Distribution Agreement

In presenting this thesis or dissertation as a partial fulfillment of the requirements for an advanced degree from Emory University, I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis or dissertation in whole or in part in all forms of media, now or hereafter known, including display on the world wide web. I understand that I may select some access restrictions as part of the online submission of this thesis or dissertation. I retain all ownership rights to the copyright of the thesis or dissertation. I also retain the right to use in future works (such as articles or books) all or part of this thesis or dissertation.

Signature:

Lucy R. Crawford

Date

A Systematic Review of the Literature on Health Systems Financing Mechanisms in sub-Saharan Africa

By

Lucy R. Crawford

MPH

Hubert Department of Global Health

____

Mohammed K. Ali

Committee Chair

A Systematic Review of the Literature on Health Systems Financing Mechanisms in sub-Saharan Africa

By

Lucy R. Crawford

Thesis Committee Chair: Mohammed K Ali MBChB, MSc

An abstract of
A thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree of
Master of Public Health
in Global Health
2012

Abstract

A Systematic Review of the Literature on Health Systems Financing Mechanisms in sub-Saharan Africa
By Lucy R. Crawford

Introduction: Over the past decade, significant international attention has been given to the role of health financing in obtaining universally providing health care and preventive services to all populations. A multitude broadly agreed upon international declarations, resolutions and agreement have called for increased funding of health systems. Given the growing importance of health systems financing – a better understanding of the current situation in all sub-Saharan African countries is needed. The spectrum of financing efforts in sub-Saharan Africa can be categorized by four methods/descriptions: Community Health Insurance (CHI), National Health Insurance (NHI), Private Health Insurance (PHI), and Social Health Insurance (SHI). **Methods:** We systematically searched the MEDLINE electronic database (using the PubMed gateway) for articles focused on health systems financing in sub-Saharan Africa. To map and describe the type of financing, results are stratified by the health financing categories described above, namely the NHI, PHI, CHI, and SHI mechanisms. The discussion of each health financing scheme is further grouped by literature emerging from each region (Central, East, Southern, and West Africa). Within each regional grouping, we describe the specific investigations and challenges from each study to illustrate the main findings that are relevant to this review. **Results:** The electronic searches returned 1039 articles. After excluding articles not focused on health systems financing and hand-searching the relevant gray literature, we identified 47 articles for inclusion in this review. This review of the literature seeks to map the use of the aforementioned financing mechanisms across countries in sub-Saharan Africa and to understand which geographic, socio-demographic, or macro-economic drivers are associated with the choice of which health financing mechanisms countries eventually implement. This this review shows that information regarding the health financing structure in a majority of sub-Saharan Africa and specifically in Central Africa is lacking. **Conclusion:** Additional research in these countries would provide their governments with useful information regarding successes and failures of current financing systems and add to the body of current literature, thus aiding other countries in similar settings working towards improving their health financing system.

A Systematic Review of the Literature on Health Systems Financing Mechanisms in sub-Saharan Africa

By

Lucy R. Crawford

Thesis Committee Chair: Mohammed K Ali MBChB, MSc

A thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree of
Master of Public Health
in Global Health
2012

Acknowledgments

I am deeply grateful to Professor Mohammed K. Ali for his endless patience, support, and encouragement throughout the process of completing this review. His invaluable insight and contributions strengthened the final product considerably. I am also thankful for the support of family and friends, namely: Amanda Jones, Niharika Bhattarai, and Bill MacWright for their solidarity until the very end; and, Susan, Doug, and John Crawford.

Acronyms

AfDB	African Development Bank Group
CHF	Community Health Fund
CHI	Community Health Insurance
DHO	District Health Officer
DMHIS	District Mutual Health Insurance Schemes
GDP	Gross Domestic Product
ICESCR	International Covenant on Economic, Social and Cultural Rights
ILO	International Labor Organization
IMCI	Integrated Management of Childhood Illness
IMF	International Monetary Fund
MoH	Ministry of Health
NHA	National Health Accounts
NHI	National Health Insurance
NSHIF	National Social Health Insurance Fund (Kenya)
OOP	out-of-pocket
PHI	Private Health Insurance
PNFP	Private Not For Profit
PPP	Purchasing Power Parity
SHI	Social Health Insurance
SSNIT	Social Security and National Insurance Trust (Ghana)
THE	Total Health Expenditure
UCBHFA	Uganda Community Based Health Financing Association

UDHR	Universal Declaration of Human Rights
WHO	World Health Organization

Table of Contents

Chapter 1: Introduction 1

Chapter 2: Project Contents 6

I. Methods 6

II. Results 10

III. Health Financing Mechanisms 12

i. National Health Insurance 12

ii. Private Health Insurance 26

iii. Community Health Insurance 18

iv. Social Health Insurance 32

Chapter 3: Discussion, Conclusions and Recommendations 36

Figure 1: Article review and selection 10

Table 1: Countries and regions represented in the literature review 11

Table 2: NHI papers by region and country 14

Table 3: PHI papers by regions and country 16

Table 4: CHI papers by regions and country 18

Table 5: SHI papers by regions and country 33

Table 6: Total Health Expenditure by GDP per capita (PPP) 39

Bibliography 44

CHAPTER 1: INTRODUCTION

The right to health is set forth in article 25 of the *Universal Declaration of Human Rights (UDHR)*, affirming that "everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing, and medical care and necessary social services."[1] Since the signing of the UDHR in 1948, the right to health has been recognized in the international community via covenants, declarations, and resolutions. The World Health Organization (WHO) constitution recognizes that "the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition."[2] The 1966 International Covenant on Economic, Social and Cultural Rights (ICESCR) recognizes in article 12, "the right of everyone to the highest attainable standard of physical and mental health" and points to the responsibility of governments to create conditions in which all people receive medical attention and service when sick.[3]

One of the largest barriers to good health is ability to pay for care. According to the International Labor Organization (ILO), only 5-10% of people in sub-Saharan Africa have formal social protection compared to coverage rates of 20-60% in middle-income countries in other regions of the world. Every year, approximately 150 million people suffer financial catastrophe[*] and another 100 million are pushed below the poverty line when paying for health care. How a country structures its health financing system can

---

[*] Catastrophic health spending occurs when a household must reduce its basic expenditure over a period of time to cope with health costs. The threshold proportion of household expenditure has varied in studies from between 5% to 40% of total household income.

aid significantly in preventing such catastrophic spending.[4] International declarations acknowledge the important role of governments when it comes to health financing and have called for countries to move towards universal health coverage as a way to protect the right to health. The 1978 “Declaration of Alma-Ata” affirmed the responsibility of governments for the health of their people and declared that primary health care should be made universally accessible. Moreover, the declaration called for strong community participation in primary health care.[5] In the 2001 Abuja Declaration, countries pledged to set a target of allocating at least 15% of their annual budgets to health sector improvement.[6] The 2005 “Kampala Declaration on Fair and Sustainable Health Financing” recognizes in its first article that “health is a fundamental human right, which must be supported by fair and sustainable health financing systems, based on equity and efficiency in promoting universal access to quality health care and protecting people, especially those living in poverty or in conflict areas, from financial risks and catastrophic health expenditures.”[7] The Regional Committee for Africa endorsed the “Health Financing: A Strategy for the African Region” resolution in 2006. The resolution urges member states to “strengthen or develop comprehensive health financing policies and…strengthen the national prepaid health financing systems, including financing structures, processes, and management systems.”[8] The most recent declaration related to this topic is the April 2012 “Mexico City Political Declaration on Universal Health Coverage,” which recognizes that “to sustain progress towards more equitable health financing systems, it is essential to take into consideration the needs of vulnerable groups, always considering the principle of social inclusion, to enhance their ability to realize their right to the enjoyment of the highest attainable standard of health.”[9]

Good intention abounds as evidenced by the multitude of broadly agreed upon international documents; however, reaching the goals set out in these documents has proven difficult, not only in the poorest countries, but also in the wealthiest. Challenges faced by low-income countries are particularly complex due to an overall lack of resources, which further complicates efforts to design and implement health financing mechanisms that will protect their populations.

