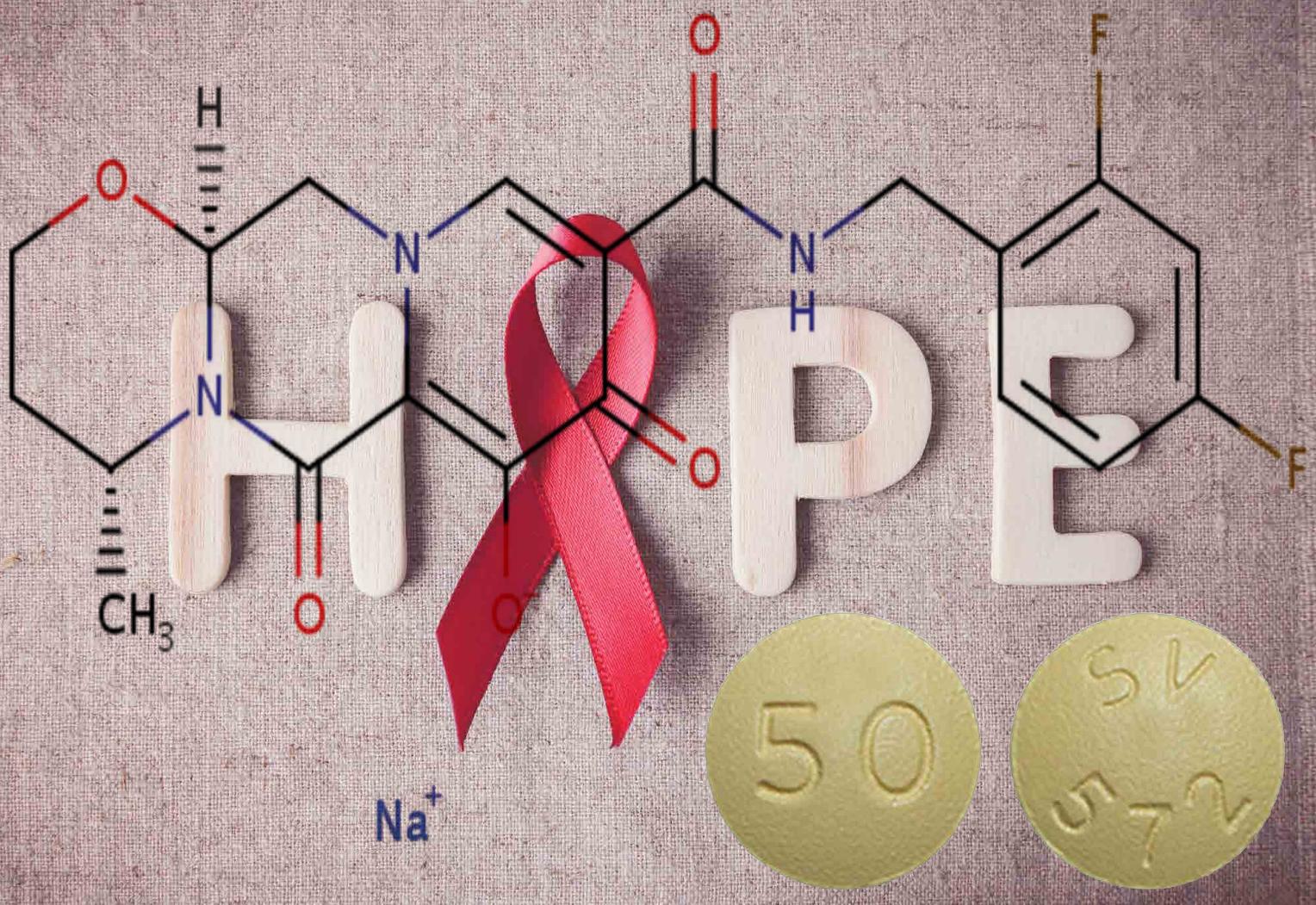


HIV Nursing matters

A publication of the Southern African HIV Clinicians Society



Optimising ART in the 21st century

Dolutegravir: The game changer?

Safer conception service for HIV-affected couples

Two breakthrough studies in TB health care

Save the Date

SOUTHERN AFRICAN HIV CLINICIANS SOCIETY **CONFERENCE 2018**

JOHANNESBURG, SOUTH AFRICA | **24 - 27 OCTOBER 2018**

ABOUT THE CONFERENCE

The Conference programme is being carefully designed to benefit all health care practitioners. There will be a wealth of current and thought-provoking academic presentations, fascinating ethics sessions as well as practical sessions such as case studies and skills-building workshops.

CONFERENCE PROGRAMME FOCUS AREAS

ARVs • Women's Health • Paediatric & Adolescent • Basic Science • Monitoring & Evaluation • Prevention • Operations Research • PHC & Nursing • TB • Opportunistic Infections • HIV Resistance

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The Conference will be fully CPD-accredited, providing delegates with an opportunity to accumulate clinical and ethical points. Level One: 30 points including ethics. Level Two: 45 points including ethics (subject to completion of an online multiple choice test).

WHO SHOULD ATTEND?

Infectious diseases physicians, NIMART-trained (or interested) nurses, general practitioners, HIV specialists, academics and other health care professionals.



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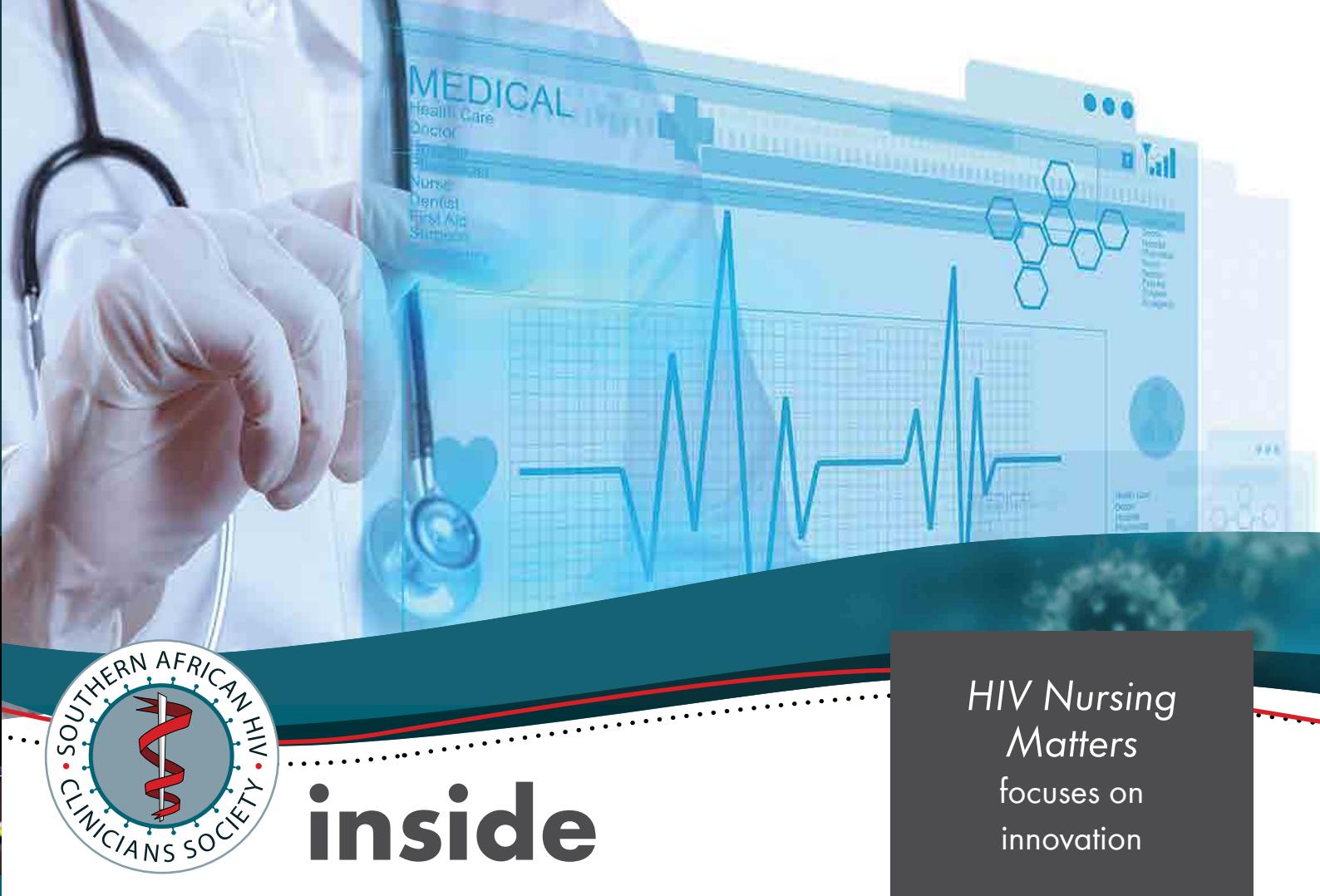


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Matters
focuses on
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Guest editorial



Lauren Jankelowitz

CEO: Southern African HIV Clinicians Society, Johannesburg, South Africa

As I write this, it is a sad and uncertain time for our country. It is hard to write about innovation, which represents light, change and movement, when to me, the future seems so dark and indeterminate. Health care leaders are anxiously trying to plan for the continuation of HIV, TB and other critical services as money is starting to dry up. It is in this context that we truly require innovative thinking to obtain new and more effective ways to keep the HIV sector moving forward.

We have already seen profound growth in HIV medicine which such innovative thinking. Thinking back to the beginning of HIV treatment, who would have imagined that we would one day have exciting new drugs that can be co-formulated into tiny, once-a-day tablets, with a superior barrier to genetic resistance that makes it easier for patients to adhere to treatment for their whole lives?

This edition of *HIV Nursing Matters* presents a range of interesting articles. At first glance, the topics may appear disparate. However, what links all the articles is the common theme of innovation. The treatment optimisation focus (pages 10 and 13) highlights the importance of striving for new and better treatment regimens that can help decrease pill burden, improve treatment adherence, and improve safety and tolerability.

An article on safer conception (page 16) reflects the desire for HIV-affected couples to have children, and explains how far we have come in supporting these couples to make this desire a reality. The article discusses strategies used in order to ensure safe conception, while keeping both the HIV-negative partner and unborn child safe and uninfected.

Two great new breakthrough studies in TB health care were presented recently at the annual Conference on Retroviral and Opportunistic Infections (CROI 2017). These studies are not only truly innovative, but will ensure better treatment outcomes for those with TB, cost-saving benefits for those in resource-limited settings, and many more lives saved (pages 20 and 21).

The importance of the effective use of data in the delivery of quality services is unpacked in the article titled 'Data – friend or foe?' (page 22).

Finally, the personal story on page 26, 'pushing boundaries', depicts the career journey of a nurse, her achievements, and the challenges she has faced and overcome. We hope it will be inspirational to you all.

We wish you happy reading.

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Message from the president



Dr Francesca Conradie

President: Southern African HIV Clinicians Society

When I started working in HIV treatment and research, while we did have antiretrovirals (ARVs), they had to be taken more than once a day. Some of them had to be taken with food and some on an empty stomach. The side-effects were awful – ranging from nausea, vomiting, diarrhoea to a severe and life-threatening condition called lactic acidosis. Then the era of tenofovir began and the medicines were easier to take. Led by our minister of health, we adopted the fixed-dose combination: one pill taken once a day for most patients. I have to admit that I thought this was as good as it was going to get. Now, with the ‘test and treat’ era firmly underway, I was sure that it would not get better. While some patients do have side-effects, in comparison to days of old, they are mild.

But as always in HIV treatment, the field has evolved. And as Southern Africans, we are likely to lead the way. It is exciting to be at the forefront of new evidence being generated to replace the current standard of care for first-line HIV treatment. Dolutegravir (DTG) and tenofovir alafenamide (TAF) have demonstrated increased robustness and safety, in addition to better patient tolerability and reduced costs. A switch to a DTG/TAF-based regimen could enable South Africa, within its current ARV budget, to treat all people living with HIV in the country by the year 2019, suggesting the power of this regimen to enable the country to meet the increasing treatment demands under the ‘treat all’ approach, and to achieve the UNAIDS 90-90-90 targets.

In the field of HIV, we have made huge gains and have seen the number of tuberculosis (TB) cases drop as we have started over 3.5 million individuals on antiretroviral therapy. But we are still plagued with TB, including a very difficult form called extensively drug-resistant (XDR) TB. Until recently, most people infected with this form died; but once again, South Africans are leading the pack in treatment. Read about this development in this issue; as well as an interesting means to prevent TB-IRIS (immune reconstitution inflammatory syndrome) presented by Graeme Meintjes.

The fight is not over. There is still much to do. But we remain dedicated health care workers with our own stories.



News

Nurses need debriefing and counselling

Mpho Lekgetho

The original article was published in *Health-e News* on 20 April 2017 and is available at:
<https://www.health-e.org.za/2017/04/20/nurses-need-debriefing-counselling-denosa/>

NORTHERN CAPE – Nurses in the public health sector, faced with extreme situations beyond their control every day, are in need of counselling and debriefing sessions that are no longer provided for them.

Communications Manager Sibongiseni Delihlazo from Denosa (the Democratic Nurses Association of South Africa), says nurses who don't receive support are at risk of becoming either hardened to the plight of those in their care, or else overly involved in the challenges of their patients.

"They get extremely hurt when one of their patients dies in a facility where they work," said Delihlazo.

He said it was unfortunate that the counselling services that were once provided were no longer available to nurses.

"Previously there used to be counsellors for nurses and doctors in the facilities.

They would debrief staff when they encountered a bad experience, like the loss of a patient. Today the need for that kind of thing is even more, especially now that we are experiencing a severe shortage of nurses," Delihlazo said.

'Seen as heartless'

Nurses who don't receive care and support could become hardened.

"Nurses are sometimes seen as heartless people who don't always care."

Denosa offers a programme title Health Workers for Change, through which nurses are encouraged to identify difficult issues within the different health care facilities, and not to take their anger out on patients.

"This has assisted them in the way they deal with systematic challenges and they realise they are at work to help the vulnerable," said Delihlazo.

Nurses in the Northern Cape have occasionally been assisting patients with transport money after being frequently faced with sick people who have no way of getting home after receiving treatment.

Mapule Busang a 29-year-old woman from a farm near Manyeding recently arrived at Kuruman Hospital, having been brought in by ambulance with an 18-month old baby who was vomiting and had diarrhoea.

