. *17th International Conference of Labour Statisticians* Geneva: International Labour Organisation.

ILO 2009. Thailand : health care reform : financial management. Report 2 -The calculation of capitation fees and the estimation of provider payments : initial review Geneva: International Labour Office, Social Security Department.

ILO 2010. World Social Security Report 2010/11: Providing coverage in times of crisis and beyond. Geneva: International Labour Organisation.

ILO 2012a. Global Wage Report, 2012/13: Wages and equitable growth. Geneva: International Labour Organisation.

ILO 2012b. Statistical update on employment in the informal secto. Geneva: ILO - Department of Statistics.

ILO 2014. Universal health protection: Progress to date and the way forward. *Social protection policy papers: Paper 10.* Geneva: International Labaour Organisation.

ILO & WTO 2009. Globalization and informal jobs in developing countries: A joint study of the International Labour Office and the Secretariat of the World Trade Organization. Geneva: World Trade Organisation.

IMF 2013. Costa Rica: Fiscal Transparency Assessment. *IMF country report.* Washington, DC: International Monetary Fund.

INSTITUTE OF ECONOMIC AFFAIRS 2014. Budget 2014/2015: Balancing financing concerns while responding to spending inefficiencies. Nairobi: Institute of Economic Affairs.

INTERACTIONS. 2013. *Social, economic and political context in Kenya* [Online]. Available: http://interactions.eldis.org/unpaid-care-work/country-profiles/kenya/social-economic-and-political-context-kenya [Accessed 13/08/2014.
JAKAB, M. & KRISHNAN, C. 2001. Community involvement in health care financing: A survey of the literature on the impacts, strengths, and weaknesses. Washington, D.C.: World Bank.
JAMES, C. & SAVEDOFF, W. 2010. Risk Pooling and Redistribution in Health Care: An Empirical Analysis of Attitudes toward Solidarity. *World Health Report.* Geneva: World Health Organization.
JANMAAT, G. J. & BRAUN, R. 2009. Diversity and Postmaterialism as Rival Perspectives in Accounting for Social Solidarity: Evidence from International Surveys. *International Journal of Comparative Sociology* 50 39 - 68.
JEHU-APPIAH, C., ARYEETEY, G., SPAAN, E., AGYEPONG, I. & BALTUSSEN, R. 2010. Efficiency, equity and feasibility of strategies to identify the poor: an application to premium exemptions under National Health Insurance in Ghana. *Health Policy,* 95**,** 166-73.
JEHU-APPIAH, C., ARYEETEY, G., SPAAN, E., DE HOOP, T., AGYEPONG, I. & BALTUSSEN, R. 2011. Equity aspects of the National Health Insurance Scheme in Ghana: Who is enrolling, who is not and why? *Social science & medicine (1982),* 72**,** 157-65.
JENKNER, E., SHANG, B. & CLEMENTS, B. 2012. Health reform lessons from experiences of emerging economies. *In:* CLEMENTS, B., COADY, D. & GUPTA, S. (eds.) *The economics of health care reform in advanced and emerging economies.* Washington D.C: International Monetary Fund.
JEONG, H. 2010. Expanding insurance coverage to informal sector populations: Experience from Republic of Korea. *World Health Report, Background Paper, 38.* Geneva: World Health Organisation.
KANDIE, K. 2014. What is the fate of former provincial hospitals? . *the Star*.
KASARA, K. 2011. Separate and suspicious: Local social and political context and ethnic tolerance in Kenya. *Afrobarometer Working Papers.* New York: Columbia University.
KENYA LAW REFORM COMMISSION. 2015. *The constitution of Kenya* [Online]. Nairobi: Government of Kenya. Available: http://www.klrc.go.ke/index.php/constitution-of-kenya/147-chapter-twelve-public-finance/part-1-principles-and-framework-of-public-finance/373-204-equalisation-fund [Accessed 20/02 2015].
KINYANJUI, M. N. 2010. Social relations and associations in the informal sector in Kenya. Social Policy and Development Paper No. 43. Geneva: United Nations Research Institute for Social Development (UNRISD). .
KIPCHUMBA, M. O. 2012. Devolution and the health system in Kenya. Devolution and Health Consultative Meeting. Nairobi: Strategic Thinkers and Actors Consultants Ltd.
KIPPRA 2013. Kenya Economic Report 2013: Creating an enabling environment for stimulating investment for competitive and sustainable counties Nairobi: Kenya Institute for Public Policy and Research and Analysis.
KNBS 2007. Kenya Economic Survey 2007. Nairobi: Government of Kenya.
KNBS 2008. The Kenya economic survey. Nairobi: Government of Kenya.
KNBS 2010a. Kenya demographic and health surveys. Nairobi: Government of Kenya.
KNBS 2010b. Population and housing census 2009. Nairobi: The Kenya National Bureau of Statistics.
KNBS 2014a. Classification of government exenditure by functions of gove rnment. Nairobi: Kenya National Bureau of Statistics, Government of Kenya.
KNBS 2014b. Kenya Economic Survey 2014. Nairobi: Ministry of Devolution and Planning, Government of Kenya.