The spectrum of financing efforts in sub-Saharan Africa can be categorized by four methods/descriptions:

National Health Insurance (NHI): Funds come from national government budget allocations resulting in a health system funded by general taxes from individuals in addition to public revenues such as sales of natural resources. Health coverage thus can be seen as a result of citizenship. The government owns health delivery facilities, such as hospitals and clinics, and health personnel are public employees.[10]

Private Health Insurance (PHI): Health coverage is paid for by voluntary contributions from employers, individuals, or families to insurance companies. Insurance companies then pool risks across their membership base. PHI can function to cover health care in four ways:

I. as the main source of health coverage (primary);
II. as additional coverage to the public health system by covering the same services but with varying providers and access to - and quality of - services (duplicate);

III. as providing coverage of cost sharing under the public system (complementary); and,

IV. providing coverage of services not available in the public system (supplementary).

PHI is most often a supplement to publicly financed health coverage and often only in high-income countries.[10]

Community-based Health Insurance (CHI): A voluntary, pre-payment form of health care with affiliation based on community[†] membership. Not all individuals in a community are necessarily covered by CHI schemes, usually because they are unable to pay the membership fees. Schemes are often managed by community members who participate in designing rules and collecting, pooling, and allocating resources. CHI schemes are not usually owned by the community but rather by the government, NGOs, or hospitals. CHI provides coverage for poor populations excluded from other financing mechanisms such as SHI because they are not in the formal sector; NHI, because the facilities are unavailable or inaccessible; and, PHI, because they cannot afford the premiums.[10]

Social Health Insurance (SHI): Despite differences in how SHI is defined, a core component is that membership is publicly mandated for a specific

[†] "Community" refers to a group of individuals with common characteristics such as geographic location, profession, religion, or ethnicity.

> group. Contribution to SHI is specifically earmarked (unlike in a NHI system where general taxes fund the system) and only contributors have the right to access care. However, people financially unable to contribute to the scheme may be supported by the government. Social solidarity is an essential component of SHI since such schemes rely on cross subsidization across wealth brackets, age, and health risk. The management of SHI schemes is relatively autonomous from the government and run by quasi-independent organizations.[10]

This review of the literature seeks to map the use of the aforementioned financing mechanisms across countries in sub-Saharan Africa and to understand which geographic, socio-demographic, or macro-economic drivers are associated with the choice of which health financing mechanisms countries eventually implement.

Given the international attention to health financing as a means of universally providing health care and preventive services to all populations – highlighted by the fact that there are many international agreements and/or resolutions devoted to the issue – a better understanding of the current situation in all sub-Saharan African countries is needed.

CHAPTER 2: PROJECT CONTENT

I. Methods

We systematically searched the MEDLINE electronic database (using the PubMed gateway) for articles focused on health systems financing in sub-Saharan Africa. Our searched used medical subject heading terms related broadly to health or health system financing ("health economics," or "cost control," or "health care sector," or "health systems planning/economics,") and the region of interest, "sub-Saharan Africa."

We used The World Bank Group's definition[11] for sub-Saharan Africa, which includes 47 countries. The seven North African countries excluded from this definition and thus from the review are: Algeria, Djibouti, Egypt, Libya, Morocco, and Tunisia. The search was limited to English language articles related to humans published between January 1, 2000 and March 31, 2011.

To supplement the systematic electronic searches, we hand-searched specific grey literature sources related to health-systems financing in sub-Saharan Africa. Relevant publications from the WHO and The World Bank Group were also retrieved and reviewed.

Articles considered for inclusion in this study had to describe a method of financing health care for individuals or groups living in sub-Saharan Africa, but single-disease focus articles describing funding were not eligible for inclusion as the intention of this review is to understand broader systems financing. Studies retrieved in PubMed were imported into EndNote X3 (Thomson Reuters, Emory University, 2009). Article abstracts were reviewed and filtered into inclusion and exclusion groups. Data were extracted from the published articles for analysis into an excel spreadsheet. Data

extracted during the first round were related to: country or countries of focus, primary and secondary financing mechanisms discussed and/or analyzed, data collection methods (where applicable), and main findings and/or conclusions.

To map and describe the type of financing, results are stratified by the health financing categories described above, namely the NHI, PHI, CHI, and SHI mechanisms. The discussion of each health financing scheme is further grouped by literature emerging from each region (Central, East, Southern, and West Africa). We chose to present the results in this manner to help foster a deeper understanding of the health financing mechanisms and how they function across the sub-Saharan Africa region as opposed to understanding the region purely via labeling the health financing mechanisms that are predominantly described and active. Within each regional grouping, we describe the specific investigations and challenges from each study to illustrate the main findings that are relevant to this review. We anticipated that this choice of organization would be most easy to navigate for readers, would highlight regional patterns in health financing, and could also be used to understand the country-level demographic and economic factors associated with financing options adopted.

The results from this review are further broken-down into a set of sub-categories applicable to the four health systems financing schemes. The section for PHI is the one exception where sub-categories are not used to present results. Because only two papers on PHI are included in this review, the results are discussed together, without separate categories.

Within the discussion of the NHI, CHI and SHI financing mechanisms, an overview of the studies and/or articles is presented first. The following sub-headings then

appear although are not necessarily represented within each financing scheme if the subject was not discussed in the literature.

- Coverage is discussed in terms of the geographic region and individuals or households covered by the financing mechanism. Additionally, the enrollment rate of the covered population is discussed within this sub-category.
- Barriers to the full utilization of the financing mechanism are described. Barriers are most often related to physical and financial access to health services.
- Management of health insurance schemes applies to the roles, responsibilities, and effectiveness of those charged with ensuring the proper functioning of the health financing scheme. Management often is the responsibility of MoH staff, District Health Officers (DHOs), hospital and health clinic staff, and/or community members in charge of CHI schemes.
- Role of User-fees is a sub-heading specific to the CHI results section. User-fees are not clearly defined in the literature but can be understood as payments made at the point of service by an individual who is covered from some form of health insurance. The literature does not clearly or consistently distinguish between user-fees and out-of-pocket (OOP) payments; however, individuals not covered by a health insurance scheme generally make OOP payments.
- Equity is a sub-heading that appears in the results for all health financing mechanisms. Equity is discussed in terms of the cost of health insurance to

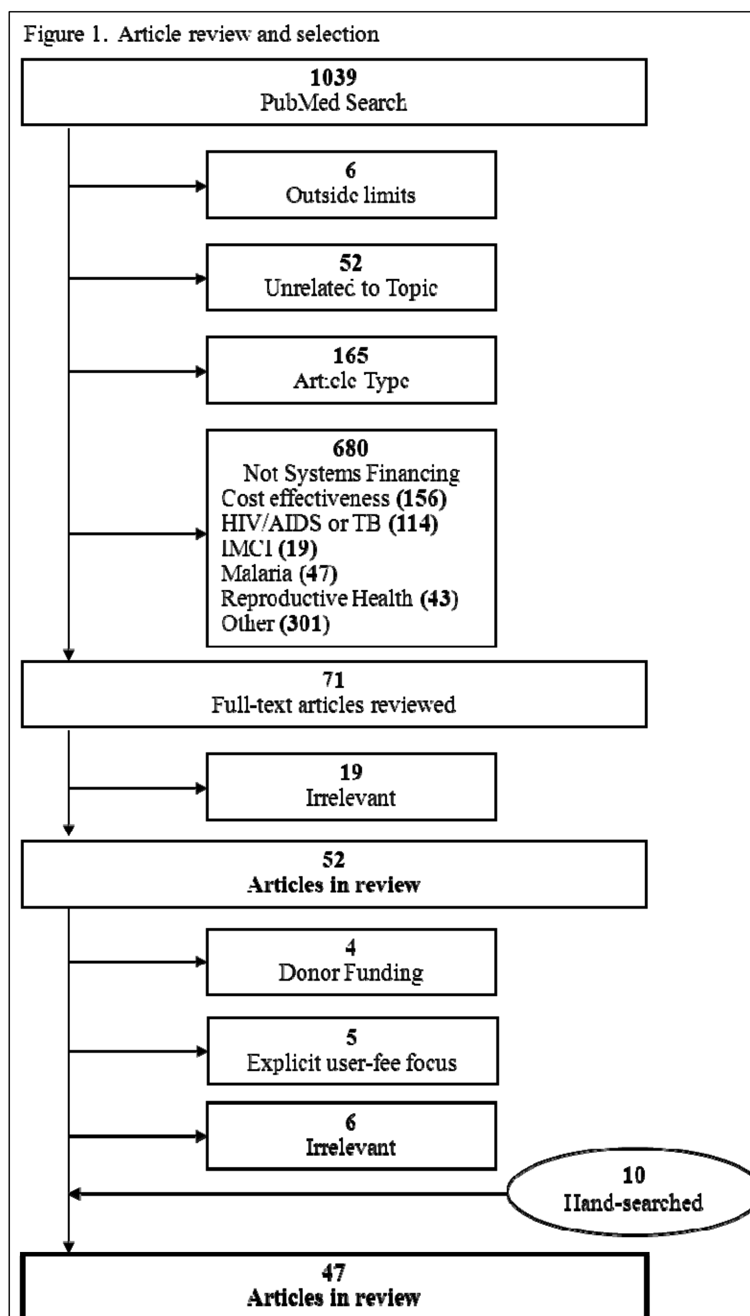
the individual and whether or not the poorest segments of a population have access to health care.

