

HIV Nursing matters

A publication of the Southern African HIV Clinicians Society



Spotlight on PrEP and UTT

Managing medicine stock outs

Reflection on the pre-ARV era: A Zambian perspective

Preventing TB in child contacts

December 2016 Vol. 7 No. 3



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Guest editorial

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For those of us working in health care, particularly those in the field of HIV, we are all too familiar with the 90-90-90 targets set by UNAIDS. While these targets are ambitious, HIV-treating clinicians are no strangers to challenges, whether at the systematic or at the individual patient level. This edition of *HIV Nursing Matters* touches either directly or indirectly on each of these three targets.

The first 90 – diagnosing 90% of all individuals with HIV infection – will require more than mass testing programmes or innovative approaches to testing; it will require greater knowledge and skill on the part of HIV health care providers of all cadres. Conferences provide a wonderful opportunity to update one's knowledge and to network with other HIV treaters, but HIV is an area where there is a continuing research agenda

when we were all moved by the courage and charisma of Nkosi Johnson.

How much progress we have made since then! From an era where not even prevention of mother-to-child transmission (PMTCT) was widely available in South Africa, to today, where mother-to-child transmission (MTCT) is continuing to decline. We owe this success not only to our hard work, but also to our willingness to change the *status quo*, to think differently about things – which is the topic of the article on page 30. Thinking differently is a key component of quality improvement (QI) processes, which are essential to drive us towards achieving these ambitious targets.

The second 90 focuses on ensuring that 90% of those aware of their positive HIV status are receiving effective antiretroviral therapy (ART). A great challenge faced by health care systems is the vaccine and medicines supply chain. Although this is not unique to South Africa, what is unique is the Stop Stock Outs Project (SSP), which conducts an annual survey to monitor the progress made in ensuring that every patient leaves each visit with their health

As I contemplate these three 90s, I cannot help but think that perhaps there should be a fourth 90 which precedes these three, namely that 90% of all individuals should have access to effective combination prevention, which for many should include pre-exposure prophylaxis (PrEP).

Southern African guidelines on the safe use of PrEP in persons at risk of acquiring HIV-1 infection were released by the Society earlier this year. These guidelines were developed in response to a flurry of data on PrEP, which has been proven to be an effective method of HIV prevention when used correctly across diverse target groups, including serodiscordant couples and men who have sex with men (MSM). In June 2016, a progressive and much-welcomed step was taken to roll out PrEP and universal test and treat (UTT) to sex workers in South Africa. On page 6 a discussion of this initial roll-out, as well as a demonstration project of PrEP and immediate treatment among sex workers, highlights some of the challenges faced by sex workers and contextualises PrEP roll-out to this key population.

Achieving 90-90-90 is complicated by the fundamentally flawed health systems rife in areas where the needs are greatest. In *'Trying to nurse ethically in a broken system'* (page 19), Ufrieda Ho discusses some of the challenges faced daily by nurses in the pursuit of providing high-quality, ethical and compassionate care in the face of an ever-expanding scope of practice, to meet the growing needs of an under-resourced health care system in South Africa. On page 20 we see that South Africa is not the only country facing these challenges, as we are introduced to the Zambian experience.

Finally, South Africa has the second highest incidence of tuberculosis (TB) in the world, and much of this burden is borne by children. On page 25, preventing TB in child contacts is discussed, with an emphasis on practical tips for effective prevention in this vulnerable group.

This bumper final edition for 2016 is a treasure chest of useful clinical tips to improve the quality of care given to our patients. Have a peaceful holiday season and a well-deserved rest.



Diagnosed



On treatment



Virally suppressed

Source: http://www.unaids.org/sites/default/files/media_asset/90-90-90_en_0.pdf

and rapid output of data, combined with a paucity of time and funds to attend all these meetings. For this reason, we have included highlights from the International AIDS Society conference (AIDS 2016) held in Durban in July 2016 (page 4). This is the second time this conference has been hosted on our shores, and it was no less impactful and inspiring than in 2000,

care provider with all their prescribed medications. Highlights of the 2015 SSP report are available on page 15.

An innovative viral load QI programme by Anova in Limpopo Province (page 35) provides some simple, yet effective steps to help achieve the third 90 aimed at virological suppression.

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Message from the president



Dr Francesca Conradie

President, Southern African HIV Clinicians Society

We are living in interesting times. The end of AIDS has been predicted. While such forecasts seem premature and unrealistic at this stage, we have certainly made headway in the struggle by adding interesting tools to our prevention and treatment strategies. Yet cautiously, in using these tools, we need to ensure that we are not imposing our personal values on our patients.