KOMOLLO, F. O. Regularization of the informal 'Jua Kali' activities in Nairobi for sustainable development. 46th ISOCARP Congress, 2010 Nairobi.
KPMG 2014. Devolution of healthcare services in Kenya: Lessons learnt from other countries Nairobi: KPMG-Africa.
KRA 2009. Domestic taxes department employer's guide to pay as you earn in Kenya. Nairobi: Kenya Revenue Authority (KRA).
KRISTENSEN, C. J. 2007. Towards two-tier universalism? A discussion of the welfare principle. *Journal of Social Sciences,* 3**,** 52-59.
KUIVALAINEN, S. & NIEMELÄ, M. 2008. From Universalism to Selectivism? The rise of anti-poverty policies in Finland. *Annual meeting of RC 19.* Stockholm.
KUTZIN, J. 2001. A descriptive framework for country-level analysis of health care financing arrangements. *Health Policy,* 56**,** 171-204.
KUTZIN, J. 2006. Myths, instruments, and objectives in health financing and insurance. *In:* HOLST, J. & BRANDRUP-LUKANOW, A. (eds.) *Extending social protection in health: Experiences, lessons learnt and recommendations on social protection in developing countries.* Berlin: Eschborn.
KWON, S. 2012. Coverage expansion and cost containment in the Republic of Korea. *In:* CLEMENTS, B., COADY, D. & GUPTA, S. (eds.) *The economics of health care reform in advanced and emerging economies.* Washington D.C: International Monetary Fund.
LAGOMARSINO, G., GARABRANT, A., ADYAS, A., MUGA, R. & OTOO, N. 2012. Moving towards universal health coverage: health insurance reforms in nine developing countries in Africa and Asia. *Lancet,* 380**,** 933-43.
LANGENBRUNNER, J. C. & TANDON, A. 2012. Health financing systems in East Asia and the Pacific: Early successes and current challenges. *In:* CLEMENTS, B., COADY, D. & GUPTA, S. (eds.) *The economics of health care reform in advanced and emerging economies.* Washington D.C: International Monetary Fund.
LATKO, B., TEMPORAO, J. G., FRENK, J., EVANS, T. G., CHEN, L. C., PABLOS-MENDEZ, A., LAGOMARSINO, G. & DE FERRANTI, D. 2011. The growing movement for universal health coverage. *Lancet,* 377**,** 2161-3.
LEIVE, A. & XU, K. 2008. Coping with out-of-pocket health payments: empirical evidence from 15 African countries. *Bull World Health Organ,* 86**,** 849-856.
LETOURMY, A. 2010. How to implement health insurance in Sub-Saharan Africa. *European Report on Development, Regional Conference.* Dakar.
LEWIS, J. 2009. Design issues. *In:* RITCHIE, J. & LEWIS, J. (eds.) *Qualitative research practice: A guide for social science students and researchers.* London: Sage.
LIEDHOLM, C. 1991 Data collection strategies for small-scale industry surveys. *Gemini Working Paper No. 11.* Bethesda: Michigan State University.
LIMWATTANANON, S., NEELSEN, S., O'DONNELL, O., PRAKONGSAI, P., TANGCHAROENSATHIEN, V. & VAN DOORSLAER, E. 2013. Universal coverage on a budget: Impacts on health care utilization and out-of-pocket expenditures in Thailand. *Tinbergen Institute Discussion Paper.* Amsterdam: Tinbergen Institute.
LIMWATTANANON, S., NEELSENC, S., TANGCHAROENSATHIEN, V., PRAKONGSAI, P., VONGMONGKOL, V., VAN DOORSLAER, E. & O'DONNELL, O. 2012. What does universal coverage do? The impact on health care utilization and expenditures in thailand. Bangkok: Ministry of Health.
LINDELOW, M., HAWKINS, L. & OSORNPRASOP, S. 2012. Government spending and central-local relations in Thailand's health sector. *Health, Nutrition and Population (HNP) discussion paper.* Washington, DC: World Bank.

LOFLAND, J. & LOFLAND, L. H. 1995. *Analyzing social settings: A guide to qualitative observation and analysis.,* London, Wordsworth.

LOGIE, D. E., ROWSON, M. & NDAGIJE, F. 2008. Innovations in Rwanda's health system: looking to the future. *Lancet,* 372**,** 256-261.

MACK, M., WOODSONG, C., MACQUEEN, K. M., GUEST, G. & NAMEY, E. 2005. Qualitative research methods: A data collector's field guide. . North Carolina: Research Triangle Park, Familiy Health International.

