Effective health financing models in SADC:

Three case studies

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Authors:

Shivani Ranchod (FASSA)

Daniël Erasmus (FIFoA)

Matan Abraham

Julian Bloch

Kudzai Chigiji

Kathryn Dreyer (FASSA)

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1. Executive Summary

The SADC region faces notable challenges in the provision of health services, relating to limited financial and human resources. Hence access to appropriate and affordable healthcare is often sub-optimal, particularly in public and rural settings. For the low-income population, a number of factors exacerbate these challenges, namely living conditions, the burden of disease, financial barriers to access to healthcare services and the often severe financial consequences of healthcare events.

The aim of the report is to review and learn from successful health-financing mechanisms via case studies, and to consider the role that similar pre-funding mechanisms can play in facilitating and improving health outcomes in the SADC region. The case studies cover three alternative models for health financing for low-income households: two from the SADC region (Community Health Funds (CHF) in Tanzania and the Medical Aid Society of Malawi - MASM) and one from outside of the region (the Sema Doc model in Kenya).

The case studies highlight the important role that low-cost financing solutions can play in a health system:

- **Managing out-of-pocket expenses**: The need for a financing solution for the low-income market is particularly acute in systems with user-fees in the public system or where there are access and quality concerns associated with public care (necessitating utilisation of private care). The burden of out-of-pocket expenditure (OOP) is generally high in SADC countries. Tanzania and Kenya serve as useful case studies because they both have public-sector user fees and extremely high levels of OOP. Whilst Malawians are protected from user-fees for a basic package of benefits, there is still OOP in relation to transport costs and care outside of the basic package of benefits. The MASM product is designed to cover these costs.

- **Enabling universal health coverage**. Low-cost financing products may have an important role to play in enabling universal health coverage (UHC). The need for low-cost financing products can arise even in systems with public insurance mechanisms. Both Kenya and Tanzania have well-established public insurance mechanisms. However, both of these are contributory and largely serve those in formal employment. Malawi also has gaps in UHC that largely arise from failures in the delivery of care. The ILO advocates for a pluralistic approach to financing UHC: making optimal use of existing financing mechanisms, recognising that different solutions may be best suited for different segments of the market. The Community Health Funds in Tanzania are a particularly interesting case study in this regard because they have been enabled as part of national health policy (i.e. they are not a market solution). The case study also highlights the potential pitfalls of a pluralistic approach, including fragmented risk pools and insufficient income and risk cross-subsidies.

- **Extending cover to rural areas.** The region has both high-density urban and rural contexts to cater for, each of which poses a different set of challenges. The first case study (Sema Doc in Kenya) provides an m-health solution to address the physical access constraints in rural areas. The second case study (the CHFs in Tanzania) also has a strong rural focus: voluntary community-based financing in rural districts.

- **Reaching the informally employed market**. Countries in the SADC region also tend to have substantial informal employment. The informally employed frequently fall outside of public insurance systems and have irregular income – making premiums more complex to collect. Sema

Doc facilitates premium collection by tying in with existing mobile money solutions, and providing a high level of flexibility. The MASM product also allows for flexibility in premium payments: premiums can be paid monthly, quarterly or annually. The CHF framework allows for waivers and exemptions to cater for the vulnerable and very poor (although implementation of these is flawed). Other pragmatic solutions include co-ordinating the timing of premium collection in line with seasonal earnings, and working closely with agricultural employers.

The case studies also highlight a number of considerations or challenges that are relevant for using low-cost financing mechanisms to extend quality healthcare to a larger part of the population:

- **The extent of cover.** There are key philosophical questions that arise relating to the benefits that are provided. In some models, as is the case for all three of the case studies considered, benefits may be fairly limited, and therefore not provide complete protection from catastrophic events. This raises questions of equity: there is an inherent tension between the extent of cover and affordability. There are strong arguments in favour of covering preventative and primary care: early intervention can limit the escalation of minor ailments, the risk of misdiagnosis can be reduced, anti-selection is less acute and community support is less likely for these events than catastrophic events. A distinction can be drawn between solutions which facilitate pre-payment and subsidisation, and those that offer protection against catastrophic events.

- **Managing anti-selection**. Whilst anti-selection is a risk for all voluntary insurance products, the risk is more severe in low-income populations because the financial trade-offs are more acute. The risk can be managed to some extent through waiting periods, but is most effectively offset when cover is made compulsory. Compulsion can arise in a number of ways and can be either explicit (e.g. through employer groups) or implicit (e.g. through community pressure). The approach taken in the CHFs has the potential to reduce anti-selection by involving the community in decision making. In reality, this varies considerably between districts. In products with no element of compulsion (such as Sema Doc and MASM) waiting periods and exclusions play an important risk management and cost containment role.

- **Role of underlying healthcare provision**. The inter-play between financing mechanisms and the underlying provision of low-cost healthcare goods and services is key. The CHFs have the potential to strengthen the delivery of care by creating a pool of funds which can be used, for example, to purchase pharmaceuticals and equipment. In the case of Sema Doc, the financing mechanism is reliant on innovations in the underlying delivery of healthcare. MASM owns some of its own facilities – this is a useful model where there are gaps in the underlying delivery of care.

The enablers of effective low-cost financing solution**s** vary between countries:

- **Technology is a powerful enabler.** The Sema Doc case study highlights the role of enabling technologies: the product success is heavily predicated on the success of M-PESA (a mobile payment platform). Access to medical care via mobile phones means that some of the constraints around physical access to care can be leapfrogged. This is particularly resonant in the SADC context where there is a dire shortage of health personnel, and healthcare resources are frequently concentrated in urban areas.

- **Subsidies enhance affordability.** The cost of cover can be substantially reduced by incorporating subsidies from employers, government and/or donors. Where cover is voluntary and focused on primary care it is clear that the relationship between the cost of cover and likely OOP expenditure

is a key influence on take-up rates. The Tanzanian government matches contributions to CHFs, thereby dropping the cost of cover.

- **Political will and government capacity are key.** In the case of the CHFs the mechanism is fairly direct: for the CHFs to be effective, involvement and support is required from multiple levels of government, particularly local government. In the case of Sema Doc the mechanism is via the regulatory environment, which enables innovation in m-health as well as provision of mobile financial services. There is very little in the way of health insurance regulation in Malawi. This regulatory uncertainty has served to discourage large international players from entering the market, but has also allowed for product innovation.

2. Introduction

The aim of the report is to review and learn from successful health-financing mechanisms via case studies, and to consider the role that similar pre-funding mechanisms can play in facilitating and improving the health outcomes in the SADC region. By outlining detailed real-world examples, the intention is to stimulate debate and to raise policy and regulatory considerations in order to overcome barriers to affordable and sustainable delivery of health financing solutions to low-income households. The report is written so as to be accessible to a broad audience. The case studies cover three models for health financing for low-income households: two from the SADC region and one from outside of the region.

This study has been rolled out in parallel to a study to assess the supply and regulatory landscape of prefunded health finance vehicles in South Africa[1]. As a linkage between the two studies, each case study ends with a box on potential learning from the case studies for the South African market.

2.1. Background to the study

The SADC region faces notable challenges in the provision of health services, and hence access to appropriate and affordable healthcare is often sub-optimal, particularly in public and rural settings [10][2]. These challenges are exacerbated in the context of low-income populations, in terms of living conditions, the burden of disease and the potentially catastrophic financial consequences of medical costs [11]. The overall burden of disease is high, and is often a complex mix of communicable and non-communicable disease, as well as trauma and violence [12]. The SADC region also has particular challenges associated with a high prevalence of HIV to deal with [12]. The region has both high-density urban and rural contexts to contend with, each of which poses a different set of challenges.

The Making Access Possible (MAP) studies that FinMark Trust, Cenfri and the UNCDF have rolled out in seven SADC countries[3] to date indicate that, even in instances where public healthcare is free of charge, people still incur health-related expenses, be it transport cost, for medicines, or opportunity cost in terms of lost earnings. Quality concerns and waiting times in the public sector also mean that many are willing to pay for access to private services [8, 13, 14]. Very few low-income households in the region make use of pre-funding mechanisms to meet their health needs, and coverage is generally limited to the formally employed market. The large informal populations in these countries present challenges for both public and private insurance in terms of premium collection [7].

There is considerable variation between SADC countries in terms of financial regulation and the development of insurance markets. The extent of public insurance mechanisms also varies. Low insurance penetration is due to a combination of a lack of appropriate products and limited services being offered. Low-income earners thus often have to fund their out-of-pocket health needs from credit or deplete savings or alternative resources. This may to increase the poverty cycle and extend it

[1] Erasmus D, Ranchod S, Abraham M, Bloch J, Carvounes A, Dreyer K. Challenges and Opportunities for Health Finance in South Africa: a supply and regulatory perspective. Report commissioned by FinMark Trust. Available at: www.finmark.org.za

[2] Note on referencing convention followed in this report: in-text source references are numbered. The full reference for each numbered source is contained in the References list at the end of the document.

[3] http://cenfri.org/map

across generations. Effective financing mechanisms have the ability to improve household cash flow, facilitate access and reduce the risk of financial destitution as a result of healthcare events.

2.2. Selection process and criteria

This report identifies three products that serve as case studies for how these effects can be addressed via a pre-funded health financing product. A number of other potential case studies were considered in the selection process. Where relevant, comparative information from these cases are incorporated. The case studies were selected based on three key criteria:

- **Sustainability**: The products had to be sustainable. Sustainability was considered in terms of the financial viability of the offering as well as the likely long-term existence of the market. Detailed financial information is not always publicly available. Financial viability of the offerings therefore had to be extrapolated from other sources. Consideration of the long-term existence of the market included consideration of government or corporate backing, legislative risks, as well as public acceptance and support for the product. In a voluntary environment one of the key risks faced by insurers is anti-selection risk. Mechanisms to manage anti-selection are therefore useful indicators of potential long-term sustainability.

- **Reach**: Each case study had to reach at least 10 000 lives. This constraint did limit the inclusion of some newer innovative strategies that had only recently been launched.

- **Relevance**: The product structure and offering had to be applicable to the local context. This was considered in terms of the product structures, distribution method, health provider interactions, benefit schedules as well as general market provisions. The regulatory structures that governed the products were considered in the context of their impact on the local market.

The comparability of the various regulatory structures was not explicitly considered.

Each of the case studies selected is unique and offers different insights into how healthcare financing can be delivered in the low-income market. Sema Doc, the case study outside the SADC region, is based in Kenya and was selected because of the extensive use of mobile technology to deliver healthcare services in rural areas. The two studies within the SADC region are Community Health Funds in Tanzania and the Medical Aid Society of Malawi. The Community Health Funds in Tanzania were selected as an example of how uncovered lives can be incorporated into government schemes. The Medical Aid Society of Malawi is an example of a successful private health insurance product for the low-income market.

Each case study starts out with a brief overview of the relevant country context. This is followed by an in depth discussion, insofar as data is available, of the benefit structure, pricing, distribution and take-up, regulation and provider arrangements characterising each model. Each case study ends with a consideration of challenges associated with the particular model.

Key themes are drawn from the three case studies, and are discussed at the end of the report.

