Providing Financial Protection and Funding Health Service Benefits for the Informal Sector: Evidence from sub-Saharan Africa

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Contents

List of tables, figures and boxes

Executive summary

In the context of initiatives to promote universal coverage, there is an emphasis on increasing prepayment funding for health services. This paper aims to contribute towards debates on how best to promote financial protection and access to needed health care for those outside the formal employment sector (i.e. those who work in the informal sector, are unemployed or are not economically active) through prepayment funding, with a particular focus on the African context. It reviews literature on alternative domestic prepayment funding mechanisms (i.e. does not consider donor funding) in relation to the three dimensions of universal coverage: population coverage, service coverage and cost coverage.

There is considerable emphasis on community-based health insurance schemes (CBHIs) as a mechanism for covering those outside the formal sector in Africa. CBHIs have been seen as an important way of providing some protection against the user fees introduced at public sector health facilities in many African countries in the 1980s. However, the literature highlights that CBHIs generally achieve very limited population coverage if operating as voluntary schemes, tend to cover a very limited package of services and sometimes require co-payments. There are also sustainability problems associated with these schemes due to the small risk pools. The ability of CBHIs to offer adequate financial risk protection is dependent on whether the schemes are part of a national financial strategy that receives government support, the design (including premium rates and timing of contribution, whether the schemes cover outpatient and inpatient services, the range of accredited health care facilities), the share of costs covered by the scheme and implementation features of the scheme. Although evidence is currently limited, CBHI contributions tend to be a highly regressive form of financing health care.

Although there are few mandatory health insurance schemes in Africa at present, experiences suggest that in countries where they do exist, coverage is higher than for voluntary CBHIs, but still far below universal coverage. Most of these mandatory schemes focus on covering formal sector workers, and contributions by this group are usually progressive. In some countries, those outside of the formal employment sector are also required to join the mandatory scheme(s), and contributions by this group can be very regressive.

Evidence from Asia suggests that the levels of coverage among those outside the formal sector is largely influenced by whether financial protection is offered through contributory insurance schemes or on a tax-funded basis. Key issues from the Asian experience include the need to heavily subsidise services for the poor and vulnerable groups, mainly through tax funding and in some cases a combination of tax and donor funds. Governments and donors should be prepared to put aside significant funds to offer coverage (population, service and cost coverage) to these groups.

Ultimately, to pursue universal coverage, it is necessary to increase funding from government sources. This may include increased funding from existing taxation mechanisms, but could also include innovative financing initiatives such as special levies on large and profitable companies; a levy on currency transactions or a financial transaction tax. There is little experience to date of these innovative financing mechanisms, but in African countries such as Ghana, Gabon and Zambia that have introduced such initiatives, they have generated considerable funds. This suggests that these financing mechanisms warrant further consideration by other African countries.

It is clear that moving to universal coverage for all in Sub-Saharan Africa (SSA) is a challenge. Ensuring financial protection and access to needed health care for those outside the formal sector is even more challenging due to constrained tax revenue in many countries and equity and efficiency problems associated with contributory schemes for this group. As governments and the international community work towards achieving universal coverage in SSA, deliberate efforts should be directed towards ensuring that this group of the population is not disadvantaged and thus excluded from financial arrangements. Key things to note from this review are the challenges of contribution arrangements for this population even where legal provisions make membership mandatory. We recommend that additional health financing arrangements to cover poor and vulnerable groups (e.g. tax funding and innovative financing approaches) are adequately explored in terms of the principles of fair financing before countries move towards implementing contributory schemes for those outside the formal sector, which as indicated in this review, have limited capacity to offer adequate financial risk protection to their members.

1. Introduction

Health systems in many low-and middle-income countries (LMICs) are funded primarily through out-of-pocket (OOP) payments [1-4]. OOP payments are one of the most inequitable forms of health financing [5]; they act as a barrier to access, contribute towards household poverty, generate little revenue (usually around 5% of facilities' budget), and promote perverse incentives, bureaucracy and corruption [6-8]. About 1.3 billion people worldwide do not have access to adequate health care because of weak health care financing systems [2]. An analysis of 116 household expenditure surveys in 89 countries established that 13% (approximately 44 million) households faced financially catastrophic health care costs in any given year and 6% (approximately 25 million) are pushed below the poverty line [2]. In addition to OOP payments, African health systems rely heavily on donor funds. Health systems can be destabilised by sudden reductions in donor funding and a heavy reliance on such funding undermines resilience of domestic health systems. While donor funds have made a significant contribution to improving health care services in many African countries – especially for malaria and HIV/AIDS – the need for additional domestic sources of finance remains a priority, if health systems are to be sustainable.

In 2005, the World Health Assembly called for countries to move towards universal coverage, where all citizens have access to appropriate promotive, preventive, curative and rehabilitative services at an affordable cost [9]. The resolution also highlighted the need to ensure that health systems are funded through mechanisms that allow risk pooling and cross-subsidization, that services purchased for the population are of good quality and that efficiency is promoted. The 2010 World Health Report recognized the important role of health care financing in achieving universal coverage [10] while the 64th WHO Assembly in May 2011 reiterated the urgency of implementing sustainable health financing structures and the need to monitor progress towards achieving universal coverage [11]. In 2012, the United Nations Assembly called on governments to "urgently and significantly scale up efforts to accelerate the transition towards universal access to affordable and quality health-care services" [12]. Achieving universal coverage requires resilient and responsive health systems, where domestic resources constitute a large share of health care funding.

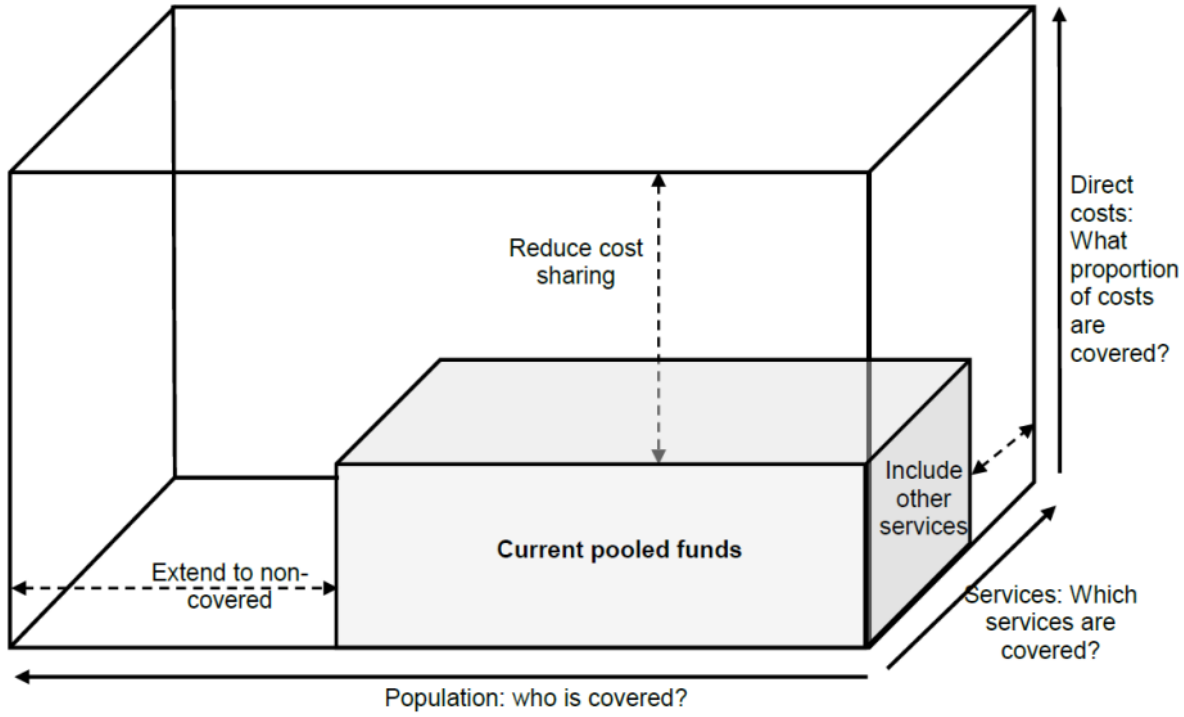
Many countries are currently reviewing their health care financing systems to meet the principles of universal coverage. Some middle-income countries like Thailand and South Korea have achieved universal coverage, while others have made significant progress towards this goal. Debates on how to offer financial risk protection and ensure access to health care in Africa have largely centered on introducing or expanding some form of health insurance on a contributory basis. Health insurance is viewed as a potential mechanism for overcoming health care financing challenges in Africa. Among the countries that have introduced mandatory health insurance arrangements – or are in the process of doing so – are Ghana, South Africa, Tanzania, Kenya, Uganda, Zambia and Burkina Faso. In most cases, these mandatory insurance schemes focus only on covering formal sector workers. These decisions are largely based on an assumption that tax funding is inadequate to meet the health care needs of the population, and thus additional contributions through health insurance schemes are necessary. A major factor that contributes to the limited tax base in many African countries is the presence of a large informal sector. Collecting tax from this sector is thought to be difficult and expensive due to the nature of the enterprise. It remains unclear how health insurance contributions can be collected from those outside the formal sector in an efficient manner.