MAHINDA, F. W. 2009. *Determinants of self directed referral amongst patients seeking health services at Kenyatta National Hospital, Nairobi, Kenya.* Master of Public Health, University of Nairobi.

MATHAUER, I., SCHMIDT, J. O. & WENYAA, M. 2008. Extending social health insurance to the informal sector in Kenya. An assessment of factors affecting demand. *Int J Health Plann Manage,* 23**,** 51-68.

MATHESON, A., MATHESON, D., ELLISON-LOSCHMAN, L., CUMMING, J. & HADDOCK, K. 2010. Overcoming social barriers to universal health coverage: global experiences both inside and outside the health system. *In:* MISSONI, E. (ed.) *A research initiative to support evidence-based advocacy and policy-making.* Milan: Global Health Group, Cergas.

MBAYE, M. A. A. 2014. The Informal Sector, Employment, and Structural Transformation Some Operational Recommendations for a Productive Policy. Dakar: International Organization of La Francophonie.

MBOGO, S. & OTINI, R. 2011. Broker jolts hopitals with new pricing index. *Business Daily*.

MBOYA, T., STIERLE, F., SAX, S., MUGA, R., KORTE, R. & ADELHARDT, M. 2004. Towards establishing national social health insurance in Kenya Nairobi: Minstry of Health, Department of Standards and Regulatory Services and Eschborn, Germany: GTZ.

MCINTYRE, D. 2005. Country case study: Universal health insurance in Costa Rica Cape Town: Health Economics Unit, University of Cape Town

MCINTYRE, D. 2007. Learning from Experience: Health care financing in low and middle-income countries. Geneva: Global Forum for Health Research.

MCINTYRE, D. 2012. Health service financing for universal coverage in east and Southern Africa. *EQUINET Discussion Paper No. 95.* Health Economics Unit (UCT), EQUINET, Harare.

MCINTYRE, D., GARSHONG, B., MTEI, G., MEHEUS, F., THIEDE, M., AKAZILI, J., ALLY, M., AIKINS, M., MULLIGAN, J. A. & GOUDGE, J. 2008. Beyond fragmentation and towards universal coverage: insights from Ghana, South Africa and the United Republic of Tanzania. *Bull World Health Organ,* 86**,** 871-6.

MCINTYRE, D. & GILSON, L. 2005. Equitable health care financing and poverty challenges in the African context. *Forum 9, Global Forum for Health Research.* Mumbai: EQUINET, the Regional Network for Equity in Health in Southern Africa.

MCINTYRE, D., GILSON, L. & MUTYAMBIZI, V. 2005. Promoting equitable health care financing in the African context: Current challenges and future prospects. Trends in health care funding in sub-Saharan Africa Harare.

MCINTYRE, D. & KUTZIN, J. 2014. Guidance on conducting a situation analysis of health financing for universal health coverage. Geneva: World Health Organisation.

MCINTYRE, D. & MEHEUS, F. 2014. Fiscal space for domestic funding of health and other social services. *Working Group on Financing Paper 5.* London: Chatham House, Centre on Global Health Security.

