Beiträge zur 3. Kölner Afrikawissenschaftlichen Nachwuchstagung
(KANT III)

Herausgegeben von

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Micro Health Insurance and HIV/AIDS: Challenges and Opportunities - The Case of Botswana

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1. Introduction

Ill health is both one of the most important reasons for and one of the most important consequences of poverty (Narayan-Parker 2002). Micro health insurance (MHI) – insurance especially designed for low-income households – is a mechanism to protect poor people from falling deeper into poverty due to high health care costs (Leppert forthcoming; Preker et al. 2002). In sub-Saharan Africa, the number of MHI schemes has been growing steadily during the last years. However, in many sub-Saharan countries, these schemes face special challenges; among others the high prevalence of HIV/AIDS in the region (Leppert forthcoming).

This paper covers two aspects of the connection of MHI and HIV/AIDS: On the one hand, it shows how HIV/AIDS challenges the existence of MHI schemes; on the other hand, it presents the opportunities MHI involves for addressing HIV/AIDS and related problems. The first part of the paper describes the different HIV/AIDS-related services MHI schemes can include into their portfolio. On which of these numerous possible interventions MHI schemes should focus and how they should be designed depends heavily on the nature of the HIV/AIDS epidemic in the specific setting and the actions taken by the government and/or civic society. Therefore, the second part of this paper exemplifies how MHI can complement existing programs by presenting the key results of qualitative field work conducted in Botswana – one of the Sub-Saharan countries hit hardest by the HIV/AIDS epidemic - in 2008[1].

[1] For a more extensive presentation of the study's result, see May & Bonu (forthcoming).

2. Micro Health Insurance

Poor households are especially vulnerable to risks. They more often suffer from risky events like natural disasters, illnesses and unemployment and lack the ability to handle their financial consequences. Insurance is an instrument aiming at the mitigation of risks, i.e. the minimization of the possible financial impact of a risky event. The premiums paid by the insured to the insurer are pooled in a fund from which compensation for covered losses is paid. Pooling risks allows a better compensation of losses than dealing with them individually. Possible welfare loss or a decrease in consumption caused by the occurrence of a risky event is, at least partially, compensated by the insurance. Those members of the risk pool who experience a risky event "benefit from the contributions of those who are not affected" (Brown 2001, p.12).

Despite its potential to reduce vulnerability, the insurance market is not accessible for most of the poor/low-income people in developing countries. Since the majority of these households work in the informal economy, it is impossible for them to access insurance, which is often linked to employment in the formal economy. Additionally, low demand for insurance, low ability to pay, high transaction costs and information discrepancies (which might lead to adverse selection and moral hazard) prevent insurance from operating in rural areas, where most of the low-income household live. Micro insurance target these low-income households excluded from the conventional insurance market by offering low-priced insurance packages with limited but targeted coverage adapted to their clients' needs (Churchill 2006). Micro insurance offers a wide range of products, amongst others insurance against disability, crop failure or illnesses (Loewe 2006, p.47).

Micro insurance for illnesses is especially important for poor people since the risk of ill health is a constant threat. Poverty and vulnerability are strongly interrelated. The risk of ill health occupies a prominent role in this relationship (Barnett & Whiteside 2006; Waelkens et al. 2005; Brown & Churchill 1999; Jütting 2005). Poor people name ill health as both one of the most important reasons for and one of the most important consequences of poverty (Narayan-Parker 2002). Poor living conditions lead to a higher risk of falling ill and a limited access to health care. Illnesses cause direct and indirect costs like medical treatment and loss of income,

which can be catastrophic for the household. Due to the high costs, poor people tend to forgo care, which may result in even higher costs. In health care systems dominated by out-of-pocket payments, poor people suffer from untreated morbidity, reduced access to health care, long-term impoverishment and irrational use of drugs because of their limited financial resources (Whitehead et al. 2001).

Against this background, risk pooling instruments as health insurance can fulfil two functions: mitigating the financial impact of a disease and creating better access to medical care of high quality which contributes to the productivity, income and well-being of people. Thus the insured are supported in overcoming the vicious circle of poverty and ill health (Jütting 2005).