- Sustainability of health insurance mechanisms describes the structures needed to ensure the continuation of health financing mechanisms that will protect the populations they are designed to cover. Discussions of sustainability often include the role of external financial and administrative assistance that currently supplements community or government support to a specific financing mechanism.
- General tax revenue is a sub-category for the NHI results section since such systems are reliant on tax revenue to fund the health system. The type and level of tax, specifically income tax, for each country operating a NHI system is described. General tax revenue does not appear in the literature for other financing mechanisms.
- Pace of Implementation is a sub-category within the results discussion of SHI mechanisms. The pace at which SHI schemes are introduced in a country is often incremental and builds on existing CHI often over a period of many years.

We also investigated whether different levels of nominal gross domestic product (GDP) are associated with different health financing patterns. We examined data from the WHO National Health Accounts (NHA)[12] and described the health financing mechanisms patterns observed with regard to region and GDP – these will be explored in the discussion section of this review.

II. **Results**

The electronic searches returned 1039 articles. Figure 1 depicts the process of article review and selection. Articles were mainly excluded because they did not focus on financing of entire health systems but rather on specific diseases or aspects of health care, namely HIV/AIDS and/or TB (114), Malaria (47), Reproductive Health (43), and Integrated Management of Childhood Illness (IMCI) (19). Other excluded studies focused on cost-effectiveness of interventions (156) and willingness to pay and/or household expenditures related to health (65). Articles focused on willingness to pay and household expenditures were excluded because their focus was on individual perceptions



of and spending patterns on health services. Editorial pieces were excluded from the review. We conducted full text reviews on 71 articles. After excluding 19 articles that were deemed to be less relevant, we identified 52 articles to be included in the literature review.

Further analysis and discussion resulted in exclusion of articles (four) that are related to donor funding mechanisms and articles (five) explicitly focused on user-fees, and others that were irrelevant (six). From hand-searching additional documents on health financing, we included three articles on CHI, one on PHI, four on SHI, one on NHI, and one general health-financing article. The final literature review, therefore, consisted of 47 articles.

Table 1: Countries and Regions represented in the studies included in the literature review

Country	**Region**	**Exclusive focus of article**	**One of several focus countries of article**	**Total Mentions**	**% all articles (n=47)**
Eritrea	East	1	-----	1	2%
Kenya	East	2	1	3	6%
Tanzania	East	3	1	4	9%
Rwanda	East	4	1	5	11%
Uganda	East	9	-----	9	19%
Lesotho	South	1	-----	1	2%
Zambia	South	2	2	4	9%
South Africa	South	2	2	4	9%
Benin	West	-----	1	1	2%
Senegal	West	-----	2	2	4%
Mali	West	1	2	3	6%
Burkina Faso	West	2	-----	2	4%
Cote d'Ivoire	West	1	-----	1	2%
Ghana	West	3	3	6	13%

As our preliminary scan of the literature showed, analyses and descriptions of financing for disease-specific programs and interventions are extremely common, but analysis and descriptions of broader financing for health systems are often lacking. As seen in Table 1, the health systems financing literature includes only 14 (30%) of sub-Saharan Africa's 47 countries. Six, or 38% of West Africa's countries are represented in the review; five, or 42% of East African's countries are represented; and, three, or 25% of Southern Africa's countries are represented in the review. No countries from Central Africa are represented.

In this review, five, or 11%, of the articles focus on NHI mechanisms. Two articles focused on PHI, and both discuss countries in East Africa. Twenty, or 43%, of the articles focus on CHI mechanisms, while SHI was the focus of eight, or 17% of the articles. The remaining articles focused on multiple schemes within a specific country or more broadly discussed health financing in sub-Saharan Africa.

III. Health Financing Mechanisms

i. National Health Insurance

<u>Overview</u>

National Health Insurance systems have three main characteristics:

1. funding comes primarily from general revenues;
2. they provide coverage to the entire population; and,
3. services are delivered via public providers.[10]

In this review, five, or 11%, of the articles focus on NHI mechanisms. Table 2 depicts the breakdown of the articles by region and country. In low incomes countries, the Ministry of Health (MoH) often serves a key role in NHI system operations and, in theory, creates a universal pooling arrangement through which the entire population has access to publicly provided services. NHI systems require that governments have administrative and economic capacities to raise taxes, establish efficient networks of providers, and the capacity to target the poor. When these characteristics exist in a country, NHI can be an efficient health financing mechanism; however, in many sub-Saharan African countries, these characteristics are lacking or non-existent. Additionally, it is necessary once countries implement a NHI system that they are able to financially and administratively sustain its proper functioning or risk jeopardizing their populations' ability to access health services. Access for the entire population is limited in low-income countries because health funding is based on a relatively small tax-base and there are competing demands on (generally) insufficient governmental funds. Moreover, low-income country health sectors are partially dependent on inconsistent and unpredictable donor funding which is usually disease and program specific as opposed to providing general budget support.[10]

Table 2: NHI papers by region and country

Total NHI-focused papers (% N)*	5 (11%)
Central Africa	**N/A**
East Africa	**2**
Tanzania	1
Uganda	2
Southern Africa	**2**
South Africa	2
West Africa	**1**
Ghana	1

*N=47 studies included

Ghana and Tanzania's experiences with national health financing have been influenced and shaped by the World Bank and the International Monetary Fund (IMF). In the 1990's, the IMF and World Bank recommended that many sub-Saharan African countries address budget issues by introducing user fees in the health sector and let the private health sector flourish. This liberalization of the health sector resulted in many private, unregistered providers and fragmentation of patient flows within the system. This privatization versus nationalization has been a prominent tension that has helped to shape the evolution of the health systems in these two countries.

General Tax Revenue

In response to growing inequities stemming from the burden placed on the poorest populations being forced to make user-fee payments, the MoH in Ghana decided to remove these user-fees in 2001 and began developing and implementing a NHI scheme.[13] Ghana's general tax revenue is generated from an income tax that accounts for 11% of the government's total tax revenue.[14] A tax for national health insurance accounts for 5.1% of general tax revenues and makes Ghana's NHI system unique, as earmarked health taxes are usually characteristics of only SHI systems. A 2.5% national health insurance levy (payments into a Social Security and National Insurance Trust [SSNIT]) is transferred to the national health insurance fund on a monthly basis.[14] Tanzania has a similar breakdown of general tax revenue sources with an income tax accounting for 14% of all tax revenues.[14] Tanzania and Uganda have more traditional NHI system than Ghana in that there is no specific health insurance tax. As a means of comparison of the contribution of income taxes to government revenues, South Africa's income tax

accounts for 30% of total tax revenues.[14] This drastic difference in income tax contributions to the NHI between South Africa and Ghana and Tanzania can be interpreted several ways. Either South Africa places unnecessarily high income taxes on the population since Ghana and Tanzania are implementing a NHI system on half the income tax. More likely is that Ghana and Tanzania do not have a large enough formal sector to tax and, moreover, they have greater dependence on external assistance that supports the health sector than does South Africa.

Coverage

Ghana's NHI system is comprised of and reaches the population through 138 District Mutual Health Insurance Schemes (DMHISs) located in every district in the country, ultimately covering 55% of the population.[14] Again, as a means of comparison, NHI covers 86% of South Africa's population, and this includes mainly low-income and informal sector workers, and the un-employed poor.[14] There is, therefore, a large risk pool that enables the NHI to implement user-fee exemptions.[14] The NHI system in Tanzania provides coverage for only 5% of the population.[14]

Equity

Ghana, Tanzania, and South Africa all structure personal income tax progressively.[‡] In Ghana, low-income earners are exempt and the tax rate ranges from 5% for the lowest income taxpayers to 28% for the highest[14] Income tax in Tanzania is also structured progressively with zero tax for low-income earners and ranges from

---

[‡] A progressive tax requires people with more income to pay a higher percentage of their incomes in tax than those with less income.