As she arrived at the hospital she was directed to the reception area to open a file, but got lost in the massive building. There were no porters to help her, and eventually, she arrived at the Kuruman Clinic, situated in the hospital yard.

Tearfully she placed her sick baby on the observation table, and wept as she told the duty nurse: "Sister, I don't have taxi fare to go back home."

Dependency syndrome

The nurse, who asked not to be identified, said this was not the first time she had ended up in this kind of situation.

"They develop a bond with every patient that they care for, to such an extent that it is difficult for them to not act when they see the patients in desperate need of assistance."

"We are used to dealing with cases of this kind. We sometimes go as far as buying patients toiletries when the hospital supplies don't arrive on time," she said, explaining some of the dilemmas nurses

regularly faced and how they regularly spent their own money to help those in their care.

Delihlazo said this kind of selfless service was an active expression of the nursing service pledge.

He said, however, that it could also create a dependency syndrome because nurses had entered the profession because of their passion.

"They develop a bond with every patient that they care for, to such an extent that it is difficult for them to not act when they see the patients in desperate need of assistance."

The unidentified nurse who spoke to Health-e News said: "I always put myself in the patient's shoes, and that is why I cannot leave them without helping them.

I sometimes share my lunch box with them if there is a need."

According to the chairperson of Civil Society in the Northern Cape, Beau Nkaelang, the public should be made aware of what health care workers in the public system go through.

"We would like to see all the district civil society forums having a sector that represents health care workers, something that at the moment is only seen at a provincial level," he said.

Recognition of the plight of the health care providers would help patients understand the challenges faced by those who care for them and would help the public have more understanding for nurses and what they go through and the fact that they themselves need support.

From the heart of rural health to the minds of the DoH

Taryn Springhall

This article was originally published in ehealthnews on 10 April 2017 and is available at:
<http://ehealthnews.co.za/dr-william-mapham/>

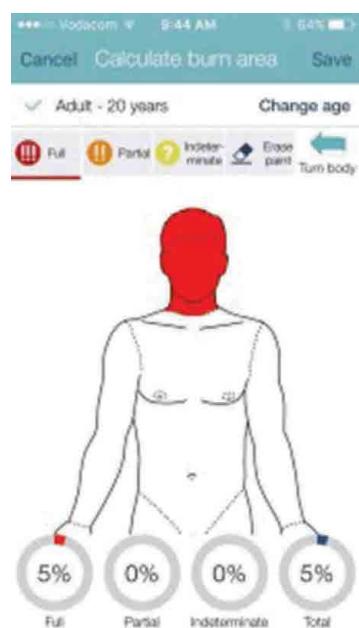
WESTERN CAPE — Ophthalmology Registrar at Stellenbosch University and Founder of Vula Mobile, Dr William Mapham, talks about the development of the award winning mHealth app and how it's helping to transform rural health care in Southern Africa. He also dispels some of the myths around the 'Uberisation of health care' and discusses the fundamentals to solving health care challenges.

Tell us the story behind Vula.

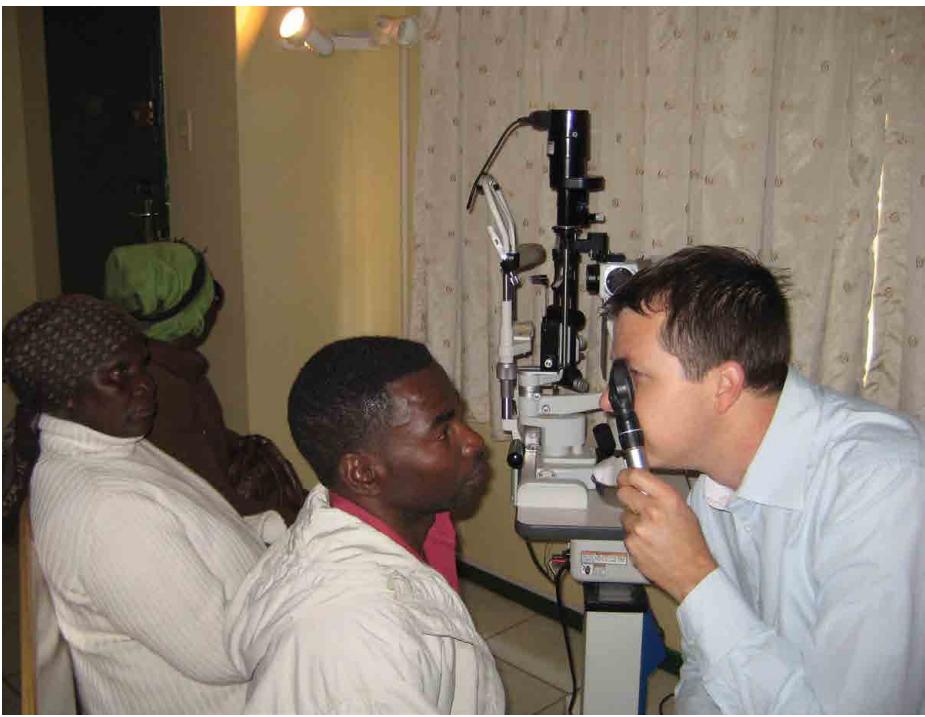
As a junior doctor stationed at a rural hospital in the Transkei, I experienced first-hand what it was like to have no support and access to specialist opinions. I recognised that the problem wasn't

going to be 'fixed', and we needed systemic change. In 2005/2006 I moved into public health and started working with Soul City using media for health payer change. It was around the same time that mobile phones were starting to gather momentum as a form of mass media, which led to me going to the U.S. to do a fellowship looking at mobile applications for health care at Columbia University. I ended up working for a start-up in Washington, but my passion was still rural health care in South Africa (SA). So I quit my job, moved back to SA and worked for the South African National AIDS Council (SANAC) on policy work before deciding to go back to my roots of clinical medicine.

That decision resulted in me volunteering for 10 months at an eye clinic in Swazi-



Screen shot of the Vula Mobile app
 (source: www.vulamobile.com).



land. It was there that I saw patients coming in far too late with symptoms too advanced to be treated effectively with the resources at our disposal. And although there were health workers in the community who could screen people, they didn't really know what cases should be referred. It was where I could see clearly how a mobile phone could be used to improve patient eye care in a rural public health setting.

And it started with just Ophthalmology?

The eye is obviously very important to me and it was a great way to start because it's such a good visual specialty. Most health workers only have two weeks of eye training at medical school so there's a huge skills gap between them and specialists. And with general medicine, case transfers are more complicated because a whole bunch of other data is required, like ECGs, etc. So Ophthalmology was where we began, but we've since added a number of specialties on the app to broaden its application in the real-world setting. Vula now includes Ophthalmology; Orthopaedics; Dermatology; Burns; HIV; Family Medicine; Internal Medicine; Neurosurgery; ENT; Cardiology; and Oncology. And in the near future we'll be adding Surgery; Obs and Gynae; and Paediatrics.

So talk us through a Vula user experience.

Imagine you're a newly qualified junior doctor and you've just been sent out to the border of Lesotho. You're the only doctor there and patients are queuing up at the door. And while you've learnt a lot at medical school you'll still come across a case that you just don't know what it is. You can look up the case in your books but you'll only get so far. So inevitably you would make a phone call to someone or send them a picture on WhatsApp asking for advice, but that method is informal and undocumented.

With Vula, that same doctor is able to follow the referral workflow we've developed for each of the specialties. For example, with Ophthalmology there's a vision test and a specific questionnaire about the patient that must be completed before sending it to the on-call specialist to evaluate.

We've specifically built an on-call system so it doesn't just go to a random doctor to answer but instead it goes to the doctor on-call whose job it is to answer these kinds of questions. The average response time from a specialist is about 15 minutes, so instead of being put on hold or wasting time finding a second opinion, the health care worker is free to continue seeing other patients.

From the specialists' perspective, Vula also takes their experience into the design. Instead of getting a phone call from a rural clinic asking for advice, they now digitally receive a package of relevant information that includes pictures, a vision test result and the patient's history structured in a way that enables them to reply quickly.

What about the data Vula has generated since its inception?

We've noted that about 25% of all cases, across all specialties, are actually managed at the primary level in the rural setting. This is important because it shows that Vula has helped to minimise unnecessary referrals and, more than that, if patients do get referred they are given a specific date to visit the hospital to ensure that they are seen to properly. Using that data, we were able to start a conversation with the School of Public Health to initiate an economic study to understand how much money is saved by reducing referrals by 25%.

This data is also valuable because we now have a better idea of what's happening and we can track how the rural health workers are learning case by case. To give one example, there was a child whose eye was accidentally burnt by boiling water and we taught the doctor how to manage the case on Vula. Although he referred the patient anyway in the end, at least he ensured the right thing had been done at the coal face. A while later he saw a similar case, although this time the patient was a baby, and the doctor knew what to do. So Vula is also being used as a teaching tool, which is something we didn't predict. It's been fascinating to watch the data come in and see how people are learning from it and how junior doctors are using it to manage more complicated cases on their own with support.

Let's touch on the 'Uberisation of health care.' New coverage recently will probably go a long way in deterring people from using the term but there was a time when it was readily used to illustrate the automation of processes in health care. Do you have any comment on that?

There's actually a brilliant article called 'Why there is no Uber for health care' which I found absolutely fascinating. In short, you might use Uber say 100 times a year. But you'll only see a doctor four times a year. Catching an Uber will cost you R50 a time, whereas seeing a doctor will cost you R500. Your commodity in Uber is your taxi drivers, who are skilled drivers but they haven't gone through 10 years of training, or at the very least a minimum of six years of training as is the case when you see a doctor. As a result Uber can go viral far more easily than any disruptive technology in the health sector.

Health care is a very complicated sector and as a result, innovation moves very slowly. If you're going to release a new drug or surgical tool it'll take years to get approval. Like with Vula, despite having tons of support within hospitals it still took us two years to get any recognition from the Department of Health. And that is right because tools and innovation, like medicines and devices, need to be rigorously tested and proven before exposing the majority of patients to it. In health care, it's a priority to protect people and technologies have to be designed with that objective in mind.

Vula has been the recipient of numerous awards and accolades over the last couple of years. Give us the winning formulae for designing and launching mHealth solutions based on your experience.

The initial version of Vula was basically built on a power point template. I was very fortunate to get R50 000 in funding from the Shuttleworth Foundation. And while the funding was nice what it really gave me was some credibility and the confidence to phone around although most developers laughed at my budget. I then contacted Gary Marsden, who used to run the UCT Centre in ICT for Development, and asked if he knew anyone who could help me. He was extremely helpful and gave me a list of key people, one being Debré Barrett who, at the time, was running a company called Flow Interactive, which was South Africa's first ever user-experience company. So not only was she a talented business

person, she had specific expertise on how to make complicated things simple. Her advice was clear: if you're going to design this app you need to look at who's going to use it; why would they use it; how would it make their life easier; and if it was going to make their life easier what would it look like. She gave me a lot of guidance which helped me to know exactly what I wanted.

I used a system called Productivity on Paper, which has since been bought by a company called Marvel, which basically allowed me to create a non-functioning app which I could then send to developers and ask for quotes. And although I couldn't afford them at least I had an idea of how much money we needed. And then I got lucky again because Debré phoned me and said that one of their designers had available time to work on Vula for a couple of months. This was amazing because they donated around R200 000 worth of design time which produced a real Android demo which went on to win the SAB Innovation Award in 2013, which was worth R1 million. We've kind of bankrolled our prize money since then; we won a big prize in Morocco and then another big competition last year in London which has really kept us going.

At the same time when we won the award in Morocco, Debré sold her company to Deloitte Digital and initially helped us on a part time basis which turned into full time. I've been very lucky to have her on the team and if you look at Vula's growth it's very obvious that it grew exponentially once she came on-board. When Sara Hilliard Garrett, Strategist and ex-Advocate, came on board in early 2016 Vula started to grow even faster. The three of us with vastly different skills enables a cauldron of debate which produces robust solutions.

So to answer your question, I think the formulae for Vula can be distilled down to funding, people and more than that, experts in their field and a problem to solve. Vula was designed to solve a problem; it wasn't built as a business where we looked at the market and how much money we could generate. Obviously we've matured since our start-up days in a number of ways and currently,

we're in the process of setting up a Board with a view to operate as a professional enterprise but even still, our value doesn't just come down to profits and losses. Vula has grown way beyond what I dreamed it could be. We're carving out our value by facilitating collaboration between public and private health care, we're actively reducing unnecessary referrals which has an impact on the cost of delivering care and in February of this year, we set a new record for the number of patients helped, which was over 1 000.

Lastly, give us your real-world take on collaboration between developers and clinicians to create mHealth apps.

I was very fortunate to have a foot in both camps. And even more fortunate to have the support of people like Debré and a few other entrepreneurs who were willing to share their advice and expertise with me. So I think the collaboration stretches further than the developer and the clinician.

Vula is expensive to build and maintain and, certainly initially, we just didn't know that because we didn't have any experience in developing or building software. While you do get the odd exception of a clinician who has taught themselves how to program, it's still not their core function. What clinicians are really good at is thinking about what would help them. But building software is really, really hard - something we completely underestimate as doctors. On the other hand, from a developers' point of view it's sometimes easy to think you've got the perfect system but in reality it's not practical. Working in the public health sector for most of my life I understand how precious time is in a clinic and how simple things have to be. The minute tools get complicated or onerous it's just not going to happen because at the end of the day, we want to help the patient - that is why we're there. Tools have to support that purpose unequivocally.

mHealth development needs a combined approach, with numerous collaborators and contributors who are all aligned to solving a problem for an individual, a community, a region and eventually, an entire health system.



A road trip to off-the-beaten-track clinics

Briony Chisholm

National HIV & TB Hotline for Health Care Workers, Cape Town, South Africa

The toll-free National HIV & TB Hotline for Health Care Workers has been operating since 2008. Based at the Medicines Information Centre (MIC) in the Division of Clinical Pharmacology at the University of Cape Town (UCT), it is staffed by specially trained drug information pharmacists who handle almost 500 clinical queries a month from health care workers dealing with HIV- and/or TB-infected patients.

Queries are answered using the latest information databases and reference sources and, where necessary, clinical input is obtained from consultants at the UCT's Faculty of Health Sciences and Groote Schuur, Red Cross War Memorial Children's and Tygerberg Hospitals.

Each year, we bemoan the fact that, despite numerous mailings of flyers, inserts in journals and attendances at conferences, we struggle to get word out to the rural clinics – those with little access to clinical support – who we think could benefit most from the service. Lightbulb moment: We'll go to them!