Health insurance arrangements are not new in Africa. Community-based health insurance schemes (CBHIs) were implemented in various countries to address access barriers related to user fees introduced in the 1980s. CBHIs have focused on covering those outside the formal sector. Various reviews on the impact of community-based health insurance schemes on resource mobilization and financial risk protection have been conducted [3, 4, 6, 13]. Despite being in existence for over two decades, current evidence is insufficient to arrive at any firm conclusions regarding the success of CBHIs in offering financial risk protection. It therefore remains unclear whether or not African countries will achieve universal coverage through contributory health insurance scheme arrangements.

The aim of this review is to contribute towards debates on how best to offer financial protection to those outside the formal employment sector (i.e. those who work in the informal sector, are unemployed or are not economically active), by synthesizing evidence on (i) health insurance coverage for this group; (ii) the extent to which these arrangements provide financial risk protection and (iii) the equity implications of these financing mechanisms. In particular it focuses on experiences with CBHI schemes in sub-Saharan Africa (SSA), given that this has been the main mechanism for attempting to provide financial protection for those outside the formal sector in Africa. Evidence on social / mandatory health insurance is also included because in some countries these financing mechanisms also offer coverage beyond the formal sector. It also includes experiences of financial risk protection through tax and other innovative funding mechanisms that have the potential to contribute towards financial risk protection, although limited attention has been paid to increasing these funding sources in the recent past.

The review is structured around three dimensions of universal coverage presented in Figure 1, namely: Population coverage (including size and composition of risk pools), services covered (i.e. service benefit entitlements) and the proportion of costs that are covered. Achieving universal coverage will largely depend on the extent to which countries address the barriers associated with each dimension of universal coverage to ensure that health financing arrangements cover a large section of the population (and ultimately the whole population) in integrated pools, that there is entitlement to a wide range of services and that the costs covered are sufficient to offer financial risk protection to the population.

Figure 1: Dimensions of coverage



Source: WHO (2010) The World Health Report - Health systems financing: the path to universal coverage, pg. xv

2. Search Strategy

PubMed and Google Scholar were the main search engines used to source relevant articles. The key terms used to retrieve articles included "Community health Insurance, Community-based health insurance, Mutual health insurance, Mandatory health insurance, Social health insurance, National health insurance, Universal coverage, Health financing and Innovative health financing". Only articles related to SSA were included in the analysis. Other sources of literature included websites of international organizations, for example, the International Labour Organization (ILO), World Health Organization (WHO), United Nations Development Programme (UNDP) and the World Bank. The period covered ended in June 2011. A few countries with significant experience on health insurance were selected as case studies to demonstrate experience of different insurance designs in varying contexts. These countries include Ghana, Senegal, Burkina Faso, Nigeria, Rwanda, Cameroon, Tanzania, Kenya, Uganda, and South Africa. The review in relation to experience of insurance schemes mainly covered areas related to population coverage, scheme beneficiaries, funding mechanisms, and benefit package, responsiveness to population needs including the poor, institutional structures, key success factors and challenges.

3. Experiences with Community Based Health Insurance Schemes (CBHIs)

3.1 Origin and design

Community-based health insurance schemes (CBHIs) took root in Africa in the 1990s in response to user fees, which were introduced in many countries as part of structural adjustment programmes [14]. Referred to by different names (community-based health insurance, mutual health organization, community health funds), many CBHIs were initially implemented with support from international donor organizations, with very little community initiative [3], although some were initiated by faith-based health facilities. More recently, some governments (for example Ghana, Rwanda and Tanzania) are supporting their existence as part of universal coverage initiatives (Ministry of Health Ghana, 2003; Musango et al, 2004; Chee et al, 2002). CBHIs were more common in West and Central Africa especially in Senegal, Benin, Burkina Faso, Cameroon, The DRC, Mali and Togo, reflecting a strong Francophone tradition of Mutual health associations [15] and later spread to Eastern Africa. About 900 CBHIs existed in Sub Saharan Africa in 2009 [16].

Government stewardship is important for guiding the process of health care financing towards universal coverage. The government is responsible for creating and enforcing laws, setting rules, norms and policy regulations within which all players and institutions should operate. A major limitation for many CBHIs is the lack of government support and legal structures. CBHIs have been criticized for poor designs with weak legislative, technical and regulatory frameworks that to some extent have affected enrolment rates and the level of financial protection offered [1, 17]. CBHIs operating in countries with adequate legislative measures have been more successful in terms of coverage and risk protection (Logie 2008; Twahira 2008). In Ghana, Rwanda and Tanzania, the National Health Insurance (NHI) and the Community Health Fund (CHF) Acts respectively made it mandatory for citizens to be enrolled in an insurance scheme. In Tanzania, population contributions to CBHIs are matched with an equal government payment to the district level insurance fund to support their activities [18]. While matching CBHI contributions can motivate schemes to recruit members, it can promote inequities, because large schemes are often found in regions that are economically better off than poorer schemes, meaning that the better off population benefit from a larger share of government support than the poor. Rwanda introduced formal cross-subsidization between schemes, which helps to equalize risks across pools [18, 19]. Box 1 summarizes the challenges faced by CBHIs as documented by various authors.