The concept of health insurance is not new in Africa. Community health insurance emerged when many African countries re-introduced medical fees in the 1970s and 1980s so that access to health care became difficult for many households. The establishment of these schemes was mainly initiated by private charitable hospitals and NGOs and was supported by the African tradition of mutual help and informal risk sharing (Ndiaye et al. 2007).

3. Challenges posed by HIV/AIDS

In 2007, 2 million people worldwide died of AIDS and 2.7 million got infected with the virus (UNAIDS 2008, p.32). The spread of HIV/AIDS is connected to the spread of poverty and inequality (Piot et al. 2007). 67% of the 33 million people infected with HIV live in sub-Saharan Africa, the poorest region in the world (UNAIDS 2008). The epidemic's impact on this region is devastating. HIV/AIDS has contributed to a huge setback in sub-Saharan Africa's economic and social development. The virus affects the usually most productive and healthy age group, namely young adults (Barnett & Whiteside 2006). Households have to face a decrease in income and an increase of expenditures on health care and eventually funerals (Jefferis et al. 2008). Economies are weakened because of the loss of human capital and knowledge (Piot et al. 2007)

As mentioned above, ill health is closely linked to poverty. This also applies to HIV/AIDS, which is most prevalent in low-income societies. Poorer households are especially vulnerable to the disease and at the same time have difficulties in facing the costs caused by health care,

funerals and the loss of a productive family member (Lush et al. 2006; Chandani 2008). HIV/AIDS deepens or causes poverty by affecting human, financial and social capital, increasing the vulnerability of the affected household and limiting its coping and survival capacities (Masanjala 2007). Prevention of the disease is necessary to protect those households not yet affected with the disease. At the same time, affected households need access to instruments such as micro insurance that allow them to handle the financial consequences of an HIV infection.

However, many characteristics of HIV/AIDS complicate its coverage by MHI schemes, especially in countries where HIV prevalence is very high. HIV/AIDS is a **chronic condition**, which brings about a high frequency of losses. The lack of a cure makes it a constant burden for the insurance, which is especially problematic in case of MHI, which – because of their low premiums – have only limited resources. Moreover, antiretroviral treatment to prolong the life of the infected and the treatment of opportunistic infections – infections contracted because the immune system is weakened by the HI-virus –are very **cost-intensive**.

In insurance schemes with a risk pool sufficiently big, large and small claims, seldom and frequent claims and their time of occurrence compensate each other. However, when HIV/AIDS has **epidemic extent** as in some sub-Saharan African countries, this balance is not existent anymore. Additionally, **adverse selection** is likely: individuals with a high risk profile enter the insurance to benefit from it while individuals with low risk profiles choose not to obtain insurance coverage since the proportion of premiums to expected losses is unfavourable for them. As a result, the adjustment within the collective is not in force anymore; those members contributing to the fund and not affected by HIV/AIDS are too few to compensate the claims of those members affected by HIV/AIDS. Both benefits and premiums to be paid would have to rise exorbitantly. At the same time, increasing premiums too much would mean a loss of members and a smaller risk and resource pool.

Despite the problems, which occur, when MHI cover HIV/AIDS-related services, excluding them might be no solution. In areas with a relatively high HIV prevalence rate, it might result in **small pools** and a limited financial basis of the MHI since the insurance is not attractive enough for potential members. Additionally, already contracted policyholders who are

infected with HIV and suffer from opportunistic infections might not be able to access treatment due to the missing support from their insurance. As a consequence, the capacity to work might be lost. However, MHI rely on the ability of their members to contribute financially to the risk pool. Given that HIV/AIDS mainly affects the population at the most productive age, it has an impact on the financial situation of the household and its ability to contribute to this fund. Policyholders with untreated opportunistic infections might not be able to continue their insurance contract. Generally, it is said to be more cost effective to cover HIV/AIDS services and start treatment early instead of covering opportunistic infections and hospital care (Radermacher et al. 2006). Yet, MHI schemes would hardly be able to cover antiretroviral treatment on their own since its costs are still too high.