And so it came to be, that from April to September 2016 we embarked on seven trips through the back roads of South

Africa, visiting clinics to spread the word: me, an information pharmacist from the MIC and Hotline, and my assistant, Gouni, as I'm in a wheelchair.

I spent weeks plotting routes, contacting facilities, researching places to stay in tiny dorps, and putting together seven itineraries. Then we spent a week to ten days a month, in each province (excluding Gauteng and the Western Cape) over the six months.

Visiting as many clinics as possible, handing out our posters and encouraging health care workers to use the hotline, we drove 9 950 km (much of it on dust roads), visited 260 hospitals and clinics, delivered over 800 poster packs, met hundreds of wonderful health care workers and had uncountable adventures, including two flat tyres. And learnt, very quickly, that itineraries are just guidelines and Google maps aren't always accurate!

Our first trip, to the Free State in April, was a steep learning curve. I planned the route, phoned clinics and hospitals we hoped to visit (three a day, for five days), booked places to stay and we flew to Joburg on the Sunday, picked up our hire

car and headed off to Oranjeville to be ready to start early on Monday morning. And that's where we learnt our first of many travelling lessons: always bring snacks. Small town South Africa closes down on Sunday evenings. We were the only guests at the hotel, and the restaurant was closed. The lovely hotel owner offered us toasted sandwiches, but we opted to shop at the only shop open in town – a little café which provided us with bread, cheese, avo and tomato. We made sandwiches using the teaspoon provided for tea and coffee and ate them on the beautiful bank of the Wilge River. It was wonderful.

The Free State was exquisite, and we quickly realised that the busy nurses at the clinics had no time to break and chat with us, so we canned the 'perfectly planned' plan and instead asked in each settlement we came across where the clinic was, then dropped posters and flyers with the sisters at each one. At the hospitals, we got out and met with staff and chatted. Doing this, we reached far more clinics.

In May, we headed to the Eastern Cape and drove over 1 500 km, seeing more than 50 clinics and hospitals. Our trip

took us from East London up to Aliwal North, through the Karoo and back down to fly out of Port Elizabeth, over a 10-day period.

Beautiful scenery, extreme temperatures (both cold and unseasonably hot – it was 30 degrees in PE on the 1st of June!), many back roads, potholes and ‘Stop ‘n Go’s’ took us to clinics with wonderful, welcoming staff who loved the posters. Most of the health care workers we met had not heard of the hotline, so hopefully we were reaching the right target!

In June, we travelled 1 300 km through northern KZN from St Lucia to Jozini to Pongola and Vryheid and then back down to the coast via Melmoth and Eshowe. Throughout our first three trips, we managed to narrowly miss service-delivery protests, with tyres still smouldering at the entrance to one of the clinics near Eshowe.

We travelled through vast fields of sugar cane being harvested and hundreds of trucks carrying said sugar cane (they’re messy things, and heavy, causing HUGE potholes!) to the mills, and visited busy rural clinics with dedicated staff.

Our trip to Mpumalanga in July proved to be the toughest but, hopefully, still productive. Mpumalanga is not big on signage for their clinics, so we spent a lot of time lost (despite our careful planning and maps!), and met many people, what with asking directions a million times. Regardless, we managed to visit over 30 clinics and hospitals, and travelled 1 204 km in our five days there.

From Lydenburg to Bushbuckridge, Skukuza to Mbombela, Emgwena to Emalahleni, we saw the beauty of Mpumalanga and the devastating drought and visited bustling and busy clinics both in rural and urban areas, meeting the dedicated health care workers in them. We even managed to bump into a herd of elephant on our route – lucky us!

We were busy-busy in August, visiting North West at the beginning of the month, and heading north to Limpopo at the end. We were surprised by the

good infrastructure in the North West, and drove just under 900 km, visiting 37 clinics and hospitals en route.

Limpopo, too, proved to be a challenge, map-wise, but we drove over 1 000 km – much of it on dust roads – to visit 40 clinics and hospitals. The people in Limpopo were wonderful and welcoming and, thank goodness, like angels. This proved most handy when we found ourselves in the middle of nowhere, on a dust road in the sweltering heat, with a flat tyre! Along the deserted road came Agnes and Thendo, who kindly helped us, and we were soon back on our way.

The Northern Cape was the perfect end to our road-tripping. We spent ten days there, starting with a wonderful turn-out in Kimberley – over 50 people in two sessions, including doctors, pharmacists, nurses and people from the Department of Health, at Kimberley Hospital.

From there we travelled over 2 000 km (much of it on dust roads, with another flat tyre to test our tenacity!), up to Kuruman and then down to Upington, across to Springbok and down to Garies, seeing 50 hospitals and clinics. We found the health care workers working hard and incredibly welcoming and made many friends along the way.

Through desert landscapes and surprisingly hilly mountain passes, we saw the end of the flower season and marvelled at the beauty and friendliness of this vast and often forgotten province. We’ve met wonderful people and have been welcomed most graciously, and the health care workers loved the posters, so hopefully the trips are having the desired effect – to get word of the hotline out there, to where it’s needed most! We’re waiting to see the stats until year-end, and then will write that up.

It was a wonderful, eye-opening experience, in equal parts devastating and encouraging. From tiny, old and desperately-in-need-of-upgrading clinics to smart, new ones, what amazed us most was the dedication of health care workers working under difficult conditions, often under-staffed and with little support and drug supply issues.

What a privilege to travel through our beautiful country and be reminded of how much good work there is going on out there. Hopefully the hotline will provide some relief and back-up to these amazing, hard-working health care workers.



Cafe near Jozini, KwaZulu-Natal



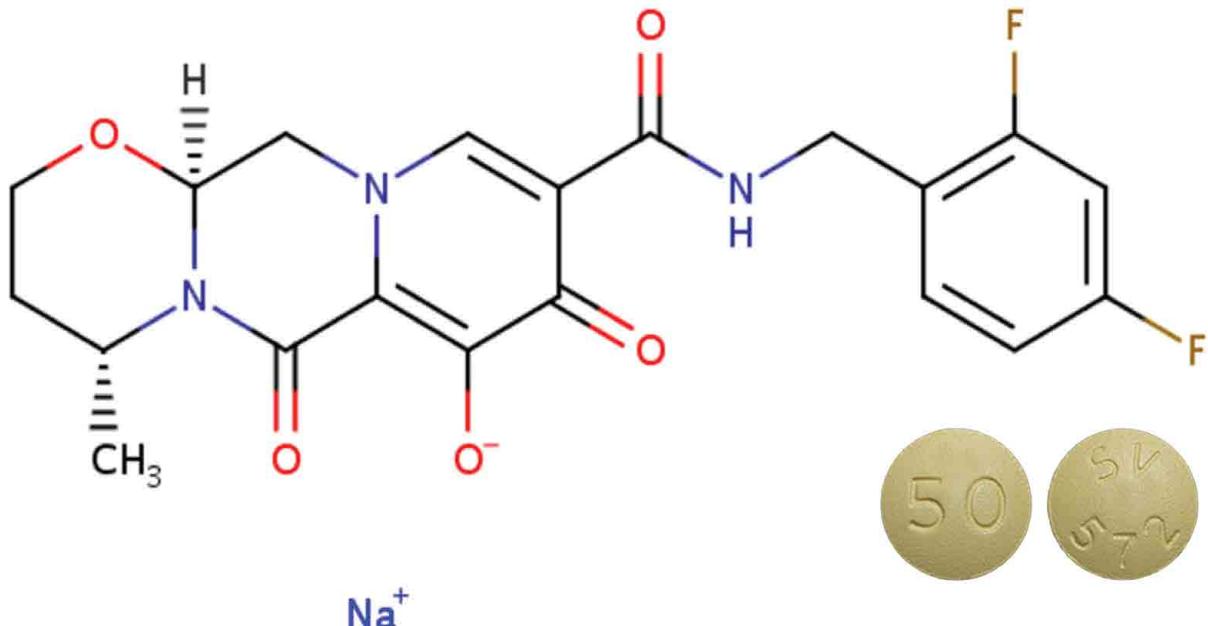
Oh dear ... near Ha-Ribungwani, Limpopo



Maphutha L Malatji Hospital, Limpopo



Cows outside Alice, Eastern Cape



Optimising ART in the 21st century

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New and better treatment regimens that can help decrease pill burden, improve treatment adherence, and improve safety and tolerability

HIV treatment has come a long way since the discovery of the human immunodeficiency virus in 1983. Within 4 years of that discovery, we had the first drug available to treat people living with HIV (PLHIV): zidovudine (AZT), used as monotherapy. By 1995, two drugs were used in combination to suppress HIV: AZT and lamivudine (3TC), and by 1996, triple-drug therapy became the new standard of care for treating PLHIV. Since 1996, we have seen the remarkable impact that antiretroviral

drugs (ARVs) have on the lives of PLHIV, and people with bleak health outcomes in the 21st century can now live long and productive lives. We are now in an era of what a colleague calls "an embarrassment of riches" – powerful new drugs, including new integrase inhibitors, and the recent findings on the viability of long-acting injectables brings in another era of exciting possibilities for making treatment easier to take and manage for both patients and health care workers (HCWs).

Since the first Conference on ARV Dose Optimisation (CADO) in June 2010, there has been a concerted effort from researchers and clinicians to simplify antiretroviral therapy (ART). The main aim of the first CADO meeting was to discuss how "value for money" could be maximised to reduce the cost of ART – and allow greater access to treatment considering budgetary pressures. That first meeting considered important factors for achieving drug-related cost reductions through improved manufacturing pro-

cesses, better formulations of existing drugs, or reduced doses.^[1] A second CADO meeting was held in 2013. The success of these efforts was evidenced by the shifts in World Health Organization (WHO) ARV guidelines between 2002 and 2016. For instance, WHO guidelines in 2002 called for a CD4 eligibility of below 200 cells/ μ l, and had at least eight different drug options to consider for first-line treatment (although AZT was preferred). Even as late as 2010, WHO guidelines had six drug regimen options, including fixed-dose combinations (one pill, once a day). By 2013, this had been consolidated to CD4 eligibility <500 cells/ μ l, and only one preferred regimen for first-line treatment (containing TDF and efavirenz (EFV)); and the recent move to remove CD4 eligibility has significantly addressed ART simplification.

It is against this backdrop that the OPTIMIZE project was born. Funded by the U.S. Agency for International Development (USAID) through the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and UNITAID, with funding until 2020, the OPTIMIZE partners include the Wits Reproductive Health Institute (Wits RHI) (lead), University of Liverpool, University of Columbia (through its ICAP programme), University of Cape Town, HIV i-Base, the St Stephen's AIDS Trust, the Treatment Action Campaign (TAC), Mylan, the Medicines Patent Pool (MPP), and the Southern African HIV Clinicians Society (SAHIVSoc). The overall goal of OPTIMIZE is to simplify ART (first- and second-line), with focus on an integrated approach to make better ART regimens available in low- and middle-income countries (LMICs). Activities are centred on: novel technologies with the evidence base from clinical studies to inform guidance on optimal drug regimens; improving ARV formulations; and introducing new regimens at a country level. The main efforts entail evaluating new and existing ARV drugs in reduced doses, smaller pill sizes, and exhibiting non-inferior efficacy and safety profiles and with fewer side-effects, to encourage adherence and reduce resistance.

Two of the main studies to address the question of optimised first- and second-line regimens are 'ADVANCE', and a second-line switch study investigating lower-dose darunavir/ritonavir (DRV/r), which would be an alternative regimen to lopinavir/ritonavir (LPV/r).

ADVANCE is a phase 3 non-inferiority randomised controlled trial comparing the current standard of care of tenofovir (TDF), emtricitabine (FTC) or lamivudine (3TC), and efavirenz (EFV) (TDF/FTC/EFV) to two alternative regimens: one replacing the Efv with dolutegravir (DTG), and the second replacing the Efv with DTG and replacing the tenofovir disoproxil fumarate (TDF) with tenofovir alafenamide fumarate (TAF; a pro-drug of TDF).

Of the current standard-of-care first-line regimen: TDF is the cost driver; and Efv is the side-effect (and pill size) driver, as well as the weak link as it relates to resistance. Replacing TDF with TAF significantly drives down the cost, as TAF is administered in a much smaller dose than TDF (25 mg vs. 300 mg). Replacing Efv with DTG will address some of the more severe side-effects relating to first-line ART. The purpose of the ADVANCE study is to generate the necessary data to support the introduction of a DTG-containing first-line regimen in South

Africa, and in other LMICs. Benefits of DTG include an excellent resistance profile, lower cost, and that it is more tolerable due to fewer side-effects. ADVANCE is a 48-week study (primary endpoint), with follow-up until 96 weeks. The study is taking place at three sites in Region F of Johannesburg, including one site that caters specifically for adolescents and pregnant women.

Despite all that is known about DTG and its good resistance profile, there are still unanswered questions about the use of TAF and DTG in pregnant women, and in TB co-infected individuals. For this reason, there are several associated sub-studies both within ADVANCE, and studies funded outside of OPTIMIZE through UNITAID. Within ADVANCE there will be substantial toxicity screening to determine the tolerability of a DTG and TAF-containing regimen – this includes mental health screening, sleep questionnaires, bone density assessments, and kidney function monitoring.

A unique feature of ADVANCE is that it was developed through broad and extensive consultation with stakeholders including other research clinicians, activists, funders (USAID and UNITAID), foundations (Gates, Clinton Health Access Initiative), drug manufacturers



Formulations of tenofovir alafenamide fumarate (TAF) (left) and dolutegravir (DTG) (right).

(Mylan, Gilead, ViiV), and even the government (Department of Health, and Department of Science and Technology). Discussing a study at such an early stage of design ensures that the study addresses not just a research question, but informs policy and practice.

ADVANCE enrolled its first patient in February 2017. To date, approximately 100 participants have enrolled – all are adults over the age of 18 years, although ADVANCE hopes to enrol about 100 children and adolescents aged 12 - 18 years. Adolescents have rapidly become a high-risk population in the HIV/AIDS landscape, with adolescent girls contributing 25% of new infections.^[2] Adolescents are known to exhibit poorer adherence to ART, with higher rates of virological failure and increased mortality in comparison to children and adults. Performing this separate analysis will help to gather invaluable data in support of a treatment approach for this group.