Box 1: Challenges facing CBHIs in Africa

- Extreme poverty makes premiums unaffordable
- Exemptions for the poor and vulnerable are non-existent or do not work effectively
- Limited understanding of health insurance among community and health professionals
- Cultural values (for example, in some communities paying in advance means wishing oneself disease)
- Perceived low quality of care in accredited facilities
- Low trust in the integrity of organizations
- Unresponsive health systems
- Unofficial payments
- Lack of legal structures and government support
- Weak managerial capacity
- Poor technical design that led to fraud, adverse selection and cost escalation

Sources: see references 1-5

4. Assessing CBHIs in relation to the dimensions of coverage

4.1 Population coverage

4.1.1 Size of risk pools

Large risk pools offer better financial risk protection and enhance income and risk cross-subsidization [2]. In Africa, CBHIs are characterized by low membership, usually a few hundred members, from higher socioeconomic groups and often sicker than the rest of the population [13]. Enrolment has been estimated to vary from less than one percent to ten percent of the target population, with the highest enrolment rates reported in the Democratic Republic of Congo, Ghana and Rwanda (Criel 1998; Atim and Sock 2000; Logie et al 2008 Ekman 2004; Scheil-Adlung, Bonnet et al. 2010). A review of 258 CBHIs in developing countries, found that only two percent of CBHIs had more than 100,000 members. More than half (55%) had membership below 500. In addition, schemes with relatively high enrolment rates also suffer from fluctuating membership, although the magnitude of this problem has not been documented [16]. Exceptions to low coverage included the Bwamanda insurance plan in the DRC, the Nkoranza scheme (Ghana), schemes in the Thies region (Senegal) and the government supported schemes in Rwanda [16]. Even in countries where many schemes exist, the risk pool remains small since most operate independently from each other [14].

Enrolment is generally observed to be higher among schemes not directly managed by the community, particularly in schemes born out of successful pre-existing institutions such as mission hospitals, schemes which entail a certain level of compulsion, for example those linked to micro-finance institutions, and those that are heavily supported by the government [16]. A micro-finance scheme in Kenya requiring all people granted loans to enrol in the CBHI has achieved 50% coverage among micro- finance scheme members[20]. Various factors make scaling up of CBHIs difficult, including high poverty levels in target communities, limited understanding of the health insurance concept, limited or no government support and poor technical design (e.g. frequency of contribution, contributions rates that are inadequate to meet the costs of the benefit package). Table 1 presents a summary of the extent of population coverage by CBHIs in selected African countries.

Table 1: A summary of CBHI population coverage African countries

Country	**Number of CHI schemes**	**Population coverage by CBHI**	**Average population coverage by any form of contributory insurance**
Senegal	130	4% or less (2003)	< 20% (2007)
Mali	51 (2003) 102 (2006)	0.31 % (2003) 3% (2009)	< 10% (2003)
Guinea	90 (2006)	10% of pregnant women (target pop) in 17/ 33 districts	<1.5 % (2006)

Burkina Faso	60 (2006)	< 0.2% (2006) 6% in one CBHI in Nouna district	
Benin	120 (2006)	< 1.4%	
Togo	12 (2006)	< 0.5%	
Cameroon	30 (2006) 107 (2008)	< 0.2%	
Niger	18 (2006)	< 0.7 %	
Mauritania	1 Dar Naim (2005)	0.7% of Dar Naim's population	
Ghana	83 (2005)	20-40% of district population	
Tanzania	2 (2007)	10%	
Rwanda	354 (2005)	>75% in 2007	
Burundi**	1 (CAM)- pioneer scheme 29 (2009)	10-25% (CAM)	
The DRC	1-Bwamanda	55% (2008) 26% (2009)	

Source: Adapted from Soors W, Devadasan N, Durairaj V, Criel B: Community Health Insurance and Universal Coverage: Multiple paths, many rivers to cross World Health Report 2010, Back ground paper, No. 48

4.1.2 Composition of risk pools

The vast majority of CBHIs are located in specific geographical regions, mainly rural areas, although there are a few that operate in urban areas, and in a few cases like Ghana, Tanzania and Rwanda, CBHIs have national coverage. A few schemes target specific populations like pregnant women [18]. Membership of these schemes mainly comprise of people within higher socioeconomic status, leaving out a sizeable proportion of the poor population [16]. CBHI members are often known to each other and play an active role in managing the scheme [13]. Despite the premiums being community-rated and lower than those charged by private health insurance companies, they remain unaffordable to the majority of the population, who have low and unreliable incomes [6, 8, 14, 18, 21, 22]. For example, Schmidt et al found that CBHIs with a contribution of greater than one United States Dollar (USD) per year per capita exceeded monthly income for the poorest groups [23]. They noted that attempts to maximize revenue for the health system through CBHIs is unlikely to succeed unless the entire population is covered [23]. Low coverage among the poorest population promotes inequities in access to health care since the poorest populations often have higher needs for care.

4.2 Which services are covered?

Designing benefit packages that are affordable, equitable and sustainable remains a challenge for CBHIs. Benefit packages are sometimes designed by community members based on the scheme's revenue level, often without any technical support from relevant bodies. Community members are sometimes interviewed to identify priority needs that can be covered through the premium [15].

CBHIs provide access to health services through a variety of providers: public, CBHI's own facility, private-not-for profit and private-for-profit providers. A review of 132 CBHI schemes reported that most of the schemes purchased services from public providers (61%), 17% purchased from CBHI owned health facilities and 18% from a mix of public and private (mainly private-not-for profit). Only 4% of the CBHIs purchased services exclusively from private providers [15]. Often CBHIs cover costs related to inpatient benefits, although a few include outpatient care. Rarely does the benefit package include comprehensive cover and people are often required to make co-payments. In Senegal, for example, the Fendane scheme meets the full costs for outpatient emergency care, 10 days of inpatient care, but a co-payment is required for surgery and delivery costs [15]. As shown in Table 2, most schemes offer a limited benefit package that comprises of either one or a combination of services including outpatient and inpatient care, surgery, deliveries, diagnostic tests, referral to specialist hospitals and basic primary health care. Often members have to co-pay a large proportion of the costs, which makes health care unaffordable and limits the potential for CBHIS to offer financial risk protection to their members. Although the design of benefit packages often involves communities, the extent to which the benefits are responsive to members' needs and preferences remains unclear.

Table 2: Benefit packages for various schemes in Africa

Country	Scheme	Benefits package	Co-payment?
Senegal[1]	Fendane MHO[1]	100% out-patient urgent consultation 10 days hospitalization 50% surgery costs 75% midwife and delivery costs 50% discount given by local hospital for all services not covered[1]	50% of surgery 25% midwife and delivery costs[1]
Uganda[1]	Micro Care[1]	All members can access the provider hospitals: Nsambya, Rubaga, Kibuli, Kisubi & Metri-med clinic Casualty and OP services, in-patient services, referral to specialists within the hospital Others: surgery; X-rays and lab procedures; prescription drugs; maternity; dental care and optical consultation[1]	Registration fee of Ush. 1000 ($0.57) Ush. 1500 ($0.86) per visit Coverage up to a limit of $195 per patient per 8 months for inpatient treatment[1]

Benin[1]	UCGM Sirarou[1]	Covers 100% of hospitalization, deliveries and snakebites. Members must use community health center and health posts for deliveries and designated hospital (UCGM is part of 9 MHOs serviced by a common hospital[1])	None. All routine health services and drug costs are borne by households[1]
Mali[2]	MUTCO	Outpatient services; ambulance services for referred care cases; screening and therapy for tuberculosis[2]	
Guinea[2]	MURIGAS	CBHIs targeting pregnant women and safe motherhood	
Togo[2]	Estimated 12 schemes only in 2006[2]	Most schemes include C-sections in the benefits package More recent schemes have no ceiling 1 scheme considering including emergency care for children with malaria[2]	
Mauritania[2]	Dar Naim Scheme	Comprehensive primary care but limited referral[2]	Flat co-payment for Outpatient Proportional co-payment 25% (delivery services) 70% drugs for chronic diseases[2]
Tanzania	2 NGO driven schemes in Mbeya	In-patient and outpatient care- dispensaries and first referral level	
Rwanda	Mutuelles de Sante	Limited benefits package Full package of basic services is available in just 44% of facilities and in these, staff adherence to treatment standards is low	
DRC[2]	Bwamanda	Hospital care – contingent on referral from health centre	No co-payment for maternity services 20% co-payment for all other services