The first example is pre-exposure prophylaxis (PrEP). In my opinion, this is an intervention a lot like using contraception – it is good health-seeking behaviour, and we have advised women for years that if they do not wish to fall pregnant, then they should take oral, injectable or implantable forms of contraception. This counsel does not extend to advising abstinence from sex, but rather that an individual has the right to choose contraceptive methods, to lessen their risk of pregnancy. The same applies to HIV – we can give individuals the choice to lessen their risk of becoming infected with HIV, by allowing the right to choose PrEP. Yes, we have condoms; but women do not necessarily control their use. Somehow this matter has become complicated with an overlying moral issue, and again, as health care providers, we need to look at our own values and ensure that we are not making moralistic judgments for patients who are different from ourselves. PrEP is safe and effective, and we need to prioritise this intervention for people at high risk of contracting HIV, such as men who have sex with men (MSM) and commercial sex workers.

The second example is universal test and treat (UTT). Anyone who has a positive HIV test result requires treatment. The days of waiting to treat patients until they become ill from HIV or exhibit a drop in CD4 count to a certain level are over. While this is great and we have already been exercising this for HIV-positive pregnant women for some time, we now need to ensure that we remain hyper-vigilant for side-effects as a consequence of treatment. With UTT, we will be treating more and more people who have never been ill; we need to listen to our patients and respond to their reports of side-effects.

As always in the HIV world, things never stay the same. We need to be nimble and respond to the changes.



News

Carel Evans, Monique Dobe, Precious Sekgotho
Southern African HIV Students' Society

Reportback on AIDS 2016:

International AIDS Conference, Durban International Convention Centre,
18 – 22 July 2016

Upon attending AIDS 2016, we expected to learn new information; but what we didn't anticipate was to gain insight into the not-so-theoretical aspect of HIV/AIDS. Here we provide insight into this perspective and relay conference highlights to fellow health professionals and students.

'I think it's time we face the truth about the unjust world we live in. The truth is, we have every tool we need to prevent the spread of HIV. Every tool we need.' This was just one of the many hard-hitting truths of Charlize Theron's thought-provoking opening speech at AIDS 2016. There has indeed been a marked increase in the roll-out of antiretrovirals (ARVs) and pre-exposure prophylaxis (PrEP), as well as increased awareness and education surrounding the prevention of HIV.

So why were 2.1 million people infected

with HIV in 2015 alone? How is it possible that people are still dying of AIDS?

Charlize boldly addressed this and many other issues others were perhaps too afraid to: the notion that HIV is not only transmitted by sex, but also by sexism, racism, poverty and homophobia; that in order to end HIV, we have to 'cure the disease in our hearts and minds first'. Echoing Charlize's sentiments, we as current and future health care professionals have to ask ourselves: why has HIV not yet ended, and what is the role we are willing to play to see it end in our lifetime?

While there are still a large percentage of adults and children infected with HIV annually, prevention of mother-to-child transmission (PMTCT) is one programme where there has been success in HIV prevention. In South Africa, the rate of

mother-to-child transmission (MTCT) at 6 weeks has decreased from 8% in 2008 to 1.5% in 2015. This significant decrease was largely attributed to Option B and Option B plus initiated in 2013 and April 2015, respectively, as outlined in the conference session titled, 'We can do it: No child born with HIV in South Africa – the journey towards Elimination of Mother To Child Transmission (EMTCT)'. In addition, the decrease can also be attributed to the MomConnect project, a mobile app launched in 2014 by the National Department of Health (NDoH) in partnership with various organisations. This project enables all pregnant moms to register their pregnancy via their cell phones (including non-smartphones). Based on a few answers they provide upon registering, moms receive SMS messages throughout their pregnancy reminding them of check-ups, and providing useful tips and information on

how to maintain a healthy pregnancy. This has markedly improved pregnancy outcome.

Without a doubt, one of the major themes of the conference was PrEP. The basis of PrEP is a fixed-dose combination pill (Truvada; 300 mg tenofovir and 200 mg emtricitabine) taken daily by HIV-negative people who are at high risk of contracting HIV in order to prevent infection. It has been available for years, but has only recently been approved for use in vulnerable/minority groups, namely female adults and adolescents, sex workers and men who have sex with men (MSM). In South Africa, it is only used by sex workers and the transgender population and has not yet been rolled out to other vulnerable groups. At the conference, the presence of these minority groups, the self-dubbed 'missing 10' (those who will potentially be overlooked as countries make progress towards the UNAIDS treatment targets of 90-90-90), was definitely felt. Several peaceful protests were held throughout the week, with activists from all over the world demanding access to PrEP and pleading to be recognised as groups of individuals at high risk of contracting HIV.

The global village exhibition centre was an exciting and informative hub where some of these protests took place. One of the more notable protests was the Affordable Access Now Campaign, which circled the Durban International Convention Centre. Silent protests by those campaigning for sex workers to be recognised as a key population in the fight against HIV were frequent, from groups marching throughout the convention centre with red umbrellas to large timers showing how long presenters at key summits had spoken without mentioning this vulnerable group. There were also various stalls where delegates could be educated on why these minority groups were at such high risk of contracting HIV: married female adults who are financially dependent on husbands who cheat on them with multiple other women; female teenagers and young women as they are targeted by 'blessers'; sex workers because of the nature of their job; and the transgender population, including MSM because anal sexual intercourse increases the transmission of HIV. These

protests and educational stalls aimed to address stigma and discrimination surrounding such minority groups.