18.5% for the lowest income taxpayers to 30% for the highest. [14] In South Africa, low-income earners are exempt, yet the range of tax rates starts at a much higher level of 25% for the lowest income taxpayers to 40% for the highest.[14] Informal sector workers in Ghana pay a flat premium rate of US$ 8 annually, which is the original premium set for the lowest-income groups but is now applied to all groups because of difficulty categorizing informal workers into socioeconomic groups. [14]

ii. Private Health Insurance

Private health insurance, also called voluntary health insurance, is paid for exclusively via voluntary contributions and often acts as a supplement to NHI and other publicly funded health care. Table 3 shows that two articles focused on PHI, and both discuss countries in East Africa. PHI represents less than 5% of health expenditures in most low-income settings, but could potentially help to mobilize additional funds for the health system by allowing more public resources to reach the very poor if wealthier individuals opt out of the public sector.[10]

Table 3: PHI papers by region and country

Total PHI-focused papers (% N)	2 (6%)
Central Africa	**N/A**
East Africa	**2**
Uganda	1
Kenya	1
Southern Africa	**N/A**

* N=47 studies included

PHI has been supported in Uganda by the argument that much of the healthcare is already financed by out-of-pocket (OOP) spending for health services, which is essentially a form of private funding for health. It is thought that private health insurance will operate alongside national health insurance and provide additional benefit packages for those who can afford it.[15] By end of 2006, there were 19 licensed insurance companies

operating as PHI providers, health maintenance organizations (HMOs),[§] or private providers that offered prepayment, although there is no registration for these private plans so there is no way to formally identify them all.[15]

Uganda has an active private health sector and is now faced with the challenge of regulation.[16] Regulations have focused on ensuring standardization and consistency – that one standard policy is issued to all applicants to prevent discounting those people with higher risks and promote risk-spreading.[16] The literature highlights the need for strong leadership in government to ensure that PHI is closely regulated and monitored.[16]

In an effort to gauge the public's impressions of PHI relative to a NHI plan, data were collected in Kampala via three semi-structured questionnaires answered between 2006 and 2007 by employers and employees of Health Maintenance Organizations (HMOs).[15] Data were collected from two PHI organizations, two HMOs, and two private health service providers with prepayment mechanisms. A total of 58 employers and 250 employees were included in the study.[15] The main findings were that health insurance schemes were funded primarily by employers and that the six identified PHI schemes covered 0.47% of the population (131,600 people).[15] When asked about the introduction of a national health insurance scheme, forty-seven percent of respondents said they would still subscribe to PHI schemes after the introduction of NHI, 31% would not, and 22% didn't know if they would stay with the PHI scheme or join the NHI. The main reason people would stay with the PHI was uneasiness in regards to how the NHI would be handled.[15]

[§] A HMO is involved with both the collection of insurance payments from individuals and companies and the provision of health services to insured patients. As such, HMOs can dictate which services are provided to their members.

iii. Community Health Insurance

Overview

Community Health Insurance (CHI) schemes, also referred to as Community-based Health Insurance (CBHI) or Mutual Health Organizations (MHOs), are not-for-profit, prepayment health care plans based on community membership. CHI is a form of PHI that is managed by communities and funded by set membership fees. CHI has a history as the precursor to SHI in Germany, Japan, and the Republic of Korea[10] and is a growing form of health financing in sub-Saharan Africa. As seen in Table 4, 20, or 43%, of the articles focus on CHI mechanisms. In West Africa alone, the number of known CHI schemes rose from 199 in 2000 to 583 in 2003.[10]

Table 4: CHI papers by region and country

Total CHI-focused papers (% N)	**20 (43%)**
Central Africa	**N/A**
East Africa	**12**
Rwanda	4
Uganda	3
Kenya	2
Tanzania	2
Eritrea	1
Southern Africa	**2**
Zambia	2
West Africa	**12**
Mali	3
Benin	2
Burkina Faso	2
Ghana	2
Senegal	2
Cote d'Ivoire	1
General SSA Region	2

* N=47 studies included

CHI schemes are championed in low-income, particularly in rural settings, because they permit the poorest populations who are otherwise excluded from coverage, to access insurance coverage from a bottom-up avenue.[10] CHI schemes can fill gaps in existing health insurance schemes and help countries transition into more sustainable and more universal coverage for health care services.[10] Despite instances of success, many CHI schemes have trouble raising sufficient funds due to small, narrow-risk

pools.[10] As a result, many schemes are supplemented by contributions from non-governmental organizations (NGOs).[17]

CHI has been shown to reduce the prevalence of OOP spending for health care, which accounts for a significant portion of health financing in many low-income countries.[18] CHI, therefore, provides a mechanism for prepayment that is intended to lessen the financial impact on households at the point of service. However, since CHI funds are often insufficient to cover all members, the need for OOP spending remains and manifests in the form of user-fees. Significant barriers remain, therefore, to accessing care and OOP payments can be catastrophic to individuals or families with little or no income.

The role of user-fees is a contentious topic in the literature. User-fees often undermine the primary aim of CHI, which is to protect people from catastrophic health care spending. On the other hand, user fees constitute important revenue for local health facilities and help limit the overuse of health services by making users more prudent in their decisions to see doctors. It would be difficult to replace with other sources of funding without first establishing consistent flows of funding from the government and overall improved capacity to manage district health offices.[10]

a. *Community-based Health Insurance - East Africa*

Overview

Three of the four countries in East Africa in this review have specific governmental policies addressing community health insurance. Uganda's Health Sector Strategic Plans from 2004/5 – 2009/10 list CHI as a recognized method of financing for

the health sector, and the Ruling Party from 2006-2011 cited CHI as a way to improve delivery of health services.[19] In Rwanda, in 2008, the government passed a law stipulating the need for all Rwandans to be part of a health insurance scheme.[20] Presently, various health insurance schemes exist in Rwanda for specific members of society including military families, victims of the genocide, prisoners, and civil servants,[21] yet CHI is the most prominent and diversified scheme.[20] The Tanzanian government similarly introduced the Community Health Fund (CHF) in 1995 as a district-level voluntary prepayment scheme that targets 85% of the population living in rural areas and/or working in the informal sector.[22] The public support for CHI in these countries has been well documented and appears strong, yet the literature shows that implementation challenges remain.

Coverage

The literature does not confirm the number of absolute CHI schemes in Uganda, but it appears that there are between 10 to 14 schemes.[17, 19] Coverage of the schemes is limited to nine of Uganda's 111 districts. The nine districts are located in the southern region of the country, and three operate within a radius of 20 to 25 kilometers.[17] The literature on CHI in Rwanda describes the development of 54 micro-health insurance schemes, or community health insurance schemes, in 1999 in three rural districts – Kabgayi, Byumba, and Butare (also referred to as Kabutare).[23] The schemes were developed via a partnership with the Rwandan government, local communities, and an USAID-funded Partners for Health Reform (PHR) project.[23] The success of this project

contributed to an increase in CHI schemes, which reached 100 across the country, between 2000 and 2003.[20]

The literature did not reveal the number of CHI schemes in Tanzania; however, after more than 10 years of operation, only 10% of the target population was enrolled in the CHF, not close to the projected 70% envisioned in 1995.[22] Alternatively, enrollment in Rwandan CHI schemes was high. By 2007, 74% of Rwandans had some form of health insurance.[20] Analysis of data from the National Institute of Statistics of Rwanda's Living Conditions Survey 2005-2006 – a nationally representative survey of 6,800 households and roughly 34,000 individuals – explored the relationship between CHI and utilization of health care services[20] CHI coverage in 2005 was 36.6% and varied by wealth quintile with richer quintiles being most likely to use health services and the poorest households least likely to be insured.[20] In general, those covered by CHI in Rwanda were significantly more likely to use health services.[20] Also, where schemes existed, populations were enrolling albeit at different rates in different locations.