Source: [1] Tabor, 2005; [2] Soors, 2010

4.2.1 What proportion of the costs is covered?

The proportion of costs covered is an important indicator of financial risk protection. In a systematic review of the literature, Ekman (2004) noted that CBHIs provided some financial protection by reducing OOP payments and improved cost recovery. Table 2 shows that few, if any CBHIs offer comprehensive coverage to their members. Co-payments are common and are sometimes as high as 75% of treatment costs. Evidence on the impact of CBHIs on level of OOP payments is mixed, with some settings reporting a significant decline in OOP payments, while others suggest little impact and in some cases increases in OOP payments among CBHI members. In Rwanda, for example, insured households spent significantly less on OOP payments than the non-insured (3.5% and 6.6% of their capacity to pay (CTP) respectively). Some insured households still reported potentially catastrophic OOP payment levels, although these were relatively lower than their non-insured counterparts. Among insured households only 20.1 %, 9% and 2.2% spent over 10%, 20% and 40% thresholds of CTP respectively, compared to 41.6%, 23.6% and 8.6% of non-insured households [19]. Other studies have shown that the financial protection offered through CBHIs is limited [24], while others show no protection [25].

Since most CBHIs only cover inpatient services, they offer limited, if any, financial protection for outpatient care [26]. They have however been shown to offer significant financial protection for inpatient care. In Ghana and Senegal, average hospitalization OOP expenditure for conditions included in the benefit package was significantly lower among CBHI members compared to non-members (Ghana=US$ 2 and US$44; Senegal= US$ 61 and US$ 234 for members and non-members respectively). Clearly, the policies governing CBHIs including the range of benefits members have access to and the level of co-payments have important implications for the proportion of costs covered.

4.2.2 Impact of CBHI coverage on access to health care

By offering financial protection, CBHIs ideally should increase access to health care services through reducing the financial barriers to access. Evidence suggests mixed impacts with some cases showing increases in use of health care services, while others show no impact. In Rwanda, health centres' utilization rates increased from 0.28 new visits per capita in 1999 to 0.86 in 2008 [18]. In Ghana CBHIs members utilized health care services six times more than non-members [18], and membership increased the likelihood of seeking care from modern health care providers [26]. Among CBHI members in Rwanda the elderly were less likely to use services compared to under-fives and the rest of the population. The richer quintiles were also more likely to use services compared to the lowest quintiles. These findings suggest that even when people are covered through the same scheme, access to health care services may differ due to other financial and non-financial barriers [19]. Availability of a health facility in the community increases enrolment, suggesting that CBHIs may have a limited role in improving access for those far from health facilities [26]. Although increasing access to health care for members is positive, it is not in line with the goals of universality since it promotes exclusion of non-members, and contributes towards fragmented health systems where members and non-members may have access to different types of health services.

4.2.3 Progressivity of CBHI contributions

Very few studies have documented the progressivity of payments to CBHIs. A recent study conducted in Tanzania reported that the poorest population spent a larger proportion of their income on CBHI contributions compared to the richest population (i.e. CBHIs contributions were regressive)[27]. Indeed, with a Kakwani Index of -0.49, contributions to CBHI in Tanzania are more regressive than any other form of health care financing according to the results of financing incidence studies in OECD countries as well as low- and middle-income countries in Africa and Asia [26]. It is, therefore, very important that the equity implications of CBHI contributions are explored in other settings before they are incorporated in national universal coverage programmes to ensure that the design is in line with the principles of fair financing.

5. Social health insurance/ mandatory Health Insurance

5.1 Origin and design

The concept of mandatory health insurance (MHI) is very recent in Sub-Saharan Africa and there is almost no evidence on actual impact of MHI in the African context. Establishing mandatory health insurance schemes is a challenge for countries in SSA. High poverty levels, a large informal sector, weak revenue collection mechanisms, lack of trust, non-functional health systems and political interference are some of the factors that make the establishment of mandatory health insurance schemes in SSA difficult. Kenya is one of the few African countries that have had a mandatory health insurance scheme spanning several decades. A few countries including Ghana, Tanzania and Rwanda have recently introduced mandatory health insurance as a transition towards universal coverage. Others like Zambia and Uganda are considering introducing a MHI.

The designs of NHI schemes differ across countries. In Kenya, the National Hospital Insurance Fund (NHIF) was initially developed to offer financial protection against the costs of inpatient services for those working in the formal sector, but membership now includes those outside the formal sector. Membership of the NHIF is mandatory for those working in the formal sector (both public and private) and voluntary for those outside the formal sector. Contributions to the NHIF range from KES 30 (US$ 0.4) per month for the lowest income groups, to KES 300 (US$ 3.8) for individuals earning above KES 15000 per month. The NHIF is purely funded through employee's contributions and does not receive any financial support from government. Employers also do not contribute any share for their employees towards the fund.

In Ghana, the NHI scheme was implemented through a network of District Mutual Health Insurance Schemes (DMHIS). There are about 138 DMHIS in the country [28, 29]. Each district has at least one scheme. The NHI is funded through multiple sources including earmarked budgetary allocations, payroll deductions for formal sector employees, the national health insurance levy, social security contributions and direct premiums by those outside the formal sector. The NHI is heavily subsidized by the government. Scheme members pay a one-time registration fee of four Ghanaian Cedis (Ghc); those working in the formal sector contribute 2.5% of their income, while a flat annual premium applies to those in the informal sector [29]. Premium rates range from 7.2 Ghc to 48 Ghc [30]. The government fully subsidizes premiums for the poorest population who are identified by community members.

The national health insurance fund in Tanzania is compulsory for all government employees. Employees contribute 3% of their salaries to the fund and the employer contributes an equal amount. Health insurance coverage for private sector employees is linked to the National Social Security Fund (NSSF). As described earlier, community-based health insurance schemes offer coverage to those outside the formal sector on a voluntary basis; contributions are community-rated and rates vary from one scheme to another. The government matches members' contribution by a 100% grant.

Rwanda is often held up as the prime example of contributory insurance schemes being used to achieve universal coverage in Africa. There are three health insurance schemes in Rwanda: *Rwandaise assurance maladie*, *Military medical insurance scheme*, and *Assurances maladies communataires* [31]. These three schemes are the product of considerable consolidation. Between 2000 and 2003, 100 CBHI schemes were started with government support and by 2004 an estimated 24% of the population was insured. In 2005, with the support of external funding, these were further scaled up and membership of vulnerable groups was increased along with administrative capacity building and risk pooling initiatives. The government is currently looking at ways to combine the remaining three risk pools into one national pool [31, 32].

- *Rwandaise assurance maladie* is a compulsory health insurance for government employees and is also open to private sector employees who can join voluntarily.
- Similarly, the *Military medical insurance scheme* is a compulsory health insurance for all military personnel.
- The *Assurances maladies communataires*, is a mandatory Community Based Health Insurance (CBHI) scheme that provides cover to those who live in rural settings as well as those who work in the informal sector, and is subsidizing premiums for those who cannot contribute to the fund through innovative funding sources.