MCINTYRE, D., RANSON, M. K., AULAKH, B. K. & HONDA, A. 2013. Promoting universal financial protection: evidence from seven low- and middle-income countries on factors facilitating or hindering progress. *Health Res Policy Syst,* 11**,** 36.
MCINTYRE, D., THIEDE, M. & BIRCH, S. 2009. Access as a policy-relevant concept in low- and middle-income countries. *Health Econ Policy Law,* 4**,** 179-93.
MCINTYRE, D., THIEDE, M., DAHLGREN, G. & WHITEHEAD, M. 2006. What are the economic consequences for households of illness and of paying for health care in low- and middle-income country contexts? *Soc Sci Med,* 62**,** 858-65.
MEDICAL STATISTICS UNIT 2008. Sri Lanka Health at a glance. Colombo: Government of Sri Lanka.
MENG, X. 2001. The informal sector and rural urban migration- a Chinese case study. *Asian Economic Journal,* 15**,** 71 - 89.
MILLS, A. 2007. Strategies to achieve universal coverage: are there lessons from middle income countries? London: London School of Hygeine and Tropical Medicine.
MILLS, A., ALLY, M., GOUDGE, J., GYAPONG, J. & MTEI, G. 2012a. Progress towards universal coverage: the health systems of Ghana, South Africa and Tanzania. *Health Policy Plan,* 27 Suppl 1**,** i4-12.
MILLS, A., ATAGUBA, J. E., AKAZILI, J., BORGHI, J., GARSHONG, B., MAKAWIA, S., MTEI, G., HARRIS, B., MACHA, J., MEHEUS, F. & MCINTYRE, D. 2012b. Equity in financing and use of health care in Ghana, South Africa, and Tanzania: implications for paths to universal coverage. *Lancet,* 380**,** 126-33.
MINISTRY OF DEVOLUTION & PLANNING 2013. Comprehensive Public Expenditure Review: Eye on budget spending for results. Nairobi: Government of Kenya.
MINISTRY OF HEALTH 2002. National Health Accounts 2001/12. Nairobi: Government of Kenya.
MINISTRY OF HEALTH 2004. Kenya household health expenditure and utilisation survey. Nairobi: Government of Kenya.
MINISTRY OF HEALTH 2005. Reproductive health financing unit cost/cost sharing review study and the impact of the 10-20 Policy. Nairobi: Department of Planning, Ministry of Health.
MINISTRY OF HEALTH 2006. National Health Accounts 2005/06. Nairobi: Government of Kenya.
MINISTRY OF HEALTH 2009. Kenya household health expenditure and utilisation survey. Nairobi: Government of Kenya.
MINISTRY OF HEALTH 2010. National Health Accounts 2009/10. Nairobi: Government of Kenya.
MINISTRY OF HEALTH 2012. Kenya health policy, 2012 - 2030. Nairobi: Government of Kenya.
MINISTRY OF HEALTH 2013. Counties at a glance. Nairobi: Government of Kenya.
MINISTRY OF HEALTH 2014a. The Kenya household health expenditure and utilisation survey, 2013. Nairobi: Government of Kenya.
MINISTRY OF HEALTH 2014b. A model for health financing reforms in Kenya: Policy brief. Nairobi: Ministry of Health.
MINISTRY OF HEALTH 2014c. National Health Accounts 2013/14. Nairobi: Government of Kenya.
MINISTRY OF HEALTH. 2015. *eHealth-Kenya facilities* [Online]. Available: http://www.ehealth.or.ke/facilities/ [Accessed 20/1 2015].
MINISTRY OF MEDICAL SERVICES 2012. Sessional paper No. 7 of 2012 on the policy on universal health coverage in Kenya. Nairobi: Government of Kenya.
MISHRA, R. 1981. *Society and social policy,* London, Macmillan, 2nd ed.
MISSONI, E., ASANTE-POKU, A., FATTORE, G., PACILEO, G., PROCACCI, C., RICCIUTI, E. & TEDIOSI, F. 2010. Attaining Universal Health Coverage: A research initiative to support evidence based advocacy and policy making. Milan: Global Health Group, Cergas: Bocconi University.

MITULLAH, W. 2003. Street trade in Kenya: the contributions of research in policy dialogue and response *Urban Research Symposium on Urban Development for Economic Growth and Poverty Reduction*. Washington, DC.
MITULLAH, W. & WACHIRA, I. 2003. Informal labour in the construction industry in Kenya: A case study of Nairobi. *Sectoral Activities Program, Working Paper 204.* Geneva: International Labour Office.
MKANDAWIRE, T. 2005. Targeting and universalism in poverty reduction. *Social Policy and Development Programme, Paper Number 23.* United Nations Research Institute for Social Development.
MOH-KENYA 2009. Kenya household health expenditure and utilisation survey. Nairobi: Government of Kenya.
MOMS-KENYA 2012. Sessional paper No. 7 of 2012 on the policy on universal health coverage in Kenya. Nairobi: Government of Kenya.
MOSER, C. A. & KALTON, G. 1979. *Survey methods in social investigation,* Aldershot, England, Gower Publishing Company.
MWABU, G. 1992. A framework for analyzing health effects of structural adjustment policies. *Social Science and Medicine Africa Network (SOMA-NET).* Nairobi.
MWALENGA, R. 2012. *Causes of unemployment in Kenya* [Online]. KenyaPlex. Available: https://www.kenyaplex.com/resources/3556-causes-of-unemployment-in-kenya.aspx [Accessed 12/11 2014].
NATION MEDIA ONLINE 2013. Scandal lands former NHIF bosses in court. *Daily Nation* Nairobi: Nation Media Group.
NCUBE, N. 2013. Recognizing Africa's informal sector.
NDII, D. 2001. Economic policy imperatives in the context of Kenya's political transition (2001-2003). Nairobi: Institute of Economic Affairs
NDIWENI, N. J., MASHONGANYIKA, S., NCUBE, N. & DUBE, N. 2014. Informal economy as a source of livelihood in Zimbabwean urban areas: The case of Bulawayo Metropolitan province *International Journal of Scientific and Research Publications,* 4.
NESC 2011. Annual report, 2011. Nairobi: National Economic and Social Council.
NGUYEN, N. N. & RAMA, M. 2007. A Comparison of quantitative and qualitative poverty targeting methods in Vietnam. *Q^2 Working Paper No.2.* Toronto: Centre for International Studies, University of Toronto.
NHIF. 2015. *The National Hospital Insurance Fund (NHIF)* [Online]. the NHIF. Available: http://www.nhif.or.ke/healthinsurance [Accessed 20/11 2014].
NICOLLE, E. & MATHAUER, I. 2010. Administrative costs of health insurance schemes: Exploring the reasons for their variability. *Discussion Paper Number 8* Geneva: Health Systems Financing Department, World Health Organisation.
NYAKAANA, J. B. 1997. Informal sector employment and its contribution to rural development: the case of Eldoret Municipality in Kenya. *East Afr. Georgr. Rev.,* 19**,** 93-111.
NYERERE, J. 2009. Technical and vocational education and training (TVET) sector mapping in Kenya Nairobi: Dutch Schokland TVET programme Edukans Foundation.
ODUOR, A. 2015. State, workers fail to strike deal on new NHIF rates in long running battle *The Standard*.
OECD 2010. Health care systems: Getting more value for money. *Policy Notes.* OECD Economics Department
OECD 2014. Public expenditure on health as a percentage of total expenditure on health. OECD Library: OECD.