An essential component of the OPTIMIZE project is to work with treatment activists and health care workers to describe the value of ART optimisation, and specifically the role of DTG, TAF and DRV/r in future first- and second-line treatment for people living with HIV

In addition to establishing a robust and enhanced treatment approach, adherence monitoring and providing participants with adequate adherence support are also core elements of the OPTIMIZE studies. An optimised regimen will only be truly successful if the drug regimens are potent and safe, and patients find these regimens easy to take, thereby simplifying adherence. A pill count will be performed at every study

visit to give an indication of participants' adherence to their prescribed study regimen. Being initiated on a chronic medication can seem overwhelming to patients, especially adolescents who are already dealing with transitioning through a period of identity formation, and often engage in behavioural experimentation and significant risk-taking.^[3] It is vitally important to provide adherence counselling before initiating treatment, and to follow up at every visit, with pill counts, adherence counselling and home visits. If a participant feels a diary card will help them to remember to take their medicine, then it will be provided.

The importance of this was demonstrated by a 15-year-old participant at one of the study clinics participating in another study, who consistently had 100% adherence on the current standard of care, but was showing signs of clinical and virological failure. At every visit she received counselling, and despite describing distressing social circumstances and showing signs of depression, she assured the clinical team that she was taking her medication without fail. When the Wits RHI counsellor paid a visit to her home to follow up, however, the participant brought out two plastic bags of medications that she admitted to hiding under her bed. She had been taking out her medications each day and throwing them in the bag instead of swallowing them!

Taking stock of the barriers that many patients face in adhering to their daily medication regimens helps us to develop strategies to support them through these challenges, which may arise at any time. Barriers to good adherence include: patient factors (e.g. socio-economic, education, substance abuse); treatment regimen factors (e.g. complexity, pill burden, side-effects etc.); disease characteristics and co-morbidities; and the relationship between patients and providers.^[4] The ADVANCE study hopes to provide data that will lead to improvement of the treatment regimen factors by providing a simplified, more

tolerable and robust first-line regimen. Fewer tablets will be easier and less noticeable to take with them when they go out.

The second study being implemented under OPTIMIZE is a second-line switch study to confirm the non-inferiority of a lower dose of DRV/r compared with LPV/r used in second-line ART. A second-line regimen containing DRV/r has the potential to reduce the pill burden and have a better toxicity profile.

Both studies also have the potential to reduce the cost of first- and second-line treatment drastically. With close to 4 million people on ART in South Africa, the financial burden on the fiscus is enormous (approximately \$350 million, or R5 billion, per annum). A recent article indicated that the OPTIMIZE studies have the potential to reduce the cost to the South African health budget dramatically, allowing the country to double the number of people on ART with the same budget as in 2016.^[5] The article also highlights the potential savings to be gained from lower manufacturing costs, as smaller tablets will require less active pharmaceutical ingredients.

Finally, an essential component to OPTIMIZE and these studies, is to work with treatment activists and HCWs to describe the value of ART optimisation, and specifically the role of DTG, TAF and DRV/r in future first- and second-line treatment for PLHIV. Through its implementing partners – TAC and SAHIVSoc – OPTIMIZE aims to train communities, HCWs and patients on ART optimisation, and specifically the potential switch within the next 1 - 2 years of optimised regimens containing DTG and DRV/r. These efforts, funded through OPTIMIZE, will be rolled out over the next year, and more information will likely be made available as study results for the two clinical trials, and those funded outside of OPTIMIZE (especially through UNITAID), start releasing results. The first interim analysis of DRV/r will be available in 2017, and for DTG in 2018.

The U.S. Agency for International Development (USAID) invests in OPTIMIZE through its support of a global consortium, led by Wits RHI, that includes ICAP at Columbia University, Mylan Laboratories, the University of Liverpool and the Medicines Patent Pool. USAID is a key implementing agency of the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) and is responsible for over half of all PEPFAR programs with activities focused in 35 priority countries and regions, mainly in sub-Saharan Africa and Asia. For more information, please visit: www.usaid.gov

UNITAID finds new and better ways to prevent, test and treat HIV, tuberculosis

and malaria quickly and more affordably. It takes game-changing ideas and turns those into practical solutions that can help accelerate the end of the three diseases. Established in 2006 by Brazil, Chile, France, Norway and the United Kingdom, UNITAID plays an important part in the global effort to defeat HIV, tuberculosis and malaria. For more information, please visit: www.unitaid.org

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Dolutegravir: The game changer?

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The treatment of HIV infection is complex and changes rapidly as advances are made in basic sciences and clinical experience. An understanding of the different stages of viral replication and the different enzymes used by the virus for replication has helped identify different agents that block the function of such enzymes and thereby impede viral replication inside host cells.^[1]

What is dolutegravir?

Antiretroviral (ARV) agents are classified in accordance with the step in

the viral life cycle that they inhibit (viz. fusion/entry inhibitors; reverse transcriptase inhibitors; integrase inhibitors; maturation inhibitors and protease inhibitors).^[2] Dolutegravir (DTG) is an example of an integrase inhibitor as it prevents the integration of viral DNA into that of the infected cell.^[3] Once prevented from integration into host cell DNA, the virus is rendered incapable of replicating. DTG (formerly the patent drug S/GSK1265744) is manufactured by ViiV Healthcare under the trade name Tivicay® in a 50 mg formulation for adults.^[4]

MCC approval of dolutegravir

DTG-containing drugs approved by the Medicines Control Council (MCC) in South Africa include Tivicay® 50 mg and Trelavue®.

When should dolutegravir be taken?

DTG can be taken with or without food and at any time of day. It should, however, be taken 2 hours before or 6 hours after having taken certain polyvalent cation-containing antacids (for example Phillips'®

Milk of Magnesia or Gaviscon®), laxatives, sucralfate, oral calcium or iron-containing supplements, or buffered medications. Taking DTG with food can help overcome these challenges.^[5]

Dolutegravir in pregnancy

There is inadequate medical evidence concerning the use of DTG in pregnant women. DTG was shown to cross the placenta in animal studies, but because animal reproduction studies are not always predictive of human response, it should only be used in pregnant women if clearly needed (e.g. if the pregnant woman in question cannot tolerate efavirenz (EFV)).^[3]

Drug interactions

DTG is metabolised in the body by the UGT1A/CYP3A enzyme families. Drugs that increase the activity of these enzyme families, e.g. rifampicin, decrease the levels of DTG in plasma. In these cases the recommended daily DTG dose should be doubled to 50 mg twice daily.^[5] There are other drug interactions to be aware of: DTG increases metformin concentrations and dose adjustment of metformin should be considered when starting and stopping co-administration of DTG.

Adverse reactions

The most commonly reported adverse effects are mild to moderate and predominantly include insomnia and neuropsychiatric symptoms. In the SINGLE study, 17% of patients receiving DTG reported insomnia, 10% nightmares or abnormal dreams, 8% depression and 7% anxiety. These rates were lower than those seen among patients taking the comparator drug, EFV.^[6,7]

What to be careful of?

Hypersensitivity reactions characterised by a rash with constitutional symptoms have been reported in <1% of patients receiving DTG. DTG should also be used carefully in patients with a history

of liver disease or underlying hepatitis B or C infection.^[3] Appropriate laboratory testing prior to initiating DTG, and monitoring of hepatotoxicity during DTG therapy, are recommended.

What should be done if a dose of dolutegravir is missed?

If a dose of DTG is missed, then the missed dose should be taken as soon as remembered. But, if it is within 4 hours of the next dose, then the missed dose should be skipped and the next dose taken at the regular time. Two doses of DTG should not be taken at the same time to make up for a missed dose.

Clinical trials and research

Landmark clinical trials such as SPRING 2 and SINGLE have shown very promising results in terms of the efficacy of DTG. The SINGLE trial comparing daily DTG vs. EFV showed the superiority of the drug: patients in the DTG arm had fewer side-effects, did not stop taking the drug and did not develop drug resistance. 'Virological failure with resistance mutations in treatment-naïve patients treated with DTG has not been reported.'^[8] SPRING 2, with more than 800 enrolled patients, showed that once-daily DTG was as effective as twice-daily raltegravir; and reported no developed resistance in patients.^[9]

Currently, data for DTG use in South Africa and other lower- and middle-income countries are lacking. The landmark ADVANCE study, launched 16 January 2017, will hopefully generate evidence to replace the current standard of care for first-line HIV treatment with a DTG-based regimen.

DTG has been called a 'game changer' ARV drug and for good reason. It has clear advantages over previous ARVs (even those in the same class):

1. It has a high resistance barrier (it is very robust and resistance to it does not develop easily).

2. It binds very strongly to the integrase enzyme, thereby compromising its activity.
3. It is formulated as a small tablet that is taken once daily.
4. No booster is required, unlike with protease inhibitors.
5. Drug interactions are few.
6. It is well tolerated in most patients.

Currently, data for DTG use in South Africa and other lower- and middle-income countries are lacking. The landmark ADVANCE study, launched 16 January 2017, will hopefully generate evidence to replace the current standard of care for first-line HIV treatment with a DTG-based regimen.

DTG's superiority over EFV has been shown in clinical trials. EFV has a low resistance barrier and its toxic effects have caused it to be replaced by other ARVs in first-line regimens in many higher-income countries. As safety and efficacy data are not yet available for the use of DTG in pregnant women, people with HIV/TB co-infection and children aged younger than 12 years, the World Health Organization (WHO) still recommends TDF/XTC/EFV (tenofovir, emtricitabine or lamivudine, and efavirenz) as a fixed-dose combination as the preferred option to initiate antiretroviral therapy (ART). DTG has been added as an alternative to EFV in the WHO guidelines, but it remains to be implemented in low-income countries.

It is important, as with any new drug, to exercise caution. Some patients will

not tolerate the drug. DTG has been associated with significant central nervous system side-effects, such as headache and insomnia. In a large clinical trial in Amsterdam, 16% of patients stopped taking DTG because of sleeping, gastrointestinal tract and neuropsychiatric problems as well as headaches and fatigue.^[10]

Studies from the Netherlands and France presented at the 2017 Conference on Retroviruses and Opportunistic Infections (CROI) suggest that HIV integrase inhibitors such as DTG may increase the risk of immune reconstitution inflammatory syndrome (IRIS).^[11,12] A very rapid viral load reduction is thought to increase the risk of developing IRIS due to a more rapid reconstitution of the immune system. Early vigilance for IRIS may be warranted, especially in people who have low CD4 cell counts during the first 3 - 6 months after starting treatment when initiating treatment with an integrase inhibitor.

The WHO promotes a public health approach to ART involving less toxic, more convenient and simplified ARV regimens. DTG is better tolerated, is administered at a lower dose and is less prone to development of resistance than EFV. Hence, integrase inhibitors are a preferred component of first-line ART in the European and United States

treatment guidelines, and may soon be added to guidelines for lower-income countries as low-cost, generic versions of DTG become available. Botswana has already taken the lead in Africa and is using DTG as first-line therapy. Evidence is needed to change guidelines in South Africa - the ADVANCE study will hopefully provide this by the end of 2018. The results obtained will be used as evidence in order to switch millions of people on ARVs to a new safer regimen. Hence, we can aspire to use this new drug as part of a powerful regimen to adhere to the 'treat all' approach and to achieve the UNAIDS 90-90-90 treatment targets.

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Safer conception clinic

Helping couples affected by HIV plan their pregnancies safely

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Of the 6.4 million people living with HIV in South Africa (SA), 5.4 million are of reproductive age and 1.8 million desire a child now or in the near future.^[1] In 2012, safer conception services (SCS) were embedded in the national contraceptive and fertility planning policy as well as in HIV clinical guidelines.^[2] SCS have been provided as a primary health care (PHC)-based service by the Wits Reproductive Health and HIV Institute in collaboration with the Department of Health, at Hillbrow clinic in Johannesburg. This 2-year project started in June 2015 and is expected to run until September 2017.

Aims of the project

The service is provided as an implementation science project that is focused on supporting HIV-affected couples and individuals planning to have children. HIV-affected couples include concordant (both positive), sero-discordant (one positive and one negative) or unknown partner status relationships – the latter being where one partner may not be willing to test or perhaps has not disclosed. The service seeks to eliminate mother-to-child HIV transmission and prevent partner-to-partner transmission. The intention is to test the feasibility and acceptability of using low-cost and low-technology services, with the aim of scale up to other health care institutions.

Safer conception strategies used

- **Ensure viral suppression for all HIV-positive clients.** The risk of

transmission from someone on fully suppressive HIV therapy is widely considered to be close to zero, as long as they adhere to treatment.^[3]

- **If the female is HIV-infected, then ensure a CD4 count of >300 cells/ μ l** to reduce the risk of complications during pregnancy due to opportunistic infections.
- **Adult male medical circumcision** reduces the risk of acquiring HIV by 50 - 60%.^[4]
- **Ensure that the HIV-negative partner receives pre-exposure prophylaxis (PrEP).**
- **Self-insemination using a syringe** – when the male client is HIV-negative with an HIV-positive partner. Following sex with a condom, semen is withdrawn using a syringe. The female lies down with

her hips raised up on a pillow. The syringe is inserted as far as it will go (if it hits the cervix, then it is backed out a little). The syringe is depressed slowly, releasing semen into the vaginal canal. There is no risk of infecting the HIV-negative male partner. The method is safe, easy to use, and done at a convenient time for the couple, in the comfort of their own home (Fig. 1)

- **Timing of condom-less sex**, using the menstrual cycle calendar to estimate the four days of ovulation (peak fertility; evidenced by the woman having vaginal discharge that is thin, profuse, transparent and stretchy, resembling egg white).
- Couples are only followed up for 6 months while trying to conceive.