5.1.1 Population covered

Unlike voluntary CBHIs, mandatory health insurance schemes tend to cover a larger proportion of the population. By 2008, 55% of Ghanaians had registered with NHI, although only 45% had received their membership cards. Indigents, children under 18 years whose parents are enrolled, pensioners under the social security scheme and pregnant women are exempted from paying the premiums. Although the government is willing to cover premiums for the poor, membership is mainly comprised of higher socioeconomic groups. Membership also differs by geographic regions and ranged from 13% to 70% in different regions in 2008 [29].

The NHI fund in Tanzania covers 5% of the population, while community health funds cover less than one percent. The social health insurance benefit for private employees records very low membership rates [28]. In Kenya, coverage of formal sector workers through the NHIF is very high and estimated to be close to 100%. About two million workers and eight million dependents are covered by the fund. Coverage of those outside the formal sector is very low and estimated to be 500,000 members and their dependants.

In Rwanda, CBHI membership was voluntary up until 2008, and while it is still voluntary in practice, the legal framework passed makes membership mandatory [32-34]. Membership in the CBHI scheme in 2006 was estimated to be 73% of the population [33, 35]. Each member contributes an annual flat-fee of 1000 Rwandan Francs, the equivalent of US$ 2, to the fund. There is some protection though for those who are indigent. The village committees decide who is too poor to pay, and these the contributions for these people are covered by donors. In addition, those with HIV/AIDS and their families' contributions are waived [33]. It is estimated that by 2009, 91% of the country's population was enrolled in one of three health insurance schemes [35].

5.1.2 What services are covered?

Mandatory schemes in Ghana and Tanzania cover outpatient and inpatient services at public sector and accredited private facilities [28]. In Ghana, almost all outpatient and inpatient services targeting over 90% of the disease burden including essential medicines (as included in the NHIS approved list) are offered to the insured without any co-payments. However, antiretroviral drugs, hormone and organ replacement therapy, heart and brain surgery other than when caused by accidents, diagnosis and treatment abroad, dialysis for chronic renal failure and cancer treatment are excluded from the package [30]. The benefit package in Ghana is thought to be unsustainable because it is too generous [30]. In Tanzania, the NHI fund covers both inpatient and outpatient care, but has individual spending limits [28].

The benefit package for the NHIF in Kenya differs by type of accredited facility. It meets the costs of inpatient care only but the cover includes all diseases and maternity care. All government facilities, including teaching and referral hospitals provide comprehensive cover to NHIF members without any co-payments [36]. Individuals seeking care from faith-based facilities and some small size private-for-profit facilities also enjoy comprehensive benefits, but a co-payment of KES 15,000 may be charged in cases of surgery, at the discretion of the health facility. Benefits at private facilities include a flat daily payment rate that differs depending on the size and kind of services available at the hospital and ranges from KES 400 to KES 1800 [37]

In Ghana, health care for NHIS members is provided by accredited and contracted providers - both public and non-government. In 2008, private providers accounted for 30% of the NHIS health-care provision [30]. In Kenya, the NHIF purchases services from 400 accredited government, private and mission health facilities [38]. In Tanzania, public facilities are the main providers of services to NHIF beneficiaries, comprising about 86% of total accredited facilities (although they account for only 50% of the benefit payments). Private health institutions have to apply individually for accreditation unlike government facilities which get blanket accreditation. The providers in Tanzania and Ghana are paid on a fee-for-service basis, within 60 days of submitting a bill [28], although Ghana has recently introduced DRGs for inpatient services and is piloting capitation for outpatient services.

In Rwanda, the range of services covered is not necessarily as extensive as other countries. However, basic services are covered including family planning, antenatal care, acute care, normal and complicated deliveries, basic laboratory examinations, generic drugs, hospital treatment for malaria and some tertiary care. In the case of a health disaster a central reserve fund has been set up to cover those costs [31, 32].

5.1.3 What proportion of the costs is covered?

In Kenya, the NHIF provides inpatient cover of up to KES 396,000 per year for the contributor, spouse and children. It covers up to 280 inpatient days per member and their beneficiaries each year [36, 37]. Co-payments are usually required for those seeking care from private-for-profit facilities. For faith-based facilities, individuals may be required to make a payment of KES 15,000 for surgery cases, although this is at the discretion of the facility. The reimbursement rates often form a small proportion of the total costs of care and people seeking care from private hospitals have to meet the remaining costs through OOP payments or other forms of payment including private health insurance or employers' related cover.

No co-payments are required in Ghana but in Tanzania the NHI has set a limit as to the level of costs that can be paid using premiums. However, informal payments among the insured are common in Ghana: people are charged for receiving services out-of-hours; patients are asked to pay for drugs which are out of stock or for 'better drugs' that are not provided under the NHI benefit package, i.e. not on the essential drug list [29]. While it is not clear why informal charges exist in Ghana, it is suggested that the increased workload resulting from the NHIS and a health system that was not adequately prepared to cope with increasing demands could have contributed to increasing informal charges.

In Rwanda, not all costs are covered under the CBHI and members pay a flat fee of US$ 0.4 per visit and 10% of the cost at hospital level [32, 33].

5.1.4 Impact on access and service utilization

Since mandatory health insurance is very recent in SSA, there is very limited information on its impact on access to services. The information available from Ghana and Rwanda suggest that mandatory health insurance schemes promote access to health care services. The Ghanaian NHIS, for example, led to an increase in the use of health care services and decrease in out-of-pocket expenditure. The number of outpatient visits rose from 12 million in 2005 to 18 million in 2008, while inpatient admissions rose from 0.8 to 0.9 million over this period. Insured persons recorded a utilization rate of 0.9 out-patient visits per capita, almost twice the non-insured at 0.49 out-patient visits per capita [29]. The NHI has also contributed to greater use of formal health care among the insured and mortality among the insured population is reportedly low.

5.1.5 Progressivity of mandatory health insurance payments

Very little information exists regarding progressivity of MHI in SSA, mainly because these schemes are relatively new. Recent evidence from Ghana, Tanzania and Kenya suggest that contributions towards NHI from those working in the formal sector are progressive (i.e. the richest population contribute a larger proportion of their income towards MHI compared to the poorest population). Kakwani indicies[1] for MHI contributions by formal sector employees were estimated at 0.42 in Tanzania, 0.26 in Ghana and 0.17 in Kenya [27, 39]. Contribution rates in Kenya were historically structured to be progressive, but this progressivity has reduced because contribution rates have not been reviewed for the last 45 years of NHIF existence, although salary levels have increased significantly over time. However, contributions to MHI by those outside the formal sector are very regressive. For example, the Kakwani Index for MHI premiums by this group is -0.31 in Ghana [26]. As with CBHI contributions in Tanzania, this is one of the most regressive financing mechanisms based on financing incidence studies across the world and raises serious concerns about financing equity in relation to contributory insurance schemes for people outside the formal employment sector.

[1] Kakwani index is a measure of progressivity. Its value ranges from -2 to 1. A negative value indicates regressivity, while a positive value indicates progressivity. A value of zero indicates proportionality.

6. Non-contributory funding mechanisms to cover the informal sector

As indicated earlier, the emphasis in seeking ways to extend financial protection in Africa has been on contributory health insurance schemes. Recently, there has been an interest in exploring funding health care through introducing dedicated taxes or other 'innovative' funding mechanisms. This interest has been promoted by the report of the 2009/2010 Taskforce on Innovative Financing for Health Systems [40]. The suggestions of this Taskforce, along with the recommendations of the 2010 World Health Report and background papers are summarised in Table 3, with country-specific examples where available [31, 41, 42].

