The Global Challenge: Accessibility to Quality Primary Healthcare (PHC) in South Africa

Section 1
Problem Landscape

We are looking to understand the challenges of providing quality primary healthcare to South Africans of middle and lower income groups.

1.1 The South African Context & Healthcare System

South Africa is a middle-income country with 54 million in population, split into 80% black and 20% non-black ethnicities. At a GDP of $350M, it houses Africa’s second largest economy and has one of the highest GDP per capita. That said, since before the dismantling of its legally institutionalized segregation policies (apartheid) in 1994, South Africa has struggled to find its footing. The newly elected African National Congress (ANC) government inherited an economy wrecked by long years of internal conflict and external economic sanctions, along with a mandate to integrate the previously disadvantaged majority into the economy and reduce inequality. While the government initially brought down inflation, stabilized public finances, and attracted some foreign capital, growth was subpar and the country struggled through the late 2000s recession unlike other emerging markets (IMF, 2012). In February of this year, the South African Finance Minister, Pravin Gordhan, stated that the economy is ‘in crisis’, citing the country’s shrinking growth (0.9% predicted for 2016, down from 1.7%), 25% unemployment, and a continuously depreciating currency (halved in value over last 5 years) (BBC, 2016).

Since colonial times in the 19th century, South Africa has had a dual (public and private) healthcare system, though the rise of private care and private medical insurance grew most substantially in the post-war apartheid era. During apartheid, virtually the entire white population had shifted away from the free health services provided by the government, with 95% of non-whites remaining reliant upon the public sector for treatment. Post apartheid, the public health system was transformed into an integrated, comprehensive national service, where previously fragmented and racially segregated system was consolidated into one national and nine provincial health departments, with primary health care delivered via a district health system. Primary health care became available without cost to users, while secondary and tertiary services required some patient payment (Coovadia et. al., 2009). Today, individuals earning R6000 (about 20% of the population) or more a month are required to pay for public healthcare system costs, though they’re subsidized (Donneley, 2013).

1.2 A Failing Public Healthcare System

Today, while the government spends almost $15 billion USD on public healthcare or almost $350 USD per public healthcare user, which is significantly higher than most developing countries (World Bank, 2015), the public system is of poor quality, ranked 132nd out of 144 member countries by the World Economic Forum (Jackson, 2015). Reasons for this include:

- **Inadequate human resource capacity and management in rural areas, in primary healthcare, and in the public sector in general**: In South Africa, there are only 0.8 doctors (in total) and 0.2 doctors (in public system) for every thousand people, compared with an average
of 3.5 in developed countries, and the percent of doctors leaving the country has been on the rise (Guardian, 2015). Moreover, only 27% of GPs and 30% of all doctors work in the public sector (AFP, 2016). Finally, only 3% of graduating doctors decide to work in rural areas (Robinson, 2014). Doctors serving in the public sector are faced with lower wages, longer hours, more difficult working environments, and emotional fatigue. Nurses, who largely run the PHC clinics vital to primary healthcare, are also leaving the public sector, citing “horrible working conditions and stress from seeing patients suffer non-stop” as primary reasons for leaving the state sector (Taylor, 2012). To compound the issue, the Health Professions Council of South Africa (HPCSA) has made it increasingly difficult for foreign doctors to serve in South Africa; this was confirmed by our interview with an African Health Placements (AFP) manager, an organization that aims to reverse the exodus of healthcare professionals from the public system.

- Poor stewardship, leadership, and management of the health system: While policy has been thought through relatively well, less thought has been given to implementation, monitoring, and assessment of these policies, which has resulted in poor outcomes. For example, there has been high variability in the level of care delivered within the public sector, with 2009 data showing three-fold differences between efficiency rates and mean expenditure per patient-day in various provinces. Honing in on primary health care, there has been significant confusion in defining the geographical boundaries and structures of the district health system, which has created havoc in providing quality primary healthcare. Moreover, the National Health Act, passed in 2004, centralized significant primary healthcare responsibility with the provincial governments, forcing local authorities to relinquish several of their preventive and promotive health functions. With insufficient local political accountability, communities have lacked any real ability to change the quality of health care (Coovadia et al., 2009).

1.3 Unaffordable Private Healthcare
South Africa’s private healthcare system has long been regarded as among the best in the world. It was home to the first human heart transplant in 1967 and continues to produce world-class doctors as well as equip itself with cutting edge technologies (Brink and Hassoulas, 2009). Over the last 15 years, private healthcare costs as a whole have risen 59% in real terms due to (1) an almost doubling in private hospital costs (due to an oligopoly of 3 hospital providers), (2) a 70% increase in specialist prices (due to continuous shortage), (3) a 25% increase in GP prices (also due to shortage), and (4) the rising cost of medicine and medical technology worldwide (CMS, 2015).