3. Sema Doc - Kenya

Kenya falls outside of the SADC region, but has been selected as a case study country due to the potential learning for SADC from the use of technology in insurance. Kenya has developed a reputation for innovation and development within the financial sector. The success of the mobile

money platform M-PESA has enabled an extension of the "financial services frontier" [15]. This can be attributed to a combination of the regulatory authorities encouraging and accommodating innovation within the sector [15], an expanding economy[4] and high demand for low-income insurance products.

In the insurance sector, development of innovative products has interestingly been particularly successful in the healthcare sector. Examples include the Uzima project [16] and Changamka Microhealth. There has been significant demand for healthcare products in part because the majority of the population is not covered by public insurance and the burden of out-of-pocket expenditure is high [17].

A prime example of the new wave of innovation is a healthcare solution that is made available through mobile devices, called Sema Doc[5]. The offering is an example of a modern and innovative solution that encapsulates a country and cultural-specific offering for the target market. It encompasses extensive use of technology, as well as a health account, a hospital cash benefit and access to health loans to fund healthcare events. *The use of technology enables healthcare to be delivered in rural areas that previously had limited access. Mobile contribution payment and claims settlement make the product accessible to a wide population and address two of the key practical challenges associated with low-cost health insurance products.*

Information on Sema Doc was retrieved from the product website, policy documentation and an interview with an executive from Hello Doctor in South Africa (which owns Sema Doc).

3.1. Overview of country context

The Kenyan population has a number of characteristics that are of interest when considering health financing solutions for the SADC region. *There is a large population in informal employment, the majority of the population is rural, income levels are relatively low and there is a shortage of healthcare resources.* Kenya is also a good example of a country where public insurance mechanisms function well for those in formal employment, but not for the informal sector. The high penetration of mobile payment solutions in Kenya differentiates it from other countries in the region.

3.1.1. The Kenyan population

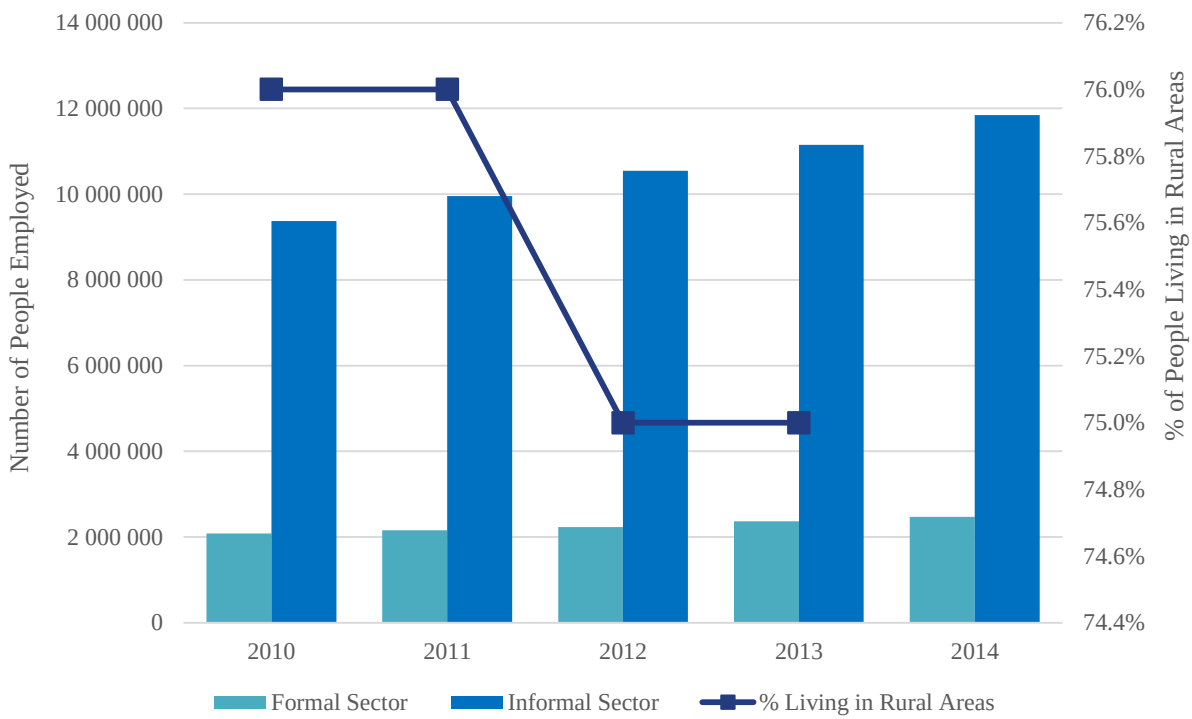
In 2014, the Kenyan population was estimated to be around 43 million people [18]. **Figure 1** illustrates the number of people employed in both the formal and informal sectors. In 2014, there were approximately 11.8 million people employed in the informal sector. This is around 5.5 times higher than the number of people employed in the formal sector. The sector has been growing consistently by 5% a year, around 2% more than the formal sector.

Around 75% of the Kenyan population lives in rural areas. This presents a range of infrastructure challenges around the design and delivery of healthcare (**Figure 1**).

[4] According to an economic survey 2015, the Kenyan economy has experienced approximately 5% annual growth over recent years

[5] http://hellodoctor.co.ke/

Figure 1: Number of people employed in the formal and informal sector in Kenya from 2010 to 2014



Source: KNBS Economic Survey 2015 [19] and World Bank [20]

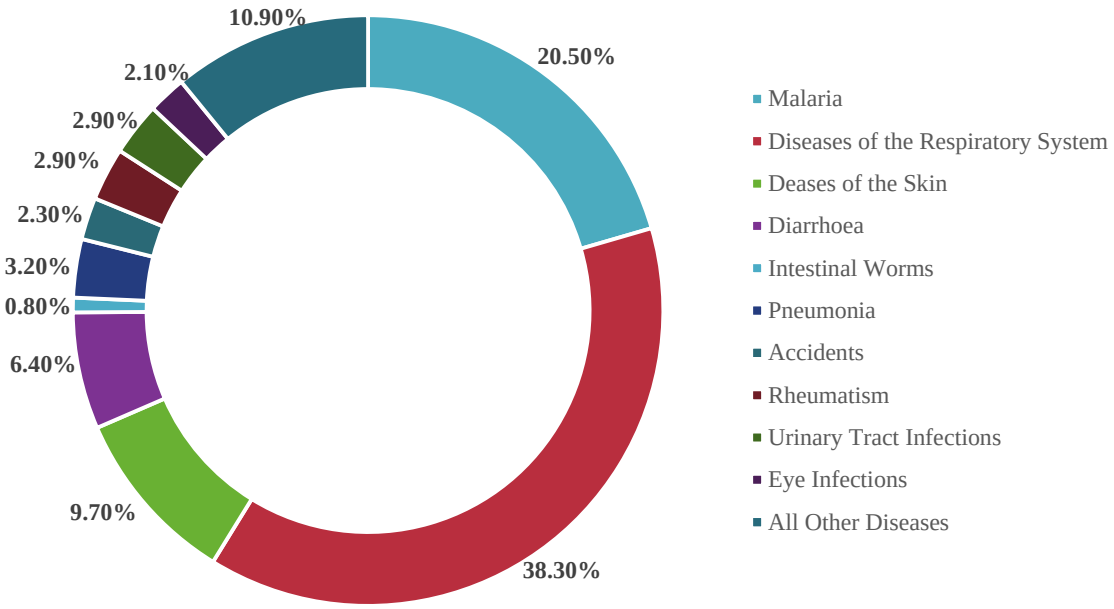
The rising informal sector and growing prosperity in the Kenyan economy make the informal sector an attractive growth opportunity for micro-insurance.

3.1.2. Healthcare and health insurance in Kenya

Total healthcare expenditure in Kenya was US$ 45 per capita in 2014 [21]. This is low when compared to the world average of US$ 1 042 per capita in 2013 and the average of US$ 100 per capita for developing countries in Sub-Saharan Africa [21, 22].

As a result of its large number of water sources, Kenya struggles with a number of water-borne and mosquito-carried diseases. Figure 2 below illustrates the incidence of disease in Kenya. Malaria and diseases of the respiratory system (including TB) make up more than 50% of the total incidence. HIV/Aids is the leading cause of death [23].

Figure 2: Incidence of disease in Kenya in 2014



Source: KNBS - Economic Survey 2015 [19]

Kenya has severe constraints relating to the delivery of care. The ratio of doctors per 100 000 people is below average for the continent [24]. In addition, doctors are concentrated in urban centres which account for a relatively small proportion of the population, and the majority of doctors work in the private sector [24]. Drug stock-outs are also common [17]. *Poor quality of care increases the financial risk faced by households: misdiagnoses and incorrect treatment lead to prolonged ill-health and multiple encounters with the health system [17].*

The National Hospital Insurance Fund (NHIF) in Kenya is the primary provider of health insurance and aims to enable access to affordable and quality care [25]. The NHIF is a form of social health insurance (i.e. it is a contributory insurance vehicle) and is mandatory for everyone employed in the formal sector [25]. Membership is also available on a voluntary basis to people in the informal sector [25]. In 2014 the NHIF covered 4.5 million lives of which approximately a third related to voluntary members from the informal sector. The NHIF therefore only covers approximately 10% of the population. Consequently there is scope for private insurers to provide affordable health insurance to the low-income market and there are a number of active participants that offer cover to those that cannot afford NHIF membership [26]. *However, it is estimated that 75% of Kenyans are uninsured.*

The burden from out-of-pocket payments is therefore substantial. *It is estimated that the poorest households in Kenya spend a third of their resources on healthcare and that healthcare costs result in more than a million Kenyans falling below the poverty line [27].*

3.1.3. Mobile technology

Mobile telephone penetration is high and 80% of the Kenyan population is expected to have access to a mobile device in 2017 [28]. This is similar to other African countries. Mobile payment mechanisms, such as M-PESA and M-Shwari, have successfully developed off the back of high mobile telephone penetration. In 2014, there were approximately 120 000 mobile money transfer agents operating in the Kenyan market. Total deposits through agents amounted to KSH 1 269 billion (US$ 14.4 billion) and total transfers amounted to KSH 2 372 billion (US$ 26.9 billion) [19]. These developments have promoted banking and increased financial transfers [29], effectively leapfrogging the limited banking infrastructure in rural areas.

The existing depth of penetration and the maturity of the mobile money market in Kenya is an enabler for the development of m-health solutions, such as Sema Doc. Familiarity with the technology and high levels of user acceptability are key features [22]. Mobile payment solutions enable one of the key challenges associated with low-cost insurance solutions: the (usually costly) collection of household premiums [7].

3.2. Benefit structure

Sema Doc provides voluntary, individual cover on a month-to-month basis. You have to be over 18 years of age to subscribe to Sema Doc. The only insurance component is a hospital cash benefit (underwritten by Cannon Assurance). There are four other elements to the benefit structure of Sema Doc: a dedicated health savings account, continuous access to medical doctors, access to instant health loans, and health tips.