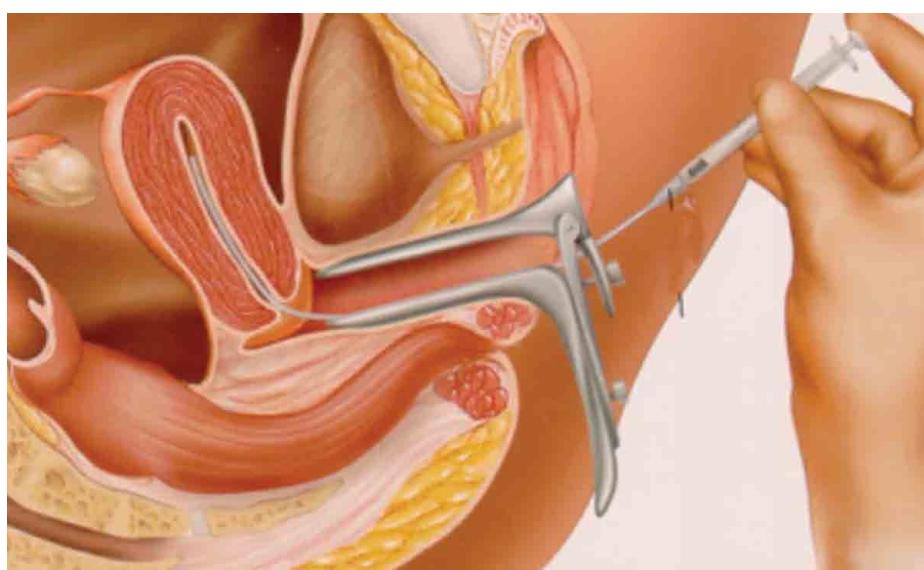
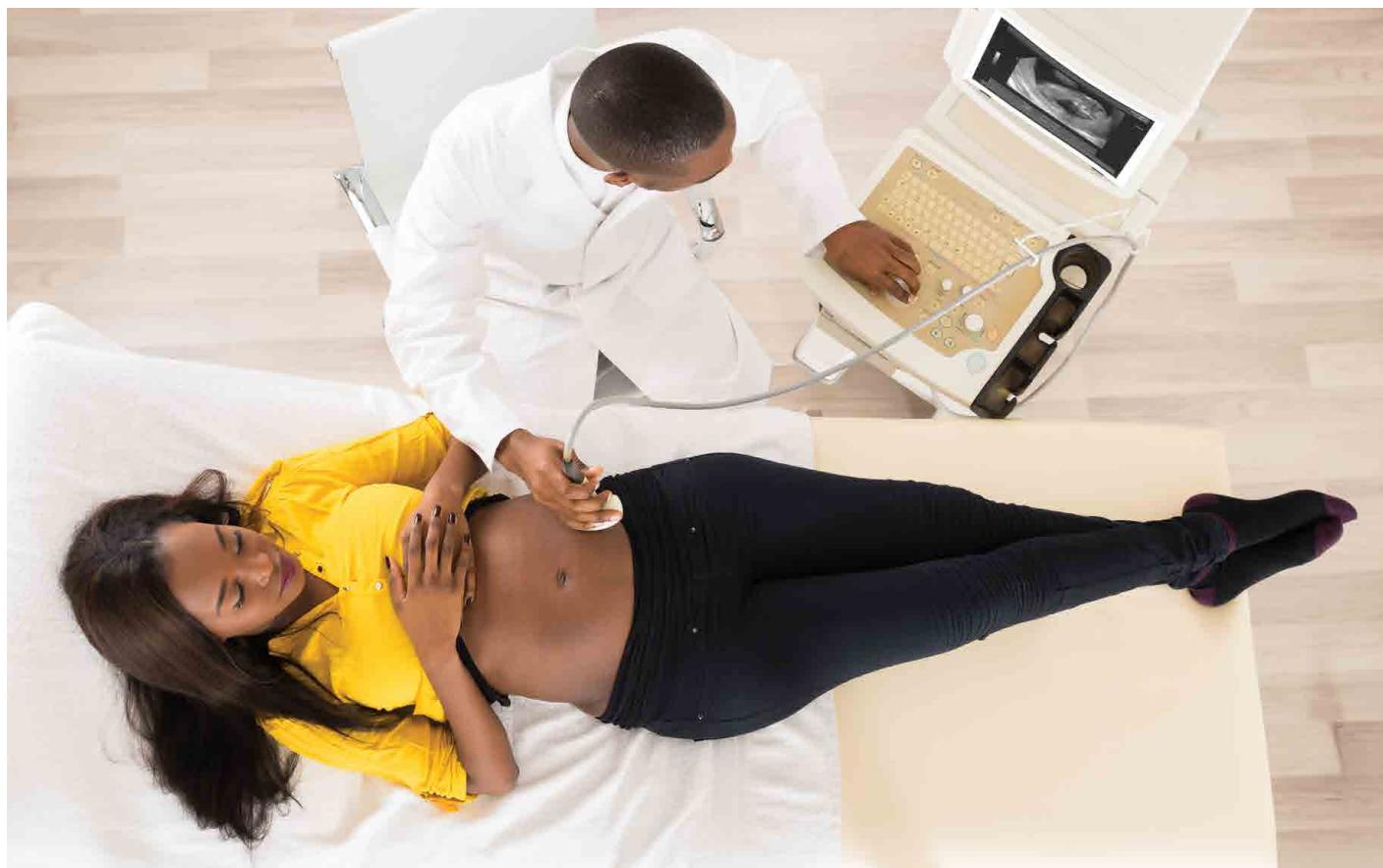


Figure 1: Self-insemination with a syringe.



Service before trying to conceive

To mitigate health problems, we provide the following service before the couple is advised that it is safe to start trying to conceive:

- Individual/couples HIV counselling and testing if status is unknown or negative.
- Provide supported disclosure by offering an HIV test to the couple, even if one of them already knows her/his status.
- Screening for tuberculosis (TB), sexually transmitted infections (STIs), cervical cancer (Pap smear) and pregnancy.
- Male clients are referred for medical circumcision – especially if they are HIV-negative.
- Baseline bloods include CD4 count, viral load (VL), creatinine, haemoglobin, syphilis and hepatitis B screening.
- Using current HIV/antiretroviral treatment (ART) guidelines, all HIV-positive clients are counselled on adherence and initiated on ART if they are eligible for a firstline regimen;

most are initiated on the fixed-drug combination (FDC) of efavirenz (EFV) 600 mg, emtricitabine (FTC) 200 mg, and tenofovir (TDF) 300 mg. Those who are not virally suppressed even after intense adherence counselling are switched to a second-line regimen using the guidelines.

- In line with existing prevention of mother-to-child transmission (PMTCT) guidelines, all HIV-positive clients on ART have their VL monitored regularly, including at baseline, 3 months after treatment initiation and then 6-monthly if confirmed to be virally suppressed. We do not wait 6 months after initiation to confirm viral suppression as couples often struggle to wait long periods before being given the 'go ahead' to try to conceive.
- We provide female clients with calendars to record their menstrual cycles and when they have sexual intercourse (including condom use). We also teach cervical fluid monitoring and advise clients to document this to effectively estimate ovulation dates.
- We educate clients on the different

strategies and encourage them to make informed decisions.

SCS based on the couple's HIV dynamic

HIV-positive clients should be virally suppressed on treatment, and all clients should be asymptomatic for STIs, urinary tract infections (UTIs) and TB, regardless of HIV status.

- *Concordant couple:* Both should be virally suppressed. They should be advised to have condom-less sex only on the estimated ovulation days.
- *Discordant couples with HIV-negative female:* The male client must be virally suppressed. Both should be asymptomatic for STIs, UTIs and TB. These couples are advised to have condom-less sex on the estimated ovulation days. If the couple remains anxious about transmission, then the female is offered PrEP.
- *Discordant couple with HIV-negative male client:* The female client must be virally suppressed on treatment, and both should be asymptomatic for STIs, UTIs and TB. The male client

- is counselled and offered PrEP or the couple may choose to use self-insemination with a syringe.
- Sero-unknown HIV status with HIV-positive partner attending SCS:* The positive partner should be virally suppressed on ART and asymptomatic for STIs, UTIs and TB. They are advised to have condom-less sex only on the estimated days of ovulation; and to use condoms at all other times. If the client attending the service is HIV-negative, then we counsel and offer PrEP initiation.
- Couples are followed up for 6 months once they are trying to conceive.

Challenges during provision of the service

- Non-disclosure within stable partnerships is a significant challenge that can undermine HIV-prevention strategies offered as part of SCS.
- A number of females do not disclose their HIV-positive status to partners due to fear of being blamed for bringing the infection into the relationship, fear of gender-based violence, as well as loss of financial support, accommodation and loss of a relationship. In our study, 40 women had not disclosed at the time of enrolment in the service. An important aspect of this challenge is that it prevents us from engaging male clients with the service.
- To promote disclosure we introduced 'supported disclosure' for the undisclosed clients: we offer to test the couple as though they were testing for the first time together, even though one partner already knows their status. The problem with this approach is that it may lead to partial disclosure: one partner thinks the other is newly diagnosed, meanwhile they may have been on treatment for some time. It can be difficult for providers to keep track of what has/has not been disclosed, presenting a risk for accidental full disclosure of treatment history at follow-up visits. Accidental full disclosure can cause stress within the relationship. Careful note-keeping is therefore an essential element to this approach.

- A high rate of suspected underlying infertility has been observed among clients enrolling in the service. HIV-infected women are 25 - 40% less fertile than their HIV-negative peers.^[5] There are limited options for further investigation and management if clients do not conceive within the 6-month follow-up period. This is hard for the couples as well as the providers who have to discharge them from the service without having achieved pregnancy.
- Staff have had to learn how to counsel individuals and couples about miscarriage, as this has been quite a common and disappointing outcome.
- Couples who conceive before considered 'safe' to do so present another challenge. Many couples do not consistently use condoms, even following advice, and many find it difficult to postpone conception attempts while working with providers to optimise HIV-prevention strategies. However, if pregnancy is confirmed early, these couples still benefit from quick referral to antenatal care, usually within the first 12 weeks of pregnancy, with plenty of time to optimise PMTCT interventions.

Benefits of integrating SCS into PHC services

- All types of HIV-affected couples can benefit from SCS. The desire to have a healthy child promotes male attendance at clinics and the uptake of health care services.
- The service supports progress towards the UNAIDS 90-90-90 targets (HIV testing, ART initiation and VL suppression).
- SCS represents a new, different service through which previously unReached clients are accessing ART initiation and VL suppression rates are being improved due to attentive monitoring and adherence support, including motivational messaging around the importance of being suppressed (with the goal of having a healthy child and partner).
- Increased detection of Pap smear abnormalities and management

(15% of enrolled clients required colposcopic biopsy before being given the green light to conceive).

Conclusion

Our research findings show that SCS are feasible and acceptable to people affected by and infected with HIV. We have shown that it is possible to provide a comprehensive, integrated service which supports clients' reproductive rights, within an ordinary primary health care-based setting. Of 629 individuals enrolled in the project, 85% were HIV-positive, and 59 were initiated on ART or switched to a second-line regimen due to virological failure. We have had 21 babies born; all exposed babies have had a negative HIV DNA polymerase chain reaction (PCR) result at birth. Clients have reported high levels of satisfaction and confidence in the service and, most importantly, no horizontal or vertical transmissions have been observed to date in 20 months of service provision. With the evidence from this clinic, we look forward to expanding to additional clinics to assist with wider implementation of the Contraception and Fertility Planning Policy.

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NATIONAL HIV & TB HEALTH CARE WORKER HOTLINE



	0800 212 506 or 021 406 6782		pha-mic@uct.ac.za E-MAIL
	071 840 1572 SMS/PLEASE CALL ME		www.mic.uct.ac.za WEBSITE

What questions can you ask?

The toll-free national HIV & TB health care worker hotline provides information on queries relating to:

- Pre-exposure prophylaxis (PrEP)
- Post exposure prophylaxis (PEP)
- HIV testing
- Management of HIV in pregnancy & PMTCT
- Drug interactions
- Treatment/prophylaxis of opportunistic infections
- Drug availability
- Adherence support
- Management of tuberculosis
- Antiretroviral Therapy (ART)
 - ~ When to initiate
 - ~ Treatment selection
 - ~ Recommendations for laboratory and clinical monitoring
 - ~ How to interpret and respond to laboratory results
 - ~ Management of adverse events

Who answers the questions?

The centre is staffed by specially-trained pharmacists who share 50 years of drug information experience between them. They have direct access to the latest information databases, reference sources and a team of clinical consultants.

When is this free service available?

The hotline operates from Mondays to Fridays 8:30am - 4:40pm.



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TB DRUG INFORMATION MONOGRAPHS
POSTER GUIDELINES
EDL-ANTIRETROVIRAL INTERACTIONS TABLE



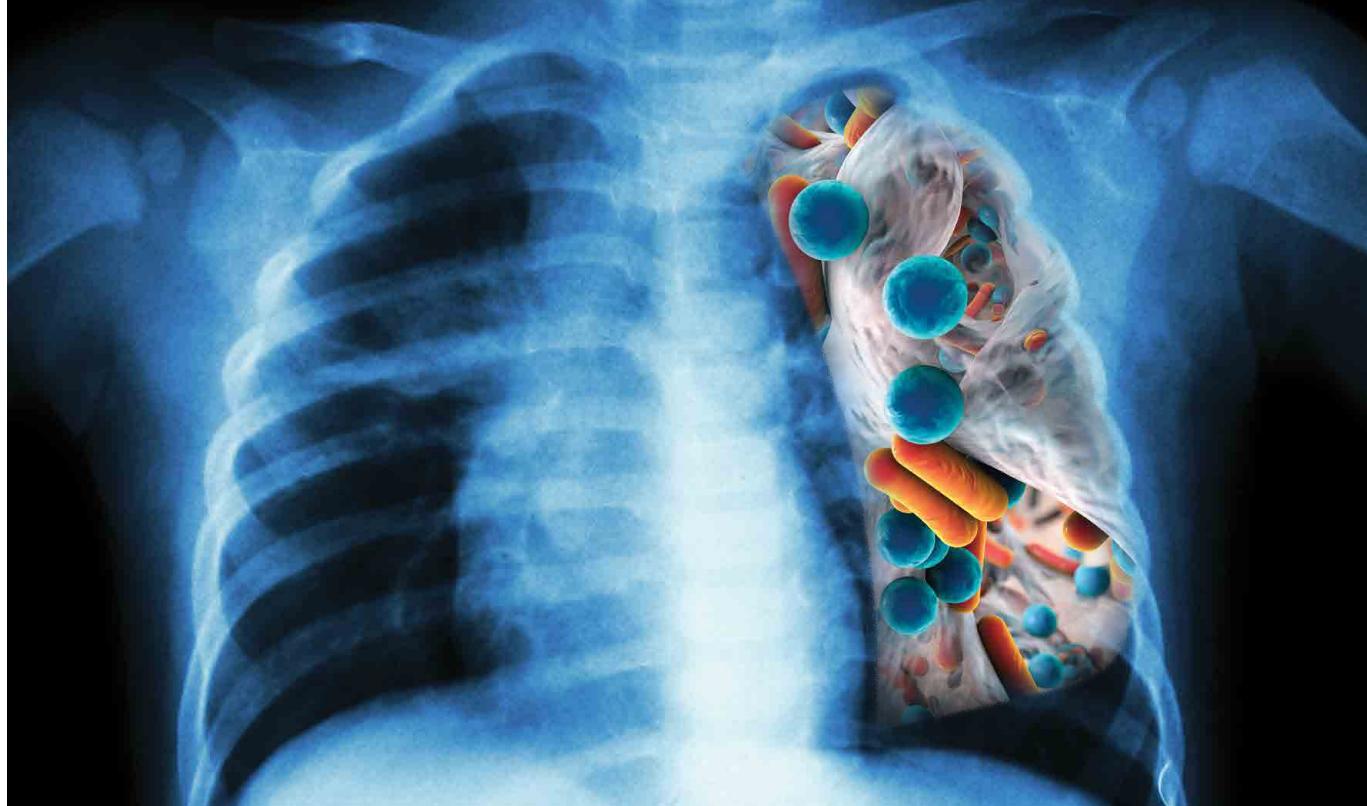
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Western Cape
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Health

BETTER TOGETHER

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Nix-TB: A breakthrough in XDR-TB treatment

Pooja Balani, MBBS, UK
Southern African HIV Clinicians Society, Johannesburg, South Africa

Extensively drug-resistant (XDR) tuberculosis (TB) is a form of TB that is resistant to the core first-line anti-TB drugs, rifampicin and isoniazid, as well as to any of the fluoroquinolone class of drugs, and to at least one of the three injectable second-line drugs (amikacin, capreomycin and kanamycin). Consequently, there is no standardised XDR-TB treatment regimen, and regimens are usually individualised, often with highly toxic drugs not normally indicated for TB and not intended for use for the length of time that XDR-TB treatment requires (generally 2 years).