Youth engagement and development of programmes targeting youth played a large role throughout AIDS 2016. The Higher Education HIV/AIDS Programme (HEAIDS) session looked at supporting programmes aimed at South Africa's public universities and technical, vocational and training colleges, with a primary focus within the age range of 15 - 24 years. Numerous topics were raised including: the importance of identifying the HIV prevalence by district in order to develop targeted and strategic programmes; the high prevalence of co-infection between HIV and HSV2 within populations of high school students in KwaZulu-Natal; and the vulnerabilities of students who are without access to resources despite a significantly increased risk for HIV acquisition. Results from current HEAIDS studies, including the First Things First study, have shown that HIV, sexual reproductive health (SRH) and counselling services need to be delivered to students, as they do not frequently attend clinics. Peer-to-peer training was also stressed as a key area of development, as word of mouth has been shown to have the best impact across multiple studies. The engagement from major radio personalities such as DJ Fresh in the Future Beats campaign was also shown to be highly effective in encouraging students to get tested. Preliminary results of First Things First showed that the numerous interventions outlined in the programme had been largely successful.

The United Nations Population Fund (UNFPA) Youth Leadership satellite session, including the play presented by the 'I Declare' movement, was highly informative. The South African Minister of Health, Honourable Dr Aaron Motaoleli, and the UNFPA Regional Director, Dr Julitta Onabanjo, were respondents to the youth in this interactive session. A notable contribution was made by Bonakele Zungu, a young South African female who actively advocates for youth, women and those with disabilities. She currently sits on numerous panels and boards as a representative thereof. Her clear statement highlighting

the ease with which health care professionals forget those with disabilities when treating patients and formulating policies, was a watershed moment in her conversation with Ms Rouzeh Eghtessadi, the SAfAIDS Deputy Executive Director. She encouraged health care practitioners to understand that 'it's not about my disability, but about my abilities', when considering those with disabilities. She recommended that individuals with disabilities should be included in policy formulation. The session concluded with students from across Africa declaring their goals pertaining to HIV.

Given the current decline in funding for the Global Fund, sessions such as 'The Innovations Needed to Support Treatment for All' were a common occurrence at the conference, with speaker after speaker pleading for governments to pledge more towards the fund. This particular session, however, dealt with the idea of coming to terms with the reduced budget afforded to the Global Fund, by finding ways to increase the efficiency, effectiveness and targeted use of contributions. Key concerns lay in the delayed implementation of new policies as well as procurement of medications upon adopting new policies from the World Health Organization (WHO). Calls for further research and education on the side-effects of lifetime treatment and a focus on medication adherence counselling, were also raised. As patient lifespans improve due to antiretroviral therapy (ART), it becomes pertinent to understand the cumulative effects that 'minor side-effects' may have on adherence, especially as these side-effects may now be experienced for decades.

Through the numerous tracts offered at AIDS 2016, it became clear that HIV is far from a simple virus. The complex interactions with individuals, their cultures and society, may affect their ability to be identified, tested, initiated on treatment and retained in care with a suppressed viral load. As health care professionals, we need to make it our mandate to understand the numerous aspects of life that HIV can and does affect before we can make a meaningful contribution to the lives of the patients we treat.



Introduction of PrEP and UTT for sex workers in South Africa

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A challenge for governments, public health, trade unions and nurses themselves

Key populations, including sex workers, were identified as a priority in the *National Strategic Plan on HIV, STIs and TB 2012 - 2016*, and are expected to be as prominent in the new Strategic Plan being developed for 2017 - 2021. Male, female and transgender sex workers are considered to be a 'priority group' due to their high vulnerability to HIV, and may be critical to gaining control of the epidemic. While there are some data on South African female sex workers (FSWs) and their HIV risk, almost no data exist on male or transgender sex workers. Limited data

from other countries, however, show that the latter are also at high risk and should be addressed within any broader sex work strategy.

The South African Health Monitoring Surveillance estimates the prevalence of HIV among FSWs to be 71.8% in Johannesburg, 39.7% in Cape Town, 53.5% in eThekweni, and 59.8% generally in South Africa. While no new infection incident data are available, these data, coupled with the fact that they were collected from a fairly young cohort and do not assess lifetime

risk of HIV, indicate that FSWs are at extraordinarily high risk of getting and transmitting HIV.

These risks for HIV are because sex workers have multiple sexual partners, and this is exacerbated by their lack of power to insist on condom use, high rates of gender-based violence and rape, and lack of legal protection. Barriers limiting access to health care facilities and services by sex workers include inconvenient operating hours and inefficient systems that result in loss of income; and stigma, hostility

and discrimination from health workers. Sex workers claim that they would rather suffer symptoms and tolerate opportunistic infections than face stigma and abuse at facilities. Approximately 6% of the 350 000 annual new infections in South Africa are estimated to occur among sex workers, and 14% among sex worker clients or their sexual partners. These significantly high rates, together with the possibility of onward transmission to clients and partners, gives urgency to focused interventions for this group.