Figure 3: Five elements of the benefit structure of Sema Doc

3.2.1. Hospital cash benefit

Included in Sema Doc membership is a hospital cash benefit. If a member is admitted to hospital and spends one night or more at a health facility affiliated with the NHIF, Sema Doc will pay out KSH 5000 (approximately US$ 50) into the member's dedicated health account. A waiting period of two months applies to new members and a waiting period of one month is applied following a successful claim. A one month waiting period is also applied if the membership is suspended for any length of time. A maximum of three benefit payments will be made over a rolling twelve-month period.

3.2.2. Personalised health account

The dedicated health account allows subscribers to save for future medical events. This account is used for the monthly subscription fee, and as a savings mechanism for telephonic access to doctors and for payments at certain medical facilities. These facilities include pharmacies, doctor's rooms,

clinics and hospitals. The flexibility in the amount saved from month to month allows the product to meet a range of different needs, across a wide range of income levels.

It is important to note that a savings mechanism would be of little value in the low-income market if it was not accompanied by either a mechanism that reduces the underlying costs of healthcare delivery or a mechanism that enables subsidisation of the cost of cover. Sema Doc achieves a reduction in cost via mobile access to doctors.

3.2.3. Doctor access

Members have access to affiliated doctors 24 hours a day, 7 days a week and can choose to either text a doctor with a question or request a call back to discuss health problems. Responses to text messages and call backs all happen within an hour of the patient request, meaning care is almost immediately available. Doctors are able to provide advice and have been given Medical Regulatory approval to diagnose and treat 22 conditions over the phone. Where necessary, the member is referred to a GP, clinic or pharmacy with instructions as to what to expect and what to request.

Figure 4: Medical conditions that Sema Doc Doctors are allowed to diagnose and treat

3.2.4. Health loans

Instant health loans up to KSH 10 000 (roughly US$ 100) are also available to members to help them cover the costs of unforeseen health events. Loans can be applied for through the Sema Doc app and are provided at a fee of 5% of the total loan value through Central Bank of Africa (CBA). Loans are instant and the amount is paid directly to the healthcare facility.

3.2.5. Education

The final element of the Sema Doc benefit package is health education. Members receive text messages each day on a topic of their choice providing health advice and other information. Topics range from primary health to the management of chronic conditions.

3.3. Pricing

The monthly subscription fee (payable monthly in advance) is KSH 300 (approximately US$ 3) a month, and includes the premium for the hospital cash benefit. Members are required to transfer a minimum of this amount into their health accounts each month to keep their subscription active and to access the benefits provided through Sema Doc. Contributions are paid into the health account through USSD code using mobile money transfer services from M-PESA or M-Shwari.

Additional transfers enable members to save for telephonic access to doctors or medical expenses. *This makes the structure of the product flexible enough to allow for a range of different health needs*

and levels of affordability. Members pay a small fee each time they utilise the doctor services. A call with a doctor will cost a member KSH 60 (approximately US$0.60) and a member pays KSH 20 to text a doctor with a question.

Premiums are paid monthly and there are no commission charges on this product[6]. The minimum cost of the product is affordable. *However, in order to be cost-effective it makes sense for members to save additional amounts to enable telephonic access to doctors.* Table 1 illustrates the annual cost of membership to Sema Doc as a percentage of the GNI per capita and the lowest average minimum wage[7].

Table 1: Review of affordability of premiums

	US$	Annual Subscription as a %
Annual Subscription	36	
GNI per capita	1290	3%
Average minimum wage p.a. (lowest)	1656	2%

3.4. Take-up, marketing and distribution

Sema Doc's marketing strategy focuses on two main segments each exhibiting different healthcare needs. The first, and most significant, are those individuals in rural areas outside of Nairobi. This target segment are individuals with low incomes who have significant healthcare access challenges. The reason for their access challenges are twofold. *First, there is scarcity of healthcare providers in rural areas in Kenya, which translates into having to travel large distances to seek care and sitting in long queues waiting for care. Second, these individuals are underinsured for their healthcare needs.* Sema Doc fills the first need by providing telephonic consultations, which reduces the frequency of having to travel long distances for care. The second need is met by providing the hospital cash benefit, access to loan financing and a mechanism to save and pay for healthcare. Sema Doc has recorded most of its interest amongst this target segment.

The second target segment are individuals with higher incomes who want the service because of the convenience of having 24/7 access to a doctor without the need to travel to a health facility.

The current distribution model of Sema Doc is focused on the retail or individual market. This increases the risk of anti-selection. The only requirement in order to join is a mobile phone, and to be over the age of 18.

The main distribution channel for the sale of Sema Doc is an outbound call centre. Sema Doc has partnered with Safaricom as an optional value add to Safaricom's mobile money and loan offerings (M-PESA and M-Shwari). This gives Sema Doc access to distributional reach of the outbound call centre selling to M-PESA and M-Shwari customers. Additionally, Sema Doc engages in above-the-line advertising. This is in the form of billboards and radio advertisements. They have also received

[6] http://www.hellodoctor.co.ke/downloads/SemaDoc_CannonPolicyContract_20150626Final.pdf

[7] This is calculated as the average gazetted minimum wage in the category "all other towns" multiplied by 12 [19].

endorsement of the product by Kenya's first lady. Sema Doc has furthermore employed mobile airtime sellers as foot agents to distribute the product. This distribution channel is still in its early stages of implementation.

Sema Doc launched in August 2015 and by the end of its first month had approximately 2350 members. At the time of writing, it had approximately 12 000 members.

3.5. Regulation and tax benefits

There are two key components to regulation impacting on Sema Doc. The first is financial services regulation, and the second is regulation of the underlying healthcare delivery model.

Each of the components of the Sema Doc product is effectively a distinct product (representing insurance, credit and savings), all bought together through a common technological platform. This poses an interesting regulatory challenge in terms of regulatory complexity and fragmentation [3]. Kenya currently has a number of separate regulators each supervising a particular sub sector [3].

> "The existing regulatory framework for the financial sector in Kenya consists of a number of independent regulators each charged with the supervision of their particular sub sectors. This regulatory structure has been characterized by regulatory gaps, regulatory overlaps, multiplicity of regulators, inconsistency of regulations and differences in operational standards."

Insurance products in Kenya fall under the auspices of the Insurance Regulatory Authority and are governed by the National Insurance Act. The Authority approves all insurance products sold within the insurance market with the purpose of ensuring that they are suitable for consumers, fairly priced and function as intended while meeting all other regulatory requirements. Both loan and savings products are subject to banking regulation and are overseen the by the Central Bank of Kenya.

Sema Doc has partnered with Cannon Assurance[8] to underwrite the hospital cash benefit, and Commercial Bank of Africa (CBA) for the administration of the account and the loan benefit. It therefore relies on the regulatory compliance of those two institutions.

Sema Doc is predicated on the success of mobile banking in Kenya. This in turn has been influenced by the regulation of that industry. There is a view that mobile banking has been able to flourish in Kenya because of relatively light-touch regulation [30]. The Central Bank of Kenya has oversight of all payment services providers subsequent to the implementation of the National Payments System Act in 2011 [30].

Sema Doc provides access to a form of e-health and thus needs to comply with Kenya's Health Bill of 2014, which sets out to enact legislative requirements of e-health services. These include legislation regarding administration, collection, management and privacy of health information as well as regulations regarding health service delivery through m-health, e-learning and telemedicine. Currently, Kenya's Health Regulator has approved 22 medical conditions for remote diagnosis/treatment. These have been approved as they are based on global evidence-based best practice diagnosis and treatment criteria.

[8] MMI Holding in South Africa owns Hello Doctor, and also has a majority stake in Cannon Assurance

Individuals do not receive any tax benefit from purchasing medical insurance such as Sema Doc. However, where an employer provides its employees with free medical services or free medical insurance, the value of such a medical service or insurance is not a taxable benefit in the hands of the employer. As a consequence there is an incentive for employers to provide Sema Doc to their employees. However, given that the product is mainly targeted at rural Kenya where the levels of formal employment are low, the scope for employer involvement is fairly limited.

3.6. Provider arrangements

At the time of writing, Sema Doc employed 26 Kenyan doctors to interact with subscribers telephonically and/or over text. All the doctors are employed as consultants on a part-time basis. They are assigned shifts where they are required to be on call to answer calls and texts. The remainder of their time is spent on their primary employment in hospital or general/specialist practice. The doctors are remunerated on an hourly and a per call basis.

Sema Doc are constantly involved in recruiting, training, and managing the ongoing quality control of doctors (and/or other healthcare professionals) for the provision of m-health services. Doctors are given extensive training on the guidelines of how to advise, diagnose and treat members over the phone and text. This involves training on what care they can and cannot provide and the correct manner in which to do so. Sema Doc employs a quality control manager to monitor the quality of the interactions with members. All doctors' engagements with members are recorded and a sample is reviewed each month to evaluate the quality of doctors' interactions with members. The two main metrics used to evaluate the quality of doctors' care are "accuracy of the advice, treatment or diagnosis given" and "overall impression of the call". The doctors are required to achieve a 98% success rate for accuracy and 85% for overall impression.

A key aspect of the Sema Doc model is that payments are made directly to providers. This relates to the hospital cash benefit, the personal account and the loan benefit. This is an attractive feature from the perspective of healthcare providers.

3.7. Challenges associated with the Sema Doc model

A significant challenge for Sema Doc has been that of persistency (i.e. retaining members on cover for a reasonable length of time). Getting individuals to stay with the product is challenging in the low-income environment where unforeseen circumstances can greatly affect members' financial situation. *This risk is closely connected to the risk of anti-selection* – this can relate both to members joining the product when their health needs are most acute, and withdrawing from the product when they no longer have a short-term need for care.

Hello Doctor in South Africa has mitigated these risks by distributing the product on a group basis and as a value-add to other insurance offerings. When a company purchases the product for all its employees there is far less exposure to the risk of lapses. Anti-selection is further reduced because those employed are likely to be relatively healthy. Sema Doc has found it challenging to distribute the product in the same way in Kenya, as the target market falls mainly in the informal economy.

Sema Doc has reduced the anti-selection risks by imposing waiting periods on the hospital cash benefit. The pre-determined value of the benefit also reduces the risk, as the benefit is unlikely to cover the total cost of care. The savings account and loan product are not impacted by anti-selection risk (although the loan product faces the risk that the member is too ill to be able to pay back the loan).

Another challenge is maintaining adequate information systems and ensuring that medical data is kept secure and private. To some extent this is governed by the relevant regulation, however, the product needs to go above and beyond to provide patients with the confidence that their data is properly managed and totally secure and private.

Malpractice has been a major issue for products in this area of healthcare service delivery, internationally. *Misdiagnosis through unclear or ambiguous information is a major concern*. It is essential that the employed doctors are adequately trained and that their development is continuously reviewed. A comprehensive and dynamic quality control system should also be in place to mitigate this risk. Furthermore, the treatment and diagnosis of conditions should be based on internationally accepted evidence-based best practice criteria. These should be regularly reviewed and updated based on current best practice standards.

> The WHO resolution of 2005 "does not, however, address specific ethical questions related to telemedicine, such as the lack of direct patient-practitioner contact, informed consent, confidentiality, safety, data security and the legal implications of the cross-border, international practice of telemedicine. Nor does it address the question of vulnerability of people in disadvantaged countries, an issue that has been the focus of recent debate on ethical issues relating to standard of care and research." [9]

Finally, it is important to be cognisant of the differences that exist in the diagnosis and treatment of patients remotely compared to an in-person consultation. It is imperative that doctor's practices make allowance for this.