For this reason, XDR-TB is extremely difficult to treat, and is associated with increased mortality. Such regimens tend to be more complicated as they include daily injections, and have a high side-effect profile, which discourages patients from adhering to treatment and attending clinic

appointments, and further contributes to the prevalence of XDR-TB. Additionally, limited resources in South Africa make it difficult to admit all XDR-TB patients for treatment, and many patients who have failed treatment are discharged from hospital and risk transmitting XDR-TB strains into the wider community.

In 2015, over 7 000 XDR-TB patients globally were started on treatment, with a treatment success rate of only 26%. This is in keeping with findings of XDR-TB treatment success rates in South Africa. In 2006, the World Health Organization (WHO) announced a new strain of XDR-TB in KwaZulu-Natal (KZN), where 53 patients were identified to have XDR-TB, of whom 52 died. Between 2011 and 2014, 1 000 new cases of XDR-TB cases were identified in KZN alone, reflecting the high burden present in South Africa and the

critical need for treatment. TB remains the leading cause of death in South Africa, killing more than 33 000 people in 2015.

The Nix-TB trial, sponsored by TB Alliance, is the world's first clinical trial to study an XDR-TB drug regimen with minimal pre-existing resistance, and which has the potential to make XDR-TB treatment shorter and simpler. The regimen consists of three drugs – bedaquiline, pretomanid and linezolid – to be given daily through the oral route with the aim of curing XDR-TB in 6 months if patients have a negative sputum culture at 4 months. This is extended to 9 months in patients who have a positive sputum culture at 4 months. Patients are followed up for 24 months after completing the treatment to monitor for relapse.

In South Africa, the principal investigator

for the Nix-TB trial is researcher, Dr Francesca Conradie. The trial, enrolment for which started in April 2015, is currently being carried out at three sites: the Sizwe Tropical Disease Hospital in Johannesburg, the Brooklyn Chest Hospital in Cape Town, and the King DiniZulu Hospital in Durban. Participants are male and female patients as young as 14 years old, and include those who are HIV-positive with a CD4

count >50 cells/ μ l. Notably, many patients are young, with the average age being 37 years. More than 50% of patients in the trial are HIV-positive.

Seventy-three patients have been recruited so far, of whom 43 have completed the course of treatment. Of these, one has relapsed and one has been re-infected with TB. During the early stages of the

trial, four patients died due to advanced disease. Seventy-four percent were culture-negative by 8 weeks, and all were culture-negative at 4 months, which means that no patient so far has had to have treatment extended to 9 months. This suggests that the outcomes of this regimen are similar to those seen in the treatment of drug-sensitive TB. Notably, the mortality rate of patients on this regimen is <6%.

Pred-ART: Towards preventing TB-IRIS

Pooja Balani, MBBS, UK

Southern African HIV Clinicians Society, Johannesburg, South Africa

Tuberculosis (TB) is the most common opportunistic infection in HIV-infected individuals, with the risk of developing TB estimated to be 26-31 times greater in HIV infection. Early initiation of antiretroviral therapy (ART) in patients with low CD4 counts who are also receiving treatment for TB reduces mortality, but increases the risk of paradoxical TB immune reconstitution inflammatory syndrome (IRIS). Paradoxical TB-IRIS occurs in 8 - 43% of patients starting ART while on TB treatment, and is characterised by a worsening or recurrence of TB symptoms. It largely contributes to increased morbidity, reasons for hospitalisation, and strain on health care resources.

Prednisone, a corticosteroid, is a drug most frequently used to treat TB-IRIS, particularly when severe, and is known to reduce symptoms, duration of TB-IRIS and hospitalisation rates. Currently there is no strategy to prevent TB-IRIS.

The Pred-ART trial was a randomised, placebo-controlled trial aiming to prevent

high-risk HIV-infected patients from developing paradoxical TB-IRIS. High-risk patients are those with CD4 counts <100 cells/ μ l who start ART within 30 days of starting TB treatment. The study, led by Dr Graeme Meintjes from the University of Cape Town, was carried out from August 2013 to February 2016 at the Site B Khayelitsha HIV/TB clinic in Cape Town.

Two hundred and forty adult patients with a median age of 36.8 years were enrolled in the trial, where patients were randomised on a 1:1 basis to receive either a prophylactic dose of prednisone, or a placebo for a period of 4 weeks, commencing the same day that ART was initiated. One hundred and twenty patients received prednisone and 120 received placebo.

Neither the investigators nor the patients were aware of allocation to prednisone vs. placebo until the end of the trial. All patients were monitored regularly for 12 weeks for the development of paradoxical TB-IRIS; however, follow-up was extended

beyond 12 weeks in those who developed complications. Patients who developed TB-IRIS were prescribed prednisone as necessary for its treatment.

The trial demonstrated that in patients who are at high risk of developing paradoxical TB-IRIS, prednisone during the first 4 weeks of ART initiation reduced the risk of TB-IRIS by 30% and reduced the need for corticosteroids to treat cases of TB-IRIS by 53%. The intervention was well tolerated, safe when used in patients with advanced HIV, and showed no increased risk of infection or malignancy.

The results of the Pred-ART trial provide evidence of an effective strategy to reduce the risk of developing a common ART-associated complication such as TB-IRIS. Furthermore, prednisone is a cheap and readily available drug, and in low- and middle-income settings its prophylactic use may decrease the incidence of paradoxical TB-IRIS and its complications, reduce the cost of TB-related hospitalisations, and may further improve patient outcomes.



Data – friend or foe?

L de Kock, W Chinogwenya, N Kuwane, S Sadike, F Sello
Aurum Institute, Johannesburg, South Africa

According to the Merriam-Webster dictionary, a friend is defined as 'a person who you like and enjoy being with, a person who helps or supports someone or something'. Let's apply this definition to our relationship with data: Would you say you like it? Do you like using it (being with it)? Does it support you? Data often has a very negative connotation with facility-level staff who feel it a foe who exposes them for what they are allegedly not doing. This view filters through to how staff therefore engage, use, like and feel about data. In this article, however, we wish to show **how data can be your friend**, indeed your best friend who is able to **support you and importantly guide you in your goal toward excellent clinical outcomes and treatment optimisation**.

In June 2010, the World Health Organization (WHO) and Joint United Nations programme on HIV/AIDS (UNAIDS) agreed on a treatment optimisation framework which includes **cost-effectiveness, drug optimisation, laboratory optimisation and efficient system delivery**.^[1] This framework has been widely adopted by many HIV/AIDS technical support programmes. HIV treatment optimisation can therefore be described as a process intended to enhance the long-term accessibility, efficacy and adherence to ensure successful lifetime treatment for all those in need.

Figure 1 is an example of how treatment is not optimised for the patient. Many test HIV-positive, but far too many

are not enrolled into care because of inefficient systems.

In analysing why this urban clinic in Gauteng was not meeting their linkage-to-care targets, a root cause analysis was conducted. It identified a lack of an efficient system delivery by a multi-disciplinary team required to realise the goal of treatment optimisation. Each person within this linkage-to-care process acted independently of each other, with little realisation or cognisance that each of them is an important link in a long chain.

The process map in Figure 2 reveals that while efficient system delivery is our goal, it is very complex, involving many people and a myriad of activities that need to be co-ordinated and

congruent. Here are some examples of the impact of poorly designed HIV systems implemented by health care workers who are functioning in isolation:

1. If patients' **registration details** are not recorded correctly, it will have an impact on the ability to trace them, should they not return or become lost to follow-up.
2. **Pre- and post-test counselling** are critical steps in HIV diagnosis. If they are not implemented correctly, then it can influence whether an HIV-positive patient returns to the clinic, and their attitude toward antiretroviral (ARV) initiation and ultimately to antiretroviral treatment (ART), which can result in poor treatment outcomes.
3. **A proper referral process between the HIV counsellor and the primary health care (PHC) nurse is critical in the HIV care process.** In most facilities, PHC nurses identify patients that need HIV testing during a consultation and refer

them to the HIV counsellor for testing before returning back to the nurse. If these steps are not well understood and synchronised, then there is a high risk of losing the patient in the system. This may result in HIV-positive patients not receiving the HIV testing service and accessing ARVs.

4. **The HIV counsellor and the data capturer** also require well-co-ordinated processes as poor linkages can result in an HIV-positive patient **not being**

recorded by the HIV counsellor in the appropriate **source documents**. The patient will therefore not be enrolled into the pre-ART system for monitoring their progress when initiated on ART.

5. In preparing the HIV-positive patient for initiation, **baseline bloods** are done to ensure safe initiation of ARVs. In clinics where bloods are taken, they are sent to the laboratory and results are returned after 2 days. **A poor process between the laboratory,**

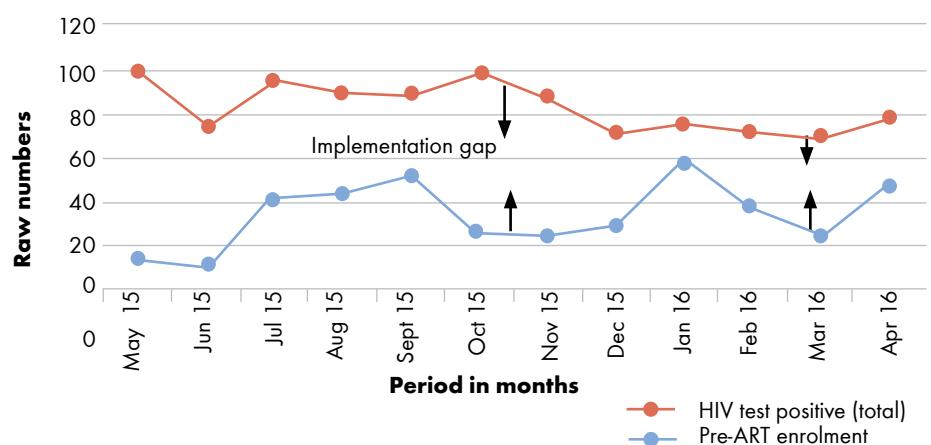


Figure 1: Pre-ART enrolment vs. positive HIV test result at Clinic X.

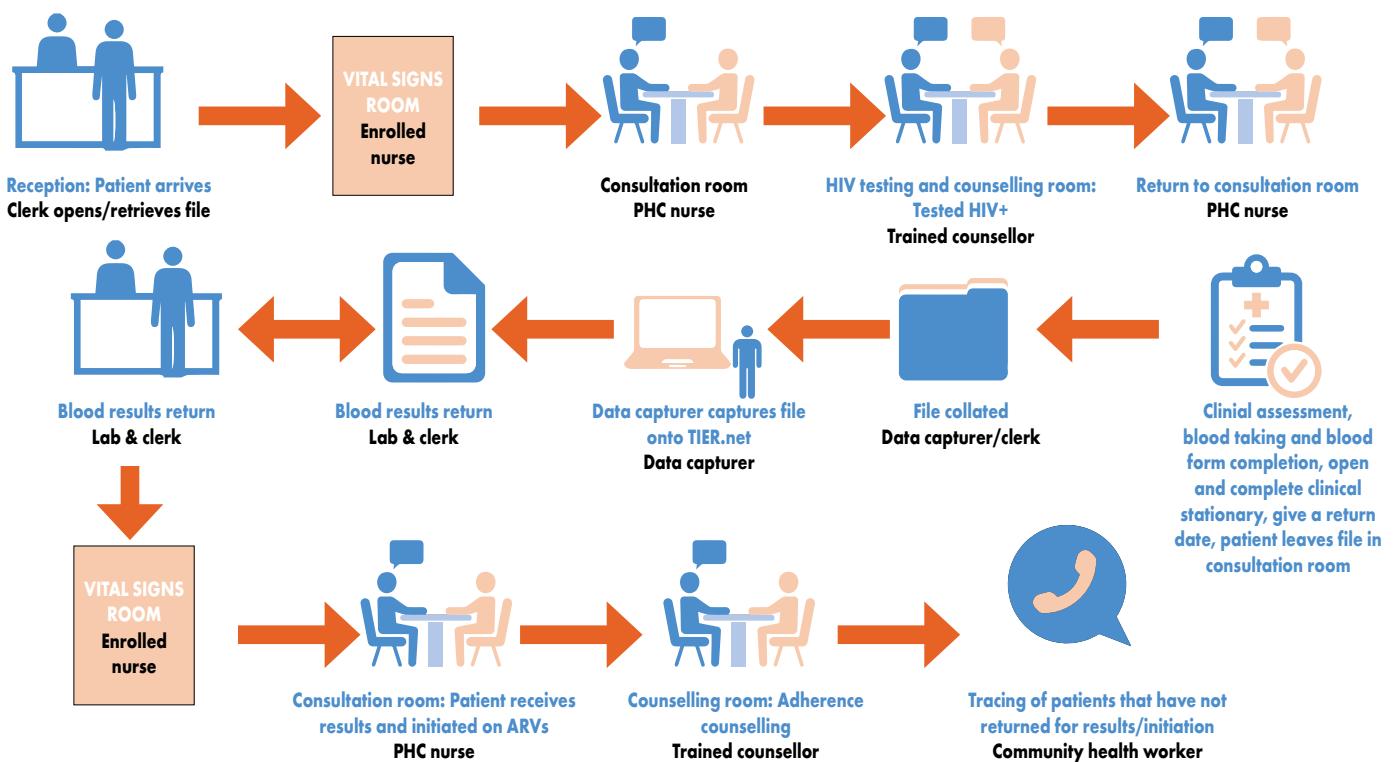


Figure 2: Pre-ART enrolment, Pre-ART capturing and ART initiation process map.

reception clerk and clinician may result in missing blood results, results not been recorded and patients having to re-do bloods; all delaying the ARV initiation process which ultimately compromises treatment optimisation.