As a result, sex workers have been prioritised as a population at substantial risk of HIV. In March 2016, the South African National Department of Health (NDoH) launched the *South African National Sex Work HIV Plan*, which encompasses combination HIV-prevention interventions to be offered to sex workers. The package of service includes pre-exposure prophylaxis (PrEP): a combination of oral tenofovir and emtricitabine (TDF/FTC) as a single daily tablet that provides protection against HIV. In addition, South Africa supports the UNAIDS Fast Track approach: the 90-90-90 targets, with a prevention target to reduce the number of new HIV infections by 75% by 2020.

PrEP was launched at selected demonstration sites throughout the country on 1 June 2016. HIV-negative sex workers are now offered PrEP at selected sites that have met clinical and service-delivery criteria.

New national sex worker guidelines and the Wits RHI sex work programme

The NDoH *Operational Guidelines for HIV, STI and TB Programmes for Key Populations in South Africa* supports

targeted interventions among people most vulnerable to HIV. The Wits Reproductive Health Institute (Wits RHI), based in the City of Johannesburg and Tshwane, offers comprehensive primary health care services to sex workers and their clients, employing a combination HIV-prevention approaches tailored for sex workers, including biomedical, socio-behavioural and structural interventions. On offer are: sexual and reproductive health (SRH) services, tuberculosis (TB) screening, sexually transmitted infection (STI) screening and treatment, provision of PrEP, universal test and treat (UTT – also called ‘test and start’, where antiretroviral therapy (ART) is started irrespective of CD4 count), cervical cancer screening, treatment of minor ailments, and referrals for more complex conditions.

The overall aim of the programme is to support the South African government to develop, implement and evaluate a package of treatment services for HIV, STIs and TB for key populations, including new interventions such as PrEP and UTT. As such, Wits RHI undertook The TAPS (Treatment And Prevention for FSWs) demonstration project: an implementation study to assess whether it is feasible, acceptable, safe and cost-effective to roll out oral PrEP as part of a combination prevention package for HIV-negative FSWs, and early treatment for HIV-positive FSWs. The study began in March 2015 in two sites: Esselen clinic in Johannesburg and Sediba Hope clinic in Pretoria. Lessons learned from the demonstration project supported the development of the new national policy and guidelines on PrEP and early treatment, which launched on 1 June 2016.

PrEP, recommended by the World Health Organization (WHO) for people at substantial risk of HIV infection, is defined as the use of antiretroviral (ARV) drugs by HIV-negative individuals before potential HIV exposure, to prevent the acquisition of HIV. The efficacy of daily oral TDF-

based regimens used as PrEP to reduce HIV acquisition has been established through randomised placebo-controlled trials including men who have sex with men (MSM), heterosexual individuals and intravenous drug users. According to the WHO guidelines, PrEP should be offered as an additional prevention choice for people at substantial risk of HIV infection as part of a combination prevention approach.

In December 2015, the TDF/FTC combination pill was approved for use in South Africa as oral PrEP by the Medicines Control Council (MCC), in combination with safer sexual practices (including condom use, ongoing adherence support and regular HIV testing). Given the high vulnerability of sex workers in South Africa to HIV, they are a likely population to benefit from PrEP. The guidelines also recommend that PrEP should not be provided in isolation, but must be delivered in the context of comprehensive combination HIV prevention (including condom use) and accompanied by ongoing adherence support. PrEP was launched at selected demonstration sites throughout the country on 1 June 2016. HIV-negative sex workers are now offered PrEP at selected sites that have met clinical and service-delivery criteria.

UTT offers HIV treatment upon diagnosis for those who are HIV-positive regardless of CD4 count. This approach has the potential to reduce HIV incidence significantly by suppressing the virus and rendering HIV-positive patients non-infectious. The WHO recommends that all HIV-positive individuals are started on ART regardless of their CD4 count. South Africa has followed this recommendation – initially just for sex workers, but since September 2016, for everyone testing HIV-positive. With the implementation of the new sex worker guidelines, Wits RHI clinics are offering UTT to HIV-positive sex workers immediately upon diagnosis regardless of CD4 count or clinical staging.

The use of PrEP and UTT will contribute to the country's targets for HIV reduction by 2030. This approach depends on individuals' abilities to take medication regularly, which is closely tied to behaviour change that supports adherence, and includes counselling and testing, management of intimate partner violence, peer educators who are current sex workers working among their social networks through the 'buddy system', social marketing of male and female condoms, lubricants, health information, behavioural messages and psychosocial support.

Our experience suggests that offering these services in a non-judgmental, friendly way, means that sex workers will take up a critical HIV-prevention intervention.