Financial sustainability is an important issue for MHI but it should not prevent them from covering HIV/AIDS services since poor people need assistance in coping with their costs. Cooperation with external donors, governmental institutions or other organizations is one possible solution for this dilemma. Thereby, MHI can offer and cover limited HIV/AIDS-related services in the areas of prevention, health services and social support. Also, they can serve as distribution channels for third-party funds targeting the poor. Additionally, they can refer their members to existing programs that provide HIV/AIDS services (Hsi et al. 2002; Feeley et al. 2005; International Labour Office 2002)

4. Opportunities of MHI

MHI could cover HIV/AIDS-related services and even offer services themselves to support affected persons.

Awareness activities on HIV/AIDS are one of the cheapest interventions (Hsi et al. 2002). Due to their proximity to their members, MHI – especially community-based ones[2] – can play an important role in this area. Many MHI already engage in awareness campaigns on prevention of diseases and could integrate HIV/AIDS-related information into their activities. HIV tests could be covered or even offered by the MHI itself, which would bring this service

[2] In the community-based model of MHI, the members play a central role. The insurance is based on the principles of self-help, self-responsibility and self-administration: the members are insured and insurer at the same time and participate in management and decision processes (Radermacher & I. Dror 2006).

closer to remote areas. The coverage of Prevention of Mother-to-Child-Transmission by provision of antiretroviral treatment might become very expensive without external funding (Hsi et al. 2002) but formula milk could be covered by the insurance to avoid the transmission of the virus via breastfeeding. People infected with sexually transmitted diseases are at a higher risk of infection when exposed to the virus. Therefore, awareness measures should also include the issue of sexually transmitted diseases to decrease their incidence and therefore reduce and HIV infections.

MHI could cover the treatment of opportunistic infections in varying degrees depending on their specific situation and capacity. Costly health services like antiretroviral treatment cannot be covered by MHI without external funding (International Labour Organisation 2002). In general, cooperation with other organizations and institutions (national and international NGOs, governmental institutions etc.) is important for MHI to be able to exploit their full potential in the fight against HIV/AIDS.

Since prevention is more cost effective than cure, MHI should design packages encouraging the use of preventive measures. For example, some MHI cover the treatment of infectious diseases like malaria demanding the previous application of measures to avoid an infection (International Labour Organisation 2002). This could be transferred to HIV/AIDS, e.g. by linking the coverage of services to the participation in health talks or regular HIV tests. Home-based care could be offered by trained members themselves to substitute expensive hospitalization. The coverage of palliative care, e.g. painkillers, would be desirable for those people not answering to the treatment or not able to access it (Hsi et al. 2002). Usually, insurance offers coverage for risks with a low frequency and high costs. Yet, research among low-income households in India showed that many of them would prefer insurance cover for risks with high frequency and low costs since they result in high aggregated costs for these households (Radermacher 2008). HIV/AIDS patients on treatment, for example, encounter regular costs for transport to the health care facility. Due to their predictability and high frequency, regular health insurance is not the appropriate way to deal with these costs (Atim 1998). To account for the potential client's wishes and the insurance's necessities, MHI could offer critical illness cover for these expenditures. Critical illness insurance "is the payment of

a lump sum in the event of the person insured suffering a condition (...) covered under the policy" (Munich Re Group 2006, p.5) and is already offered for HIV/AIDS in several countries (though usually restricted to infections via blood transfusion or at the workplace) (Land 2003). MHI could offer this insurance for its members by combining it with a life insurance and either pay out or make accessible the amount insured in the event of (1) an infection with HIV (for members who are HIV-negative at application), (2) the outbreak of AIDS (for members who are HIV-positive at application) or (3) death (for members who stay HIV-negative throughout their membership). This money could be used to compensate indirect costs that get along with an HIV infection, especially transport.

Rehabilitation and food programs are meant to support people living with HIV/AIDS in their daily needs like a healthy diet. By reducing out-of-pocket payments, mitigating risk and serving as a spokesman for the marginalized and socially excluded population, MHI can also contribute to the reduction of social risk factors which increase the likelihood of infection with the virus, such as poverty and gender inequality (International Labour Organisation 2002).

Table 1 summarizes the services potentially covered or offered by MHI schemes, divided into three areas of HIV/AIDS-related services: prevention, health services and social support for affected individuals.