In three of the Ugandan schemes, membership had increased or remained steady from 2004 – 2007, indicating that where CHI schemes did exist, there appeared to be consistent enrollment.[17] Unfortunately, the study does not report the proportion of each district's population that was enrolled in each scheme, leaving our understanding of actual coverage vague. One study offers some insight into CHI coverage in Uganda and reports that the nearly 100,000 members in the 14 schemes represent 5-10% of the catchment's population.[19]

Barriers

Health centers are the primary points of service for the nearly 1 million people living in the three districts where Rwanda's 54 CHI schemes that were discussed in the literature operate, yet the centers are not staffed with doctors nor are they equipped to address medical emergencies.[24] Therefore, when faced with serious medical issues, the rural poor who largely populate these districts have little means to pay for transportation into the capital to receive the necessary care.[24] Reaching district hospitals is also challenging and even when accessible, patients are met with few health workers and service offerings.[24]

Similar barriers existed in Tanzania and were explored using a case study approach to understand the experience of CHF implementation at the district level. Analysis of relevant policy documents and interviews at the national level with four officials from the MoH and World Bank country office showed that similarly to Rwanda and Uganda, barriers to enrollment in the CHF in Tanzania include inability to pay membership fees and poor quality of available services.[22]

Management of Schemes

A common theme that emerged in this review was that poor management of CHI schemes from central to local levels was the source of many issues related to proper functioning of these schemes in all East African countries. Uganda's decentralized health system makes central-level oversight of districts challenging because districts are self-governing administrative areas in which the District Health Officer (DHO) is responsible for implementing the central government's policies.[19] In Uganda, 95% of DHOs in

districts without schemes and 90% of MoH staff "had heard" about CHI, primarily through health workers, media, or during workshops and seminars.[19]

Having heard of schemes did not necessarily translate to knowledge of their purpose or even implementation. When asked to explain the main principles of CHI, two-thirds of MoH staff and a fifth of DHOs were unable to name more than two characteristics.[19] Despite having heard about CHI, 62% of MoH staff and 42% of DHOs without schemes were not aware that CHI schemes have operated in Uganda for many years.[19] However, of those who were aware of CHI, 72% of DHOs and 45% of MoH staff were familiar with the Uganda Community Based Health Financing Association (UCBHFA) - the CHI umbrella organization for Uganda - but none of the DHOs with schemes had actually used UCBHFA services.[19]

For those who had heard of CHI, it was viewed as a relevant policy option that helped to increase access-seeking behavior of patients, empowered the community to demand better care, and enabled health facilities to plan for needed services.[19] However, it was also found that patients made OOP payments for medicines and to health workers.

In Tanzania, mistrust of managers of CHI schemes was an issue.[22] A review of government documents showed that the Tanzanian central government made exemption policies available to the district managers; interviews with ward and district managers confirmed their knowledge of the exemption policies.[22] However, a clear disconnect between the central and district level is highlighted by the fact that all 28 poor households in the study were not aware of exemptions.[22] A possible explanation for this is that three out of four managers in one district, and two out of four managers in the other district, commented that implementing the recommended exemptions would seriously diminish

the CHF's financial base since so many households qualified for the exemptions.[22] All of the managers placed blame on the central government for not addressing financial sustainability of the CHF. Interviews with managers in both districts revealed that they believed it was the village government's responsibility to set exemption criteria or that it was not their responsibility and they lacked guidance from the central government.[22]

Interviews revealed a disconnect between district managers' and the central government's expectations regarding budget use. The central government managers saw the CHF as one set of district activities, and as such, should receive appropriate funding and attention.[22] Conversely, district managers in both districts viewed the CHF as separate from their normal work. Attention and money were, therefore, rarely given to the CHF.[22]

The Role of User-fees

Many of Uganda's CHI schemes operate in rural areas where the only health facilities are often Private Not for Profit (PNFP) where user fees are required from patients.[19] In 2001, the government of Uganda formally abolished user fees in public health facilities. Doubts exist if funding of these public facilities is adequate to sustain user-fee abolition; moreover, some question whether or not all public facilities strictly and consistently adhere to the government's call for abolition of user fees.[19] DHO and MoH staff indicated that patients continued to make OOP payments at public health facilities, for medicines and informal payments to health workers.[19]

Members of CHI schemes reported that non-members often received better care than members because non-members paid cash for treatment and were subsequently

given priority by health workers.[17] However, the abolition of user fees in Uganda's public facilities had little impact on CHI scheme membership in the long run because those who did leave the schemes often returned due to poor services in government health facilities.[17] In fact, the year user fees were abolished, one scheme in Uganda's Bushenyi district reported an increase in membership from 25 to 112.[17]

Equity

Inherent characteristics of CHI schemes can often make them inequitable. For example, in some schemes, families could not register more than four members and the poorest and most at risk for ill health were often not exempt from payments even though their needs were viewed as greater than other community members.[17]

In Kenya, exemptions decided by local health committees resulted in very few exemptions actually offered to the poorest.[25] The poorest are almost entirely excluded from pricing and how revenue should be spent and generally not involved in decisions, which resulted in distrust in management – 20% of the poorest were unhappy with pharmacy management; 24% were happy; and 56% were undecided.[25]

A brief study in Eritrea discussed equity when exploring the possibility of extending the *Mahber* system to cover unexpected health care costs by expanding it into a health insurance scheme for rural and poor populations. A *Mahber* is defined as an informal association where members make periodic monetary contributions and in turn receive money and benefits in the case of an event requiring money the individual does not have. Additionally, a *Mahber* fosters social relationships among individuals creating a sense of security and social capital.[26]

The study, which included three sub-zones of Eritrea with a total of 1,583 households within the zones, found that a majority of households (83.8%) financed large, unexpected health care by relying on "nearest kin" and 66.4% sought assistance from informal quasi-religious mutual aid community associations.[26] Thirty-five percent of the *Mahbers* reported that they provided assistance with health problems.[26] Of the 76% of respondents that have membership in a *Mahber*, 63.7% indicated that they would be willing to join a *Mahber*-based health insurance scheme for an additional cost of roughly $0.50 a month.[26] Although not as informative as the other studies in East Africa, this study highlights the importance of community and equity for many people when it comes to health care. In Eritrea, people are willing to pay for a more organized and structured system of equitable health care.

Sustainability

According to members of CHI schemes, sustainability depends on members' sense of ownership, high enrollment, good leadership, and the behavior of health workers.[17] In Uganda, DHO and MoH staff see the potential of CHI as a health financing policy option for Uganda, although significant improvements to the schemes are necessary.[19] For a sustainable policy of CHI in Uganda, all stakeholders need to be better informed of, and sensitized to, the principles intrinsic to CHI.[19] Furthermore, CHI was seen as a stepping-stone toward SHI in Uganda by setting a foundation of understanding the benefits of health insurance, which could ultimately lead to longer-term sustainable health financing in Uganda.[17]

b. **Community Health Insurance – West Africa**

Overview

For West Africa, due to the heterogeneity of how CHI programs are implemented, we describe the specific questions investigated and challenges from each study to illustrate the implementation of CHI schemes.

As part of a pilot project on improving financial access to health services, the Malian Ministry of Health and Partners for Health Reform (the same project that set up schemes in Rwanda) developed four MHOs – or CHI schemes.[27] Two CHI schemes were developed in the rural district of Bla and two in the more urban district of Sikasso.[27] A case-control study compared the schemes in each district by focusing on the effect membership had on utilization of childhood diarrhoea treatment, prenatal care and assisted deliveries, childhood immunizations, vitamin A supplementation, and use of insecticide treated bed nets.[27] Additionally the study sought to determine if CHI schemes covered the poorest and most vulnerable populations and provided financial protection against health expenditure.[27]

A study in Senegal focused on the predominantly rural Thies region which is divided into three departments: Thies, Tivaouane, and Mbour.[28] In Ghana, CHI scheme membership in the rural districts of Nkoranza and Offinso was studies to determine if CHI membership had an effect on maternal health care.[28]

In Burkina Faso, there are 11 district-administrative health regions. Across these regions are 53 health districts.[29] The health district of Nounacovers about 60,000 individuals distributed in 7,340 households, 990 of which were the subjects of a study on usage and perceptions of CHI - 606 from the rural area and 384 from an urban town.[29]

Cote d'Ivoire is the other West African country represented in this review. The Agou municipality, primarily populated by the Attie ethnic group, offers a unique glimpse of the role that long-held ideals of social solidarity can have on a community's understanding and acceptance of CHI.[30] Agou's *Mahber* system is studied to see how it could assist in the transition to a CHI scheme that could better serve the health needs of the population.[30]

Coverage and Enrollment

In Senegal, maternal health care is provided at four types of health facilities:

I. health huts staffed mainly by community health workers;

II. health posts staffed by nurses;

III. health centers staffed by nurses and medical doctors; and,

IV. district hospitals.[28]

Twenty-seven of the 40 CHI schemes in Senegal's Thies region were studies in 2004. The schemes covers primary health care for 4.8% of the Thies population, mainly at health posts and centers.[28] Half of the schemes studied cover prenatal care, 60% cover basic delivery care, and 26% cover complicated deliveries, such as caesarean sections.[28] In the four sites studies in Mali, CHI schemes cover certain aspects of maternal health care: antenatal care (57%); assisted deliveries (26%); child immunizations (29%) and treatment of child diarrhoea (30%).[27] Interestingly, after Ghana's Nkoranza Health Insurance Scheme ("the Nkoranza scheme") gained community ownership in 2001, coverage of the population increased and reached one-third of the population by 2004.[28]

Barriers

Across the West African countries represented in this review, the barriers to accessing care and preventive services vary. Here, we describe several barriers and illustrate these with data and examples from specific countries. In Mali, membership in a CHI scheme increased the likelihood that sick individuals would seek care in a health facility[18] - (1.7 times more likely for fever; three times more likely for oral rehydration therapy for diarrhoea in their children; and twice as likely to make at least four prenatal visits during pregnancy.)[27]

