Engaging the private sector in public health challenges in Namibia

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Citation for published version (APA):
de Beer, I. H. (2017). Engaging the private sector in public health challenges in Namibia

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Background to the PharmAccess approach to improving healthcare

Engaging the private sector in healthcare is a central theme in the work of PharmAccess Foundation, a Dutch not-for-profit organization, based in Amsterdam, with offices in several African countries, including Namibia. A number of studies have shown how private sector can be engaged and leveraged for healthcare in low- and middle income countries e.g. (Rosenberg, Hartwig, & Merson, 2008) (Igumbor, et al., 2014) (Mc Pake & Hanson, 2016) (Whyle, 2016). This thesis will describe interventions developed and applied in Namibia to engage its private sector as an agent to develop and leverage private resources for public health. Interventions and subsequent evaluations are presented according to the PharmAccess model of transitioning the vicious circle of poor healthcare in Africa into a virtuous cycle of sustainable healthcare stimulating both demand and supply (Schellekens, et al., 2007). The PharmAccess model to change the healthcare environment from the vicious circle of mediocre quality and poorly accessible healthcare into a virtuous cycle of inclusive good quality healthcare recognizes the key stakeholders of healthcare systems as: the patient, the provider and the payer, all three of them functioning in a policy environment that sets the rules of interaction and exchange.

The vicious circle of poor demand and supply of healthcare, which is so common in many sub-Saharan countries (Kirigia & Barry, 2008), is, according to the PharmAccess theory of change (www.pharmaccess.org) caused by a combination of underutilizing the private healthcare sector, low quality of care due to lack of standards, insufficient investments especially in providers at the base of the pyramid and high out of pocket costs for patients due to low levels of pre-payment and risk pooling. This reflects on a healthcare system where trust between stakeholders is essentially lacking: patients/clients not trusting the quality and availability of healthcare services, healthcare providers not trusting patients/clients and payer/insurers to pay, payers/insurers not trusting providers to provide quality care, policy makers not being able to implement policy or regulations resulting in a lack of trust from providers, payers and patients (Schellekens, et al., 2007). The unavailability of prepayment and risk pooling mechanisms for patients results in high out of pocket expenses when confronted with catastrophic health events, with severe economic consequences (Preker A.,
Lindner, Chernichovsky, & Schellekens, 2013). This situation is aggravated on the supply side by low quality health care due to lack of investment, high risk and low efficiency of healthcare providers. All of the aforementioned can result in healthcare markets with unbalanced supply and demand sides, which is to the detriment of all stakeholders involved: patients/clients, providers, payers and policy makers Africa (Schellekens, et al., 2007).

To balance healthcare supply and demand, and establish trust in the healthcare system, the vicious circle would need to be reversed so that healthcare markets in sub-Saharan Africa can attract the resources they need to function well and deliver more inclusive quality healthcare. Trust in the system from all stakeholders is required and this is at the center of the PharmAccess interventions in Africa (Schellekens, et al., 2007). For example, this approach includes enhancing trust in quality of healthcare facilities by establishing and implementing internationally recognized standards for quality improvement, through SafeCare (www.safe-care.org). Such standards help grading a healthcare facility with a ‘quality mark’ that allows for benchmarking and targeted and actionable quality improvement plans (Johnson, et al., 2016). Applying such institutional standards make the quality improvement process more transparent, creating more trust with patients as well as with payers and thus easing access to finance. Another example involves PharmAccess’ interventions in inclusive healthcare financing, all aimed at reducing out of pocket payments through stimulating prepayment, risk and income solidarity mechanisms and cross subsidization to further stimulate the demand side and avoid catastrophic health expenses amongst patients. Various interventions supported by the Health Insurance Fund (www.pharmaccess.org/activity/health-insurance) are exemplary for this approach. Trust between investors and providers is enhanced through interventions of the Medical Credit Fund (www.medicalcreditfund.org) that facilitates the provision of loans to healthcare providers in Africa, under conditions of quality improvement as defined by SafeCare. Lately, PharmAccess emphasis is particularly on digitalization of healthcare exchanges (for patients, providers and payers), spearheaded by the establishment of platforms such as M-Tiba for mobile health wallets in Kenya (www.m-tiba.co.ke). M-Tiba further increases transparency and thus creates additional efficiencies in healthcare provision (e.g. avoidance of leakage), identifies low-hanging fruit with respect to healthcare quality interventions, such as over-prescription of medicines, etc. In this process, the role of the government and policy makers is fully recognized, especially to enact transparent and efficient policy and regulatory frameworks to stimulate both supply and demand of healthcare.