Initial experience has been very positive in the TAPS study: As yet, among FSWs receiving PrEP, none have acquired HIV (sadly however, one FSW stopped PrEP and subsequently contracted HIV, showing how at risk these women are). Among the HIV-positive sex workers, viral load suppression has been wonderful, with levels higher than in the general population. The sex workers value the programme, and seem willing to take up the services.

Our experience suggests that offering these services in a non-judgmental, friendly way, means that sex workers will take up a critical HIV-prevention intervention. There is still plenty to learn, but this vulnerable community will benefit from continual refinement of how we get PrEP and UTT to them.

Conclusion

PrEP is still new in clinics and uptake is currently slow; however, with time and as the interventions normalise,

numbers are expected to increase gradually. To address the service gap for sex workers, the NDoH supports introducing PrEP and UTT to the sex worker population. Evidence of the successful implementation of PrEP and UTT in demonstration sites will enable the country to scale up provision in other areas. Therefore, additional sites must be prepared to provide these services in the near future.

The interventions are offered through primary care clinics; and all sex worker services are run by nurses. As with many other interventions, nurses will be at the frontline of PrEP as well as UTT going forward. They will be critical in getting South Africa's high HIV incidence down once and for all.

References

1. Baeten JM, Donnell D, Ndase P, et al. Antiretroviral prophylaxis for HIV prevention in heterosexual men and women. *N Engl J Med* 2012;367(5):399-410.
2. Bekker LG, Rebe K, Venter F. Southern African guidelines on the safe use of pre-exposure prophylaxis in persons at risk of acquiring HIV-1 infection. *S Afr J HIV Med* 2016;17(1).
3. Choopanya K, Martin M, Suntharasamai P, et al. Antiretroviral prophylaxis for HIV infection in injecting drug users in Bangkok, Thailand (the Bangkok Tenofovir Study): A randomised, double-blind, placebo-controlled phase 3 trial. *Lancet* 2013;381(9883):2083-2090.
4. Cohen MS, Chen YQ, McCauley M, et al. Prevention of HIV-1 infection with early antiretroviral therapy. *N Engl J Med* 2011;365(6):493-505.
5. Grant RM, Lama JR, Anderson PL, et al. Pre-exposure chemoprophylaxis for HIV prevention in men who have sex with men. *N Engl J Med* 2010;363(27):2587-2599.
6. McCormack S, Dunn DT, Desai M, et al. Pre-exposure prophylaxis to prevent the acquisition of HIV-1 infection (PROUD): Effectiveness results from the pilot phase of a pragmatic open-label randomised trial. *Lancet* 2016;387(10013):53-60.
7. Montaner JS, Hogg R, Wood E, et al. The case for expanding access to highly active antiretroviral therapy to curb the growth of the HIV epidemic. *Lancet* 2006;368(9534):531-536.
8. National Department of Health (NDoH). Guidelines for Expanding Combination Prevention and Treatment Options for Sex Workers: Oral Pre-Exposure Prophylaxis (PrEP) and Test and Treat (T&T). Health Sector HIV Prevention Strategy, 2014 - 2016. Pretoria, South Africa: NDoH, 2016.
9. National Department of Health (NDoH). High Transmission Area Programme Guidelines, 2014: Pretoria, South Africa: NDoH, 2014.
10. National Department of Health (NDoH). National Strategic Plan on HIV, STIs and TB 2012 - 2016. Pretoria, South Africa: NDoH, 2012.
11. National Department of Health (NDoH). Operational Guidelines for HIV, STI and TB Programmes for Key Populations in South Africa. Pretoria, South Africa: NDoH, 2012.
12. South African National AIDS Council (SANAC). National Strategic Plan for HIV Prevention, Care and Treatment for Sex Workers. Pretoria, South Africa: SANAC, 2013.
13. South African National AIDS Council (SANAC). The South African National Sex Work HIV Plan, 2016 - 2019. Pretoria, South Africa: SANAC, 2016.
14. Thigpen MC, Kebaabetswe PM, Paxton LA, et al. Antiretroviral pre-exposure prophylaxis for heterosexual HIV transmission in Botswana. *N Engl J Med* 2012;367(5):423-434.
15. UCSF, Anova Health Institute & Wits Reproductive Health Institute. The South Africa National Health Monitoring Study with Female Sex Workers, 2013 - 2014. San Francisco, UCSF: 2015.
16. World Health Organization (WHO). Consolidated Guidelines on HIV Prevention, Diagnosis, Treatment, and Care for Key Populations. Geneva, Switzerland: WHO, 2014.
17. World Health Organization (WHO). Guideline on when to start antiretroviral therapy and on pre-exposure prophylaxis for HIV. Geneva, Switzerland: WHO, 2015.

STOP STOCKOUTS

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.