Table 3: Non-contributory options for innovative health financing

	Options	Fund-raising potential	Assumptions/ Examples
Domestic options	**Special levy on large and profitable companies:** levy imposed on some large enterprises	$$ - $$$	Gabon has instituted a 10% levy on mobile phone companies. International examples include Australia where a levy on mining companies has been imposed and Pakistan which has a tax on pharmaceutical companies
	Levy on currency transactions: tax on foreign exchange transactions in currency markets	$$ - $$$	There is a potential to raise significant funds in this way for some middle-income countries and countries with important currency transaction markets
	Financial transaction tax: levy on all bank account and remittance transactions	$$	Gabon implemented a levy on remittance transactions in 2009. It constitutes a 1.5% levy on the post-tax profits of companies that handle remittances. Zambia introduced a levy of 1% on all gross interest earned in any Savings or Deposit Accounts, Treasury Bills, Government bonds or similar financial instruments. The revenues are ear marked for supporting efforts to increase access to HIV treatment. International examples include: Brazil where a bank tax was introduced in the 1990s; this was later changed to a tax on capital flows into and out of the country
	Tourism tax: tax levied on tourist activities	$	Airport taxes are already widely accepted; a health component could be added
	Tobacco excise tax: tax on tobacco products	$$	These taxes are collected in most countries but there is scope for increasing these excise taxes. Some groups are lobbying for a portion of these excise taxes collected to be earmarked for health. Increasing the excise taxes on tobacco and alcohol has the beneficial effect of decreasing consumption and therefore has a positive health impact
	Alcohol excise tax: tax on alcohol products	$$	

	Excise tax on unhealthy food	$ - $$	Romania is proposing a 20% levy on foods high in fat, sugar, additives and salt
	Diaspora bonds: government bonds for sale to nationals living abroad	$$	Lowers the cost of borrowing for the country; have been used in India, Israel and Sri Lanka though not necessarily for health
	VAT with a share earmarked for health	$$ - $$$	Ghana for example funds 75% of its NHI with general tax funding. This is supplemented by a 2.5% NHI levy on VAT (VAT is currently at 12.5%). Only 3% of the NHI income comes from contributory mechanisms
External sources	**Air-ticket levy** - solidarity taxes on specific goods and services such as air-tickets	$$	An air-ticket levy was used to fund *Unitaid* a drug-purchase facility for HIV/AIDS, TB and Malaria. Recently, the Millennium Innovative Financing for Health launched a voluntary solidarity levy called MassiveGood whereby individuals can contribute to *Unitaid* through voluntary contributions when they buy travel and tourism products
	Sale of bonds guaranteed by donor countries	$$	This allows aid to be released initially and not deferred. Funds are currently being channelled in this way to the International Financing Facility for Vaccines (GAVI Alliance). Eight countries have pledged to contribute the finances for when these bonds mature. It is being debated whether these funds should be considered to be part of the countries' planned future aid
	Currency transaction levy	$$$	The high-level Taskforce on Innovative International Financing for Health Systems recommended the currency transaction levy as the initiative with the potential to raise the greatest amount of money globally
	Mobile phone voluntary contributions - solidarity contributions which allow individuals or companies to make voluntary donations via their monthly mobile phone bill	$$	This is relevant to low-, middle- and high income countries. The global market for post-paid mobile phone services is US$ 750 billion. Therefore if only 1% could be collected it would raise a lot of money. The establishment and running costs could be about 1-3% of revenues
	Selling franchised products - companies are licensed to sell products and a portion of the profits goes to health (ex. Global Fund's Product RED)	$	Selling franchised products or services for which a percentage of the profits go to health. An example is the Pampers/ Unicef one pack = one vaccine initiative where with every pack of Pampers nappies bought, a percentage is donated towards Unicef's vaccination program. http://www.youtube.com/watch?v=NAvjWVj12AU

Sources: WHO (2010); Taskforce on innovative international financing for health systems (2009).

6.1 Domestic options for innovative financing

In order to generate additional funds for health care from non-contributory sources, some countries are beginning to focus on revenue sources such as taxes that are easy to collect, especially if there is a large informal sector. These taxes include, for example, the so-called *Robin Hood* taxes such as special levies on large and profitable companies; a levy on currency transactions; a financial transaction tax; or a tourism tax. The basic premise of these taxes is that they target the rich and redistribute wealth. These taxes are often vehemently opposed and are accused of disincentivising large companies from investing in countries that impose them, or in the case of a levy on foreign exchange transactions that these measures constitute exchange restrictions [43]. Nevertheless Gabon imposed a 10% tax on mobile phone operators as well as a 1.5% levy on the post-tax profits of companies that handle remittances. Combined, these levies raised an additional US$ 30 million for health in 2009, US$ 25 million of which came from the levy on mobile phone companies [31, 41]. These funds were directly used to cover the portion of the population not economically able to contribute to the National Health Insurance (NHI).

Similarly, Zambia has introduced a levy of 1% on all gross interest earned in any savings or deposit accounts. The revenue generated is earmarked for supporting government efforts to increase access to HIV treatment. In 2009, US$ 3.9 million was raised through this medical levy [41, 44].

Another way to increase tax revenue is to increase the Value Added Tax (VAT) rate where a VAT system already exists. The concern is however that raising VAT on products may disproportionally impact on the poor as VAT is generally regarded as regressive, based on tax incidence studies in high-income countries. In Ghana a 2.5% national health insurance levy was added to VAT, which was previously 12.5% (i.e. is now 15%). The country meets most (70 – 75%) of its funding needs for the NHI through this VAT-linked NHI levy, while most of the rest comes from other public funds and development partners. Notably only 3% of total NHI income is collected though direct contributions by informal sector workers [31]. Most importantly, VAT has been found to be progressive in Ghana, as is the case in many other low-income and some middle-income countries.

Taxes where the revenue is designated or earmarked to be spent in, for example, the health sector or on a particular programme are referred to as *hypothecated (or dedicated) taxes*. The levies described above were examples of hypothecated taxes. The WHO in the 2010 World Health Report argues that Ministries of Health are often in favour of hypothecated taxes as the revenue is stable and guaranteed. However, Ministries of Finance often oppose them as it is felt that it undermines their mandate to allocate budgets [31]. There has been considerable lobbying for sin taxes to be earmarked for the health sector. This refers to excise taxes on tobacco products, alcohol and (newly proposed) unhealthy foods. It has the added benefit of influencing consumer behaviour towards healthier options thereby decreasing the burden of non-communicable diseases on the health sector. In most countries collecting excise taxes on tobacco and alcohol products, these funds go into general government revenue and not directly to the health sector. There is however room for increased taxation in these sectors and for this additional amount to be allocated to the health sector, as has been done in Australia, Korea and Thailand[2][40].

[2] The Western Australia health promotion foundations healthway was initially funded though an increase in the tobacco levy; so was the Republic of Korea's National Health promotion fund; and Thailand's Health Promotion Fund.

Additional sources of domestic funds suggested by the Taskforce on Innovative International Financing for Health Systems included diaspora bonds that would be marketed to nationals living abroad and would theoretically lower the cost of borrowing for the country. There are currently no examples of this strategy being used for the generation of health care financing.