Those looking to access private care can either pay out-of-pocket or buy private prepaid plans (medical schemes) and about 16% of the population opts for the latter, largely because they can afford it. Why would some not be able to afford a medical scheme plan, also known as medical aid? Medical schemes are unlike medical insurance in other countries due the Medical Schemes Act of 1998 which drew a distinction – medical schemes are non-profit organizations that belong to their members, not their owners or shareholders, and thus are forced to abide by certain rules such as not being able to discriminate against individuals based on age or health history. To this end, the Act laid out several cost-intensive scheme requirements such as the need to offer at least a lengthy list of “Prescribed Minimum Benefits” (PMBs), which has drive up scheme plan prices and discouraged innovation in more affordable coverage products (Pearmain and Khosa, 2001).

For-profit medical insurance is allowed in South Africa but is highly restricted, in comparison to other countries, by the Long-term Insurance Act of 1998. Two categories of health insurance products have successfully entered the market thus far: (1) hospital cash plans (cover hospital costs
while individuals then cover their primary healthcare needs out-of-pocket) and (2) gap cover (covers the difference between what medical aid schemes are willing to pay out to beneficiaries and what doctors and specialists charge). There is constant debate on if these products should be allowed on the market; one side says that they cannibalize medical scheme membership while the other says that they’re sorely needed by individuals to mitigate medical cost risk and gain quality care (Donneley, 2013). It is up to several regulators, including the Council for Medical Schemes (CMS) that governs schemes and the Financial Services Board (CMS) that regulates insurance, to decide. This situation has frustrated many players we interviewed, including MTN one of the largest telecommunication providers in South Africa, as they wish to offer micro-insurance to their lower-income South African users as they have done in Nigeria, but fear regulatory backlash in doing so.

Section 2
Solutions Landscape

2.1 Efforts by Government

2.1.1 National Healthcare Insurance Plan (NHI, www.nhisa.co.za)
In 2011, the National Health Insurance Green Paper was published by the Department of Health, which proposed implementing a universal healthcare system, similar to the UK’s National Health System (NHS), to ensure quality access to healthcare for all. Under NHI, medical schemes would only offer top-up cover for those services not covered by NHI (though specifics are yet to be solidified), NHI would be funded through a central fund (mostly funded from a payroll levy), medical brokers would be done away with, and doctors would be able to access the central fund if they choose to participate in the NHI (SouthAfrica.info, 2016).

In 2012, the NHI plan was accepted for rollout over a 14 year period, with the initial 5-year phase focused on piloting a “re-engineered primary healthcare (PHC) model” in 10 districts (of a total of just over 50 in the country). The re-engineering PHC model is based largely on the Brazilian PHC model and focuses on delivering a defined comprehensive primary care package of services through three streams: (1) district-based clinical specialist support teams, (2) school health services, and (3) municipal ward-based PHC agents (Naidoo, 2012).

Now in its fourth year of implementation, all 10 districts have finally implemented the re-engineering primary healthcare model (only 6 had successfully done so in 2014) and a review after the fifth year will show how successful this Phase 1 has been (South African Department of Health, 2015). Key aspects of future phases are still being solidified, such as how private medical insurance will operate within the NHI system. Other concerns include:

- **High Cost & Tax Burden:** The cost of implementing NHI is projected to R225 billion ($15.5 billion USD) by 2025. Possibilities of raising these funds, according to reports from 2012, include a payroll levy for all employed South Africans and increase in VAT, or an income tax surcharge (Health24, 2015).
- **Government Ineptitude:** While the ANC government after apartheid was left with a better-resourced public healthcare system than most developing countries, the system has struggled to operate effectively (WHO, 2010). With NHI putting more management and implementation
responsibility into the hands of government, many are concerned a similar outcome will occur. One doctor we interviewed, Dr. Sanders Mendelsohn, said: “The system has continuously been mismanaged since 1994 by the present Government under the ANC. How does the same government promise to introduce a new system and run it very successfully when it has failed with the current situation? The current minister has not shown the ability to transform the hopelessness that has been going on. Why not 'fix' the present system before dreaming of NHI?”