Learnings from Sema Doc for the South African Market

Sema Doc is a version of Hello Doctor. Hello Doctor was first introduced to the South African market before moving to other African countries. The Sema Doc offering is significantly different from the Hello Doctor offering in South Africa in two main ways. Analysing these differences and the reasons why they exist provide significant learnings regarding the ability to fill the needs of the low-income healthcare market in South Africa.

The first difference is that Hello Doctor is limited to providing healthcare information through text or over the phone. One of the key advantages of the Kenyan product is the integration of insurance, credit and savings components. This integration is more difficult to achieve in South Africa particularly with regards to the uncertainty relating to demarcation between medical schemes and health insurers.

The second key difference relates to a lack of regulatory clarity surrounding telemedicine. A review of telemedicine is part of a more comprehensive eHealth strategy [31]. There are historical reasons for resistance to telemedicine in South Africa [31]. The Health Professional Council of South Africa (HPCSA) has dragged its heels in drafting telemedicine guidelines for its members [32], and "there are, as such, no functional ethical guidelines for the practice of telemedicine in South Africa" [9].

Given this uncertainty, Hello Doctor has limited its South African offering to providing advice. This significantly limits the usefulness of Hello Doctor as doctors are not able to prescribe treatment or medication. Consequently, Hello Doctor's members still have to travel to a healthcare facility to be diagnosed or treated.

4. Community Health Funds – Tanzania

The United Republic of Tanzania is a SADC country within the East African region. Research based on focus-group discussions indicates that health insurance is the best known, most sought after, and most criticised form of insurance product in Tanzania [33].

Tanzania makes use of multiple financing mechanisms: this reports specifically considers the mechanism used for the rural and informally employed population. This is a community-based solution which runs in parallel to government funding schemes, and provides an African example of a community-oriented micro-insurance solution. The Community Health Funds (CHFs) function as voluntary, pre-funded health schemes which are annually renewable [34]. They have a dual intention: to provide a risk pooling mechanism in rural areas and to improve the delivery of care [34].

CHFs were first piloted in 1996 in a district named Igunga [35]. This was precipitated by an investigation into willingness and ability to pay (a study conducted from 1990 to 1992) [35]. Igunga was chosen because of political will, a range of other concurrent reforms to strengthen the delivery of care and a missionary hospital offering private care [35]. As a result of this relatively long history there is body of academic literature relating to the CHFs – we drew on this research to inform this report.

4.1. Overview of country context

4.1.1. The Tanzanian population

In 2014, the Tanzanian population was estimated at 52 million people and has been increasing by approximately 3% a year [36]. 69% of the population lives in rural areas [20]. Unemployment in Tanzania is relatively low at only 3.1% in 2014, compared to 8% in Sub-Saharan Africa and 5.9% world-wide [37]. This is in part due to the large subsistence agriculture sector. Tanzania remains a poor country - the Gross National Income (GNI) per capita in 2014 was US$920 [38]. In 2011, it was estimated that around 47% of the population was living on less than US$1.90 a day [39]. The vast majority of employed Tanzanians are located in the informal economy [40]. *As with Kenya, poverty, the large percentage of the population living in rural areas and informal employment are key challenges.*

4.1.2. Healthcare and health insurance in Tanzania

The disease challenges are also similar in Tanzania and Kenya. HIV/AIDS, lower respiratory infections and malaria are the three leading causes of premature death in Tanzania [41]. Over the period 1990 to 2010 Tanzania saw a decline in communicable diseases (notably diarrheal diseases) but an increase in non-communicable diseases and injuries [41]. Mortality rates in the working age population have improved [41], but the age-standardised death rate remains high [41].

Total health expenditure per capita in Tanzania is low: US$ 49 in 2013 [21]. Total health expenditure is 5.1% of GDP [42], and a high-proportion of this is donor funded (approximately 40%) [43]. As with Kenya, out-of-pocket payments pose a major burden on households [43]: this is concerning from an equity perspective. The public sector levies user fees on the uninsured.

Tanzania faces similar challenges to Kenya in terms of inadequate healthcare resources to meet the population's healthcare needs [33]. This is especially acute in rural areas [33]. There are also challenges with medicine distribution and quality of care at the local level [33].

It is unsurprising that given the burden of disease, limited healthcare resources and the extent of out-of-pocket payment, the majority of Tanzanians regard health expenses as the biggest threat to their income [33]. Payment for medical services is simultaneously frequent, uncertain and urgent [33].

Tanzania has four forms of public insurance: the National Health Insurance Fund (NHIF), the Social Health Insurance Benefit (SHIB), the CHFs and Tiba Kwa Kadi (TIKA), which are the urban and peri-urban equivalent of the CHFs. The NHIF and CHFs/TIKA are the dominant vehicles: in 2013 they were estimated to cover 5.6% and 8.4% of the population respectively [44].

The National Health Insurance Fund (NHIF) is akin to the NHIF in Kenya: it is a contributory social health insurance mechanism that is mandatory for civil servants and other specified categories of employees and voluntary for all others [44, 45]. For the formally employed, the NHIF is funded by a 6% salary contribution split between the employee and employer [45]. For the informally employed there is a flat premium [45]. The NHIF therefore allows for both risk and income cross-subsidies [5].

The NHIF began operations in 2001. In 2007 the Social Health Insurance Benefit (SHIB) was introduced as part of the National Social Security Benefit (NSSB). The NSSB provides cover to those formally employed in the private sector. The SHIB is voluntary, and coverage is very low (estimated at 0.12% in 2013) [44]. This is attributed to a relatively small network of healthcare facilities [33].

The CHFs provide voluntary and district-based cover for the rural population. TIKA is similar in design to the CHF [34]. There is one insurance pool per district (i.e. there are multiple risk pools, which limits the extent of risk pooling [5]). In addition, benefits and contributions can vary between districts. *The World Bank argues that the CHFs should be viewed as pre-payment health funds, as opposed to true health insurance [46] because in most districts cover is limited to primary care*. The CHFs are operated within government structures. At the district level, the Council Health Services Boards (CHSBs) are responsible for both the implementation of CHFs, as well as for overseeing the operation of the health facilities, creating exemption criteria for poor households and reviewing reports from the Ward Development Committee (WDC)[9] [47]. This structure places the CHSB in a dual role of the "provider" and "purchaser" of health services [47].

Private health insurance (PHI) plays a small role in the health system: accounting for approximately 2% of total expenditure [43] and is primarily targeted at the formally employed [42].

If we can consider all forms of insurance (public, private and microinsurance) it is estimated that 15.7% of the population have some form of insurance cover [44]. *The health insurance market in Tanzania has been described as fragmented – this has implications for co-ordination, efficiency, the extent of risk pooling, risk cross-subsidies and income cross-subsidies [5, 44]*.

4.2. Benefit structure

Each household that belongs to a CHF is given a health card: coverage is for up to 6 members of a household, including the household head [34, 44]. The card entitles the households to a package of health services throughout the year. The funds collected are used by the district, and part of the funds flow back to the healthcare facilities [47].

The package of benefits varies between CHFs [48]. There have been policy discussions about the possibility of introducing a minimum package of benefits [48], which would improve equity between CHFs.

[9] The WDC manages the community mobilization and enrolment for the CHF, the premium collection, gathering membership data and evaluating CHF operations and providing recommendations [47].

The majority of districts cover a very basic package of benefits: preventive and selected curative care services at health centres or out-patient departments at local hospitals [46]. This originates from the original research done in the Igunga district which indicated that household incomes and willingness to pay would be insufficient to cover more costly referral care [46]. Primary care was also considered to be the most cost-effective means of dealing with the majority of the burden of disease in rural areas (i.e. largely related to communicable diseases) [46].

> "Countries that originally covered only inpatient services are now moving to expand benefits to cover primary and preventive services (India, Kenya, the Philippines), in recognition of the fact that outpatient services can be expensive and have a larger effect on health outcomes" [7]

Some districts have since extended the package to include secondary care and inpatient care [2] in response to community complaints [49]. Commentators have raised concerns about the package not always including referral care and the associated transport costs i.e. the package does not always protect households from catastrophic expenditure [2]. The limited benefit package is cited as a key reason for low levels of enrolment [2].

The benefits are typically defined in terms of services. For example, they will include reproductive health and child care, the control of communicable diseases, treatment of non-communicable diseases and trauma, as well as general clinical support services. There would be no limit on the number of visits per year. The major benefit of CHF cover is protection from user fees: uncovered individuals are required to pay user fees at the point of service [34].

In most cases, benefits are limited to one health centre or dispensary. *This translates into a lack of benefit portability, and is particularly problematic when the quality of care at that facility is poor [2].*

The community orientation of CHFs should mean that benefit packages reflect meaningful community participation. However, the extent of community involvement varies between districts [34].

4.3. Pricing

The annual premium is determined by the CHSB, and should theoretically reflect community participation [34]. As with determination of the benefit package, this is not always the case [34]. Annual premiums vary between TZS 5 000 and TZS 15 000 (US$ 3 and US$ 9) between districts [44]. CHF membership is annually renewable. Within a district all households pay the same rate [2] and consequently larger households are more likely to take up coverage [2].

Members register for cover and pay their premium at their local public health facility [2]. The funds are then placed into a CHF account, and the amount is matched by a government grant [2]. There are, however, a range of conditions that have to be met in order to receive the government grant: for example, having membership records, having functioning CHF institutional arrangements, and raising a minimum of TZS 5 million (US$ 3 218) per annum [2, 44]. The process is fairly onerous and sometimes results in districts not receiving the grant [49]. The extent of the government subsidy also varies between districts due to the discretion allowed in building the benefit packages and pricing. Those districts that are less able to generate contributions receive less funds [2].

There is a system of waivers and exemptions in place to protect vulnerable groups and the very poor. These are poorly implemented because they are administratively burdensome and districts lack the necessary capacity and systems. The exemptions are aimed at ensuring free public care for vulnerable groups (such as children under-five and pregnant women) and are meant to obviate the need for CHF cover [2]. Poor implementation of exemptions mean that vulnerable members of the community may still join the CHF despite not being obligated to pay user fees [2]. The waiver system is for those who are too poor to afford the CHF premium [2] – this means that the very poor should be able to join a CHF without incurring a premium. The granting of waivers to the very poor is in general very low, with variation between districts. This is attributed in part to the poor having low levels of awareness of their rights, a lack of clear criteria and policy guidelines [50]. Consequently, the granting of waivers is not always transparent and fair [6].

> "Management and leadership practices including personal initiatives of the key district leaders, effective supervision mechanisms, commitment of the district health management team and local government officials, as well as incentives for the health facility committees and board members are pivotal for the implementation of the pro-poor exemption policies" [6]

In 2010 the CHFs generated a revenue of about TZS 3 billion (US$ 1.8 million) of which 70% was allocated to health care benefits and 30% to administration expenses [44]. *This illustrates a key challenge faced in providing low-cost solutions: products tend to have a high cost base due to administrative complexity.*

4.4. Take-up, marketing and distribution

Approximately half of Tanzanians who are insured are covered by CHFs. However, overall coverage levels fall a long way from the policy objective of combined NHIF and CHF coverage of 45% by 2015 [48]. There are two elements to overall levels of coverage: the first is involvement from districts, and the second is the enrolment of households within districts [34].