Areas	Goals	Interventions potentially offered by MHI
Prevention	Change behaviour, reduce stigma and discrimination	Offer awareness activities on HIV/AIDS
	Increase the number of people aware of their HIV status	Cover or offer HIV tests
	Reduce transmission	Offer IEC; cover PMTCT, formula milk, cover STI
Health services	Reduce morbidity and mortality in the HIV-infected population	Cover opportunistic infections, antiretroviral therapy, cover/offer home based care
	Alleviate pain or medical conditions of those not responding to treatment	Cover palliative care, cover/offer home based care
Social support	Reduce impact of HIV on those infected and affected	Offer critical illness insurance, rehabilitation programs, food programs
	Reduce social factors associated with a high risk of HIV infection	Reduce OOPP, increase risk management abilities, empower marginalized and socially excluded population

IEC: Information, Education, Communication
OOPP: Out-of-Pocket Payments
PMTCT: Preventing Mother-to-Child-Transmission
STI: Sexually Transmitted Infections

Table 1: Areas and goals of HIV/AIDS services and interventions potentially offered by MHI

Source: Based on Hsi (2002), Chandani (2008) and International Labour Organisation (2002)

On which of these numerous possible interventions MHI should focus and what adaptations might be necessary depends heavily on the nature of the HIV/AIDS epidemic in the specific country and the actions already taken by the government and/or civic society to fight the disease. In the following, the paper presents the results of a case study on Botswana which exemplifies how and where MHI could take action to complement an existing national HIV/AIDS program. After giving a short introduction on the HIV/AIDS epidemic in Botswana, the article identifies the shortcomings of the Botswanan national program on

HIV/AIDS and then elaborates how these could be addressed by MHI.[3]

5. Case Study Botswana

5.1.Background: the fight against HIV/Aids

Botswana is one of the sub-Saharan countries hit hardest by the epidemic. In 2001, 27% of its population was infected with the virus (National AIDS Coordinating Agency 2008). The epidemic affects the whole population and is not focused on particular risk groups (Barnett & Whiteside 2006). Heterosexual transmission is the most common way of infection (National AIDS Coordinating Agency 2003).

The impact of HIV/AIDS on human development in Botswana is evident. Life expectancy fell from 56 years in 1970-75 to 46.6 years in 2000-05. During the same period, it rose from 58.3 years to 66 years worldwide (UNDP 2008). In response to the epidemic, Botswana took various measures to lower the infection rate and improve health care. Today, Botswana is the country with the highest per capita domestic spending on HIV (UNAIDS 2008). In collaboration with international donors, the government introduced a comprehensive national response to HIV/AIDS in 2001. As a result, the HIV adult prevalence rate has been decreasing to 23% in 2007 and is estimated to continue decreasing steadily for the next years. Other promising developments are falling mortality rates and increasing access to antiretroviral therapy. Adult AIDS deaths have declined by half between 2003 and 2007 and the number of patients receiving antiretroviral therapy rose from 2,811 in 2002 to 94,533 in 2007 (National AIDS Coordinating Agency 2008).

Despite these positive developments, studies indicate possible gaps in the Botswanan national program. Without the provision of HIV/AIDS treatment, poverty caused by HIV/AIDS would be approximately more than twice as high. However, there is still a significant number of households pulled into poverty by the disease (Jefferis et al. 2008). Although HIV/AIDS care (consultation, drugs, test, and hospitalization) is provided for free in the public health care

[3] The present study presented here was conducted in 2008/2009. In 2010, the Botswanan government launched its second National Strategic Framework on HIV/AIDS (available at http://www.naca.gov.bw/sites/www.naca.gov.bw/files/Book1.pdf). This article does not take into account these recent developments and adjustments of the national program.

sector, adherence among patients is reduced by other expenditures coming along with an HIV infection. These are, for example, transport costs to the health care facility (Hardon et al. 2007). Additionally, the national program did not succeed in decreasing the incidence rate considerably with the result that the financial sustainability of the interventions is questionable (Cohen 2008; Lush et al. 2006).

There is one health insurance scheme in Botswana with ambitions close to the concept of MHI, the Itekanele Health Scheme (Itekanele Health Scheme 2007). Other health insurance schemes like Botswanan Medical Aid Society (BOMAid) and Botswana Public Officers Medical Aid Scheme (BOPMAS) are linked to employment in the formal sector. Informal insurance (e.g. funeral parlours or burial society) are not very well established and seem to play no major role in risk mitigation like for example in South Africa (Bester et al. 2008).