- **Greater Corruption Opportunity**: South Africa has continuously dropped in the Corruption Perception Index rankings, highlighting a more corrupt system; since 2001, it has dropped 23 places now ranked 61 of 175 countries (Transparancy.org, 2015). NHI creates more tendering and procurement needs and thus more opportunity for graft. One lawyer we interviewed said cynically: “NHI is one of the more creative ways of ensuring millions of Rands worth of contracts for ANC cronies.”

### 2.1.2 Clinical Associates Accreditation

In response to the growing doctor shortage, the Department of Health introduced a new healthcare provider category in 2008 called clinical associates (CAs), which are similar to physician assistants in the US. CAs must complete a 3-year bachelors program and then are able to assess patients, make diagnoses, prescribe appropriate treatments, and undertake minor surgical procedures under the supervision of medical officers (SouthAfrica.info, 2016).

Given the newness of the profession, CAs sometimes struggle to be accepted as members of the medical community. One of the CAs we interviewed, Shabla Graham that serves at Helen Joseph Hospital, said that “medical students sometimes have an air of superiority that can create a barrier between us.” However, in other settings, such as the rural district hospitals where Shabla trained, clinical associates can enjoy an immense amount of respect and receive great training from doctors.

### 2.1.3 Telemedicine Solutions

Early on, South Africa was quite forward thinking in its use of technology to solve its healthcare challenges. In 1999, it launched a national telemedicine system, starting with 28 pilot sites in six provinces with focus on teleradiology, tele-ultrasound for antenatal services, telepathology and tele-ophthalmology (Gulube and Wynchan, 2001). While initially promising, it soon failed because of lack of buy-in, limited or absent budgeting by the provincial health departments, failure to appoint people to manage telemedicine, limited bandwidth and poor change management. The second and third phases of the project were never funded or implemented (Mars, 2013). Since then, provincial health departments and university medical schools have implemented several ad-hoc telemedicine projects. In KwaZulu-Natal, small services in teleophthalmology and teledermatology have been running for 8 years and recently services have been started in tele-orthopaedics and telepsychiatry. In several Provinces CT scanners have been linked to Academic Teaching Hospitals for teleradiology and teleradiology for neurosurgery has been effectively incorporated into neurosurgical practice in two provinces. The Medical Research Council of South Africa has a Telemedicine Lead Programme which has been involved in the development of a telemedicine work station designed for use in primary care facilities. While these projects are promising, there are few sustained telemedicine programs due to a lack of proper management and technical capacity and a cycle of “pilot, implement, fail” is common (Mars, 2011).

### 2.2 Efforts by Private Sector

#### 2.2.1 Private PHC Clinics & Provider Solutions
While there are a number of non-profit PHC clinics that seek to provide free or affordable healthcare to lower income groups, these entities continuously struggle to finance their efforts, especially since South Africa was categorized as a middle-income country. Given such solutions are not sustainable and scalable, several for-profit clinic providers have entered the market over the last 5 years, usually driven by a social mission. These clinics try to provide primary healthcare services at affordable prices by using auxiliary nurses (ANs) or clinical associates (CAs) with GP “oversight” which is defined somewhat ambiguously by the HPCSA. In practice, oversight usually means that they can call upon a doctor telephonically or in person within 24 hours.

- **GetHealth** (gethealth.co.za, R165 or $11.60 per consult): Founded in 2015 by Trevor Brewer & Gary Hill after studying healthcare business models in their MBA and traveling the world to understand the most effective PHC approaches. They currently operate two clinics staffed with clinical associates and “health coaches,” focusing on both treating patients for their given ailment and educating them on how to care for themselves. Upon visiting one of their clinics in the Central Business District of Johannesburg, we were impressed by how efficiently the clinic was run.

- **InnovoMobile** (innovomobilehealth.co.za, R150 per consult): Founded in 2013 Dr. Rosy Ndhlovu. They operate mobile clinics (clinic facilities housed within large flatbed trucks) staffed with auxiliary nurses and clinical associates that travel through rural areas. Upon interview, Dr. Ndhlovu told us that they’re developing “clinical cubicles” as well that they can setup alongside their truck and service more patients at one time.

- **Unjani Clinics** (unjani.info, R180 per consult): Founded in 2010 and now run by Lynda Toussaint. They have a franchise model that seeks to empower black women to run their own clinics as well as provide affordable healthcare. Unjani selects an auxiliary nurse entrepreneur to run a given clinic, provides her with a “clinic-in-a-box” which are actually converted shipping containers, and then supports her with training over the next 5 years. They currently have 7 clinics in the Gauteng province and recently received impact investment from Johnson & Johnson, which will finance further expansion.