Pre-exposure prophylaxis in context

Marcus Low, Kristanna Peris
Treatment Action Campaign

This article was initially published in Spotlight on 18 July 2016:

<http://www.spotlightnsp.co.za/2016/07/18/pre-exposure-prophylaxis-context/>

In recent years we have discovered an entirely new form of HIV prevention – providing antiretroviral therapy (ART) to people who are not living with HIV in order to prevent HIV infection. Large

numbers of studies have been done to determine which specific medicines and delivery methods (pills, gels, or rings) work best. This field is fast evolving. Here is how we see the current state of play.

Pills containing tenofovir and emtricitabine

The most effective form of pre-exposure prophylaxis (PrEP), according to the

currently available evidence is a once-daily pill containing the two anti-retroviral (ARV) drugs, tenofovir (TDF) and emtricitabine (FTC). However, the efficacy of this combination pill has varied substantially in different studies. This variation appears to be linked to two factors: the level of treatment adherence and the nature of the population in which the drug is being tested. In almost all PrEP studies, people who take the pills as prescribed

have significantly better outcomes than people who do not. The tenofovir/emtricitabine combination has generally had better results in studies of men who have sex with men (MSM) than in studies conducted among heterosexual women. These differences appear in part to be due to biological differences between the rectum and the vagina – but also seem to reflect better adherence among MSM – at least in the studies conducted thus far. In general though, a fairly clear picture has formed in recent years. If people take TDF/FTC daily, then they are much less likely to contract HIV. With good adherence, the risk is dramatically reduced, but recent evidence suggests that even with perfect adherence, the risk is not reduced to zero. We thus recommend that, whenever possible, TDF/FTC PrEP should be taken in addition to using condoms.

Both the World Health Organization (WHO) and the Southern African HIV Clinicians Society (SAHIVSoc) recommend the use of daily PrEP for people at high risk of HIV infection. We fully support this recommendation.

What about the gel and the ring?

Apart from the TDF/FTC combination, TDF as a pill alone, TDF in a gel form, and a vaginal ring containing the ARV dapivirine (DAP) have also been tested. None of these interventions have been

Both the World Health Organization (WHO) and the Southern African HIV Clinicians Society (SAHIVSoc) recommend the use of daily PrEP for people at high risk of HIV infection. We fully support this recommendation.

as effective as the TDF/FTC pill taken daily. While there was great excitement about 1% TDF gel a few years ago, this excitement has evaporated following a series of disappointing trial results. As with PrEP pills, adherence seems to play a crucial role in how well the gel works. In the key studies conducted on the gel, women generally did not use the gel as prescribed. Whatever the reasons, the failure of 1% TDF gel in two very large trials has essentially put an end to hopes of the gel becoming a viable option for HIV prevention.

A more promising intervention is a vaginal ring containing DAP. The ring is inserted into the vagina and then replaced every month. The hope is that such a ring – one that women could leave in place and forget about – would help get around the problem of poor treatment adherence. Two recently reported phase III studies found the DAP ring to be effective in preventing HIV infection. There is a snag, however: both studies only showed moderate levels of protection, <40%. In addition, the findings of both studies had unusually high levels of statistical uncertainty. Thus, while the concept of the ring is very compelling, the efficacy thus far does not compete favourably with a daily TDF/FTC pill.

Treatment vs PrEP

While it is clear that governments and donors should invest both in treatment for people living with HIV and in PrEP, there may be situations where policy-makers may feel forced to choose between the two due to resource constraints. A number of modelling studies have teased out the impact these different interventions are likely to have on new infections.

A 2014 study by Alistar and colleagues concluded that universal ART, with either a marginal or a broad scale-up, was cost-effective, cost-saving and provided more health benefits than general PrEP. The study evaluated

the population health outcomes and cost-effectiveness of implementing expanded ART treatment and oral PrEP in South Africa. Different strategies were assessed, in which ART, PrEP or both were scaled up to 25%, 50%, 75% or 100%. In general, the strategies involving a scale-up of ART for all people with HIV averted more infections than the strategies involving an equal scale-up of PrEP for all eligible people. The best strategy considered was a 100% scale-up of universal ART (which averts 75% of new infections without any PrEP) and PrEP focused on high-risk populations (which averts 57% of all new HIV infections without any ART scale-up). This strategy costs only US\$150 per quality-adjusted life year (QALY) gained and was the most effective of all strategies at preventing new HIV infections.

A 2012 modelling study by Cremin *et al.* came to similar conclusions. They found that 'at a population level, maximal cost-effectiveness is achieved by providing ART to more infected individuals earlier rather than providing PrEP to uninfected individuals. However, early ART alone cannot reduce HIV incidence to very low levels and PrEP can be used cost-effectively in addition to earlier ART to reduce incidence further. If implemented in combination and at ambitious coverage levels, medical male circumcision, earlier ART and PrEP could produce dramatic declines in HIV incidence, but not stop transmission completely.'

Apart from the type of cost/benefit analysis described above, there is also an important ethical consideration. There is a moral responsibility first to treat people living with HIV – given that since the Strategic Timing of AntiRetroviral Treatment (START) trial, we know that all people living with HIV should be offered treatment for their own health.