5.2. Study Details

5.2.1. Study population and Study Sites

The study examined economically disadvantaged people living in areas with a high risk of HIV infection and limited access to health care. Males and females with and without an HIV infection were included in the sample. HIV-infected subjects could be on or off antiretroviral medication. Their age ranged from 18 to 60 years. Health care professionals and other informants (e.g. social workers, support group coordinators) were interviewed to gain a more professional view on the national program and a broader perspective on HIV/AIDS-related problems in Botswana. The recruitment took place in clinics on site and was based on voluntary participation. The nurses in the clinic introduced the research team to the waiting patients. The team explained the study and the procedure. While waiting to be attended by the doctor, the volunteers were interviewed in a separate room. In one case, participants were contacted via the coordinator of a support group. Health care professionals were contacted in the clinics as well; other informants were contacted at their respective workplace via telephone or in person.

The sites to be visited were chosen in collaboration with the Research Department of the Ministry of Local Government in Botswana. The aim was to cover towns and villages with

characteristics influencing both the spread of HIV/AIDS (e.g. areas with a lot of prostitution such as border areas) and the access to health care (e.g. remote and/or rural areas). See Illustration 1 for the location of the study sites.

Illustration 1: Study sites in Botswana

Source: Adapted from geology.com (http://geology.com/world/botswana-satellite-image.shtml)

5.2.2. Data Collection and Analysis

Semi-structured interview guides were elaborated with topics and questions derived from extensive literature review. Topics addressed were among others the impact of the national program on the HIV/AIDS epidemic in Botswana (health services, awareness), satisfaction with the HIV/AIDS care, costs incurred by patients because of an HIV infection and the handling of these costs. The guides underwent a continuous updating during the research in response to obscurities or problems encountered during the sessions. During nine weeks of field research, 19 health facilities and one support group in 14 towns and villages were visited. 99 interviews were conducted, of which 62 were with HIV/AIDS patients, 17 with health care professionals, and 11 with general patients and nine with other informants. Due to the extensive interview material, the research team opted for purposely selecting interviews for analysis. This selection was based on the interview content as noted down after each

interview. The aim was to cover all relevant topics that had come up during the interviews. 43 interviews were selected for analysis, of which 24 were with HIV/AIDS patients, 10 with health care professionals, four with general patients and five with other informants. Figure 1 shows the number of interviews included into the analysis and the type of respondents interviewed. Interviews were conducted with the help of a local interpreter.

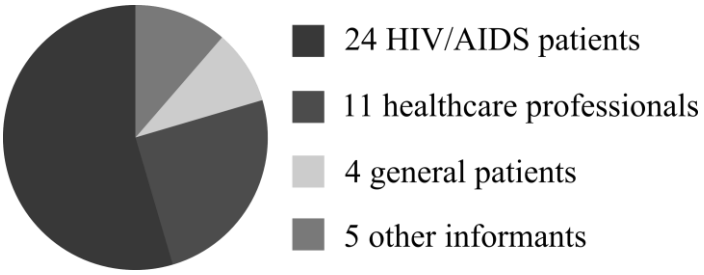

Figure 1: Number of Interviews and Types of Interviewees

The data was analyzed with MaxQDA software. Following the methodology of the qualitative content analysis (Mayring 2007), categories and codes from the study's research questions were derived. The informants' statements were interpreted and assigned to the corresponding categories and then compared and synthesized. The set of categories were developed before and during the transcription of the data and then enhanced and adapted during the analysis process.

5.2.3. Critical assessment of the methods used

Settings Nearly all of the interviews were conducted in health care facilities. Although the interview team tried to create a confidential atmosphere, it is possible that the proximity to health care staff had an influence on the informants' statements.

Relationship fieldworker - informants Amongst other things, different cultural and social backgrounds, different gender and different ethnicities could have affected the informant's openness, honesty and cooperation. In this study, cultural and ethnical differences were attenuated by the involvement of a local interpreter. Nevertheless, other potential barriers were still valid. The significant majority of female participants, for example, could have been

an effect of the exclusively female interview team. Different social background expressed itself in certain expectations from the informant's side: One woman asked the team explicitly for money to be able to go back home. It cannot be ruled out that other informants had similar support in mind.