OKUNGU, V. & GILSON, L. 2014. "...still waiting for chloroquine": the challenge of communicating changes in first-line treatment policy for uncomplicated malaria in a remote Kenyan district. *Malar J,* 13**,** 258.
OLIVER, A. & MOSSIALOS, E. 2004. Equity of access to health care: outlining the foundations for action. *J Epidemiol Community Health,* 58**,** 655-8.
OMOLO, J. 2010. The dynamics and trends of employment in Kenya. *IEA Research Paper Series No.1/2010.* Nairobi: Institute of Economic Affairs-Kenya.
OMONDI, B. 1987. The role of the informal sector in the economic development of Kisumu district. Digital Repository: University of Nairobi.
OPWORA, A., KABARE, M., MOLYNEUX, S. & GOODMAN, C. 2010. Direct facility funding as a response to user fee reduction: implementation and perceived impact among Kenyan health centres and dispensaries. *Health Policy Plan,* 25**,** 406-18.
ORINA-NYAMWAMU, C. 2010. From a centralized system to a devolved system of governments: Past, present and future dynamics. *FES Conference on State of Implementation of the Constitution since 2010.* Nairobi: FES.
ORWA, B. 2007. Jua kali associations in Kenya: a force for development and reform. Washington, DC: Center for International Private Enterprise.
OSEI-BOATENG, C. & AMPRATWUM, E. 2011. The Informal Sector in Ghana. Accra: Friedrich Ebert Stiftung.
OWUSU, A. Y. National/mutual health insurance in Ghana: introduction, access, framework. Workshop on micro-health insurance, 2010 Accra. Pro MHI Africa, EU-African University Network.
OXFAM 2013. Universal health coverage: Why health insurance schemes are leaving the poor behind. *176 Oxfam Briefing Paper.* Oxford: Oxfam, GB.
PANDE, A., LEIVE A, SMITZ M, EOZENOU P & OZCELIK, E. 2013. Macro fiscal context and health financing fact sheet. Washington, DC: The World Bank.
PARTNERS IN POPULATION AND DEVELOPMENT 2012. Population trends and policy options in selected developing countries. *In:* THOMAS, J. (ed.). Dhaka, Bangladesh: Population Commission.
PATTON, M. Q. 2002. *Qualitative research and evaluation methods.,* California, Thousand Oaks, Sage, 3rd Edition.
POPULATION REFERENCE BUREAU 2010. World Population Data Sheet. Population Reference Bureau.
RANI, U. 2008. Impact of changing work patterns on income inequality Geneva: International Institute for Labour Studies, International Labour Organisation.
RANNAN-ELIYA, R. P. & SIKURAJAPATHY, L. 2009. Sri Lanka: "Good practice" in expanding health care coverage. Colombo: Institute for Health Policy.
RAO, M. G. & CHOUDHURY, M. 2012. Health financing reforms in India's decentralised health care system. *In:* CLEMENTS, B., COADY, D. & GUPTA, S. (eds.) *The economics of health care reform in advanced and emerging economies.* Washington D.C: International Monetary Fund.
REUTERS. 2015. Kenya's tax revenues rise to Sh1 trillion in 2014/15 fiscal year. *Standard*.
RODIN, J. & DE FERRANTI, D. 2012. Universal health coverage: The third global health transition? *Lancet,* 380**,** 861-2.
ROVERE, M. & SKINNE, B. J. 2012. Value for Money from Health Insurance Systems in Canada and the OECD. *Fraser Alert.* Fraser Institute.
ROY, K. & HOWARD, D. H. 2007. Equity in out-of-pocket payments for hospital care: evidence from India. *Health Policy,* 80**,** 297-307.