Prenatal care is recognized as an important avenue to lowering maternal and infant mortality rates and CHI scheme membership does not appear to have a significant impact on prenatal visits. Close to 73% of women surveyed in Ghana sought prenatal care at a health facility within the first trimester and 54% reported four or more prenatal visits and these numbers were overall not effected by CHI membership status.[28] Similarly, only 35% of women in the Mali study reported four or more prenatal visits.[27]

Delivery in a modern health facility was influenced by CHI membership. In Ghana, 93% of members of insurance schemes that did offer delivery coverage delivered in a modern health facility, compared with only 71% of women who were not a member of any scheme, or were a member of a scheme that didn't offer labor coverage.[28] Very similar findings came out of Mali where 94% of CHI scheme members and 65% of non-members delivered in a facility.[27] Although not statistically significant, 75% of scheme members in Ghana, compared to 65% of non-members, delivered at a modern health facility.[28]

Economic factors were the main barrier to seeking care as a tool to improve health care access for rural populations primarily by alleviating financial catastrophe associated with health care spending.[29] Two-thirds of all individuals in Burkina Faso did not seek professional care but rather used home-based treatment, suggesting that a potential CHI scheme in Nouna should focus on households as opposed to individuals.[29]

Distance to health facilities, household size, and ethnicity were key predictors in CHI scheme enrollment in Mali.[27] Individuals living more than 2km from a health facility were less likely to seek treatment and in particular, women living 6-10km from a health facility were two-thirds less likely to complete at least four pre-natal visits.[27] The ethnic majority in Mali – the Bambara - was significantly less likely to enroll in CHI schemes than other ethnic groups; 47.3% of the Bambara were not scheme members.[27] The Senofo ethnic group showed the highest levels of enrollment in CHI schemes (56.1%).[28]

In Cote d'Iviore, the number of children in a household greatly influenced the likelihood that the community would assist a sick individual. An ill individual from a household with 1-6 children is 2.17 times more likely to receive financial solidarity for access to care than those with no children.[30] A household with more than six children is 2.3 times more likely to benefit from financial solidarity than those with no children.[30] Women were 1.64 times more likely to benefit from financial solidarity than men. When illness was perceived as severe for any individual, solidarity was 2.6 times higher than when illness was not perceived as severe; when the illness was perceived to be "very severe" the individual was 4.35 more likely to benefit from social solidarity in the form of financial aid than if the illness was not perceived as severe.[30]

The Role of User Fees

Enrollment in an MHO in Mali does not have a protective effect on OOP for patient care; co-payments for outpatient care ranges from 25-50%.[18] Alternatively, membership in Ghana's Nkoranza scheme was significantly associated with lower OOP spending on hospital care for complicated deliveries.[28] indicating that the scheme has been successful in offering financial protection to its members for the stated purpose. In Cote d'Ivoire, user fees have forced the poorest to rely on family and social networks to pay costs associated with health care.[30]

Equity

In Kenya, three interlinking equity principles emerged: payment on basis of ability to pay; equal opportunity of use for equal need; and, effective representation of all community interests in decision-making.[25] The study reported socioeconomic variation in poor communities and inequalities associated with gender due to the fact that men had sole control of household resources.[25]

c. ***Community-based Health Insurance - Southern Africa***

Zambia is the only country in Southern Africa for which this literature review returned information regarding CHI. To better understand CHI in Zambia, interviews were conducted with district managers, local government managers, and health care providers in urban and rural districts.[25] Small group discussions and semi-structured interviews with health service users and other community members were also conducted.[25]

These interviews revealed that community members generally felt they had not been involved in decisions regarding user-fee implementation so there was not much community ownership of the CHI schemes.[25] Additionally, little attention was given to actual financing policy. Simple verbal guidance was given to national CHI managers that fee revenue should be used at the facility level, although revenue had to be submitted to and banked at the district level in six of the 8 districts visited in the study.[25] In Zambia, managers were also found to adapt user-fee exemptions as they saw fit, resulting in MoH staff and church employees receiving exemptions.[25]

i. Social Health Insurance

<u>Overview</u>

First introduced in Germany in 1883, Social Health Insurance (SHI) has a long European history.[24] SHI has gained popularity in many Asian countries, namely Korea, Taiwan, Singapore, Indonesia, Mongolia, and the Philippines.[24] Beginning in the 1990's, sub-Saharan African countries have been seen as places in which SHI could be beneficial to health outcomes.[24] SHI systems are characterized by one or multiple funds that rely on mandatory payroll contributions from individuals and employers in exchange for a package of benefits.[10] Countries often have multiple SHI funds which creates different risk profiles, something that some countries try to avoid to ensure comprehensive risk pooling.[10] SHI systems have limitations in reaching the informal sector and thus have evolved to include flat rates that families or individuals can pay to be part of the system. Governments can also pay contributions for those in the informal sector of the very poor who would otherwise not be financially capable of paying for SHI coverage.[31] Despite

the evolving implementation of SHI systems, covering all parts of a society is challenging, especially in developing countries where the informal sector is often large.[10]

SHI is most often seen as a mechanism to collect general revenue and avoid situations with declining tax-funded spending on health services in addition to improving the equity and efficiency of health systems.[24]

Table 5: SHI papers by region and country

Total SHI-focused papers (% N)*	7 (15%)
Central Africa	**N/A**
East Africa	**1**
Kenya	1
Southern Africa	**5**
South Africa	2
Lesotho	1
Swaziland	1
Zambia	1
West Africa	**N/A**
General SSA Context	2

* N=47 studies included

Ghana and Rwanda have passed SHI laws and Lesotho, Kenya, and Swaziland have explored the feasibility of introducing SHI.[31] Kenya's parliament passed the National Social Health Insurance Fund (NSHIF) at the end of 2004 but was returned for further development by the president.[32] Ghana introduced the National health Insurance Scheme (NHIS) in 2001 and passed it into law in 2003 as an alternative to the long standing World Bank and IMF backed policies of user-fees.[33] Key factors influencing the development and implementation of SHI are income level and pace of implementation as well as social solidarity.

Equity

Since SHI systems are based on the principle that members of the scheme are subsidizing those at higher risk for sickness, poorer individuals, and large families, social solidarity is arguably the most essential component for an effective SHI system.[34] Solidarity has emerged as an issue for Swaziland in the process to determine the

feasibility of SHI. Many of the negotiating partners in the process were part of the middle and upper class and placed significantly less importance on SHI than they did on private health sector.[31]

Pace of Implementation

A large challenge of SHI in developing countries is ensuring coverage for the informal sector[**] and because the informal sector is relatively large in these settings, the challenge is particularly difficult. Therefore, many countries cover the formal sector first and expand coverage to the informal sector when the SHI scheme is administratively stronger and has more funds.[34] Although CHI schemes are most often implemented in the absence of a formal plan to expand coverage, they can be created as a way to progressively implement a SHI scheme that covers the entire population.[34] Based on the experience of other countries, namely Vietnam, it has been predicted that for African countries with a GDP per capita of less than US$1,000, it would take 45 – 50 years to reach universal coverage. However, it is possible that the pace of reaching universal coverage via SHI will be faster in many sub-Saharan African countries because of relatively strong, pre-existing SHI schemes, and donor support that helps subsidize the poor and informal sector populations.[35]

Kenya's NSHIF intends to cover the entire population over a period of 9 years following implementation despite some reports suggesting that after 9 years, a more realistic goal is to reach 60 – 80% coverage.[32] The primary goal for SHI in Lesotho is to extend coverage across the entire population and reduce OOP expenditure. In order to

---

[**] The informal sector is that part of the economy that is not taxed, formally monitored by any form of government, or included in the gross national product (GNP).

achieve this, stakeholders envision rapid implementation of SHI across the formal sector followed by gradual coverage for the rest of the population over 10 years.[35] In Swaziland, stakeholders expressed interest in gradually expanding SHI coverage to all over a period of 6 years.[35]

South Africa is one of a few low- and-middle income countries (LMICs) with a large voluntary private health sector; in the 1990's, 60% of health care was funded from private sources but less than one-fourth of the population had access to private sector providers.[24] SHI has been proposed since the mid 1990's as a way to lessen the gap between the public and private health sector.[24] In 1994, the African National Congress (ANC) recommended compulsory SHI contributions by all formal sector employee as part of the National Health Plan.[24] The goal of such a proposal was to improve equity across the public and private sectors by pooling funds and spreading the risk across the pool.[24]

CHAPTER 3: DISCUSSION, CONCLUSION AND RECOMMENDATIONS

Understanding the benefits and challenges of various financing mechanisms in different contexts only strengthens the ability for ministries of health and development partners to successfully implement appropriate financing mechanisms for their populations. Despite the limited number of countries represented, this review provides several important findings and lessons for other countries.