Approximately a quarter of districts had no CHF members at all in 2011 [51]. *Political will, resistance to the design of the CHFs (such a premium uncertainty, the lack of portability and the lack of referral mechanisms) and capital and capacity constraints are all key factors influencing CHF rollout [34].*

In those districts with active CHF funds, take-up rates vary considerably – both between districts and within districts over time [34]. There are both demand-side and supply-side factors that influence the extent of enrolment. On the demand side there are range of issues to consider: low levels of community understanding of insurance [34], anti-selection and variation in coverage by income.

> "Poor understanding of risk pooling deterred people from joining the scheme and was the main reason for not renewing membership" [2].

There is qualitative data that indicates that enrolment has an anti-selective component. This is unsurprising given the voluntary nature of cover, and the affordability constraints faced by community members. The research indicates that the families that are most likely to join are those with a greater risk of illness (with disabilities or chronically ill), those with elderly members or with children under age 5 [2].

Research on the determinants of membership indicates that coverage is most likely in the middle three income quintiles: the wealthiest and the poorest are least likely to join [2]. The postulated reason for the wealthiest not taking up cover is that they have a preference for care at private facilities [2] and have a higher level of distrust of the authorities [5]. Given that there should be no premium cost for those eligible for the waiver, enrolment levels amongst the very poor should be high. *The low levels of enrolment amongst the very poor highlight the failure of the waiver mechanism [6].*

On the supply side the key factors affecting enrolment are poor quality of care, the limited benefit package (not covering referral care and transport costs) and the restriction of choice to a single facility [2]. All of these factors impact on the willingness of community members to pay for cover. Quality of care issues encompass experiences of drug stock outs, insufficient equipment, poor staff attitudes and inadequate staffing. There are also issues relating to physical access to facilities. Long waiting times are also a factor – these particularly affect CHF members due to benefits not being portable [2].

A wide range of interventions have been suggested by commentators to improve enrolment. These include efforts to improve the understanding of insurance, block enrolment opportunities, improving the timing of enrolments, simplifying matching grants and institutional strengthening [49].

Efforts to improve familiarity with the CHF mechanism are referred to as sensitisation or social marketing interventions [49]. These include improved communication and engagement with the community, which in turn links closely with ensuring a solid organisational backbone and presence. One possibility is to separate the enrolment function from healthcare providers. This would require closer inter-linkages and cooperation with local government authorities for enrolment and supervision.

> "Increased enrolment is crucial for resource mobilisation and broader risk sharing. Non-poor, non-member households therefore represent a missed opportunity, which underscores the need for efforts to address non-financial barriers to enrolment." [5]

Examples of group enrolments include enrolling whole villages, organised groups such as small unions and working with agricultural employers instead of targeting individual families [49]. The issues around the timing of enrolments relate to the seasonality of work. For example, enrolments can be co-ordinated with harvest time [49].

The current CHF model does not stipulate who holds the responsibility for mobilising the community members to join the scheme. The parties often seen to champion this function are health facilities, Community Based Organisations (CBOs), or village administration. It is clear that an active sales force does not exist. However, household membership can be promoted by CHF community-based agents who receive an incentive payment of five percent of each household contribution [35].

4.5. Regulation and tax benefits

The CHFs form part of the Tanzanian government's policy efforts to improve coverage and reduce OOP expenditure. *The key policy challenges relating to healthcare financing are to improve implementation, strengthen purchasing of care, reduce risk pool fragmentation, and to strengthen income and risk cross-subsidies.*

The functioning of the CHFs is detailed in the Community Health Fund Act of 2001. A 2009 Memorandum of Understanding charged the NHIF with overall management and support of the CHFs [47]. The CHFs are also integrated into district, ward and village government structures. The CHFs

therefore exist in a complex web of relationships between different levels of government. *This highlights the need that exists in all health systems to draw on the strength of national co-ordination but also to benefit from the responsiveness of local government.*

The CHSBs provide a mechanism for stakeholder interaction, by including representatives from the district authorities, public healthcare providers, private healthcare providers and the community. *This decentralization is a key element of the CHFs and provides community members with a voice in the oversight of healthcare service delivery.*

Given the focus of the CHFs on the informally employed there are no tax regulations associated with CHF membership.

4.6. Provider arrangements

The CHF model integrally links the financing of care and the provision of that care. The funds collected by the CHFs (including the matching grants) can be used by the district for health-related purposes. Funds can either be used at district level, or directed back to facilities [47]. Patients who belong to CHFs are then treated for free at the facility. There is therefore no fee-for-service remuneration of the facility by the CHF, and facilities no longer receive user fees. *The funding flow functions as a capitation fee and effectively creates access to capital for the facility.* This can be used, for example, to fund drug and equipment purchases and minor repairs [2].

One of the complexities is that the CHSB finds itself in a dual role as both the "provider" and "purchaser" of health services [47]. This has been cited as one of the policy challenges and de-linking of the functions is a key area of policy review [47]. A natural tension arises because facilities would prefer higher premiums to increase their revenue, whereas community members would prefer lower premiums [47].

The interplays between the CHFs and the provision of care is interesting because the CHFs provide an opportunity to strengthen the delivery of care, but enrolment is constrained by concerns with the care that is provided.

4.7. Challenges associated with the CHF model

The CHFs are a useful illustration of the gaps that arise between the design of a system and the implementation thereof. Whilst the CHF model has a number of attractive features (community involvement, a mechanism for subsidisation, a system of waivers and exemptions to protect the very poor and vulnerable, and the scope to strengthen healthcare delivery by providing facilities with access to funds) they fall short of meaningfully reducing OOP because of limited enrolment, particularly for the very poor.

The need for institutional strengthening and capacitation is clear. Currently, the individuals assigned to crucial posts are key to the sustainability of the CHFs. This is largely as a result of thin management structures and limited institutional structures. This creates a reliance on key individuals and limits continuity. There has also been inadequate and inaccurate recording of data in some districts, with most information collected in paper format. This leads to problems in data collection and analysis and therefore ill-informed management decisions.

The involvement of community members is beneficial in the face of political change and uncertainty. It also has the potential to reduce the risk of anti-selection. However, the extent to which communities

are truly engaged in the CHFs varies from district to district indicating that the mechanisms are not sufficiently robust. *There is currently inadequate community awareness, involvement and ownership.*

Financial sustainability of the CHFs is shifted to the healthcare providers and facilities as the CHFs do not pay on a fee-for-service basis. This can be problematic for healthcare facilities in periods of high usage. Financial sustainability also requires co-ordination between communities, local government, central government and the NHIF to resolve issues such as payment of matching grants and enabling waivers for the very poor. *The matching grants have the potential to reduce the cost of cover to below the equivalent user fees, and the waivers are essential mechanisms for ensuring inclusion of the very poor.*

The CHF risk pools are currently highly fragmented. There is scope to improve risk pooling through mechanisms such as a common minimum benefit package or a reinsurance mechanism. More broadly, the existence of multiple financing mechanisms (NHIF, CHF, TIKA and SHIB) also contributes to risk pool fragmentation, and inadequate income and risk cross-subsidies.

Learnings from the CHF Model for the South African Market

In light of on-going developments towards National Health Insurance (NHI) within South Africa [52] there are lessons to be gleaned from the efforts of the CHFs to provide a community-oriented financing solution. As South Africa moves towards centralising aspects of the healthcare system there are important questions that arise relating to local government and the scope for community participation.

Integrating community members into the healthcare system may be necessary to change the attitude towards the healthcare system and healthcare as a whole. This speaks to the plans within the National Development Plan of instilling greater citizenship amongst South Africans [53].

Elements such as benefit package determination and information systems may be better implemented by a central body. However, communities require a level of autonomy to ensure that the members of their specific communities are appropriately serviced. This may include budget allocations to provide certain area-specific services speedily, whether this relates to clean water and sanitation or the provision of specific healthcare services. Given the decentralized approach and greater autonomy of district health structures, closer community involvement would enable more successful community outreach to improve health outcomes.

The CHF model highlights the importance of strong institutional structures and the need for capacitation. The complexity of the inter-relationships between stakeholders and levels of government are key considerations in the detailed design of the NHI.

4.8. Comparative example – alternative structures for community-based health insurance

The CHF is one particular embodiment of the use of community structures to extend health insurance coverages. Another example from Tanzania illustrates a model for community-based health insurance that is not initiated publicly:

The **Kilimanjaro Native Coffee Union (KNCU) health plan** is a voluntary community-based health insurance scheme that currently covers four districts in Tanzania within the Kilimanjaro area of Northern Tanzania [54].

The KNCU Health Plan covers primary healthcare, limited secondary care for chronic diseases (for example, diabetes, hypertension, asthma, arthritis and rheumatism), maternity care including delivery, and neonatal care for the first 30 days after birth [55].

The premium for the KNCU Health Plan is 40,500 Tanzanian shillings (about US$ 22) per person per year, however the product is heavily subsidized so each member only pays 12,000 TSh per year (US $5.50) [56]. The cost of products services is less than 1% of a member's income per reporting period [56].

The KNCU pays the premium upfront and is then reimbursed by the Primary Societies who collect the individual premiums from members [56]. The individual's premiums can be deducted from coffee sales or paid in cash. Premiums can be paid annually or monthly [56]. *The ability to pay premiums based on coffee sales allows those who are asset rich but cashflow poor to fund their healthcare needs.*

Between its launch in April 2011 and the time of writing of this report, the KNCU Health Plan grew to serve in excess of 7,000 people with affordable primary healthcare [54]. Initially the KNCU members in each Primary Society voted on whether they wanted to adopt the KNCU Health Plan or not. If a Primary Society voted in favour of the KNCU Health Plan, all members in that Primary Society and their dependents living in the same house has to be enrolled [56]. More recently, the fund has been adding over 1,600 new members per month with a new approach to distribution [56]. This approach has involved putting together a dedicated sales team with a one-to-one sales approach. This ensures that families understand what they are purchasing, and are more able to appreciate the value of the cover [55]. Enrolment rates under this system are typically between 35% and 55% per community [56].

The coffee employee union plays a key role in ensuring that the healthcare services provided are up to standard, including equipment and training for medical practitioners. Services are procured from a mix of public, private and faith-based providers [54]. Working directly with providers has allowed for a reduction in the cost of cover over time [55].