RUSU, H. 2012. Measuring Social Solidarity. Some Research Notes. *Social Change Review,* 10 71-90.
SACHS, J. D. 2012. Achieving universal health coverage in low-income settings. *Lancet,* 380**,** 944-7.
SAENZ, M. D. R., ACOSTA, M., MUISER, J. & BERMUDEZ, J. L. 2011. The health system of Costa Rica. *Public Health Cuernavaca Mexico* 53**,** 156-67.
SAKUNPHANIT, T. & SUWANRADA, W. 2009a. The universal coverage scheme. *Successful social protection floor experiences.* Geneva: International Labour Organisation.
SAKUNPHANIT, T. & SUWANRADA, W. 2009b. The universal coverage scheme: Successful social protection floor experiences. Geneva: International Labour Organisation.
SALAMI, A., KAMARA, A. B. & BRIXIOVA, Z. 2010. Smallholder agriculture in East Africa: Trends, constraints and opportunities *Working Paper Series.* Tunis: African Development Bank.
SALISU, A. & PRINZ, V. 2009. Health care in Ghana. Wien: ACCORD: Austrian Centre for Country of Origin & Asylum Research and Documentation.
SARPONG, N., LOAG, W., FOBIL, J., MEYER, C. G., ADU-SARKODIE, Y., MAY, J. & SCHWARZ, N. G. 2010. National health insurance coverage and socio-economic status in a rural district of Ghana. *Tropical medicine & international health : TM & IH,* 15**,** 191-7.
SAVEDOFF, W. D., DE FERRANTI, D., SMITH, A. L. & FAN, V. 2012. Political and economic aspects of the transition to universal health coverage. *Lancet,* 380**,** 924-32.
SCHIEBER, G., CASHIN, C., SALEH, K. & LAVADO, R. 2012. Health financing in Ghana. Washington, DC: The World Bank.
SCHMID, G. 2010. Non-standard employment and labour force participation: A comparative view of the recent development in Europe and IZA Berlin: Social Science Research Centre Berlin (WZB), Free University of Berlin
SEN, A. 1999. *Development as Freedom,* New York, Oxford University Press
SETHURAMAN, S. 1998. Gender, informality and poverty: A global review Geneva: SEWA (India), UNIFEM and HIID.
SIDDIQI, S. 2013. Universal Health Coverage: Challenges and opportunities for EMR Countries. Geneva: World Health Organisation.
SPAAN, E., MATHIJSSEN, J., TROMP, N., MCBAIN, F., TEN HAVE, A. & BALTUSSEN, R. 2012. The impact of health insurance in Africa and Asia: a systematic review. *Bull World Health Organ,* 90**,** 685-92.
SPARKS, D. L. & BARNETT, S., T. 2010. The informal sector in Sub-Saharan Africa: Out of the shadows to foster sustainable employment and equity? *International Business & Economics Research Journal,* 9.
SPICKER, P. 1998. Targeting and strategic intervention. *2nd International Research Conference on Social Security.* Jerusalem: University of Dundee.
SPICKER, P. 2005. Targeting, residual welfare and related concepts: Modes of operation in public policy. *Public Administration,* 83**,** 345-365.
STUCKLER, D., FEIGL, A. B., BASU, S. & MCKEE, M. 2010. The political economy of universal health coverage. *1st Global Symposium on Health Systems Research.* Montreux, Switzerland.
SWAMINATHAN, M. 1991. Understanding the "informal sector": a survey. *Wider Working Papers, WP 95.* Massachusetts: Centre for International Studies, M.I.T, Cambridge.
TANDON, A. & CASHIN, C. 2010. Assessing public expenditure from a fiscal space perspective. *Health Nutrition and Population (HNP) Discussion Paper.* Washington, D.C.: World Bank.
TANGCHAROENSATHIEN, V., PATCHARANARUMOL, W., IR, P., ALJUNID, S. M., MUKTI, A. G., AKKHAVONG, K., BANZON, E., HUONG, D. B., THABRANY, H. & MILLS, A. 2011. Health-financing reforms in southeast Asia: challenges in achieving universal coverage. *Lancet,* 377**,** 863-73.

TANGCHAROENSATHIEN, V., PATCHARANARUMOL, W., VASAVID, C., PRAKONGSAI, P., JONGUDOMSUK, P., SRITHAMRONGSWAT, S. & THAMMATHATAREE, J. 2010a. Thailand Health Financing Review 2010. Bangkok: Thai working group on Observatory of Health Systems and Policy.

TANGCHAROENSATHIEN, V., PITAYARANGSARIT, S., PATCHARANARUMOL, W., PRAKONGSAI, P., SUMALEE, H., TOSANGUAN, T. & MILLS, A. 2013. Promoting universal financial protection: how the Thai universal coverage scheme was designed to ensure equity. *Health Research Policy and Systems,* 11**,** 2 - 9.