All in all, to create a virtuous cycle of healthcare PharmAccess engages a strategy which aims to promote inclusive health markets by stimulating and aligning demand and supply to reduced out of pocket payments, through pre-payments, risk sharing and risk reduction models (Preker, et al., 2103) that strengthen primarily, but not exclusively, the private sector. The ultimate goal is to make health markets work more efficiently for low and middle income groups in Africa by raising more money within the healthcare system. The preferred mode of operation is through the establishment of strategic partnerships (Lange, et al., 2008) to build capacity of local stakeholders who provide health and health financing services to low and middle income groups.

The principle that strengthening health systems requires a holistic approach that includes patients, providers, payers and policy makers in both the public and private sector is at the center of the PharmAccess approach. The idea is to perform interventions that stimulate improvements inside the health system simultaneously for all pertinent stakeholders, to avoid fragmentation. Private sector activities should always compliment the public sector specifically when filling gaps in the healthcare system and are not intended to replace them. To avoid this ‘crowding out’ (Kronick & Gilmer, 2002) of either sector (public or private), through the influx of
donor funding, public private partnerships (Sulzbach, et al., 2011) using innovative mixed funding models are encouraged by PharmAccess, leading to local ownership and aiming at increasing the total amount of money in the healthcare system (Van der Gaag & Stimac, 2008). Local ownership provides a foundation for domestic sustainability (De Savigny & Adam, 2009). In this way donor money can function as a catalyst for innovations and partnerships whilst leveraging additional public and private funds leading to the crowding in (Ejughemre & Oyibo, 2014) of investments into the healthcare system within the policy framework of a country. It is further recognized that the health system does operate in isolation, it is only a part of a bigger system where it interacts with political, socio-economic, cultural and other factors (WHO, 2010).

1.1.1 The healthcare landscape in Namibia, 2004

Upon commencement of the PharmAccess interventions in 2004, Namibia was classified by the World Bank as a lower middle income country (World Bank, 2004), with a GDP per capita of US$3,298 (World Bank, 2004), amongst a population of just under 2 million people (Namibian Central Bureau of Statistics, 2006) in a country of over 825,000 square kilometers (Namibia Statistics Agency, 2013). Namibia has been and remains burdened with one of the world’s most inequitable income distribution (UNDP, 2007) with a Gini index of 63.3 (World Bank, 2003). This inequality in income distribution was also reflected in the healthcare system of the country.

Prior to and since the independence of Namibia, from South Africa, in 1990, the Ministry of Health and Social Services (MoHSS) had been the predominant and largest healthcare provider in Namibia. In 2004 the MoHSS was providing free healthcare to all Namibians, who had access to public health facilities in the country. Since most public health facilities were concentrated in urban areas, access to healthcare in rural areas was specifically challenging.