Recruitment The recruitment of respondents in healthcare facilities involved some problems regarding the representation of the target group. Since most of the patients in the clinics were women, most of the participants were female as well. Additionally, some of the volunteers cannot be classified as low-income people. Nevertheless, they could make some useful contributions to the study.

5.2.4. Ethical considerations

The author obtained a permit from the Botswanan Ministry of Health before starting the field research. Additionally, data collection in the different clinics was discussed with the corresponding District Health Team. Participation in the study was voluntary, confidential and anonymous. All subjects signed a consent form informing them about their rights in the study and including contact details for complaints. Whenever the participant was illiterate, the consent form was read out by the interpreter and signed with a cross.

5.3. Study Results

Based on the summary of potential interventions given above, the case study's key findings are divided into the areas prevention, health services and social support. For each area, an overview of the respective activities of the Botswanan national program on HIV/AIDS is followed by a description of interview results and potential interventions of MHI.

5.3.1. Prevention

National Program on HIV/AIDS In the area of prevention, the Botswanan government aims at reducing stigmatization and discrimination of people living with HIV/AIDS and prevent new infections by offering information, prevention of mother-to-child-transmission and voluntary counselling and testing. The provision of safe blood and the treatment of sexually

transmitted diseases are further targets (National AIDS Coordinating Agency 2003). After the slow take-up of testing and treatment in the beginning of the national program on HIV/AIDS, the government introduced routine testing in health care facilities in 2004. Patients are routinely tested for HIV when visiting a clinic or hospital unless they opt out (Steen et al. 2007).

Interview results The awareness measures implemented by the government are numerous, amongst others advertising campaigns, radio shows, education in school and health talks are conducted. The majority of participants in the study had known at least some facts about HIV/AIDS before being confronted with their positive test. In remote areas, access to information and education can be a problem. Poor people living in smaller settlements have only limited access to media like newspapers and radios. Therefore they may lack information on the disease as reported by one informant:

> When you go to rural settlements, that's where most people don't know. (...). Most of them have never attended school. So it's very difficult for them to know. Also the other thing is even our radio is not reaching them. (...) Some of them they don't get even the daily news.
> *General Patient, Sowa*

Potential interventions by MHI Awareness activities are relatively cheap and easy to provide. MHI units, especially community-based ones, could use their proximity to their members to disseminate education on HIV/AIDS in rural areas and among the near-illiterate population. The membership could be linked to the regular participation in health talks on general health issues and especially HIV/AIDS. This way, the transmission of the virus and the stigmatization of the disease could be combated further.

5.3.2. Health Services

National Program on HIV/AIDS In the area of health services (treatment and care for people living with HIV/AIDS), the Botswanan government – with the help of international donors – offers antiretroviral treatment, treatment of opportunistic infections, hospitalization and home based care at no costs for its HIV-positive citizens (National AIDS Coordinating Agency 2003). Antiretroviral treatment is started once the infection has reached a certain

stage. For those patients not eligible for antiretroviral treatment yet, regular tests are conducted to monitor the health status (Ministry of Health 2008). Additionally, the government increased the number of health workers, clinics providing HIV/AIDS treatment and the scale of laboratory capacity (Ministry of Health n.d.).

Interview results The introduction of free treatment of HIV/AIDS has had a great impact on the individual and the general level. On the individual level, patients reported that their life had changed with the initiation of the therapy. Their health has improved; they experience a higher life quality and are able to go back to work. On the general level, the number of deaths has decreased and the readiness to test has risen.

26 of the interviewees were satisfied with the HIV/AIDS care and could not think of anything when asked for possible improvements. However, they often expressed minor complaints later during the interview. 18 interviewees were satisfied with the HIV/AIDS care but saw some problems, 3 patients were not satisfied since they were affected by either treatment delays or wrong consultation. The following sections summarize the central problems of HIV/AIDS-related health services as reported by the informants.

Informants reported limited access to consultation, tests and drugs in public health care facilities. Access to consultation is compromised due to a lack of staff, mainly doctors. Usually, the doctors are responsible for several clinics in their respective health district and sometimes visit a clinic only one day per week. As a result, large crowds of people wait for the doctor and spending almost the whole day at the clinic. Care can get compromised because of overworked staff and over-crowded facilities. Sometimes social workers take over tasks of health care professionals and carry out adherence counselling.