TANGCHAROENSATHIEN, V., SWASDIWORN, W., JONGUDOMSUK, P., SRITHAMRONGSWAT, S., PATCHARANARUMOL, W., PRAKONGSAI, P. & THAMMATHATAREE, J. 2010b. Universal coverage scheme in Thailand: Equity outcomes and future agendas to meet challenges. *Background Paper, 43.* Geneva: World Health Organisation.

THE NHIF 2014. Utilization of the civil servants and disciplined forces' health insurance scheme. Nairobi: The National Hospital Insurance Fund (NHIF).

THIEDE, M., AKWEONGO, P. & MCINTYRE, D. 2007. Exploring the dimensions of access. In: McIntyre D, Mooney G (eds). The economics of health equity. Cambridge: Cambridge University Press.

THOMSON, S., THOMAS, F. & MOSSIALOS, E. 2009. Financing health care in the European Union: Challenges and policy responses. *Observatory Studies Series No 17.* Copenhagen: World Health Organisation.

THORNE, S. 2000. Data analysis in qualitative research. *Evidence Based Nursing* 3**,** 68-70.

THORNTON, R., FIELD, E., HYATT, L., ISLAM, M. & SOLÍS, F. 2009. Social security health insurance for the informal sector in Nicaragua: a randomized evaluation. Managua: Government of Nicaragua.

TIMALSINA, K. P. 2007. *Rural urban migration and livelihood in the informal sector: A study of street vendors of Kathmandu Metropolitan City, Nepal* Master of Philosophy Thesis in Development Studies, Norwegian University of Science and Technology (NTNU)

TORRES, F. M. 2013. Costa Rica Case Study: Primary health care achievements and challenges within the framework of the social health insurance *Universal Health Coverage Studies Series (UNICO), UNICO Studies Series No. 14.* Washington, DC: The World Bank.

TRANSITION AUTHORITY & ELECTORAL INSTITUTE FOR SUSTAINABLE DEMOCRACY IN AFRICA 2013. A guide to the mandates and procedures of county governments in Kenya. Nairobi: Government of Kenya.

TSHUMA, M. C. & JARI, B. 2013. The informal sector as a source of household income: The case of Alice town in the Eastern Cape Province of South Africa. *Journal of African Studies and Development,* Vol. 5**,** 250-260.

UGA, M. A. & SANTOS, I. S. 2007. An analysis of equity in Brazilian health system financing. *Health Aff (Millwood),* 26**,** 1017-28.

UNDP 2013a. Discussion paper: Kenya's youth employment challenge. New York: United Nations Development Programme.

UNDP 2013b. Human Development Report 2013: The rise of the South: Human progress in a diverse world. New York: United Nations Development Programme (UNDP).

VAN DOORSLAER, E., O'DONNELL, O., RANNAN-ELIYA, R. P., SOMANATHAN, A., ADHIKARI, S. R., GARG, C. C., HARBIANTO, D., HERRIN, A. N., HUQ, M. N., IBRAGIMOVA, S., KARAN, A., LEE, T. J., LEUNG, G. M., LU, J. F., NG, C. W., PANDE, B. R., RACELIS, R., TAO, S., TIN, K., TISAYATICOM, K., TRISNANTORO, L., VASAVID, C. & ZHAO, Y. 2007. Catastrophic payments for health care in Asia. *Health Econ,* 16**,** 1159-84.

VAN DOORSLAER, E., O'DONNELL, O., RANNAN-ELIYA, R., SOMANATHAN, A., ADHIKARI, S., AKKAZIEVA, B., GARG, C., HARBIANTO, D., HERRIN, A., HUQ, M., , SHAMSIA-IBRAGIMOVA, S., KARAN, A., LEE, T., LEUNG, G., LU, J., NG, C., PANDE, B., RACELIS, R., TAO, S., TIN, K., TISAYATICOM, K., TRISNANTORO, L., VISASVID, C. & ZHAO, Y. 2005. Paying out-of-pocket for health care in Asia: Catastrophic and poverty impact. EQUITAP Project : Working Paper No. 2. .

VAN OORSCHOT, W. 1999. Troublesome targeting: On the multilevel causes of nontake-up. *Social Security: Journal of Welfare and Social Security Studies,* 56 193-208.

VERICK, S. 2006. The Impact of Globalization on the Informal Sector in Africa. Addis Ababa: Economic and Social Policy Division, United Nations Economic Commission for Africa (ECA) and Institute for the Study of Labor (IZA).

VULTURE, M. 2013. Why NHIF may be too sick to provide healthcare to Kenyans. *Blog Post.* Nairobi: Ma Vulture.

WAFULA, C. 2012. Inside NHIF battle to control billions *The Standard*.