In parallel to the public healthcare providers managed by the MoHSS, Namibia’s private healthcare sector was (and remains) very prominent, of good quality and well organized on a formal level. This private healthcare sector was comprised of both for-profit and not-for-profit entities. The private for-profit sector in Namibia consists of private health care providers, medical professional associations, health insurers, third party administrators and medical aid funds. Private not-for profit facilities in the period prior to the influx of large amounts of vertical donor funding for Human Immunodeficiency Virus (HIV), tuberculosis (TB) and malaria (~2004/5), were mostly limited to faith based organizations (FBO’s) managing hospitals and clinics in partnership with the government. With the financial support from international donor funds, non-governmental organizations (NGO’s) and community based organizations (CBO’s) that delivered prevention, care and treatment supporting vertical programs started emerging. Although the public sector in Namibia had over three times the number of healthcare facilities (hospitals and clinics) than the private sector, the private sector employed 72% of doctors and 89% of nurses in the country (O’Hanlon, et al., 2010), providing good quality services to less than 20% of the population.

The financing of healthcare in the country was also divided along the lines of public and private health expenditure with little cross subsidization. Total health expenditure (THE) per capita in 2004 was US$205 per year, with health expenditure being 12.4% of total government expenditure. The payers for healthcare in Namibia were government (47.9%), public insurance (20.6%), private insurance (18.3%), out of pocket (OOP) (3.7%), companies (1%) and donors/non-governmental (8.4%). Despite the low OOP expenditure, 22% of total health expenditure (private insurance and OOP) came from households (MoHSS, 2008).
Prepayment for healthcare in Namibia was mostly organized by medical aid funds – not for profit mutual funds – providing both inpatient and outpatient healthcare benefits sought from private health providers. These benefits were based on maximum annual benefit scales, which varied in accordance with the price of the medical aid plan purchased. Short term health insurance coverage for catastrophic health care events was offered by various private insurance companies in Namibia.

Approximately 16% of the population (NAMAF, 2004) was enrolled on some form of prepayment for healthcare either through private medical aid and/or health insurance in 2004. More than half of these enrollees belong to the Public Services Medical Aids Scheme (PSEMAS). This scheme is a medical aid fund for government employees and their dependents only, through which government employees contribute to a highly subsidized pre-paid scheme enabling them to access health services in the private sector. Due to the high cost of private health insurance, access to affordable private healthcare remained out of reach of the far majority of low and middle income employed Namibians (Hohmann & Skolnic, 2004). Instead, they made use of free public health facilities, managed by the MOHSS, resulting in huge demand and overburdening of the public health system (Feeley, de Beer, de Wit, & Van der Gaag, 2006). At the start of this millennium over 60% of formal sector employees were uninsured (NABCOA, 2004). A very small number of employers provided prevention and/or treatment services to their employees, and only in some cases to the dependents of employees, either directly or by contracting with private sector service providers (NABCOA, 2004).

Formal dialogue and cooperation between the public and private for-profit healthcare sector, especially amongst policy makers, was extremely limited in 2004. Some of this sentiment stemmed from the historic inequalities with the private health care sector having served the higher income populations who could afford to pay for these services, while the majority of the previously disadvantaged populations and those of low and middle income were excluded. A mistrust of the public sector of the profit motive of the private sector was mirrored by a lack of trust of the private sector in the inability of the public sector to serve the needs of the Namibian population. Although the MoHSS had since Independence provided the legislative and regulatory framework for the healthcare sector, the private sector remained largely self-regulated in terms of quality and tariff management. Medical aid tariffs were (and are) negotiated between associations of providers and funders (NAMAF, 2004).

At the time when PharmAccess commenced programs in Namibia in 2004, the HIV prevalence rate had peaked with 22% of pregnant women testing HIV positive (MoHSS, 2003). The Namibian government had commenced piloting an anti-retroviral (ART) treatment program at a few sites but the need for antiretroviral treatment far exceeded the government’s health facilities ability to provide this service much needed treatment. Private health insurance in 2004 excluded treatment for HIV, with the exception of the most expensive health insurance plans (Feeley, et al., 2006). This was primarily because of the unknown and potentially unbearable risk associated with HIV, as perceived by Namibian medical aid funds. Both the public and private sector at the time continued to face increasing numbers of people requiring ART, with both sectors incurring direct and indirect costs related to absenteeism, illness and loss of morale.