Predominance of CHI schemes

One of the more significant findings to emerge from this review is that CHI schemes are the most discussed financing mechanism in the literature. Forty-three percent of the articles focused on CHI schemes. SHI is the second most discussed financing scheme accounting for only 15% of the articles in the review followed by NHI, accounting for 11% of articles and PHI was featured in 6%. The prevalence of CHI schemes in sub-Saharan Africa must be considered alongside another significant finding from review that only 30% of sub-Saharan African countries were represented. Of course it cannot be assumed that the countries excluded from the review have no methods for financing their health systems. Rather, this finding indicates a gap in the formal analysis of health financing mechanisms for the majority of the region.

It was also shown that among those countries for which CHI schemes were examined, most were in West or East Africa. In both regions, 12 papers focused on one or more of their countries. Rwanda was a focus country most often and discussed in four

separate papers. This finding suggests Rwanda's experience with CHI schemes provides rich data for analysis. Alternatively, Eritrea in East Africa and Cote d'Ivoire in West Africa were each the focus on only 1 paper, perhaps suggesting that their experiences with CHI are not as robust or useful as that of Rwanda's.

Another significant finding from this review is that Central African countries are not represented in the literature on health-systems financing. An implication of this finding is that comprehensive knowledge about how Central African countries fund their health systems and thus protect their citizens' right to health is lacking. Without an understanding of how financing mechanisms work in practice and whether or not they are effective, individuals may continue to suffer from catastrophic health expenditures and there is less possibility for improved mechanisms and attention to issues in the system or shared successes that may be valuable to other countries.

Although West Africa is represented in this review, it is only included in the literature in terms of CHI mechanisms. The literature showed that CHI is often a stepping-stone to SHI. The prevalence of CHI across West Africa and the current analysis of its effectiveness suggest that SHI financing mechanisms may be in West Africa's future and thus further research on the potential of SHI in the region is warranted.

Recurring themes from this review are that of equity, sustainability, and the role of international actors in shaping health financing priorities. In the 1980's, many countries in sub-Saharan Africa shaped their health financing systems per the recommendations of the World Bank and IMF. As a result, OOP and user-fees increased and people suffered because they could not pay for health care and when they needed to, the payments proved catastrophic. Despite what can only be assumed as good intentions

on the part of the World Bank and IMF, their effort eventually had a negative impact on the health financing systems of many countries.

Financing Mechanism and Health Expenditure Data

When the results from this review are corroborated with data from the WHO NHA, several interesting observations emerge. As Table 6 shows, the majority of countries in this review have a GDP per capita (adjusted for PPP) between 1,300 and 1,800 (well below the average of 2,156 for all of sub-Saharan Africa) and a nominal GDP between 500 and 1,200 (compared to an average of 1,023 for sub-Saharan Africa as a whole).

On average, sub-Saharan African countries spend 7% of GDP on health, and the countries in this review spend an average of 6% of their GDP on health. Percentages by country are relatively similar with a range of 2% total health expenditures (THE) as percentage of GDP in Eritrea, and 9% THE as percentage of GDP in Rwanda and South Africa. This shows that a country's THE does not correspond to its GDP, indicating that progress towards the increased health spending goals described in multiple international agreements in lacking. Continued efforts to increase the percentage of GDP in sub-Saharan African countries allocated to health are needed.

Table 6: Total Health Expenditures by GDP per capita PPP

Lower-GDP per capita PPP countries' expenditure as percentage of Total Health Expenditure (THE), 2009.

	GDP per capita, PPP (current international $)*	**GDP per capita (current US $)****	**Total health expenditure (% GDP) *****	**Public health expenditure (% THE) ********	**Private health expenditure (% THE)◆**	**OOP health expenditure (% THE) ◆◆**	**External resources for health (% THE)+**
Eritrea	581	369	2	45	55	55	66
Sub-Saharan Africa	*2,156*	*1,135*	*7*	*44*	*56*	*35*	*11*

Mid-GDP per capita PPP countries' expenditure as percentage of Total Health Expenditure (THE), 2009.

	GDP per capita, PPP (current international $)	**GDP per capita (current US $)**	**Total health expenditure (% GDP)**	**Public health expenditure (% THE)**	**Private health expenditure (% THE)**	**OOP health expenditure (% THE)**	**External resources for health (% THE)**
Rwanda	1,136	522	9	43	57	25	53
Mali	1,185	691	6	48	52	52	26
Burkina Faso	1,187	517	6	62	38	36	22
Uganda	1,217	490	8	19	81	53	21
Tanzania	1,324	489	5	74	26	17	56
Zambia	1,430	990	5	53	47	35	50
Benin	1,508	745	4	55	45	42	23
Ghana	1,552	1,098	7	45	55	43	17
Kenya	1,573	738	4	34	66	51	36
Cote d'Ivoire	1,701	1,106	5	19	81	80	11
Senegal	1,817	1,023	6	56	44	35	14
Sub-Saharan Africa	*2,156*	*1,135*	*7*	*44*	*56*	*35*	*11*

Upper-GDP per capita PPP countries' Expenditure as percentage of Total Health Expenditure (THE), 2009.

	GDP per capita, PPP (current international $)	GDP per capita (current US $)	Total health expenditure (% GDP)	Public health expenditure (% THE)	Private health expenditure (% THE)	OOP health expenditure (% THE)	External resources for health (% THE)
Swaziland	4,998	2,533	6	63	37	16	12
South Africa	10,278	5,786	9	40	60	18	2
Sub-Saharan Africa	*2,156*	*1,135*	*7*	*44*	*56*	*35*	*11*

*Purchasing power parity (PPP) is an adjusted estimate of gross domestic product (GDP) that accounts for the fact that a common basket of goods and services will have different costs across different countries. Data source: The World Bank Group Africa Development Indicators, 2009.
**Nominal GDP is the value of all final goods and services produced within a nation in a given year, converted at market exchange rates to current U.S. dollars, divided by the average population for the same year. Data source: World Bank Group Africa Development Indicators, 2009.
***Total health expenditure is the sum of public and private health expenditure. It covers the provision of health services, family planning activities, nutrition activities, and emergency aid designated for health but does not include provision of water and sanitation. Data source: WHO National Health Accounts, 2009.
****Public health expenditure consists of recurrent and capital spending from government (central and local) budgets, external borrowings and grants (including donations from international agencies and nongovernmental organizations), and social health insurance funds. Data source: WHO National Health Accounts, 2009.
◆Private health expenditure is the sum of outlays for health by private entities, such as commercial or mutual health insurance providers, non-profit institutions serving households, resident corporations and quasi-corporations not controlled by government with a health services delivery or financing, and direct household out-of-pocket payments. Data source: WHO National Health Accounts, 2009.
◆◆Out of pocket expenditure is any direct outlay by households, including gratuities and in-kind payments, to health practitioners and suppliers of any goods and services whose primary intent is to contribute to the restoration or enhancement of the health status of individuals or population groups. It is a part of private health expenditure. Data source: WHO National Health Accounts, 2009.
+External resources for health are funds or services in kind that are provided by entities not part of the country in question. The resources may come from international organizations, other countries through bilateral arrangements, or foreign nongovernmental organizations. These resources are part of total health expenditure. Data source: WHO National Health Accounts, 2009.

Table 6 also shows that three West African countries in this review (Burkina Faso, Benin, and Senegal) have higher public expenditures on health as a percentage of THE than private expenditures on health. Of the East African countries represented in this review, four (Eritrea, Rwanda, Uganda, and Kenya) have higher private health expenditures than public. These findings indicate a trend in more private spending on health in East Africa than in West. Interestingly, the nominal GDP in the East African countries is ranges from ranges from US$ 489 – 738. Comparatively, the nominal GDP of West African countries range from US$ 517 – 1,106.

Public Health Implications

As the population of the world now exceeds 7 billion people and continues to grow, it becomes increasingly necessary that systems are in place to ensure that all individuals can access and afford the proper health care that will help them to fully realize their right to health. Developing countries in sub-Saharan Africa must deal with the double burden of poor health indicators and insufficient financial resources. This review highlights the scarce body of research on how countries in sub-Saharan Africa finance their health systems in addition to the challenges of developing and then implementing health insurance systems that cover their populations.