It is evident from these examples that the processes and tools we use within our health system, need to be far more supportive of each other and of health care workers, thereby prompting and encouraging good clinical practices. Seemingly small neglected steps can have a major impact on patient outcomes.

Constant use of data as a friend can and does act as an enabler for good clinical practices. TIER.net is an example of an empowering tool that can be used to prompt good behaviour in our complex systems and not just be used as a foe that reveals 'failure'. Actively using TIER.net on a daily basis will provide opportunities to identify gaps that can immediately be addressed, as well as help plan to address any potential gaps.

Here are some examples of how to make TIER.net your new best friend:

1. TIER.net has been programmed to flag patients who are due for their periodic viral load check-ups at 6 months, 12 months and annually thereafter. Patients who do not present for their appointments are timeously triggered by the system. Clinicians, with the support of the data capturers, can therefore

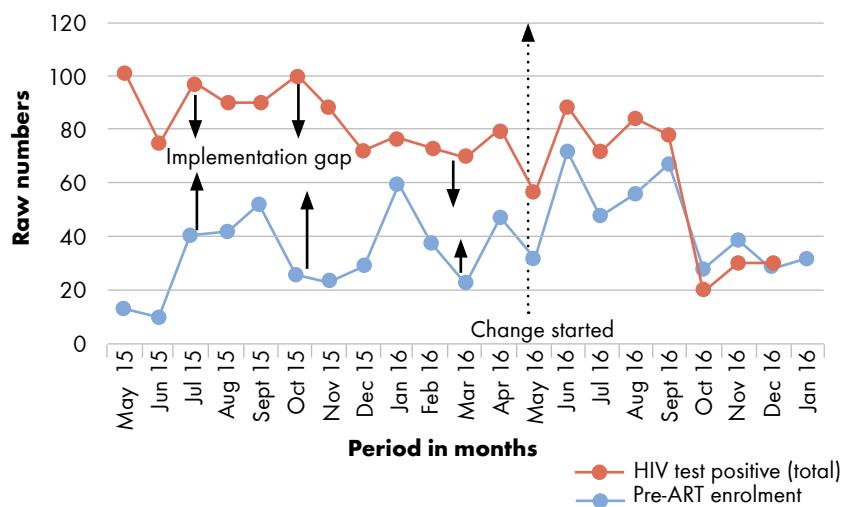


Figure 3: Pre-ART enrolment at Clinic X – closing of the implementation gap.

monitor the engagement of patients in the ARV programme in order to support those who may be at risk of defaulting.

2. With the introduction of the new 'test and treat' guideline, patients and clinicians determine whether same-day initiation is safe and feasible. TIER.net has therefore become an important tool to monitor patients linked into care but awaiting treatment initiation. TIER.net can determine if all clinical assessments required before initiation have been done.
3. Providing patients with a return date greatly impacts future care. Patient folders are captured into TIER.net and clinicians are required to discuss and document the next appointment date. If this information is missing, then the data capturer returns to the clinician to alert them of this omission, which can be rectified very easily without serious repercussions.

When using data as your friend on a daily basis, a multidisciplinary clinic team is able to address gaps early before their data becomes a 'failure' statistic.

Using data frequently has allowed this team to work in an integrated approach to address the very interrelated and complex challenges faced by each of them along the process. The conclusion to this interrelated, data-driven process is the closing of the implementation gap (Figure 3).

The pre-ART TIER.net capturing system should not be seen as just a data reporting tool but a resource to facilitate and monitor how patients are moving through the HIV care pathway. It is a tool that supports a multidisciplinary team to efficiently implement the guidelines, identify gaps and therefore provide opportunities to close those gaps early and before they become a 'foe'. **Data is a friend!**



What is the Stop Stock Outs Project?

The Stop Stock Outs Project (SSP) is an organisation that monitors availability of essential medicines in government clinics and hospitals across South Africa. The SSP aims to assist healthcare workers in resolving stock outs and shortages of essential medicines at their facilities, enabling them to provide patients with the treatment they need.



How do you report a stock out to the SSP?



Our hotline number is
084 855 7867

- Send us a Please Call Me
- Send us an SMS
- Phone us or missed call us

We will then phone you back to get some more information.



You can also email us at
report@stockouts.co.za



What information do you need to report to the SSP?



The name of the medicine
that is out of stock



The name of the clinic or
hospital where you work

Reporting is an anonymous process and your name, if provided, will not be disclosed to anyone outside of the SSP.

Pushing boundaries



Maria Sibanyoni, DN, BAD

Wits Reproductive Health & HIV Institute, Johannesburg, South Africa

In 1990, when I started with my nursing training at Chris Hani Baragwanath, I realised I was eager to be challenged in order to grow and develop a career. After receiving my Comprehensive Diploma in Nursing, I worked as a midwife from 1994 to 1996 in the same hospital. I enjoyed bringing life to earth, but the working conditions were not suitable for me. I immediately requested study leave to further my studies, but my request was denied and I was told about the long waiting list. I made up my mind to resign and move to an institute that would allow me to further my studies.

In October 1996, I joined the City of Johannesburg as a professional nurse and immediately registered with the University of South Africa (UNISA) for my junior degree - a Bachelor of Administration majoring in Public Administration and Industrial Psychology. I completed this in record time between 1997 and 2001. At this point I realised that I had a keen interest in public health. Therefore, in 2004 I registered for a Masters in Public Health (Health Systems and Policy) with the University of the Witwatersrand.

Before completing my degree, I was promoted to Facility Manager at Esselen clinic in Hillbrow, a primary health care (PHC) clinic. In this position I was required to manage a diverse and multisectoral team. I discovered the challenges of managing people, which one can't learn from any book, and my management skills were enhanced through my dealings with staff.

During five years as Facility Manager, I came into contact with the Wits Reproductive Health and HIV Institute (WRHI), which was known as the Reproductive Health and HIV Unit (RHRU) at the time. I established a partnership with WRHI through which I was introduced to sex workers by the WRHI sex workers project manager.

In October 2005, I joined WRHI as a PHC senior project co-ordinator to pursue my career. At that time all clients suspected of being HIV-positive were referred to selected hospitals. In 2006, the Department of Health (DoH) integrated HIV management, because hospitals were overwhelmed with high numbers of HIV-positive clients who could be managed at PHC clinics. I was instrumental in introducing HIV services to the PHC clinics. My responsibilities involved training of health care workers about HIV management and , and ensuring the integration of HIV services into PHC services.

In 2004, the DoH introduced a down-referral process of moving clients who were stable on antiretroviral treatment (ART) to PHC facilities. During this time, ART initiations were done by a medical doctor. I was among the first nurses to start nurse-initiated management of antiretroviral therapy (NIMART) and was at the forefront of ensuring implementation of these interventions. I was among the clinicians who started

ART initiations at Hillbrow Community Health Centre (HCHC) in 2004, and the following year when they opened the ART clinic at South Rand hospital. During this period, I learned that making a difference in people's lives is what is most rewarding about my job and deems it all worthwhile.

In 2010, I moved from the PHC project to manage sex workers, youth-friendly services, and 'Man and HIV' projects. This is when I started working directly with sex workers. Working at WRHI in the research environment made me develop an interest in research activities. As a result, I was involved in publications and co-authored several papers. In 2014, I received an award from the WRHI Executive Director in recognition of outstanding service. I was inspired to work even harder and the award was based on having a strong strategic vision along with the ability to deliver a complex multitrack programme successfully.

Currently, I am a public health specialist and have gained a wealth of experience over the years. Working with sex workers has placed me at another level in my career. As a result, I am seen as an expert in PHC and the sex work field. I have been invited to present at various conferences and DoH platforms on different topics. I represented nurses at the South African AIDS Conference about NIMART in 2007. In addition, in October 2014 I represented South Africa at a 'Public Health and the Law' conference in the Netherlands.

During my spare time I like to break a sweat; I am an ultra-marathon runner and have done seven Comrades marathons. I am also an indoor spinning instructor and love swimming. What motivates me is the love and support that I get from the people

My favourite quote:
'It is better to lead from behind and to put others in front, especially when you celebrate victory when nice things occur. You take the front line when there is danger. Then people will appreciate your leadership.'
 – Nelson Mandela.

around me. I try to balance a healthy lifestyle and work.

The next skill I would like to add to my repertoire involves enhancing my scientific writing. I am passionate about working with sex workers and want to make a difference in their lives by writing many publications and playing an advocacy role. Currently I am a member of the following technical working groups:

- South African National AIDS Council (SANAC) technical task team: National HIV Sex Worker Plan
- Technical working group for the National Strategic Plan for HIV, TB and STIs Advisory Committee 2017 - 2022 (Sex Workers Sector)

- Trainer for the Southern African HIV Clinicians Society: 2015 pre-exposure prophylaxis treatment.

I have achieved success in my career because I am a hardworking, positive and open-minded individual, who always strives to achieve the highest standard possible, at any given task. I enjoy learning new things, can work very well under pressure and possess an excellent ability to motivate others. In addition, I have the ability to communicate comfortably at all levels, ensuring an excellent working environment for all members of the team to perform at their best.

JOIN US FOR THE 26TH INTERNATIONAL WORKSHOP ON HIV DRUG RESISTANCE AND TREATMENT STRATEGIES

**MISTY HILLS COUNTRY HOTEL,
JOHANNESBURG, SOUTH AFRICA,
6 – 8 NOVEMBER 2017**

• ABOUT THE WORKSHOP
 For the past 25 years, the International HIV Drug Resistance and Treatment Strategies Workshop has gained the reputation as the premier academic meeting on antiretroviral drug resistance. For the past two years, the workshop has focused specific attention on the causes and spread of HIV drug resistance in low- and middle-income countries (LMIC). To further raise the awareness of the consequences of antiretroviral resistance in LMIC and to improve knowledge on resistance in the areas with the highest burden of diseases, the next workshop is being held in Johannesburg, South Africa, from 6 - 8 November 2017.

• PROGRAMME FOCUS
 The Workshop is the premier forum addressing the continuous challenge of resistance to antiretrovirals globally. Leading clinical investigators, laboratory scientists, epidemiologists, programme directors and other stakeholders will present and discuss the latest findings on the mechanisms and spread of HIV drug resistance and its clinical implications.

The Workshop programme will consist of an educational programme on the first day followed by two days of invited plenary presentations and abstract-driven oral and poster sessions. While abstracts related to HIV drug resistance from all settings are encouraged, the scientific committee is especially interested in abstracts that address issues for LMIC.

Competition

HIV/TB nursing

Working in the TB room as a nurse is a very challenging task because you are faced with more than TB. Many patients with TB are also co-infected with HIV/AIDS, so the TB nurse has to be extremely knowledgeable about both infections. A TB nurse has to work with a high volume of patients and s/he risks becoming infected with TB her-/himself.

We want to hear about your experiences working as an HIV/TB nurse. What strategies do you use to support patients through treatment for both diseases? How do you keep them motivated, ensure they come for their appointments, make sure people living in the household are investigated, etc.? We would love to publish your strategies for success in *HIV Nursing Matters*.

Submit your typed piece, not to exceed 1 000 words, by 1 July 2017 and stand a chance to win a free one-year membership to the Southern African HIV Clinicians Society (the Society); and have your piece published in *HIV Nursing Matters*! One winner will be chosen by 1 August 2017. The winner agrees to the publication of their story in the next issue of *HIV Nursing Matters* and to submit a picture to accompany the article. The judges' decision is final and no correspondence will be entered into. Please note that only typed stories will be considered.

Please submit via email to
sahivsoc@sahivsoc.org



RESULTS HOTLINE

**0860 RESULT
737858**

This line is dedicated to providing results nationally for HIV Viral Load, HIV DNA PCR and CD4 to Doctors and Medical Practitioners, improving efficiency in implementing ARV Treatment to HIV infected people. This service is currently available to members of Health Professionals Council of the South Africa and the South African Nursing Council. The hotline is available during office hours from 8am to 5pm Monday to Friday.

Register to use the RESULT HOTLINE

Follow this simple Step-by-step registration process



Dial the **HOTLINE** number **0860 RESULT (737858)**

Follow the voice prompts and select option 1 to register to use the hotline

A hotline registration form will be sent to you by fax or e-mail.

Complete the form and return it by fax or e-mail to the hotline to complete your registration process.

Once you are registered, you will be contacted with your unique number. This number is a security measure to ensure that the results are provided to an authorized user.

To use the hotline dial **0860 RESULT (737858)**

Select option 2 to access laboratory results.

- You will be asked for your HPCSA or SANC number by the operator.
- You will be asked for your Unique Number.
- Please quote the CCMT ARV request form tracking number (bar coded) and confirm that the result requested is for the correct patient.



Should the results not be available when you call, you will be provided with a query reference number which must be used when you follow up at a later date to obtain the result.

Once you have a Reference number

Select option 3 to follow up on a reference number

Should the requested results not be available, a query reference number will be provided to you.

A hotline operator will call you within 48 hours of receiving the laboratory results.



Registering for this service from the NHLS, will assist in improving efficiency, providing improved patient care and streamlining clinic processes. Call now and register to access results for HIV Viral Load, HIV DNA PCR and CD4.