By 2004, partnerships were being facilitated between the public sector, NGOs and CBOs specifically supported by international vertical donor funding as provided by GFATM and PEPFAR, resulting in the private not-for-profit sector providing a key role in the national HIV response (O’Hanlon, et al., 2010). Despite some attempts by the for-profit private healthcare sector over time to propose different public-private partnerships, especially for infrastructure development and outsourcing of public healthcare services to private facilities,
there was limited appetite for this in the absence of government policy and regulations on public-private partnerships (Feeley, et al., 2006).

1.1.2 The PharmAccess interventions in Namibia 2004-2016

In 2004, PharmAccess embarked on the Okambilimbili program, funded by the Dutch Postcode Loterij, in Namibia to strategically address the problem of HIV/AIDS and the lack of access to HIV/AIDS treatment services at the time. The PharmAccess goal was to establish a prepayment mechanisms including HIV/AIDS risk coverage for lower and middle income people through existing medical aid funds. This mechanism would be combined with a simultaneous effort to determine and improve the quality of care delivered through an independent case management entity. These PharmAccess interventions were based on the principles of establishing sustainable solutions through structurally sound financing mechanisms; while harnessing the potential and under-utilized capacity of the private sector by integrating HIV care into the general healthcare sector and setting up partnerships between donors, the private sector and the public sector (Gustafsson-Wright, et al., 2010). The Okambilimbili program was implemented for a period of five years. To evaluate the program a three-year panel household study was conducted in the City of Windhoek (CoW), the Capital of Namibia. These studies included anonymous oral fluid HIV screening of participating Windhoek City household members, providing the first household HIV prevalence and incidence data for the CoW for policy makers and response planning.

Building on the foundations of the Okambilimbili program a number of further gaps in the Namibian healthcare system were identified, which in 2007 led to the implementation of the HIV prevalence surveillance services provided in an informal public private partnership by PharmAccess Foundation, with the Namibia Business Coalition on AIDS (NABCOA), the Namibia Institute of Pathology (NIP) and MoHSS. This was a first step towards public private partnership (PPP) between the MoHSS and the not-for-profit private sector through PharmAccess and NABCOA, the membership of the latter being the for-profit-private sector. Dialogue between the public sector and the not-for-profit private health sector was encouraged through the Okambilimbili program, paving the way for the expansion of the partnership. The provision of evidence of the prevalence of HIV in the private sector and a better understanding of the role that the private sector could play in providing HIV workplace programs - including access to treatment - opened the door for dialogue with the then prevalent policy makers.

In 2008, based on a demand for on-site testing in workplaces, the Bophelo! program was initiated to provide mobile wellness screening services, including HIV testing to workplaces. This initiative to de-stigmatize HIV testing by including screening for non-communicable diseases, shifted the focus beyond HIV and engaged the private sector in responding to the management and financing thereof. The mobile wellness screening at workplaces highlighted a significant gap in access to healthcare services, especially to rural, remote and underserved urban communities, which neither the public nor private sector were in a position to fill.

In an attempt to reduce the gap in healthcare service delivery, a pilot mobile primary health care clinic program was piloted by PharmAccess in partnership with the MoHSS in 2010. Upon the successful implementation of the pilot program, the Mister Sister mobile primary health care clinics were established in 2011. These mobile clinics were operated and managed by PharmAccess Foundation to provide pre-paid primary health care services to rural and remote communities, financed by employer contributions for employees, donor contributions for vulnerable groups and the provision of free medicines to the Mister Sister program by the MoHSS.
In 2011 the Bophelo! mobile wellness screening clinics and program was incorporated into the portfolio of NABCOA to provide these services on an ongoing basis to its membership. In 2014, NABCOA expanded its mandate beyond HIV/AIDS and became known as Healthworks Business Coalition (HBC), focusing on the integration of HIV in workplaces into general healthcare. In 2016, the Mister Sister mobile clinics were transitioned to the HBC portfolio and continue to operate under the umbrella of the business coalition through the public private partnership agreement with the MoHSS.