There are a few larger players also working to provide affordable care. For example, **CareCross Health Group** (carecross.co.za) has been a pioneer in providing affordable healthcare to South African low-income groups. While it started as a normal private healthcare provider and medical network, six years ago through its offshoot OCSACare, CareCross broadened its managed healthcare service offering to low-income blue collar workers by providing full spectrum unlimited primary care for a premium of R214 a month paid by employers. The scheme’s target members are people earning less than R5000 a month. Some call this “practicing Inclusive Business.” We were first made aware of CareCross after speaking with Dr. Francois Bonnici, Director at the Bertha Centre for Social Innovation and Entrepreneurship at the University of Cape Town. In an interview with Mail & Guardian, he explained how the company already had everything in place, and the marginal cost of extending the service offering to this untapped market was relatively small; they simply created a subsidiary business division to focus on this potentially mass market (Doke, 2015). This practice does not violate the Medical Schemes Act as CareCross is the actual healthcare provider rather than a third party entity offering a monthly subscription, which would not be allowed from our understanding.

2.2.2 Telemedicine Solutions
A lagging and unsupportive regulatory environment has thwarted the provision of telemedicine solutions by private businesses in South Africa. There is no existing regulation explicitly directed at telemedicine practices and telemedicine providers must draw conclusions from relevant legislation and past regulatory body (HPCSA) decisions. For example, the Health Professions Act (HPA) states that doctors cannot prescribe to patients without first having a “personal” examination with them. “Personal” is arguably ambiguous but the HPCSA in past decisions has meant this to mean physical and a business could only argue the converse in court, which is costly and fraught with mudslinging. The HPCSA did complete a draft of “Guidelines for the Practice of Telemedicine (Booklet 17)” in 2013 but it has yet to be enacted, with no certainty around if or when it will be. As it takes a very conservative view on telemedicine, stating that it should only be used when a physical interaction is not reasonably possible and it must be between healthcare providers (e.g. doctor to nurse) rather than direct-to-patient, businesses are discouraged from operating in this space. Thus solutions in the US, UK and now much of the world (like DoctorOnDemand.com and BabylonHealth.com) that allow doctors to treat patients for common ailments over video are not currently allowed in South Africa. Additionally, medical hotlines that have become pervasive across the globe and have been shown to significantly increase health outcomes have previously not been allowed by the HPCSA, as explained below. This analysis comes from two leading South African law firms, Bowman Gilfillan and Webber Wentzel, that we sought guidance from on this regulatory space. Here are some examples of past telemedicine offerings and their resulting outcome:

- **HelloDoctor (helloworld.doctor.co.za):** HelloDoctor, founded in 2011 by Dr. Michael Mol, a GP and television celebrity, provided telephone and live chat-based doctor consultations to patients who wanted advice or a second opinion on their ailments. After HelloDoctor raised over 1.5 million EUR in investment and secured over 600,000 patient signups, the HPCSA issued a statement condemning the business and warning that medical professionals who engage with the company are in breach of medical ethics (and thus can have their licenses revoked) (HPCSA, 2013). They said that they would not support any initiative that discourages face-to-face consultation between patient and doctor. After speaking with Dr. Mol as well as Steve Holt, the Director of ER Consulting that provided the doctors for HelloDoctor, we got more of the story: the HPCSA felt that the “advice” provided by doctors crossed too far into “diagnosis.” Additionally, they felt that the patient had no way of knowing that they were speaking with a licensed doctor on the HelloDoctor platform and some third-party authentication should have been provided. In general, the HPCSA felt that HelloDoctor should have formally approached them for approval of the service offering. That said, we found that this approval process has taken other medical technology companies years to complete given the HPCSA’s slow pace. Since then, HelloDoctor has launched in East Africa and done very well; they have plans to roll out their services in India by next year.

- **MTN & Sanlam Group Partnership:** In 2011, MTN and Sanlam Health (health insurance arm of Sanlam Group) created a partnership to deliver medical advice to MTN subscribers, specifically their low-income users, over SMS. As with HelloDoctor, the HPCSA came out with a statement condemning the service and, even with the resources available to MTN to fight the decision, they decided to end the service.