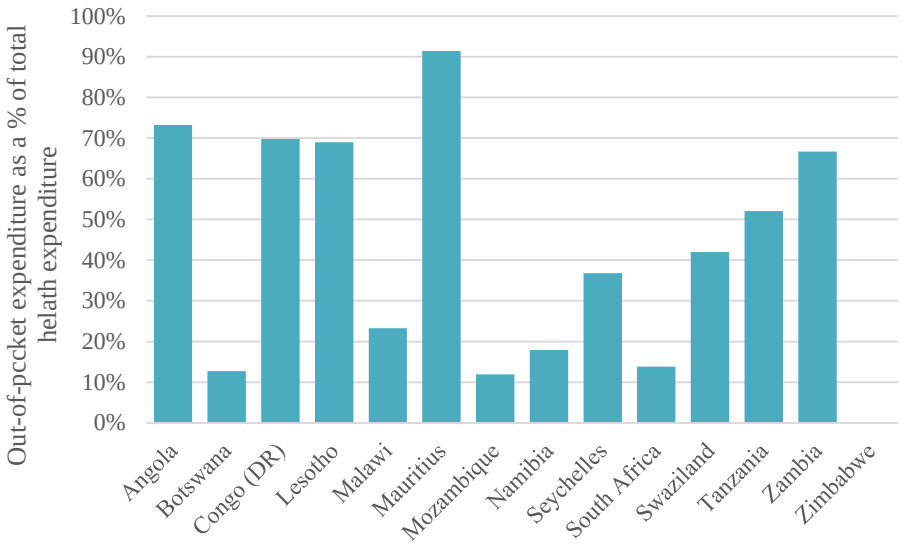
There is limited detailed information on the success of this health plan with most detail focussed on the operation of the coffee union itself. It provides an interesting case worth further investigation but its ability to be scaled beyond a single region seems to be closely tied to common (and highly organised) economic activity, which in this case is growing coffee beans and supervision by the union. This is not likely to be the case on a national level or in areas with high unemployment – it therefore lacks the reach of the CHF program.

Both the CHF and KNCU models allow for premium flexibility and provide a mechanism for the cost of cover to be subsidised. The KNCU model appears to be more successful in terms on take up rates in each community, with the concomitant reduction in anti-selection. Another key difference relates to the involvement of a third-party administrator. MicroEnsure is responsible for contracting healthcare providers, enrolment and administration. This is an alternative approach to enabling the necessary institutional backbone required to support the low-cost financing of healthcare.

5. MASM - Malawi

Malawi is a low-income and largely rural SADC country. Research indicates that 27% of Malawians consider illness to be the major threat to their income [57]. Unlike Kenya and Tanzania, Malawi does not impose user fees in the public health system for a defined benefit package [57]. Consequently, the levels of out-of-pocket expenditure are the lowest of the three case studies presented.

Figure 5: Out-of-pocket expenditure as a percentage of total private health expenditure (SADC countries) 2013



Source: World Bank [58]

However, there remains demand for private health insurance. The case study is based on the EconoPlan offered by the Medical Aid Society of Malawi (MASM). MASM is a non-profit health insurer, which enables its members to access medical services through three options (referred to as "schemes" by MASM): The VIP Scheme (most comprehensive), The Executive Scheme (medium cover offering), and the EconoPlan (which caters for low-income individuals).

MASM is the longest standing health insurer in Malawi, and for a long period was the only health insurer in Malawi (from 1986 until the establishment of OASIZ Medical Scheme in 2003 [13]).

The EconoPlan scheme has been chosen as a case study as it is a "traditional" medical aid option that is affordable for lower-income earners and offers benefits that will enable its members to access basic healthcare when needed. Benefits are fairly limited and cover is generally restricted to treatment in government or missionary facilities. Only service providers registered with MASM can be accessed – the network appears to be reasonably extensive[10]. MASM also operates 4 clinics, has an emergency medical services (EMS) subsidiary and owns a share of a private hospital [59].

Due to the long history of MASM there is some academic material available. This case study is based on that material as well as product documentation.

5.1. Overview of country context

5.1.1. The Malawian population

Malawi has a population of 16.7 million people [36]. The vast majority of the population is rural (84%) [20] and reliant on agriculture [8]. However, urbanisation is a key feature of demographic change in Malawi [57].

[10] A list of providers can be seen at http://www.masmw.com/index.php?option=com_content&view=category&id=37&Itemid=89

Slightly more than half of Malawians fall below the national poverty line [60]. GNI per capita has fallen in recent years, and is now below the average for low-income countries [60]. The generally low levels of income in Malawi, as well as the uneven distribution of this income, mean it is important to have health financing solutions that are able to service the needs of low-income groups.

5.1.2. Healthcare and health insurance in Malawi

Total health expenditure in Malawi is low (US$ 26 per capita per annum), and has declined in recent years. The majority of healthcare funding is from donors [61]. Malawi's public expenditure on health is one of the lowest in sub-Saharan Africa at only 8.4% of general government expenditure [13].

Unsurprisingly given the low levels of expenditure, there are concerns about the quality of care delivered [8, 62]. Sub-standard health services and inadequate access to safe drinking water and proper sanitation have been recognised as exacerbating factors [62]. Malawi also has a serious shortage of qualified doctors, with only 1.9 doctors for every 100 000 people [1] , and healthcare resources are concentrated in urban areas. To address the shortage of healthcare workers Malawi implemented an Emergency Human Resources Plan (2005 – 2010) which served to increase the health workforce by 50% [1].

Malaria, HIV/AIDS and Tuberculosis are major contributors to Malawi's disease burden. 10.6% of the population aged 15-49 are HIV positive. Malaria accounts for 34% of outpatient visits, and 40% of all hospital deaths [1].

Life expectancy has improved steadily, but remains relatively low at 60 years for men and 63 years for women. Health outcomes remain poor. For example: Malawi has one of the highest maternal mortality rates in the world [63] and a high burden of disease. The leading causes of death are communicable, maternal, neonatal, and nutritional [64]. There is also a growing burden of non-communicable disease in Malawi [64].

"From the perspective of rural Malawians, gaps in financial protection are mainly triggered by supply-side access-related barriers in the public health sector such as: shortages of medicines, emergency services, shortage of health personnel and facilities, poor health workers' attitudes, distance and transportation difficulties, and perceived poor quality of health services." [8]

Since 2004 the Malawian government has undertaken a sector-wide approach (SWAp) to better co-ordinate donor funding [61]. The SWAp also encompasses delivery of an essential health package (EHP) which is comprised of 55 interventions for eleven priority diseases [65].

Although the purpose of the EHP is to further universal health coverage, this does not necessarily play out in practice [8]. Malawians, particularly those that are poor and located in rural areas, experience uneven distribution of health services [8]. The consequent costs, both of seeking private healthcare (in response to deficits in public care) and transport costs to reach appropriate government facilities, create a gap in financial protection [8].

It is also important to note that free public healthcare at the point of service applies only to the EHP. The majority of Government facilities consist of a paid section and an unpaid section. The paid

section generally offers higher guarantees of timely and quality treatment, shorter waiting time, and provision of services over and above basic services.

The delivery of health services is a mix of public and private provision [8]. More than 60% of care is delivered by the public sector, 37% of care is provided by the not-for-profit private sector and the relatively small remainder by for-profit private providers [8].

In terms of publicly delivered care Malawi, like Tanzania, has pursued a decentralisation approach, with funds being allocated to local authorities [61]. For-profit providers include practitioners, facilities and occupational health [63]. The non-profit subsector includes faith-based organisations (FBOs) and non-governmental/civil society organisations [63].

The largest non-profit is the Christian Health Association of Malawi (CHAM). CHAM operates 172 facilities (comprising 20 major hospitals, 30 community hospitals, 10 training institutions, and 112 health centres) [63]. CHAM provides services to about 4 million Malawians annually [63]. A large proportion of CHAM facilities are located in rural areas, and as such, CHAM has a larger rural footprint than the Ministry of Health (MoH)[63].

The MoH contracts with CHAM to provide Essential Health Package (EHP) services in areas where the government does not have sufficient coverage [63]. This relationship should enhance access to the EHP. However, there are operational problems with the service-level agreements between CHAM and the MoH which result in OOP expenditure for patients [8]. The problems include irregular reimbursement from the government and practical difficulties for health workers differentiating between free EHP services and other services [8].

5.2. Benefits

The EconoPlan is the most affordable of MASM's three benefit packages, and covers treatment in a network of providers across the public sector, FBO facilities and facilities owned by MASM. There is no cover for for-profit private care. However, as noted above, the for-profit private sector makes up a small proportion of the market. The EconoPlan therefore provides cover for those instances where a patient is likely to incur user fees in the public sector (i.e. for non-EHP services) and where FBOs charge for the services provided.

The EconoPlan also offers additional benefits. These include emergency evacuation provided by MASM's ambulances (100% coverage within a 30km radius and 50% coverage outside the 30km radius), GP consultations, and a funeral benefit of up to MK 25 000 (US$ 33.20).

The product therefore addresses two key financial needs that arise for Malawians: the cost of treatment where EHP cover is inadequate, and the cost of transportation.

5.2.1. Benefit Structure

Unlike the other two case studies, the benefits provided by EconoPlan are explicitly defined and in a form expected from commercial insurance providers.

Different benefits are subject to different 'reimbursement rates' for the service in question. This will usually be reflected by a percentage of the tariff amount. Tariff levels are set by the scheme for each service, and effectively refer to their judgement of the appropriate cost of certain medical procedures / drugs. For example, the EconoPlan's level of cover for local drug prescriptions is "50% subject to tariff". This means that the scheme will reimburse the member for 50% of the actual cost of their

prescription if the cost of that prescription falls within the determined tariff amount. If the prescription is more expensive, they will only reimburse the member 50% of the tariff amount.

MASM's benefits are broken up into numerous categories and the table below provides a summary of the benefits that the scheme offers:

Table 2: EconoPlan Scheme Benefits

Service Type	Service details	Reimbursement rate (% tariff)	Restrictions
Emergency Evacuation	Government and Mission hospitals	100%	
	Re-Aligned Mission Hospitals	80%	
	MASM EMS Ambulances within 30km radius	100%	
	MASM EMS Ambulances outside 30km radius	50%	
Blood Transfusion	Government and Mission hospitals	100%	
Dentistry (pain relief, extractions and fillings only)	Government and Mission hospitals	100%	
	Re-Aligned Mission Hospitals	80%	
Drugs	Essential drugs	100%	Approved clinics only
Cover is only provided for generic drugs (or those of an equivalent price to the generic).	Local prescriptions	50%	
	Government and Mission hospitals	100%	
	Re-Aligned Mission Hospitals	80%	
Chronic medicines, vaccines and drugs supplied by visiting specialists are excluded	OTC (at Government and Mission hospitals)	50%	
	ARV's	100%	Approved provider
Major and Minor Surgical Procedures (including theatre fees, anaesthetist and surgical sundries)	Government and Mission hospitals	100%	3 month wait period
	Re-Aligned Mission Hospitals	80%	3 month wait period
	General Practitioner (Nominated GP)	100%	3 month wait period
Maternity (Antenatal, Delivery and Postnatal care)	Government and Mission hospitals	100%	12 month wait period
	Re-Aligned Mission Hospitals	80%	12 month wait period
Ophthalmology	Government and Mission hospitals	100%	3 month wait period on procedures, 12 month wait period on
(including frames,	Re-Aligned Mission Hospitals	80%	