The studies presented in this thesis are a direct result of operational research conducted on the Okambilimbili, Bophelo! and Mister Sister programs implemented by PharmAccess Foundation and its partners to engage the private health sector in responding to public health challenges in Namibia, by stimulating demand through patient awareness, encouraging innovations in supply, experimenting with innovative payer subsidies and providing evidence to influence policy makers.

1.2 Engagement of the private sector

This thesis contains studies evaluating the PharmAccess strategies and activities of engaging the private sector in the public healthcare challenges in Namibia. These strategies involved interventions geared towards all key stakeholders of the healthcare system: the patient, the provider, the payer and the policy maker:
Strategy 1: To stimulate demand by improving health awareness of the patient/client;
Strategy 2: To stimulate supply by developing innovative new healthcare service provision;
Strategy 3: To innovate new payer mechanisms using (temporary) subsidization;
Strategy 4: To collect and present evidence to support policy-making.

The above strategies employed in Namibia by PharmAccess were supported by the PharmAccess paradigm that, in principle, healthcare provision is an economic exchange with demand and supply components. Complexity is generated by the fact that in a more mature healthcare system the decider (patient), provider (clinic) and payer (insurance) are separate entities, creating market distortions. The policy maker provides the context within which the healthcare exchange between the patient, the provider and the payer can take place. Therefore, the PharmAccess paradigm recommends interventions at all levels of the healthcare system, as indicated above. All in all the goal is to provide the right diagnosis, at the right time, for the right patient at the right cost within the right legal and regulatory framework, with both public and private sector contributing a complementary role. The above stakeholder groups are addressed in this thesis in no specific order of importance and it is recognized that no one can function in isolation, as (and this will be demonstrate in this thesis) interventions aimed at stimulating one stakeholder have an effect either directly or indirectly on the others.

1.3 Strategies to stimulate demand by improving health awareness of patient/client

Everything that is done in healthcare should begin and end with the patient in mind. In order to do so it is important to understand the needs of the patient, encourage the patient to understand their own needs and
in so doing stimulate development of healthcare services that are relevant to the demand, so there is a basis for (pre-) payment. With its goal to simulate healthcare prepayment mechanisms for (lower) middle-income people, PharmAccess naturally addressed workers in the formal sector in Namibia and started engaging with private sector employers. An entry point was to make employers and employees aware of their HIV status and use this to stimulate demand for health insurance/pre-payment. In order to reach out to as many people as possible, it was considered beneficial to use a non-invasive HIV test that would be acceptable, also for those who generally avoid blood-based laboratory tests (described in Chapter 2).

With the availability of a validated non-invasive rapid HIV screening device, PharmAccess Foundation proceeded under project Okambilimbili, in collaboration with the NABCOA and the NIP, to market anonymous HIV prevalence surveillance services (using the OraQuick® testing devices) to private sector companies. In Chapter 3 the findings of anonymous HIV workplace surveys, using the OraQuick® rapid HIV test are presented. It was assumed that providing the management of companies with HIV prevalence estimates of their workforce would create awareness amongst management and motivate these decision makers to enrol their employees on health insurance.

As the evidence around the prevalence of HIV became more prominent through these surveys, PharmAccess’ operational research, during the same period, aimed at exploring different market segments for the health insurance products which were being developed through the Okambilimbili program to leverage more private sector funding for the HIV response.

At the time of the implementation of the Health is Vital Risk Equalization Fund (HIVREF) presented in Chapter 8 and the engagement of the private sector in enrolling their employees for health insurance, a key question was raised by NABCOA regarding the prevalence of HIV infection in the future workforce, namely tertiary education students in Namibia and the potential need for a student HIV insurance linked to the risk equalization fund. To explore whether tertiary education students were a potential target market for HIV insurance through the HIVREF, HIV prevalence as well as HIV/AIDS knowledge and attitudes and general access to healthcare among students at the Polytechnic of Namibia and the University of Namibia was assessed (Chapter 4).