Spotlight on PrEP: What nurses need to know

Melody Emmett

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The World Health Organization (WHO) advocates a universal test and treat (UTT) approach for people living with HIV: antiretroviral therapy (ART) should be given regardless of the CD4 cell count of HIV-positive people. For people from key population groups (KPGs) and others at substantial risk of HIV infection, the WHO recommends the use of pre-exposure prophylaxis (PrEP).

KPGs include men who have sex with men (MSM), sex workers (female, male and transgender), people who inject drugs (PWID), people living in prisons/closed settings, transgender people, and adolescent girls/young women (aged 15 - 24 years). These groups bear the brunt of stigma and

discrimination in society generally, and although they have the greatest need of HIV prevention and treatment, they are often obstructed or made to feel unwelcome by health care service providers.

Prejudice is part of our human makeup; we inherit it from our ancestors or pick it up from our communities, cultures and religions, but as responsible citizens in a constitutional democracy, we are expected to rise above our prejudices. As a health care worker, you are the public face of health services at hyper local level. What are you doing to make the change?

You can start by being aware of your feelings, attitude and prejudices and

ensuring they do not impact on the service and care you provide. You can be sensitive to your client's feelings and try to understand her/his challenges. You can be welcoming, accepting and non-judgmental. You can respect confidentiality so that you are trusted, and you can play your part in ensuring that services are accessible to diverse groups of people.

The training offered by the Southern African HIV Clinicians Society (SAHIVSoc) is aimed at health care professionals who are at the frontline in the battle against HIV. The focus is on sex workers, adolescent girls and young women, and MSM. The material in this article comes from the training manual.^[1]

Approximately 20% of the 350 000 people who contract HIV every year in South Africa are sex workers. Sex workers include male, female and transgender adults who receive money or goods in exchange for sexual services. Sex work is consensual sex between adults. It may be 'formal' and organised. Children aged <18 years who exchange sex for money or goods or favours are being sexually exploited according to the Convention on the Rights of the Child. Evidence of the sexual exploitation of children should be reported to the police.

In June, the South African National Department of Health (NDoH) began rolling out PrEP for sex workers through 11 selected sites. Uptake thus far has been low, according to Sally Shackleton, director of the Sex Workers Advocacy Task Team (SWEAT): 'It takes time for any new approach to get traction at community level.'

The risk of HIV infection for young people aged 10 - 24 years is very high. Adolescence is shaped by physiological, sexual, reproductive, cognitive and psychosocial changes. Risk factors include: peer pressure, sexual coercion, transactional sex, age-disparate relationships, teenage pregnancy, physiological vulnerability, dropping out of school, being in a child-headed household, and barriers to using health services. Young people who inject drugs, engage in sex work, or have sex with men, are especially susceptible.

A client who tests HIV-positive is not eligible for PrEP and must be offered ART as soon as possible, regardless of CD4 count. The client must be linked to HIV treatment and support ...

In 2015, HIV prevalence among MSM was estimated to be 9.9%, with the highest number of infections in Johannesburg and Durban, followed by Cape Town.^[2] The WHO estimates that PrEP could prevent one million new infections in MSM over the next 10 years.

What is PrEP?

In South Africa, PrEP is available as an antiretroviral (ARV) pill consisting of a fixed-dose combination (FDC) of tenofovir and emtricitabine (TDF/FTC). PrEP has been effective in preventing HIV transmission for HIV-negative people who are at high risk of infection. However, PrEP taken on its own is not sufficient; it is an additional tool in the HIV-prevention toolkit. Other precautionary methods, such as condom and lubricant use, should also be used.

How should PrEP be prescribed?

One tablet daily is recommended. Intervals between prescriptions are as follows:

- Provide 1-month supply at initiation
- At 1 month, repeat HIV test and provide 3-month supply
- Every 3 months, repeat HIV test and provide 2-monthly supply
- When risk of infection is via anal sex, daily doses are required for 7 days to achieve sufficient protection.
- When risk of infection is via vaginal sex, PrEP must be taken daily for 20 days to achieve protective vaginal tissue levels.

A client who tests HIV-positive is not eligible for PrEP and must be offered ART as soon as possible, regardless of CD4 count. The client must be linked to HIV treatment and support, and wherever possible, her/his partner(s) encouraged to test for HIV.

HIV seroconversion can occur after

initiating PrEP due to non-adherence or being in the window period at the time of testing. As soon as testing HIV-positive, ART must be initiated with referral for HIV care and treatment.

Before being prescribed PrEP, a client must be tested for HIV, using the algorithm in the National HIV Testing Services (HTS) Guidelines. Creatinine clearance rate (CCr) testing to identify pre-existing renal disease is also critical. Clients with abnormal renal function (estimated CCr <60 ml/min) should not initiate PrEP. The test may be repeated after 2 weeks and if renal function returns to normal and other PrEP eligibility criteria are met, then PrEP may then be initiated.