> [W]e are (...) feeling that most of our patients were not given enough time, enough counselling and stuff like that. But (...) there is always no manpower. Right now I'm just alone in the clinic but by then we are three. Somebody would be seeing patients for follow-up in the other room, then the other one would be here doing those counselling's and teachings. But when you are alone it's a problem.
> *Nurse, Hukuntsi*

Some informants also mentioned a difficult access to tests in public clinics. Patients can only undergo tests if prescribed by the doctor. Sometimes they even do not get the results of

previous tests. The public health sector occasionally also encounters shortages or difficulties with testing equipment. In some cases, this has a negative influence on the patient's health status. Two patients reported the delay of antiretroviral therapy because of missing test results:

> [T]here was a time she was supposed to come and take her CD4 count. But the machines were not working, so she had to wait another time. By the time she's returned her body was weak, she could not do anything.[4]
> *HIV/AIDS Patient, Lobatse*

Mostly, patients are sent to other public clinics nearby to do the tests (which means more expenditures on transport) or to the private sector (which they usually cannot afford). Sometimes doctors continue the treatment without the test results. Informants reported that, some months before this study, the public health sector had experienced a massive shortage of medication like hypertension drugs and painkillers throughout the whole country. Therefore, patients had to buy these drugs in private pharmacies. This also affected HIV-infected patients who need painkillers or other drugs to treat opportunistic infections. One interviewee regularly takes painkillers and medication for his asthma. Since the local clinic where he gets his antiretroviral medication usually is of short supply with these drugs, he has to travel to Gaborone to get them there (approximately 80 km). He undertakes this journey every five days to get a new supply.

A massive lack of antiretroviral medicines has not been reported. One health care professional stressed that in such cases patients can go to the private sector and get their medication for free there. However, another healthcare provider in Hukuntsi, a rural and remote area, said that they experience shortages of antiretroviral medication at times. One patient mentioned that she once got a smaller ration of medicines than usual due to short supply in her clinic.

Potential interventions by MHI MHI could cover the consultation of private doctors or hospitals for their members and thereby ease the overload of public facilities. This would also give patients the opportunity to get better quality health care when they feel the need to do so. However, the consultation of a private doctor is quite expensive and sometimes also includes

[4] Due to the involvement of an interpreter, statements are in third persons even when interviewees referred to themselves.

tests and drugs that have to be paid for. Therefore, clear guidelines are necessary to avoid the breakdown of the scheme. One option would be to cover a certain number of private consultations per year. If the members do not make use of this possibility, they could be given a reimbursement in the form of a part of the premium or another bonus. That way, an overutilization of the service would be prevented. At the same time, members would be awarded for making use of public facilities only. This would prevent them from making use of private consultation only for the sake of getting these services "they have paid for" via their premiums. Medical tests in private facilities could be covered separately for the case that machines in public facilities are broken down. If there is another public facility with the necessary equipment nearby, one option could also be to pay for the transport costs to reach it. Further therapy should nevertheless take place in the public health system.

Regarding hospitalization, MHI could cover the use of private facilities in the case of overcrowded public hospitals or if patients are not satisfied with the public health care. Another possibility would be to offer home-based care to its members. The same limitations and reimbursement system applied to consultation could be implemented here to avoid cost explosion.

5.3.3. Social Support

National Program on HIV/AIDS General support for the poor is given by the government through a destitute program, an orphan program and a rehabilitation program. Additionally, specifically HIV-targeting measures are implemented, e.g. by offering food baskets for HIV/AIDS patients. Transportation is also supported. Government vehicles take those patients to the hospital and back home that otherwise would not be able to come to the clinic due to the lack of money or public transport.