Quiz answers from the December 2016 issue

1. **A once-daily pill containing the two antiretroviral drugs: tenofovir and emtricitabine.**
2. **Prevalence: 59.8%. Factors: their multiple partners, inability to insist on condom use, high rates of gender-based violence and rape against them, lack of legal protection and difficulty accessing health care.**
3. **Yes, as part of a package of prevention services including condoms, and with ongoing adherence support.**
4. **Monitoring: 6 months from initiation of treatment, 1 year from initiation, and then yearly thereafter.**
5. **No, the patient must be initiated on ART regardless of CD4 count, in accordance with UTT.**
6. **The complete absence of a required drug at a storage point or delivery point for at least one day. A stock out of any ARV routinely used in a health facility over a one-year period is considered an early warning indicator for development of HIV drug resistance.**
7. **No, it is easy and quick. Health care workers can report a stock out via the toll-free hotline: 084 855 7867, or send an SMS, whatsapp message or report via the website: <http://www.stockouts.org>.**
8. **All children under five years of age and all HIV-infected children, regardless of age, receive isoniazid preventive therapy (IPT) following exposure to an infectious pulmonary TB case, once active TB disease is excluded.**
9. **Yes; only symptomatic children need to be referred.**
10. **Start by asking why we have our problem or are not meeting our aim. Then ask 'why?' to the answer given and continue to ask 'why?' at least five times to try and get to the root cause of a problem.**

Quiz questions for May 2017

1. TRUE or FALSE: Extensively drug-resistant tuberculosis (XDR-TB) is resistant to rifampicin, isoniazid, as well as the fluoroquinolone class of drugs and at least one of the injectable second-line drugs.
2. Select the TRUE statement regarding the Nix-TB trial:
 - A. The regimen consists of two drugs: bedaquiline and pretomanid.
 - B. The drugs are given intramuscularly for a duration of 9 months.
 - C. Results so far suggest that this regimen is similar to that of drug-sensitive TB.
 - D. The mortality rate on this regimen is high.
3. Select the TRUE statement regarding dolutegravir (DTG):
 - A. It is a non-nucleoside reverse transcriptase inhibitor.
 - B. It does not require dose adjustment when taken with rifampicin.
 - C. Two doses should not be taken at the same time to make up for a missed dose.
 - D. Hypersensitivity reactions are common.
4. Select the TRUE statement:
 - A. DTG requires a booster, similar to protease inhibitors.
 - B. DTG is not well tolerated.
 - C. Efavirenz (EFV) has a high resistance barrier.
 - D. DTG has a high resistance barrier.
5. Which of the following are NOT strategies of the safer conception clinic project?
 - A. Pre-exposure prophylaxis (PrEP) to be taken by the HIV-positive partner.
 - B. Viral suppression of all HIV-positive clients.
 - C. Medical male circumcision.
 - D. A self-insemination procedure.
6. TRUE or FALSE: HIV-infected women are 25 - 40% less fertile than HIV-negative women.
7. TRUE or FALSE: Paradoxical TB immune reconstitution inflammatory syndrome (TB-IRIS) is an exaggerated initial presentation of TB symptoms that occurs during early ART initiation.
8. Select the TRUE statement regarding TB:
 - A. TB is an uncommon opportunistic infection in HIV-infected individuals.
 - B. High-risk patients are those who start antiretroviral therapy (ART) within 30 days of starting TB treatment.
 - C. The Pred-ART trial demonstrated that using prednisone when ART is initiated increases the risk of TB-IRIS.
 - D. Prednisone, a corticosteroid, is not often used for treating TB-IRIS.
9. TRUE or FALSE: HIV treatment optimisation can be described as a process intended to enhance long-term accessibility, efficacy and adherence to ensure successful lifetime treatment for all those in need.
10. Select the TRUE statement regarding the design of HIV systems:
 - A. Patient registration details should be recorded correctly to ensure they can be traced and followed up appropriately.
 - B. A proper referral process between the HIV counsellor and primary health care nurse is critical in the HIV care process.
 - C. A poor process between the laboratory, reception clerk and clinician may result in missing bloods, unrecorded bloods, and a delay in the ART initiation process.
 - D. All of the above.

NDoH/SANAC Nerve Centre Hotlines

Any HCT concerns from facility and district managers should be reported to the NDoH/SANAC

Nerve Centre Hotline and specific emails for each province:

- **Western Cape:** 012-395 9081
sanacwesterncape@gmail.com
- **Northern Cape:** 012-395 9090
sanacnortherncape@gmail.com
- **Eastern Cape:** 012-395 9079
sanaceasterncape@gmail.com
- **KZN:** 012-395 9089
sanackzn@gmail.com
- **Free State:** 012-395 9079
sanacfreetate@gmail.com
- **Mpumalanga:** 012-395 9087
sanacmpumalanga@gmail.com
- **Gauteng:** 012-395 9078
sanacgauteng@gmail.com
- **Limpopo:** 012-395 9090
sanaclimpopo@gmail.com
- **North West:** 012-395 9088
sanacnorthwest@gmail.com



AIDS Helpline 0800 012 322

The National Toll-free AIDS Helpline was initiated in 1991 by the then National Department of Health's (NDoH's) 'HIV/AIDS, STDs and TB Directorate'. The objective of the Line is to provide a national, anonymous, confidential and accessible information, counselling and referral telephone service for those infected and affected by HIV and AIDS, in South Africa.

In 1992, LifeLine was requested by NDoH, to take over the management of the Line by rotating it between the 32 existing community-based LifeLine Centres, and manning it with volunteer counsellors. In 2000, in response to an increasing call rate, a centralised Counselling Centre was established in Braamfontein, Johannesburg, to house the AIDS Helpline.

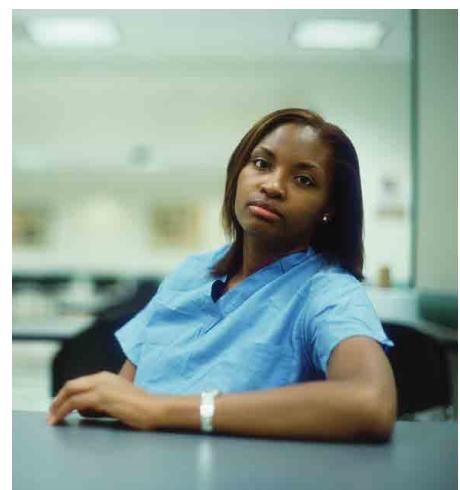
The AIDS Helpline a national toll-free service, operates on a 24/7 basis and is utilised by people from all walks of life in urban and rural areas, in all 11 languages at no cost from a landline telephone.

Annually, the Line provides anonymous, confidential and accessible telephonic information, counselling and referrals to over 300 000 callers.

The AIDS Helpline plays a central role in providing a deeper preventive and more supportive service to those infected and affected by HIV/AIDS, but also serving as an entry point in terms of accessing services from government, private sector and other NGOs/CBOs.

Cases presented range from testing, treatment, transmission, TB, medical male circumcision, etc.

The AIDS Helpline incorporates the Treatment Line. The treatment support services were included to complement the services provided by lay counsellors on the line. The Treatment Line is manned by nurses who provide quality, accurate, and anonymous telephone information and/or education on antiretroviral, TB and STI treatment.



ASK THE EXPERT



If you have any HIV/TB clinical questions, send them to 'Ask the clinician' via sahivsoc@sahivsoc.org and you will get an answer in the next issue of *HIV Nursing Matters*. If your question is urgent, then please state so on your email and the answer will be emailed back to you and still be published in the magazine.

Dear clinician

What is the difference between TB infection and TB disease?

Dear nurse clinician

A person with TB infection is infected with *Mycobacterium tuberculosis* bacteria, but does not have TB disease. Infection with such bacteria occurs by being exposed to someone with TB disease. These patients generally do not have symptoms, are non-infectious and cannot spread TB infection to others. The only sign of TB infection is a positive tuberculin skin test (TST). They will have a negative chest x-ray and sputum smear. However, they are at risk of developing active TB disease, more so if they are HIV-positive. TB infection needs treatment to prevent the development of TB disease.

TB disease occurs when TB infection progresses to TB disease. Some people may develop TB disease soon after infection, while some may develop it months to years later when the immune system becomes weak. It can affect the lungs, or any part of the body. These patients do have symptoms, such as coughing, fever, weight loss and night sweats, although symptoms depend on the part of the body that is affected. Individuals with TB disease are considered infectious and can spread the infection to others. These individuals need to be seen by a health care worker for further testing, such as a chest x-ray or sputum smear, which will usually be positive. TB disease needs to be treated with medication in order for the person to be cured, and to prevent spread to others.

References

1. US Centers for Disease Control and Prevention. TB Elimination: The Difference Between Latent TB Infection and TB Disease. October 2014. <https://www.cdc.gov/tb/publications/factsheets/general/ltbidiandactivetb.htm> (accessed 1 April 2017).



2017 MEMBERSHIP APPLICATION FORM

PROFESSIONAL INFORMATION

Title: Prof Dr Mr Mrs Ms Initials: _____ First Name(s): _____

Surname: _____ Institution/Organisation: _____

Profession (check one):
 Doctor Generalist Doctor Specialist Pharmacist Professional Nurse Other: _____

If Doctor Specialist, select specialty:
 Cardiology Clinical Pharmacology Dermatology Family Physician Infectious Diseases OB GYN Paediatrics
 Physician / Internal Medicine Psychiatry Other: _____

Council number (e.g. HPCSA, SANC): _____ Practice number (if applicable): _____

Primary Employment affiliation (please chose one):
 Clinic Government (non-clinical) Hospital Industry Non-governmental Organisation (NGO) Private Practice
 Student University Other

Professional Activities (write '1' for primary and '2' for secondary):
 Administration Advocacy Patient care Programme Management Research Sales/Marketing
 Teaching/Education Other

Please enter the year you began treating HIV patients: _____

Please indicate if you have passed a postgraduate diploma on the clinical management of HIV from one of the following institutions:
 Colleges of Medicine of South Africa University of KwaZulu Natal Other: _____
Year completed: _____ Year completed: _____ Year completed: _____

Professional Associations: SAMA IAS FIDSSA Other: _____

CONTACT INFORMATION

Postal Address: _____ Suburb/Town: _____ Postal Code: _____

Province: _____ Country: _____

Telephone: _____ Mobile: _____

Fax: _____ Email: _____

DEMOGRAPHIC INFORMATION

Race/ethnicity: Black Coloured Indian White Other: _____

Gender: Female Male Intersex/Transgender Date of Birth: / /

MEMBERSHIP PREFERENCES

Would you like to receive a posted copy of the Society's magazine for nurses, *HIV Nursing Matters*? (Copies are available free on the Society's website: www.sahivsoc.org) Yes No

Would you like to participate in the Society's online membership directory? (Your contact information will be available only to other Society members through the members portal on the Society's website) Yes No

How would you like to receive communications from the Society (check all that apply): SMS Email

• Doctors	R400 per annum
• Nurses & Allied Health Professionals	R300 per annum
• Pharma Package includes 10 pharma rep memberships, 2 mailers and 1 social media event / article	R14000 per annum
• Organisation (NGO) Package for 10 staff memberships or R6000 per annum for 20 staff memberships	R3500 per annum

Signed: _____

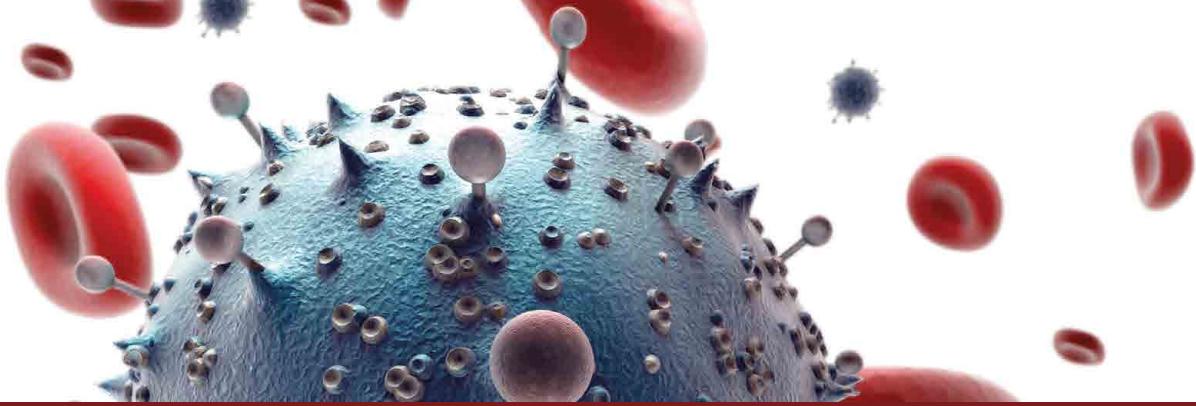
Date: _____

I hereby agree to support the values and mission of the Society; and agree to the membership code of conduct

Method of payment: Electronic Transfer Direct Deposit Post/Cheque Cash Payment Date: / /

Fees are now charged for a calendar year or pro rata according to the date of application. Payments may be made by cheque or electronic transfer payable to: Southern African HIV Clinicians Society, Nedbank Campus Square, Branch Code 158-105, Account No: 1581 048 033. For alternative online payment please go to <http://sahivsoc.org/about/membership-application> and click the "Pay Now" button. Please reference your surname and/or membership number on the payment. Please fax or email proof of payment to 011 728 1251 or admin@sahivsoc.org or post to: Suite 233, Post Net Killarney, Private Bag x2600, Houghton 2041.

HAVE QUESTIONS? Please contact us: 011 728 7365 / admin@sahivsoc.org / www.sahivsoc.org



UNITING NURSES IN HIV CLINICAL EXCELLENCE, BECOME A MEMBER.



Who are we?

We are a member-based Society that promotes quality, comprehensive, evidence-based HIV health care, by:

1 LEADING • PIONEERING

We are a powerful, independent voice within Southern Africa with key representation from the most experienced and respected professionals working in the fight against HIV.

2 CONNECTING • CONVENING • ENGAGING

Through our network of HIV practitioners, we provide a platform for engagement and facilitate learning, camaraderie and clinical consensus.

3 ADVOCATING • INFLUENCING • SHAPING

With our wealth and depth of clinical expertise, we can help health care workers take their practice to a new level. We are constantly improving and expanding our knowledge, and advocating for clinical and scientific best practice.

Member Benefits

Join today and gain instant support from a credible organisation. The Society helps connect you with the best minds in HIV health care. Build your knowledge, advance your profession and make a difference by getting involved now!

- Free online subscription to the *Southern African Journal of HIV Medicine*
- Free quarterly subscription to the Society's e-newsletter, *Transcript*
- E-learning through CPD-accredited clinical case studies and online discussion group forums
- Free tri-annual subscription to *HIV Nursing Matters*
- Weekly SMS clinical tips for nurse members
- Free CPD-accredited continuing education sessions
- Listing in the Society's online HIV provider referral network

SOCIETY CONTACT DETAILS:

Tel: +27 11 728 7365 • **Fax:** +27 11 728 1251

Email: sahivsoc@sahivsoc.org

Post: Suite 233, Private Bag X2600, PostNet, Killarney, Houghton, 2041

www.sahivsoc.org