6.2 External sources of innovative financing

With the impact of the global recession being felt in many donor countries, there is an increasing need for finding predictable and sustainable external sources of financing for health care [31]. Solidarity taxes such as air-ticket levies and mobile phone voluntary contributions have been proposed. *Unitaid* (http://www.unitaid.eu/), an initiative to finance more drugs for the treatment of HIV/AIDS, TB and Malaria, has used an air-ticket levy to fund the initiative. Subsequently, MassiveGood has been launched as an initiative to provide people purchasing air-tickets the opportunity to voluntarily donate a portion of the ticket price to Unitaid. A similar initiative has been proposed for mobile phone expenditure. The global market for post-paid mobile services has been estimated to be in excess of US$ 750 billion; if only 1% of this amount could be raised, it would make a significant difference. The selling of branded products such as the Pampers and UNICEF "one pack = one vaccine" initiative could be another source of external funding.

The high-level Taskforce on Innovative International Financing for Health Systems identified the currency transaction levy as the initiative with the potential to raise the greatest amount of money globally. While the recommendation is aimed at middle-income countries, 10 high-income countries account for 85% of the foreign exchange trade and trade is minimal in low-income countries. Funds could however be raised in high-income countries for health care in low-income countries. Indeed in India a currency transaction levy of only 0.005% has been modelled and would yield US$ 370 million per year [31].

Some of the concerns around these external funding sources relate to the portion of the gross revenue raised which would be required for administration fees. In addition, when funding projects directly, donors often require regular reporting on progress in these programs, which can place undue strain on the health sector and further divert valuable funds [31].

7. Summary and conclusions

This review aimed to synthesise evidence on approaches to providing improved financial risk protection for those outside the formal employment sector in SSA, the extent to which they achieve this objective and the equity implications of these financing arrangements. Here, we summarise the key findings and draw lessons that can inform debates on how best to offer financial protection to those outside the formal sector in SSA and in so doing contribute towards universal coverage debates in the region. Although the focus of this report is on SSA, we also draw on experiences from Asian countries that have made significant progress in providing coverage to those outside the formal sector to inform our conclusions [44].

The review has shown that CBHIs offer limited financial protection. They perform poorly in terms of population coverage, types of services covered and the proportion of cost covered through the contributions. In terms of population coverage, the review has shown that CBHIs cover a very small proportion of the target population, with the exception of settings where they form part of a wider national health financing arrangement like in Rwanda and Ghana. Many small CBHI schemes operate within countries, often leading to limited risk pools that face potential sustainability challenges. In addition, the fragmentation of risk pools undermines the potential for risk and income cross-subsidisation, particularly because membership of CBHIs often excludes the poorest in society. The voluntary nature of these schemes, with many schemes employing agents to go door-to-door to encourage households to join and to collect annual contributions can lead to high revenue collection costs and low net revenue. Regarding the types of services covered through the schemes, the results show that benefit packages are very limited, mainly covering some aspects of inpatient services at public or faith-based facilities. Schemes that cover both inpatient and outpatient services often have larger membership because they are perceived to be more beneficial to members than those that only cover inpatient services, which members might not require over a long period of time. Very few CBHI schemes, if any, offer comprehensive coverage to their members (i.e. zero copayments). Many require members to fund a large share of treatment costs through OOP payments, which can sometimes be catastrophic. Cleary, the ability of CBHIs to offer adequate financial risk protection is dependent on whether the schemes are part of a national financial strategy that receives government support, the design (including premium rates and timing of contribution, whether the schemes cover outpatient and inpatient services, the range of accredited health care facilities), the share of costs covered by the scheme and implementation features of the scheme. Finally, the evidence that exists on the equity of these financing arrangements, although currently limited shows that contributory scheme payments by those outside the formal sector are highly regressive. This has been found both where CBHI scheme membership is voluntary (as in Tanzania) and where contributions by those outside the formal sector are made as part of a National Health Insurance scheme (as in Ghana).

Although there are very few mandatory health insurance schemes in Africa, experiences suggest that in countries where they do exist, coverage is relatively high compared to CBHIs, but still far below universal coverage. Contributions by formal sector workers are often progressive, but those from other groups can be regressive, as was found in Ghana. Low membership has been reported even in settings where people are legally required to belong to health insurance schemes, mainly because of problems associated with enforcing the law on those outside formal sector employment. Depending on the design, MHI can promote disparities between regions especially where schemes or districts are rewarded through grants for high coverage.

Evidence from Asia suggests that the levels of coverage among those outside the formal sector is largely influenced by whether financial protection is offered through contributory insurance schemes or on a tax-funded basis [45]. Key issues from the Asian experience include the need to heavily subsidise services for the poor and vulnerable groups, mainly through tax funding and in some cases a combination of tax and donor funds. Governments and donors (but ideally governments) should be prepared to put aside significant funds to offer coverage (population, service and cost coverage) to these groups. Experiences in seven countries in Southeast Asia also highlight the challenges of collecting contributions from those outside the formal sector, even in countries like Philippines and Vietnam where efforts have been directed towards identifying innovative mechanisms to collect contributions from these groups. High premium collection costs, high mobility among this group and seasonality of cash income are some of the factors that have hindered progress in contributory approaches to cover those outside the formal sector. In Thailand, extending coverage to those outside the formal sector through contributory mechanisms was difficult, leading to a decision to cover this population through tax funding in 2001. Governments need to carefully consider the advantages and disadvantages of collecting health insurance contributions from those outside the formal sector versus offering protection through tax funding and choose the most appropriate option for their setting.

The Taskforce on Innovative International Financing for Health Systems provided some useful suggestions on new sources of funding for health care. However, there is to date little experience and hence evidence available on the implementation of these suggestions. Indeed in Sub-Saharan Africa, there are only three country examples of implementing innovative financing initiatives, including Ghana, Gabon and Zambia. In these countries, considerable funds have been generated through these initiatives, which suggests that they warrant further consideration by other African countries.

It is clear that offering financial risk protection for all in SSA is a challenge. However, ensuring financial protection and access to needed health care for those outside the formal sector is even more challenging due to constrained tax revenue in many countries and equity and efficiency problems associated with contributory schemes for this group. As governments and the international community work towards achieving universal coverage in SSA, deliberate efforts should be directed towards ensuring that this group of the population is not disadvantaged and thus excluded from financial arrangements. Key things to note from this review are the challenges of contribution arrangements for this population even where legal provisions make membership mandatory. We recommend that additional health financing arrangements to cover poor and vulnerable groups (e.g. tax funding and innovative financing approaches) are adequately explored in terms of the principles of fair financing before countries move towards implementing contributory schemes for those outside the formal sector, which as indicated in this review, have limited capacity to offer adequate financial risk protection to their members.

7.1 Gaps in knowledge

Various gaps in knowledge are evident from this review. First, there is very little information on the progressivity of health insurance contributions by those outside the formal employment sector. Only one study has recently documented the financing incidence of such contributions in Ghana and Tanzania. Similar studies should be conducted to provide a more extensive evidence-base on the equity implications of contributory schemes for those outside the formal sector. Secondly, we did not identify any study that documents the revenue generation, net of collection costs, of contributory insurance schemes for those outside the formal sector. It would be important to assess net revenue generation from contributions by those outside the formal sector, in order to assess the efficiency or otherwise of these schemes.