- **Telemedicine Africa (telemedafrica.co.za):** Telemedicine Africa, founded in 2008 by Dr. Moretlo Molefi, provides telemedicine equipment and software within the South African public system so that GPs can connect with healthcare workers and/or specialists. Given their technology facilitates a doctor-to-doctor connection which is fine
by HPCSA legislation and also focuses on the public sector which the HPCSA has less jurisdiction over, its practices have not ruffled any regulatory feathers. It is unclear how much impact just providing the software and hardware makes on public healthcare as much of a telemedicine program’s success is based on its implementation and management. We have a scheduled interview with Dr. Molefi in May 2016 and hope to soon gain further details.

2.2.3 Affordable Insurance Solutions
While there has been significant innovation in microinsurance in East and West Africa, South Africa has yet to benefit from this opportunity due to the Medical Schemes Act and restrictions on insurance products. For example in Nigeria in 2014, MTN launched their Y’ello Health service, an all-inclusive mobile health insurance scheme that allows subscribers to gain access to pre-defined treatments and also the freedom to choose their own healthcare provider from over 6000 registered partners across Nigeria (AllAfrica.com, 2014). While MTN is a South African company, it could never launch this in South Africa due to current regulations.

Section 3
Lessons & Levers of Change

3.1 Market Opportunities
3.1.1 Business that Provides Doctor Network+Telemedicine Platform to Private PHC Clinics
Given the gap in the market for quality healthcare, there seem to be more and more private healthcare clinics popping up that cater to middle income groups who want better care and have income, but can’t afford medical insurance. As mentioned above, these clinics are staffed with clinical associates and/or nurses who should have some doctor oversight. After speaking with several of these clinics, it’s clear that they struggle to find doctors who can make themselves available at an affordable price and they don’t want to deal with the work of recruiting and managing doctors when they have clinics to run. Thus, there is an opportunity for a digital health company to develop a doctor network, manage their supply, and provide an online telemedicine platform so clinic workers can connect with doctors when needed – somewhat like a B2B Uber with doctors instead of taxi drivers and clinic workers instead of normal consumers. There the potential for a “social network” component where clinic workers can keep the conversation going with doctors after the video consult or connect with other healthcare workers to learn and network.

3.1.2 Business that Provides Telemedicine Platform to Public PHC Clinics
This opportunity is similar to the one explained above except now we’re focused on the public healthcare system, which is where the largest impact can be made. In this scenario, a business would be connecting public GPs, likely in a district hospital, with public PHC clinics, as the public system is already paying public GPs and using private GPs would come at an extra cost. That said, our survey of 55 private GPs showed that that over 90% of respondents said they’d be willing to treat low-income patients at a discounted cost and thus there is the possibility of capturing this good will as well. Rather than just providing telemedicine software and hardware like Telemedicine Africa mentioned above, this business would sell the software-as-a-service (SaaS) and continue to be involved in the software’s maintenance as well as user training.

3.2 Legislative Change Opportunities
As mentioned throughout the paper, there are several legislative and regulatory circumstances that currently inhibit solutions being created to the primary healthcare access problem. Some changes that could be made are:

1. **Revise the Medical Schemes Act so that more affordable schemes can be structured and provided.**
2. **Develop reasonable Guidelines for Telemedicine that align with international standards.**
3. **Create a clear and reasonably efficient approval process for medical technology innovations.**

### 3.3 Lesson Learnt

Our team first started investigating this issue last year and we’ve learned several core lessons:

1. **You have to talk with people "on the ground" to understand the situation:** While we spent significant time initially researching this topic on the Internet and reading papers, our perspective and understanding of the issues radically changed after speaking with South Africans on the ground.

2. **You have to start working on a solution in order to eventually develop the right one:** This might be a controversial statement as the Global Challenge is encouraging students to thoroughly research a problem before starting on a solution. Basically, we were able to get meetings with difficult-to-reach business & government contacts as well as secure pro-bono legal counsel which informed much of this solutions analysis because we built & piloted a telemedicine platform, signaling to these parties that we are dedicated to solving these issues. As someone with a non-existent South African network to begin with, I would have had little change of securing these meetings on my own nor recruiting a South African team that had the appropriate connections, if I had not first started down the path of “doing.”

3. **Always get multiple opinions & verify facts for yourself:** I initially started down this path when my South African doctor friend told me that, per the legislation, a video-based telemedicine platform is fine and that we should work on launching it together. It wasn’t until we got a few months down the road, he had left the team, and I checked out the legislation for myself that I found out differently. In another context, we first spoke with a HPCSA counsel member that gave us a positive outlook on what we were doing, but after talking with almost 10 council members, we could see that the majority felt that our solution would be condemned by the regulatory body – if we had stopped at the first one, we would have had misinformation.