Service Type	Service details	Reimbursement rate (% tariff)	Restrictions
lenses and procedures)	Spectacles, Frames and Lens	100%	spectacles
Hospitalisation*	Government and Mission hospitals	100%	3 month wait period
	Re-Aligned Mission Hospitals	80%	3 month wait period
	Clinics/Paramedics	US$1.33 per day	
Consultation	General Practitioner (Nominated GP)	100%	Limited to 1 consultation per day and GP needs to be nominated in advance.
	Paramedics	100%	
	Government and Mission hospitals	100%	
	Re-Aligned Mission Hospitals	80%	
Physiotherapy	Government and Mission hospitals	100%	Limited to 12 sessions per month
	Re-Aligned Mission Hospitals	80%	
Lab and X-rays	Government and Mission hospitals	100%	Excludes CT, obstetric, and MRI scans
	Re-Aligned Mission Hospitals	80%	
Dialysis	Government Hospitals	100%	
Funeral Benefits		Up to US$33.20	
Foreign Treatment		Excluded	
Hearing Aids		Excluded	
Elective Treatment		Excluded	

Source: EconoPlan scheme brochure[11]

** The scheme provides cover for both intensive care and general patient care, room and board, and prescribed drugs. Variable cover is provided for hospitalisation at government and mission hospitals, whereas treatment at clinics or with paramedics are subject to a maximum cover of US$1.33 per day. No cover is given in respect of outpatient recovery.*

5.2.1. Limits and Exclusions

Benefit limits and exclusions are rationing mechanisms, and are used to contain the cost of providing cover. The annual cover limit is MK 750 000 (US$ 1 050). Eligibility is restricted to those under the age of 55. MASM also has a significant list of exclusions. The following were deemed noteworthy for mention in this case study and are specifically relevant to the EconoPlan:

- **Admissions:**

[11] Available at http://www.masmw.com/index.php?option=com_content&view=article&id=100&Itemid=194

- Admitting MASM members without pre-authorisation (except for emergency treatment)
- Private wards that cost more than the MASM's tariff rate
- Admission costs incurred within the waiting period

- **Specialist treatment:**
  - Procedures given without pre-authorisation
  - Where a referral letter was provided on the member's request
- **Maternity services:**
  - Accessing services without prior approval
  - Cases where the maternity sublimit has been exhausted
  - Treatment within the 12 month waiting period
- **Dental treatment:**
  - Inlays, crowns and bridges
- **Medicines/drugs:**
  - AIDS drugs that do not fall under first line treatment recommended by the National AIDS Commission (NAC)
  - Prophylactic treatment, Slimming tablets, Infertility treatment, antiseptics, cosmetics, herbal remedies, vitamins and other similar OTC medication
- **General Exclusions:**
  - Treatment by GP with whom the member is not registered
  - Cosmetic treatment
  - Medical examinations for the purpose of employment, insurance, education, immigration, travel purposes
  - Treatment for costs which are recoverable in law from any other party or an outside insurance policy
  - Treatment resulting from wilful or deliberate self-inflicted injury
  - Services that are available for free or for a nominal fee (e.g. vaccines)
  - Local treatment by a service provider who is not registered with the society
  - Organ transplants or implants of any nature
  - Alternative forms of treatment (hypnotic, herbalists, traditional healers, homeopaths, naturopaths etc.)
  - Treatment related to birth defects and congenital illness
  - Treatment for pre-existing conditions
  - Miscellaneous expenses (e.g. birth reports, medical reports, telephone charges, equipment hire etc.)

5.2.2. Waiting periods

Waiting periods refer to the length of time that members have to be registered with the scheme before they are entitled to claim certain benefits. Waiting periods are designed to reduce the risk of anti-selection (i.e. people only joining medical schemes after they realise that they have a certain condition or need a specific procedure). The following waiting periods apply to all of the options under MASM:

Table 3: Waiting periods on benefits (*Source: MASM website*[12])

Length of waiting period:	Benefits applied to:

[12] Available at http://www.masmw.com/

Length of waiting period:	Benefits applied to:
3 months	• Hospitalisation • Major medical/surgical procedures
12 months	• Maternity • Foreign treatment • Visiting specialist treatment • Chronic medicines • Glasses and frames • Orthodontic treatment • Dentures • CT scan, MRI scan and obstetric scans • Hearing aids • Dialysis • Elective treatment (only applicable to VIP option)
24 months	• Funeral benefit

Waiting periods are waived for all emergency procedures.

5.3. Pricing

The monthly contributions are MK 2 500 per beneficiary per month (regardless of whether the beneficiary is a principal member, adult dependant or child dependant). This equates to approximately US$ 3.50 per beneficiary per month. At face value, this is very low for a medical scheme covering a range of outpatient and inpatient benefits and is the reason why the EconoPlan is included as a case study of a scheme able to offer options suitable not only for the top-end market. However, it is important to consider the contributions in relation to monthly income to put them into context. Average income is US$33.50 per month for Malawians [57]. Thus the monthly contributions per beneficiary for the EconoPlan represent over 10% of the average income for Malawians. Furthermore, approximately 90 percent of the population live on less than US$ 2 per day [66].

There is some flexibility attached to payment: it can be paid monthly, quarterly or annually. The contributions are very low compared to the other two MASM options, but have been increasing at a high rate. The monthly contributions in 2007 were only MK480 (US$0.64) [67]. This is a more than five-fold increase in contributions in less than a decade (an annualised inflation rate of 20%). Such high increases are not unexpected in the context of high consumer inflation in Malawi.

MASM has been making losses since 2008 [68]. Losses have been attributed to "the hostile economic environment, governance issues, stagnation in numbers and non-performance of medi-clinics" [68]. These losses have undoubtedly added to the contribution increases and should be noted when considering the viability and sustainability of the benefit options that MASM provides.

5.4. Take-Up, Marketing and Distribution

According to the 2014 FinScope survey, only 1.7% of adults in Malawi have formal insurance cover [69]. This equates to just over 136 000 individuals [57]. This is low compared to other SADC countries, and especially low compared to South Africa where the same survey revealed that 38% of South African adults have formal insurance cover. MASM itself reports over 120 000 covered lives. Nearly a quarter of the 120 000 individuals covered by MASM are part of the EconoPlan [57].

The EconoPlan target market is limited to those under the age of 55 (those over 55 are excluded). The scheme operates country-wide and has stated their intention to expand coverage as much as possible because the majority of Malawians remain uncovered by medical schemes or health insurance. Nevertheless, the product is aimed primarily at those in formal employment [67].

The distribution model used by MASM is a mix of direct sales and distribution via banks and auction houses [57].

5.5. Regulation and Tax Benefits

Malawi does not have specific regulation for health insurance (referred to as medical aids in the Malawian contract). Medical aids are currently regulated under the Insurance Act (2010) and Financial Services Act (2010) [57]. "Medical insurance falls under the purview of the Reserve Bank of Malawi (RBM) as the insurance regulator, but in practice dedicated medical schemes are currently unsupervised" [57]. RBM is the main supervisor of all formal financial institutions in Malawi.

The RBM has indicated an intention to introduce specific medical aid regulation [70].

The consequence of the environment being largely unregulated, and the regulatory uncertainty, has been that foreign market players have hesitated to enter the market [57] – therefore, there is very little competition.

5.6. Provider Arrangements

MASM reimburses providers on a fee-for-service basis. It enters into agreements with providers, and then in turn provides members with access to a specified network of providers. The most interesting feature of the MASM model is that they own their own facilities. However, there is some indication that the poor financial performance of these facilities have led to the losses incurred.

5.7. Challenges associated with MASM

MASM has struggled with the stagnation of membership in recent years. This lack of growth highlights a number of features of the Malawian context. The first relates to the extent of poverty in Malawi and the affordability constraint that this creates. Although EconoPlan is relatively low-cost, it remains expensive for the majority of Malawians. Low levels of formal financial service usage also pose a challenge: 66% of Malawian adults do not use any formal financial services [69]. MASM has put in place arrangements with banks to accept MASM premiums without any charges or the need to have a bank account [71]. They have also recently entered into a partnership with a mobile money platform [72]. The rural context is an additional factor to consider. Adults living in rural areas make use of financial services (both formal and informal) to a much lesser extent than those living in urban areas (44% compared to 69%) [69]. However, rural inhabitants constitute the vast majority of the population. They are also the target group that are most in need of affordable financial cover for medical expenses.

Fraud is a major challenge faced by MASM. Fraud is one of the reasons cited by the RBM for needing to regulate medical aids. According to the MASM CEO fraud accounts for 30 to 45% of MASM revenue [73].

The fact that medical schemes in Malawi are largely unregulated is not ideal. The lack of regulatory certainty has limited competition and discouraged large international players from entering the

Malawian market. However, in such an environment, schemes have far greater flexibility and power over their benefit design, contribution levels, and exclusions. It is this lack of regulation that has allowed a scheme like MASM to create such a relatively affordable option. The cover may be very basic, but it raises the idea that 'something is better than nothing'.

The EconoPlan benefit design reflects cost-containment mechanisms (financial limits, generic medicines, pre-authorisation and exclusions), mechanisms for reducing the third-party payer effect (reimbursement rates) and mechanisms to reduce anti-selection (waiting periods). Furthermore, MASM applies extensive exclusions. Exclusions such as these are often a necessity for products aiming to provide low-cost, affordable medical cover. The decision to limit cover to those under the age of 55 is also a cost containment mechanism. However, doing so has implications for the extent of social solidarity. The nature of an explicitly articulated benefit package with financial limits is that equity issues and gaps in coverage arise. Those with the greatest healthcare needs are also the most likely to run out of benefits.

Learnings from the MASM Model for the South African Market

This product is applicable to the South African environment in that the majority of South Africans have income levels that are far too low to afford conventional medical scheme products. The South African regulatory environment (notably the requirement of schemes to provide cover for Prescribed Minimum Benefits, for open enrolment and for community risk rating) means that a product such as the EconoPlan, with its benefit limits and exclusions, will not be allowed in the South African context.

Nevertheless, it shows the potential and design considerations for a product that it is affordable for the lower-income segment of society. Even in a system where the public system does not levy user-fees it is clear that there remain financial risks faced by households – whether this relates to cover outside of the basic package, transport costs or use of the private care when there are deficits in the care provided by the public system. The Malawian experience shows that it is preferable to have some form of financial protection for healthcare, however basic this may be, as opposed to nothing.

6. Conclusion: Key Themes

The case studies describe three very different models. Nevertheless, they give rise to a number of cross-cutting themes. The themes relate to the **need** for low-cost healthcare financing, the **challenges** faced by these products and the **enabling factors** for success.

6.1. The need for low-cost healthcare financing solutions

The need for low-cost healthcare financing solutions arises in relation to both the characteristics of the population served, the extent of user fees levied in the healthcare system, as well as in relation to other (public and private) insurance mechanisms. The need is most acute in settings where the burden of out-of-pocket payments is high (i.e. where people incur user-fees in accessing public healthcare). The case studies show that the low-income market is not homogenous, that there are varying roles for insurance products and that the need for insurance has to be balanced with affordability. Below, each of these cross-cutting findings is considered in turn.

The low-income market is not a homogenous market

It is clear from the case studies that it is useful to differentiate between the needs that arise in rural and urban settings. Rural populations face particular challenges related to physical access to healthcare goods and services. The nature of work is also likely to differ between settings, with much

of rural work being agricultural in nature. This brings with it other challenges relating to the seasonal nature of work, and variations in income from year to year.