In 2007, PharmAccess Foundation was approached by the Agricultural Employers Association, agriculture being one of the core industries of the Namibian economy, to assist in the development of an HIV policy for the commercial farming sector in Namibia. Since access to care and treatment is a key component of a comprehensive workplace HIV policy options of providing access to HIV testing and access to treatment services needed to be investigated. One of the key challenges anticipated in the investigation of healthcare options for this sector was the vast geographical spread of the target population. In order to find a solution to enable rural commercial employers to implement a policy which facilitates access to care and treatment PharmAccess investigated healthcare options for rural employers and employees, whilst assessing this sector as a potential market for health insurance (Chapter 5).
1.4 Strategies to stimulate supply by developing innovative new healthcare service provision

As indicated by the demand studies, there was a need for better access to healthcare in remote areas in Namibia. However, given the vastness of the country, the small population size, the establishment of healthcare facilities in every remote location was not considered cost-effective. Therefore, PharmAccess Namibia responded to the gaps in the supply side of the healthcare system by developing two innovative mobile service provision systems: the Bophelo! and Mister Sister mobile clinics (Chapters 6 and 7), resulting in the first public private partnership agreements for mobile services in Namibia.

In Chapter 6, an overview is presented of the program and the effectiveness of mobile services is evaluated compared to fixed site voluntary counselling and testing for HIV (VCT) services both in terms of accessing high risk populations and cost effectiveness. This data, collected in 2009, provided a primary source of evidence in Namibia of health conditions within the general workforce across different industries to create greater awareness amongst management and policy makers of healthcare conditions in the working population and encourage enrolment in health insurance. All in all, the mobile testing services appeared to be able to access geographically hard-to-reach populations with high numbers of participants testing for HIV for the first time.

In response to the needs of the rural employers and their workforce (presented in Chapter 5), and the gap in referral services identified in the Bophelo! program, PharmAccess in 2010 commenced with piloting of the Mister Sister mobile clinics. Through this initiative, primary health care services were offered to rural and remote populations in Namibia in partnership with the MoHSS, who provided licensing, medication, consumables at no cost. In return PharmAccess provided the services to rural and remote populations, charging employers a prepaid subscription fee per employee per month. To sustain this program, PharmAccess leveraged additional private sector resources through corporate social investment funding and international donor funding to provide primary healthcare services to vulnerable groups en-route to the rural workplaces for whom services were contracted (Chapter 7).

1.5 Strategy to innovate new payer mechanisms using temporary subsidization

While developing insights in how to reach out to lower middle-income people to stimulate prepayment of healthcare, it transpired to PharmAccess that Namibian medical aids were not willing to develop pertinent insurance products including HIV coverage. This was mostly related to the perception of unknown and potentially unbearable costs that would result from such packages. Moreover, medical aids were hesitant because such products could potentially cannibalize their existing medical aid schemes. Therefore, PharmAccess stimulated the idea of a separate risk equalisation fund for HIV, removing the unknown HIV risk from the medical aid packages and allowing them to compete on a level playing field for lower-income health insurances. This HIVREF was accompanied by an independent quality control mechanism: a HIV patient case management system (Chapter 8).
1.6 Strategies to collect and present evidence to support policy-making

To transform any healthcare system evidence needs to be collected to motivate policy changes that affect healthcare exchanges. This was particularly true for the work conducted by PharmAccess in Namibia around mobilizing resources in the response to HIV/AIDS. Policy makers for the purpose of this thesis are not only defined as politicians, academics or groups of people who make laws and regulations to govern the healthcare system, but also management and decision makers of entities like business coalitions, universities, professional associations and private sector companies, who make decisions about whether or not to provide and pay for health care for their employees and dependents. Chapters 9a and Chapter 9b describe results from household surveys that were meant to evaluate the impact of affordable healthcare insurances (2006-2009) in the City of Windhoek. Using the OraSure® oral fluid testing devices for HIV surveillance, these surveys generated the first general population HIV prevalence data in Namibia. Information was shared with policy makers, which proved valuable with respect to resource allocation of antiretroviral treatment programs.