Strengths and Limitations

Strengths of this review are the systematic nature of identifying appropriate articles for inclusion. In addition to the initial review of articles, we returned to the full list of articles to search the four primary financing mechanisms and confirmed that all

relevant articles had been retrieved and included in the review. Additionally, we excluded from the review articles on financing of specific diseases and programs. This is important attribute of the review because it ensured that the focus remain on systems financing which, it appears, has not received the necessary attention in the literature.

A limitation of this review is that we searched only one database. Also, limiting our search to only English may have resulted in missed studies from predominantly French-speaking West Africa. In addition, there are many other sources of data that we could have looked at to obtain a more comprehensive picture of health systems financing. Such data sources include MoH websites, interviews with politicians, donor reports, and direct communication with insurance-scheme organizations and review of relevant scheme-related documents.

An issue that was not addressed in this review of the literature was the role of donor funds on health systems financing. Data from the WHO's NHA show that external resources for health constitute a significant percentage of many countries' health financing systems. Inclusion of studies focused on this topic could have strengthened the review by offering a more comprehensive understanding of the sources of funding in many countries. Questions that remain unanswered in this review in relation to the role of donor funds are: Is funding earmarked to certain programs or directed to general budget support? Does the health financing system of the donor country influence how and where funds are directed? Is donor funding of health systems sustainable? An exploration into these questions could have enhanced the review by providing information specifically on the impact of donor funds as supplements to insufficient funds.

Future directions

The findings from this review suggest several courses of action for future research on health financing mechanisms and health systems strengthening efforts in sub-Saharan Africa. As this review has shown, information regarding the health financing structure in a majority of SSA and specifically in Central Africa is lacking. Additional research in these countries would provide their governments with useful information regarding successes and failures of current financing systems and add to the body of current literature, thus aiding other countries in similar settings working towards improving their health financing system. The role of donor funds in health systems financing should also be explored since as shown in Table 6, all countries in this review (other than South Africa) fund their health systems with a significant percentage of external resources for health.

Bibliography

1. UN General Assembly, Universal Declaration of Human Rights, 10 December 1948, 217 A (III), http://www.unhcr.org/refworld/docid/3ae6b3712c.html.[Accessed on April 17, 2012.]

2. Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19 June - 22 July 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948.[Accessed on April 17, 2012.]

3. International Covenant on Economic, Social and Cultural Rights, adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI), 6 December 1966, entry into force 3 January 1976. http://www2.ohchr.org/english/law/cescr.htm. [Accessed on April 17, 2012.]

4. Hsiao W, Heller PS. What Should Macroeconomists Know about Health Care Policy? International Monetary Fund Working Paper. http://www.imf.org/external/pubs/ft/wp/2007/wp0713.pdf. January, 2007 [Accessed on April 20, 2012.]

5. WHO. Declaration of Alma Ata. International conference on primary health care, Alma-Ata, USSR, 6-12 September 1978. Geneva: WHO, 1978. www.who.int/hpr/NPH/docs/declaration_almaata.pdf.[Accessed on April 17, 2012.]

6. Organization of African Unity: Abuja Declaration on HIV/AIDS, tuberculosis and other related infectious diseases. Abuja 2001. http://www.un.org/ga/aids/pdf/abuja_declaration.pdf. [Accessed April 20, 2012.]

7. WHO. Kampala Declaration on Fair and Sustainable Health Financing. In: Africa. Kampala, Uganda; 2005. http://www.who.int/health_financing/documents/kampala.pdf. [Accessed on April 17, 2012.]

8. WHO. Regional Committee for Africa; Fifty-sixth session. Health financing: a strategy for the African region. Addis Ababa, Ethiopia, 28 August-1 September 2006. http://www.who.int/health_financing/documents/afrrc56-r5-healthfinancingstrategy.pdf. [Accessed on April 17, 2012.]

9. WHO. Forum on universal health coverage: sustaining universal health coverage, sharing experiences and promoting progress. Mexico City, 2 April, 2012. http://www.who.int/healthsystems/topics/financing/MexicoCityPoliticalDeclarationUniversalHealthCoverage.pdf [Accessed on April 17, 2012.]

10. Gottret P, Schieber G. (2006) Health Financing Revisited: A Practitioner's Guide. Washington, DC: The World Bank Group. Publication 37091.

11. The World Bank Group, 2011. http://go.worldbank.org/SCWOULW751 world bank. [Accessed January 2012.]

12. WHO National Health Accounts. http://www.who.int/nha/use/en/index.html. [Accessed March 2012.]

13. Agyepong IA, Adjei S. Public social policy development and implementation: a case study of the Ghana National Health Insurance scheme. Health Policy Plan 2008;23(2):150-60.

14. McIntyre D, Garshong B, Mtei G, et al. Beyond fragmentation and towards universal coverage: insights from Ghana, South Africa and the United Republic of Tanzania. Bull World Health Organ 2008;86(11):871-6.
15. Zikusooka CM, Kyomuhang RL, Orem JN, Tumwine M. Will private health insurance schemes subscriptions continue after the introduction of National Health Insurance in Uganda? Afr Health Sci 2009;9 Suppl 2:S66-71.
16. Taylor EM. Regulating private health insurance: The reality behind the rhetoric in Uganda. Glob Public Health 2011;6(1):72-82.
17. Kyomugisha EL, Buregyeya E, Ekirapa E, Mugisha JF, Bazeyo W. Strategies for sustainability and equity of prepayment health schemes in Uganda. Afr Health Sci 2009;9 Suppl 2:S59-65.
18. Chankova S, Sulzbach S, Diop F. Impact of mutual health organizations: evidence from West Africa. Health Policy Plan 2008;23(4):264-76.
19. Basaza RK, Criel B, Van der Stuyft P. Community health insurance amidst abolition of user fees in Uganda: the view from policy makers and health service managers. BMC Health Serv Res 2010;10:33.
20. Saksena P, Antunes AF, Xu K, Musango L, Carrin G. Mutual health insurance in Rwanda: evidence on access to care and financial risk protection. Health Policy 2011;99(3):203-9.
21. Kalk A, Mayindo JK, Musango L, Foulon G. Paying for health in two Rwandan provinces: financial flows and flaws. Trop Med Int Health 2005;10(9):872-8.
22. Kamuzora P, Gilson L. Factors influencing implementation of the Community Health Fund in Tanzania. Health Policy Plan 2007;22(2):95-102.
23. Schneider P, Hanson K. Horizontal equity in utilisation of care and fairness of health financing: a comparison of micro-health insurance and user fees in Rwanda. Health Econ 2006;15(1):19-31.
24. McIntyre D, Doherty J, Gilson L. A tale of two visions: the changing fortunes of Social Health Insurance in South Africa. Health Policy Plan 2003;18(1):47-58.
25. Gilson L, Kalyalya D, Kuchler F, Lake S, Oranga H, Ouendo M. The equity impacts of community financing activities in three African countries. Int J Health Plann Manage 2000;15(4):291-317.
26. Habtom GK, Ruys P. Traditional risk-sharing arrangements and informal social insurance in Eritrea. Health Policy 2007;80(1):218-35.
27. Franco LM, Diop FP, Burgert CR, Kelley AG, Makinen M, Simpara CH. Effects of mutual health organizations on use of priority health-care services in urban and rural Mali: a case-control study. Bull World Health Organ 2008;86(11):830-8.
28. Smith KV, Sulzbach S. Community-based health insurance and access to maternal health services: evidence from three West African countries. Soc Sci Med 2008;66(12):2460-73.
29. Dong H, Gbangou A, De Allegri M, Pokhrel S, Sauerborn R. The differences in characteristics between health-care users and non-users: implication for introducing community-based health insurance in Burkina Faso. Eur J Health Econ 2008;9(1):41-50.
30. Aye M, Champagne F, Contandriopoulos AP. Economic role of solidarity and social capital in accessing modern health care services in the Ivory Coast. Soc Sci Med 2002;55(11):1929-46.

31. Carrin G, Doetinchem O, Kirigia J, Mathauer I, Musango L. Social helath insurance: how feasible is its expansion in the African region? DevISSues 2008;10(2):3.
32. Carrin G, James C, Adelhardt M, et al. Health financing reform in Kenya - assessing the social health insurance proposal. S Afr Med J 2007;97(2):130-5.
33. Durairaj V, D'Almeida S, Kirigia J. Ghana's approach to social health protection. In: World Health Report (2010) Background Paper, No.2: WHO; 2010.
34. Doetinchem O, Schramm B, Schmidt JO. The Benefits and Challenges of Social Health Insurance for Developing and Transitional Countries. Series International Public Health 2006;18.
35. Carrin G. Social health insurance in developing countries: A continuing challenge. International Social Security Review 2002;55(2).

○