Interview results The most frequently mentioned additional expenditures due to an HIV infection were food and transport. Four patients reported to have missed appointments at the clinic due to lack of money, three of them said that they had not been able to pay the transport. HIV-infected people have to visit the clinic frequently for their tests and medication refills. Therefore, paying the transport costs can become a major problem for them. It might

even have an impact on their health when they are not able to undergo prescribed tests or skip their appointments and refills due to the lack of transport money. Sometimes patients get some extra tablets so they do not run short of them but one patient skipped his ration for three days because he could not find the money to go to the clinic. One woman said that

> (…) for the kid it's still a bit difficult [to adhere]. (...) She collects his pills in Tutume, so it is always a problem for her to go and get his medication in time. So there are times when he skips, like right know she prepares to go for the medication so she is looking for jobs.
> *HIV/AIDS Patient, Sebina*

HIV/AIDS patients are supposed to eat a balanced diet to stay healthy and maintain a strong immune system. This involves a considerable increase of expenditures. Healthy food is expensive and many of the patients were not used to eating this kind of food before. Some are not able to buy healthy food at all.

The food basket offered by the government is supposed to address these needs. However, the access to it has been restricted after the misuse in its beginnings. Now it is rather difficult to be allocated the food basket:

> Basically, if you had HIV they said you had the food basket. Well, that was the understand perception of the people. So now it's absolutely desperate because to get somebody to get a food basket it's a major performance. (...) You have to be really destitute.
> *Private Practitioner, Gaborone*

Potential interventions by MHI Transport costs and food are major concerns for HIV/AIDS patients with low income. The majority complained about the risen expenditures on food, especially after the worldwide increase of food prices during the last years[5]. Some were not able to comply with the healthy diet they should eat. MHI could address these costs with a combination of critical illness insurance and a life insurance. As explained before, MHI could make the amount insured accessible in the event of (1) an infection with HIV (for members HIV-negative at application), (2) the outbreak of AIDS (for members HIV-positive at application) or (3) death (for members who stay HIV-negative). This money could be used to compensate indirect costs coming along with an HIV infection, especially transport and food.

[5] Within the last ten years before this study, the food price index had risen by more than 52% (FAO n.d.).

Generally, it is less costly for an insurance to cover only the outbreak of AIDS instead of the infection with HIV. Several years can pass between the infection and the outbreak of AIDS in which the insured would not receive compensation from the pool yet (Land 2003). However, it would not be suitable for the Botswanan situation to offer critical illness insurance only for the outbreak of AIDS since frequent visits of health care facilities are already a major concern for HIV-positive individuals not yet diagnosed with AIDS. For those members who were already diagnosed with AIDS before joining the MHI, insurance for indirect costs is not feasible. Transport costs to the health care facility are a predictable risk for AIDS patients because they appear on a regular basis. Unlike unpredictable risks, they are not insurable by risk pooling alone (Atim 1998). They would have to be supported for example by receiving external funds through the MHI to compensate their risen expenditures. Additional support should also be considered for those joining the MHI with an HIV infection, since they are not able to benefit from the critical illness insurance yet but already need to visit the clinic frequently.

Table 2 summarizes the study's key findings.

Areas	**Deficits of the national program**	**Potential interventions by MHI**
Prevention	Limited access to information on HIV/AIDS in rural/remote areas	Offer awareness activities in rural/remote areas
Health services	Overload of public health care facilities and compromised care	Cover health care in private facilities
Social support	Indirect costs (transport and food)	Offer critical illness insurance (in combination with life insurance

Table 2: Deficits of the Botswanan national program and possible HIV/AIDS interventions by MHI

6. Conclusions

MHI schemes are challenged by HIV/AIDS, but they also present an opportunity to improve the life of those people infected and affected by the disease and to contribute to the fight against the epidemic. The possibility of insuring HIV/AIDS-related services for people living

around the poverty line is a unique feature of MHI. However, HIV/AIDS is not insurable by MHI when relying on risk pooling alone, especially in areas where it has epidemical dimensions. It is a chronic condition and costly antiretroviral treatment can threaten the sustainability of the risk pool. But with the help of external funds or subsidies MHI can both integrate HIV/AIDS services into their portfolio and provide HIV/AIDS-related interventions. To be most effective, MHI should adapt their activities to already existing programs implemented by governments or civil society. By referring to a case study conducted in Botswana, this article exemplified how MHI can complement and possibly improve already existing interventions on HIV/AIDS. MHI could address the shortcomings of the Botswanan program and ease financial expenditures experienced by patients by (i) covering HIV/AIDS-related health care services, (ii) offering a modified critical illness insurance targeting indirect costs like nutrition and transport and (iii) conducting awareness raising activities on different issues like HIV and testing.

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