It was learned over the years that addressing HIV in a ‘vertical’ manner was not the optimal approach. Inclusion of other diseases, and in particular chronic non-communicable diseases appeared a way to de-stigmatize HIV and simultaneously address very important health problems in a more efficient manner. In Chapters 10 and Chapter 11 it is illustrated how the Bophelo! mobile screening services were utilized to improve health awareness of HIV and non-communicable diseases (NCD), like diabetes and hypertension in the private sector amongst both employers and employees.

From continuous dialogue with the private sector through the Bophelo! program, it was evident that a key motivation for employers to provide wellness programs and health insurance for their employees was to have a healthier workforce with less absenteeism. PharmAccess wished to further substantiate this by specifically addressing work absenteeism as a consequence of diabetes, hypertension, HIV and other health determinants. The findings are presented in Chapter 11.

1.7 Hypotheses

This thesis is addressing the hypothesis that private healthcare sector contributions can accelerate and complement ongoing public healthcare sector responses to HIV/AIDS and other health challenges in Namibia, by focussed interventions aimed at patients, providers, payers and policy makers. The crux of combining private and public healthcare responses in resource-constrained settings is to avoid crowding out: the contributions of one sector mitigating or replacing those of the other. All in all, the goal is to increase the total amount of money in the healthcare system. This thesis evaluates various interventions and their potential to mobilize (parts of) the Namibian private sector to develop services complementary to simultaneously developing public sector healthcare provision. Mixed methods are used, including qualitative behavioural studies and quantitative biomedical surveys. Topics covered in this thesis are pertaining to a wide array of research questions, linked to the PharmAccess strategies, such as:
1.7.1 **Strategy 1 - to stimulate demand by improving health awareness of the patient/client**

1.7.1.1 Does an understanding of the HIV prevalence, collected through various surveys support private sector organizations to enrol their internal stakeholders in pre-paid low-income health insurances including HIV in Namibia?

1.7.1.2 Are students of academic institutions in Namibia a target market for private low-income health insurance including HIV?

1.7.1.3 Is it feasible to strengthen health service delivery to the commercial farming sector in Namibia by introducing private affordable health insurance that includes HIV coverage?

1.7.2 **Strategy 2 - to stimulate supply by developing innovative new healthcare service providers**

1.7.2.1 Is mobile HIV testing in Namibia through private initiatives an affordable complement to serve populations that are beyond public sector reach and enrol those into care?

1.7.3 **Strategy 3 - to innovate new payer mechanisms using temporary subsidization**

1.7.3.1 Can low income health insurance/medical aid funding be developed sustainably in Namibia with short-term donor subsidy, to avoid crowding out of the private sector and to leverage private sector resources for HIV care and treatment?

1.7.4 **Strategy 4 - to collect and present evidence to support policy-making**

1.7.4.1 What is the prevalence, incidence and socio economic distribution of HIV in Namibia's capital city, Windhoek, and how can this be used for policy-making?

1.7.4.2 What is the prevalence of non-communicable diseases, and absenteeism, at private workplaces in Namibia, and how could those be addressed through private initiatives?

The papers presented in this thesis describe the analysis of various innovative programs managed by PharmAccess in Namibia to leverage private sector resources over a time period of more than a decade (2004-2016). The chapters are organized along the lines of the above strategies. A discussion of the findings and recommendations for the future for further engagement of the private sector in addressing public health challenges in Namibia and strengthening public private partnerships is presented in Chapter 12.

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