References

1. Sekhri N, Savedoff W: **Private health insurance: implications for developing countries**. *Bull World Health Organ* 2005, **83**(2):127-134.
2. Carrin G, Mathauer I, Xu K, Evans DB: **Universal coverage of health services: tailoring its implementation**. *Bull World Health Organ* 2008, **86**(11):857-863.
3. Ekman B: **Community-based health insurance in low-income countries: a systematic review of the evidence**. *Health Policy Plan* 2004, **19**(5):249-270.
4. Bennett S: **The role of community-based health insurance within the health care financing system: a framework for analysis**. *Health Policy Plan* 2004, **19**(3):147-158.
5. Evans DB, Carrin G, Evans TG: **The challenge of private insurance for public good**. *Bull World Health Organ* 2005, **83**(2):83.
6. Preker AS, Carrin G, Dror D, Jakab M, Hsiao W, Arhin-Tenkorang D: **Effectiveness of community health financing in meeting the cost of illness**. *Bull World Health Organ* 2002, **80**(2):143-150.
7. Poletti T, Balabanova D, Ghazaryan O, Kamal-Yanni M, Kocharyan H, Arakelyan K, Hakobyan M: **Options for scaling up community-based health insurance for rural communities in Armenia**. *Health Systems Development- London School of Hygiene and Tropical Medicine* 2007.
8. Polonsky J, Balabanova D, McPake B, Poletti T, Vyas S, Ghazaryan O, Yanni MK: **Equity in community health insurance schemes: evidence and lessons from Armenia**. *Health Policy Plan* 2009, **24**(3):209-216.
9. World Health Organisation: **Social health insurance: Sustainable health financing, universal coverage and social health insurance** In: *58th World Health Assembly: 2005*. World Health Organisation.
10. World Health Organisation: **The World Health Report: health systems financing: the path to universal coverage**. In. Geneva: World Health Organisation; 2010.
11. World Health Organisation: **Sustainable health finacning stuctures and unviersal coverage**. In: *64th World Health Assembly: 2011*.
12. United Nations General Assembly: **Global Health and Foreign Policy**. In.; 2012.
13. Ndiaye P, Soors W, Criel B: **Editorial: a view from beneath: community health insurance in Africa**. *Trop Med Int Health* 2007, **12**(2):157-161.
14. Carrin G, Waelkens MP, Criel B: **Community-based health insurance in developing countries: a study of its contribution to the performance of health financing systems**. *Trop Med Int Health* 2005, **10**(8):799-811.
15. Tabor RS: **Community-based health insurance and Social protection Policy**. *Social protection Discussion Paper series* 2005(0503).
16. De Allegri M, Sauerborn R, Kouyate B, Flessa S: **Community health insurance in sub-Saharan Africa: what operational difficulties hamper its successful development?** *Trop Med Int Health* 2009, **14**(5):586-596.
17. Basaza R, Criel B, Van der Stuyft P: **Community health insurance in Uganda: why does enrolment remain low? A view from beneath**. *Health Policy* 2008, **87**(2):172-184.
18. Soors W, Devadasan N, Durairaj V, Criel B: **Community Health Insurance and Universal Coverage: Multiple paths, many rivers to cross** *World Health Report* 2010, **Back ground paper, No. 48**.

19. Saksena P, Antunes AF, K. X, Musango L, Carrin G: **Impact of mutual health insurance on access to health care and financial risk protection in Rwanda**. *World Health Report* 2010, **Background paper, 6.** .
20. Flessa S: **Report of my visit-Nairobi**. In. Greifswald: University of Greifswald; 2006.
21. Criel B, Waelkens MP: **Declining subscriptions to the Maliando Mutual Health Organisation in Guinea-Conakry (West Africa): what is going wrong?** *Soc Sci Med* 2003, **57**(7):1205-1219.
22. Kamuzora P, Gilson L: **Factors influencing implementation of the Community Health Fund in Tanzania**. *Health Policy Plan* 2007, **22**(2):95-102.
23. Schmidt JO, Mayindo JK, Kalk A: **Thresholds for health insurance in Rwanda: who should pay how much?** *Trop Med Int Health* 2006, **11**(8):1327-1333.
24. Carrin G, Ron A, Hui Y, Hong W, Tuohong Z, Licheng Z, Shuo Z, Yide Y, Jiaying C, Qicheng J *et al*: **The reform of the rural cooperative medical system in the People's Republic of China: interim experience in 14 pilot counties**. *Soc Sci Med* 1999, **48**(7):961-972.
25. Ranson MK, John KR: **Quality of hysterectomy care in rural Gujarat: the role of community-based health insurance**. *Health Policy Plan* 2001, **16**(4):395-403.
26. Chankova S, Sulzbach S, Diop F: **Impact of mutual health organizations: evidence from West Africa**. *Health Policy Plan* 2008, **23**(4):264-276.
27. Mills A, Ataguba JE, Akazili J, Borghi J, Garshong B, Makawia S, Mtei G, Harris B, Macha J, Meheus F *et al*: **Equity in financing and use of health care in Ghana, South Africa, and Tanzania: implications for paths to universal coverage**. *Lancet* 2012.
28. McIntyre D, Garshong B, Mtei G, Meheus F, Thiede M, Akazili J, Ally M, Aikins M, Mulligan JA, Goudge J: **Beyond fragmentation and towards universal coverage: insights from Ghana, South Africa and the United Republic of Tanzania**. *Bull World Health Organ* 2008, **86**(11):871-876.
29. Witter S, Garshong B: **Something old or something new? Social health insurance in Ghana**. *BMC Int Health Hum Rights* 2009, **9**:20.
30. Durairaj V, D'Almeida S, Kirigia J: **Ghana's approach to social health protection.** . *World Health Report* 2010, **Background Paper, 2.** .
31. World Health Organisation: **Health systems financing: the path to universal coverage**. In: *The world health report.* Geneva; 2010.
32. 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* 2010.
33. Logie DE, Rowson M, Ndagije F: **Innovations in Rwanda's health system: looking to the future**. *Lancet* 2008, **372**(19 July 2008).
34. Kalk A: **Rwanda's health system: some concerns**. *Lancet* 2008, **372**(15 November 2008):1729.
35. Republic of Rwanda: **Annual report 2008**. In. Edited by Ministry of Health. Kigali; 2009.
36. **National Hospital Insurance Fund, Kenya** [www.nhif.or.ke]
37. **National Hospital Insurance Fund (NHIF) Accreditation manul-2005** [www.nhif.or.ke]
38. http://www.nhif.or.ke/healthinsurance/.
39. Chuma J: **Progressivity of health care financing in Kenya**. In preparation.
40. Taskforce on innovative international financing for health systems: **Raising and channeling funds**. In: *Working group 2 report.* Edited by Nordstrom A; 2009.
41. Stenberg K, Elovainio R, Chrisholm D, Fuhr D, Perucic A-M, Rekve D, Yurekli A: **Responding to the challenge of resource mobilization - mechanisms for raising additional domestic resources for health**. In: *World Health Report.* vol. Background paper 13: World Hea;th Organisation; 2010.

42. Atim C: **Second conference of the African Health Economics and Policy Association: towards universal healthcare coverage in Africa**. *Expert reviews Pharmacoeconomics Outcomes research* 2011, **11**(3):267 - 271.
43. Honohan P, Yoder S: **Financial transctions tax: panacea, threat or damp squid**. In.: The world bank development research group;; 2010.
44. **Medical Levy Act 2003** [www.zra.org.zm/practice_note/medicallevy.pdf]
45. Tangcharoensathien V, Patcharanarumol W, Ir P, Aljunid SM, Mukti AG, Akkhavong K, Banzon E, Huong DB, Thabrany H, Mills A: **Health-financing reforms in southeast Asia: challenges in achieving universal coverage**. *Lancet* 2011, **377**(9768):863-873.