WAGSTAFF, W., BILGER, M., ZURAB SAJAIA, Z. & LOKSHIN, M. 2011. Health equity and financial protection. Washington, DC: The World Bank.

WAMAI, R. G. 2009. The Kenya health system—Analysis of the situation and enduring challenges. *JMAJ,* 52**,** 134- 140.

WANJALA, B. & WERE, M. 2006. Impact of investment in Kenya's priority sectors on gendered employment outcomes: A social accounting multiplier analysis approach. Nairobi: Kenya Institute of Policy Analysis and Research.

WAWERU, E., NYIKURI, M., TSOFA, B., KEDENGE, S., GOODMAN, C. & MOLYNEUX, S. 2013. Review of health sector services fund implementation and experience. Nairobi: KEMRI-Wellcome Trust & RESYST.

WHO 2000. Health Systems: Improving Performance. *The World Health Report.* Geneva: World Health Organisation.

WHO 2005a. Achieving universal health coverage: developing the health financing system. Geneva: WHO/EIP/HSF/PB/05.01. Department of Health Systems Financing, World Health Organization.

WHO 2005b. Social health insurance: Sustainable health financing, universal coverage and social health insurance. *58th World Health Assembly.* Geneva: World Health Orgaisation.

WHO 2009a. Constraints to scaling up health related MDGs: Costing and financial gap analysis. *Background to the Working Group 1 report to the Taskforce on Innovative International Financing for Health Systems.* Geneva: WHO.

WHO 2009b. Republic of Rwanda health financing systems review 2008: Options for universal coverage. Geneva: World Health Organisation.

WHO 2010a. Millennium Development Goals in the WHO European Region: a situational analysis at the eve of the five-year countdown. Copenhagen: WHO Regional Office for Europe.

WHO 2010b. The World Health Report- Health systems financing: The path to universal coverage. Geneva: World Health Organisation.

WHO 2011a. Atlas of health statistics, 2011. Geneva: World Health Organisation.

WHO 2011b. Global health expenditure database. Geneva: World Health Organisation.

WHO 2011c. Success Stories: Building from the bottom, steering and planning from the top, Rwanda. Geneva: World Health Organisation.

WHO 2011d. World health statistics. Geneva: The World Health Organisation.

WHO 2012a. Global health expenditure atlas. Geneva: World Health Organisation.

WHO 2012b. Thailand: Country cooperation strategy at a glance. Geneva: World Health Organisation.

WHO 2013a. Service Availability and Readiness Assessment (SARA): An annual monitoring system for service delivery- Implementation Guide. Geneva: World Health Organisation.
WHO 2013b. World health statistics. Geneva: The World Health Organisation.
WHO 2014. Global health expenditure atlas. Geneva: World Health Organisation.
WHO 2015. Global health observatory 2015. Geneva: World Health Organisation.
WHO/GTZ 2004. National social health insurance financial projections and future bilateral/multilateral cooperation: Joint WHO - GTZ Mission to Kenya 21st to 26th June 2004. Nairobi: Ministry of Health.
WITTER, S. & GARSHONG, B. 2009. Something old or something new? Social health insurance in Ghana. *BMC Int Health Hum Rights,* 9**,** 20.
WORLD BANK 2007. *Global Economic Prospects 2007: Managing the Next Wave of Globalization,* Washington, DC, The World Bank.
WORLD BANK 2013a. Population estimates and projections. Health, Nutrition and Population Statistics, World Bank.
WORLD BANK 2013b. World Development Indicators. Washington, DC: the World Bank.
WORLD BANK 2013c. World Development indicators: Health systems. Washington, DC: The World Bank.
WORLD BANK 2014a. World Develoment Indicators. Washington D.C: The World Bank.
WORLD BANK 2014b. World Development Indicators. Washington, DC: The World Bank.
WRONG, M. 2009. *It's our turn to eat: the story of a Kenyan whistle blower,* New York, Harper Collins.
XU, K., EVANS, D. B., KADAMA, P., NABYONGA, J., OGWAL, O. O. & AGUILAR, A. M. 2005. The elimination of user fees in Uganda: impact on utilization and catastrophic health expenditures. *Discussion Paper No. 4.* Geneva: World Health Organization.
XU, K., JAMES, C., CARRIN, G. & MUCHIRI, S. 2006. An empirical model of access to health care, health care expenditure and impoverishment in Kenya: learning from past reforms and lessons for the future. *Discussion Paper No. 3.* Geneva: Department of Health System Financing, World Health Organization.
YEGO, F., STEWART WILLIAMS, J., BYLES, J., NYONGESA, P., ARUASA, W. & D'ESTE, C. 2013. A retrospective analysis of maternal and neonatal mortality at a teaching and referral hospital in Kenya. *Reprod Health,* 10**,** 13.