Both the Sema Doc and CHF case-studies highlight the needs of rural populations. Both solutions seek to address the issues associated with physical access. Sema Doc does this by enabling mobile access to healthcare practitioners. CHF does this by pooling district-level funds which can then be used to facilitate the purchasing of care (for example, pharmaceuticals). In Malawi rural access is addressed by contracting faith-based organisations who have a substantial network of rural facilities.

> "The informal sector is characterized by low and non-regular, non-taxed incomes, insecure employment and self-employment without social security" [4]

The second key distinction is between those employed in the formal sector, those employed in the informal sector and the unemployed or very poor. In both Kenya and Tanzania it is apparent the public insurance mechanisms are optimised for the formally employed, with the poor being the most exposed to the financial risk of incurring user-fees. Whilst Malawi does not levy user-fees for a basic package, there remains gaps in financial protection. The Malawian case study highlights that the poor are disproportionately impacted by limited access and poor quality of care in the public system.

All the case studies point to the importance of premium flexibility for the informally employed. Sema Doc facilitates premium collection by tying in with existing mobile money solutions, and providing a high level of flexibility. The MASM product allows premium payments to be made monthly, quarterly or annually. The CHF framework allows for waivers and exemptions to cater for the vulnerable and very poor (although implementation of these is flawed). Other pragmatic solutions include co-ordinating the timing of premium collection in line with seasonal earnings, and working closely with agricultural employers.

Varying roles for insurance products

The three case studies highlight the different roles that healthcare financing products can fulfil in terms of pre-funding, post-funding and catastrophic cover. They also highlight that financing mechanisms can be used to subsidise the cost of care, to enable income cross subsidies and to strengthen the delivery of care.

The Sema Doc structure is particularly interesting because it blends together catastrophic cover in the form of a hospital cash plan, post-event financing in the form of loan access and pre-funding in the form of a personal account.

All three of these mechanisms have role to play. However, affordability constraints typically mean that choices have to be made. Most typically the trade-off is between pre-funded primary care and catastrophic cover. Sema Doc preferences catastrophic cover - the minimum premium is first allocated to cover the cost of the hospital cash plan. The MASM EconoPlan covers both primary care and tertiary care and hence is the most expensive of the three models. The CHF model is focussed on pre-funding primary care. However, this limitation is cited as one of the reasons for low take-up rates and some districts have extended cover to include referral care.

The CHFs illustrate that there are financial benefits even in a vehicle that only fulfils a pre-funding primary care purpose and does not provide for catastrophic cover. The CHFs also provide a mechanism for the cost of care to be subsidised (via matching grants), for an income cross-subsidy of

the very poor (via waivers) and a means of strengthening service delivery (by channelling funds to facilities).

Balancing insurance needs with affordability

In all three case studies it is clear that a key challenge for low-cost healthcare financing solutions is balancing insurance needs with product affordability. Of the three case studies the EconoPlan offers the most comprehensive cover, but is also unable to expand coverage and remains expensive relative to the income levels of Malawians.

The focus of the CHFs on outpatient care is an interesting counterpoint. This goes against the inclination that insurance products should provide cover for catastrophic events. There is increasing international experience to support the notion that there is demand for outpatient products. Outpatient cover allows more easily for the development of capitation models (i.e. risk sharing with the providers of care). This is partially illustrated by the CHF model, although the system lacks a clear purchaser/provider split. *In the absence of secondary or tertiary cover, outpatient cover at least allows for early intervention, prevention and an increased likelihood of a correct diagnosis and referral.*

Lastly, the case studies show that *cost-containment measures inevitably introduce trade-offs, including equity and social solidarity*. The EconoPlan illustrates some of these trade-offs. Limiting cover to those under the age of 55 reduces social solidarity and does not provide cover for a vulnerable population. Financial limits impact most on those with the greatest financial need.

The vast majority of individuals living in the SADC region remain completely unprotected against the costs of healthcare. In order to provide some form of cover to these individuals, innovative solutions are needed that manage to provide financial coverage at a very affordable rate. Importantly, these solutions also need to be realistic. *The case studies show that it is simply not viable to provide financial cover that is both comprehensive and genuinely affordable.*

The impact of service-seeking behaviour

In situations where people are able to obtain some cover, their awareness of the need and ability to access healthcare is raised. As a result, it incentivises increased service-seeking behaviour, which can improve overall health outcomes and prevent worsening of preventable conditions that may otherwise be left untreated. This is arguably where low-cost solutions such as the CHF, Sema Doc and EconoPlan add significant value. Many vulnerable, low-income individuals are naturally deterred from seeking healthcare when they are faced with the prospect of significant out-of-pocket expenditure. As a result, they do not seek care early (when it is most important to do so), and instead wait for their conditions to worsen. This, in turn, leads to even greater healthcare costs than would have been required, and places a burden on the health system and on households. Having financial coverage allows individuals to feel as though they are able to access care and as such, they are encouraged to do so.

6.2. Cross-cutting challenges

The case studies illustrate at least three cross-cutting challenges: anti-selection, risk pool fragmentation and supply-side weaknesses:

Anti-selection

One way of thinking about the demand for health insurance in lower-income families is to consider the difference between needs that are urgent and those that are important but not urgent. Whilst provision for healthcare may be important, it only becomes urgent when there is an actual need. In the case of voluntary products this dynamic will mean that people are only likely to purchase health insurance at the point at which they have a clear healthcare need. Consequently, the ability to manage anti-selection is an important condition for the sustainability of a product[13].

Anti-selection risk is best managed through compulsion. All three of the models we considered are voluntary, illustrating that *it is often not practical to make insurance products fully compulsory*. Compulsion can take a range of forms, the most obvious of which is compulsion emanating from an employer or union. However, in both Tanzania and Kenya the formally employed market are catered for by public insurance mechanisms and it is the informally employed and unemployed that are uncovered. It is for this reason that the current distribution model of Sema Doc is focused on the retail or individual market, consequently they cite persistency as one of their major challenges.

In the absence of compulsion, social or emotional pressure can play a role. This can emanate from communities, church groups or other social grouping. *Community engagement is a powerful force and one that the CHF model has the potential to leverage.* Community engagement links with models of insurance provision linked to specific areas, and may be directly connected to the actual provision of care as is the case with the CHFs.

Anti-selection risk can also be offset by creating products that are sufficiently low cost (or subsidised) that demand for them is not deferred. In these cases, premium as a proportion of disposable income needs to be very low. One way of reducing the cost is to focus on covering primary health care, as is the case with the CHFs. The CHFs are also able to reduce the cost of cover through subsidies and waivers. Sema Doc have also worked to reduce the cost of cover by enabling low-cost mobile access to care.

Benefit design is another mechanism for managing anti-selection risk. Both the Sema Doc and MASM products use waiting periods to manage the risk. The MASM product also has a number of exclusions in place. The savings account and loan product embedded into Sema Doc are not impacted by anti-selection risk because there are no risk cross-subsidies.

Risk pool fragmentation

Small risk pools are less able to enable risk- and income cross-subsidies, and have less ability to engage effectively with healthcare providers. There is an inherent trade-off between scale and locally-relevant and community-oriented solutions.

The ILO advocates for a pluralistic approach to financing UHC: making optimal use of existing financing mechanisms, recognising that different solutions may be best suited for different segments of the market. The CHFs are a particularly interesting case study in this regard because they have been enabled as part of national health policy (i.e. they are not a market solution). The case study also highlights the potential pitfalls of a pluralistic approach, including fragmented risk pools and insufficient income and risk cross-subsidies.

[13] Discussion with reinsurers indicated that this is the key reason for the large number of failures they see in the low-income market.

Supply-side weaknesses

The inter-play between financing mechanisms and the underlying provision of low-cost healthcare goods and services is key. *From the CHF case study we can see that enrolment is often contingent on whether the product enables access to good quality care.* Poor quality of care, poor physical access, long waiting time and the restriction of choice to a single facility impact on the willingness of community members to pay for cover. The MASM product has in place a network of providers. They also own some of their own facilities – this is a useful model where there are gaps in the underlying delivery of care.

In the case of Sema Doc, the financing mechanism is reliant on innovations in the underlying delivery of healthcare. The success of the Sema Doc product rests to some extent on the provision of 24/7 access to medical care, particularly in rural areas where there are limitations on physical access. A key aspect of the Sema Doc model is that payments are made directly to providers. This is an attractive feature from the perspective of healthcare providers.

Conversely, having a financing mechanism in place can serve to strengthen the delivery of care. In the case of the CHFs this is enabled by creating a pool of funds which can be used, for example, to purchase pharmaceuticals and equipment.

6.3. Enablers

From the case studies, there are three key enablers that emerge: technology, political will and regulation.

Technological development

The Sema Doc case study provides an exciting view of the role of enabling technologies, both in terms of mobile payments and mobile access to healthcare. *The use of technology enables healthcare to be delivered in rural areas that previously had limited access. Mobile contribution payment and claims settlement make the product accessible to a wide population.*

Access to medical care via mobile phones means that some of the constraints around physical access to care can be leapfrogged. This is particularly resonant in the SADC context where there is a dire shortage of health personnel, and healthcare resources are frequently concentrated in urban areas.

The existing depth of penetration and the maturity of the mobile money market in Kenya is an enabler for the development of m-health solutions, such as Sema Doc. Familiarity with the technology and high levels of user acceptability are key features. Mobile payment solutions address one of the key challenges associated with low-cost insurance solutions: the (usually costly) collection of household premiums.

Political will and government capacity

Low-cost financing products may have an important role to play in enabling UHC. The need for low-cost financing products can arise even in systems with public insurance mechanisms. Both Kenya and Tanzania have well-established public insurance mechanisms. However, both of these are contributory and largely serve those in formal employment. Malawi also has gaps in UHC that largely arise from failures in the delivery of care. *The political will to achieve UHC is a powerful enabler of meaningful solutions.*

The CHFs are a useful illustration of the gaps that arise between the design of a system and the implementation thereof. Whilst the CHF model has a number of attractive features, it falls short of meaningfully reducing OOP because of limited enrolment, particularly for the very poor. The need for institutional strengthening and capacitation is clear. For the CHFs to be effective, involvement and support is required from multiple levels of government, particularly local government.

Regulatory conditions

Both the Sema Doc and MASM case studies raise interesting issues around the regulation of market solutions.

There are two key components to regulation impacting on Sema Doc. The first is financial services regulation, and the second is regulation of the underlying healthcare delivery model (i.e. regulation of m-health). *The Sema Doc model poses an interesting regulatory challenge in terms of regulatory complexity and fragmentation.* Kenya currently has a number of separate regulators each supervising a particular sub-sector.

Sema Doc is predicated on the success of mobile banking in Kenya. This in turn has been influenced by the regulation of that industry. There is a view that mobile banking has been able to flourish in Kenya because of relatively light-touch regulation. In the case of Sema Doc the regulatory environment enables innovation in m-health as well as provision of mobile financial services.

There is very little in the way of health insurance regulation in Malawi. The absence of regulation, or regulatory grey areas, while not desirable in all cases, at least allows the flexibility to keep cost of cover relatively low and hence extend financial inclusion. In closing regulatory gaps, care should be taken to tailor the framework to the domestic realities and the need for balancing insurance needs with affordability.

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