Other investigations include: hepatitis B surface antigen (HBsAg) to identify undiagnosed hepatitis B infection, urine pregnancy test, rapid plasma reagin (RPR) to diagnose syphilis infection for treatment, and syndromic sexually transmitted infection (STI) screening to diagnose and treat STIs.

PrEP can be taken by:

- Sexually active HIV-negative MSM or transgender persons who want PrEP
- Individuals using condoms erratically or not at all
- PWID
- Adolescents and young people (young MSM and adolescent girls are especially vulnerable)
- Sex workers.

Heterosexual men and women can benefit from taking PrEP in cases where one partner is HIV-positive or HIV status is unknown.

PrEP should not be taken by people who are HIV-positive or have evidence of an acute viral illness. Individuals with poor renal function (estimated CCr <60 ml/min) and individuals who are taking any other nephrotoxic medicine should not take PrEP (TDF should not

be administered with other nephrotoxic drugs, e.g. aminoglycosides).

People who are not going to attend standard follow-up and monitoring visits should not be given PrEP, and adolescents aged <15 years, weighing <35 kg or who have not reached Tanner stage 3 are not eligible for PrEP.

There is a risk of seroconversion during conception and pregnancy. Caution is recommended when prescribing PrEP to HIV-negative women during pregnancy or breastfeeding. However, the long-term safety of PrEP has not been determined in clinical trials and no adverse effects have been found in infants exposed to TDF/FTC when taken as part of a treatment regimen for pregnant HIV-positive women.

recommend continuation of PrEP during pregnancy or breastfeeding for those with ongoing risk for HIV exposure.

- TDF should not be co-administered with other nephrotoxic drugs, e.g. aminoglycosides.
- Standard TB medication does not interact with PrEP drugs and there is no need for dose adjustments.
- PrEP does not interact with hormonal contraception.

What are the side-effects?

Gastrointestinal side-effects have been reported by about 10% of PrEP users in clinical trials. These generally go away within 4 weeks. Renal toxicity and modest increases in serum creatinine have been reported. These generally

go away after discontinuation and most often they do not appear again after reinitiating PrEP.

Minor decreases in bone-mineral density have been reported and PrEP users with chronic hepatitis B infection may experience a viral flare after discontinuing PrEP, which could result in severe liver damage.

PrEP should be discontinued if a client tests HIV-positive, develops renal disease, is non-adherent to PrEP, does not want to take PrEP (PrEP is a choice), or no longer meets the eligibility criteria.

The NDoH's pioneering and decisive action to introduce PrEP as an HIV-prevention strategy is to be welcomed. PrEP offers new hope to South Africans

Table 1: Follow-up and monitoring are essential

Activity	Frequency
Confirmation of HIV-negative status	At 1 month, then every 3 months
Address side-effects	Every visit
Adherence counselling	Every visit
CCr test	At 1 month, then every 3 months for the first year, then annually
STI screening and treatment	Every visit
PrEP medication supply	1-month supply, then 3-monthly supply
Behavioural sexual risk reduction counselling	Every visit

CCr = creatinine clearance rate; PrEP = pre-exposure prophylaxis; STI = sexually transmitted infection.

Other important considerations:

- TDF/FTC is active against hepatitis B infection. Discontinuation of TDF/FTC requires close monitoring in those infected with hepatitis B due to the risk of hepatitis flare.
- Persons with osteopenia/osteomalacia/osteoporosis may be at risk of bone loss associated with TDF.
- Women who want to conceive and are eligible for PrEP must be monitored. After discussing the potential risks of TDF/FTC,

There is a risk of seroconversion during conception and pregnancy. Caution is recommended when prescribing PrEP to HIV-negative women during pregnancy or during breastfeeding.

who are particularly vulnerable to HIV infection and to the health care professionals who support them.

References

1. Southern African HIV Clinicians Society (SAHIVSoc). Society Current Guidelines. Johannesburg, South Africa: SAHIVSoc, 2016. <http://www.sahivsoc.org/SubHeader?slug=society-guidelines>
2. AVERT. HIV and AIDS in South Africa. Brighton, UK: AVERT, 2016. <https://www.avert.org/professionals/hiv-around-world/sub-saharan-africa/south-africa>



Managing medicine stock outs

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Managing stock outs should be a key component in the role of all health care workers. Despite the various pressures relating to service delivery experienced at facility level, efforts to ensure that patients are not sent home without their medicines, should continue to be made.

Introduction

Stock outs continue to occur in South Africa. According to the 2015 annual survey carried out by the Stop Stock Outs Project (SSP), the proportion of facilities in South Africa experiencing stock outs

in 2015 **increased** compared to 2014, with over **one in three** facilities affected by stock outs of antiretroviral (ARV) or tuberculosis (TB) medicines in the 3-month period prior to contact (Figure 1), one in five on the day of contact, and approximately one in ten experiencing

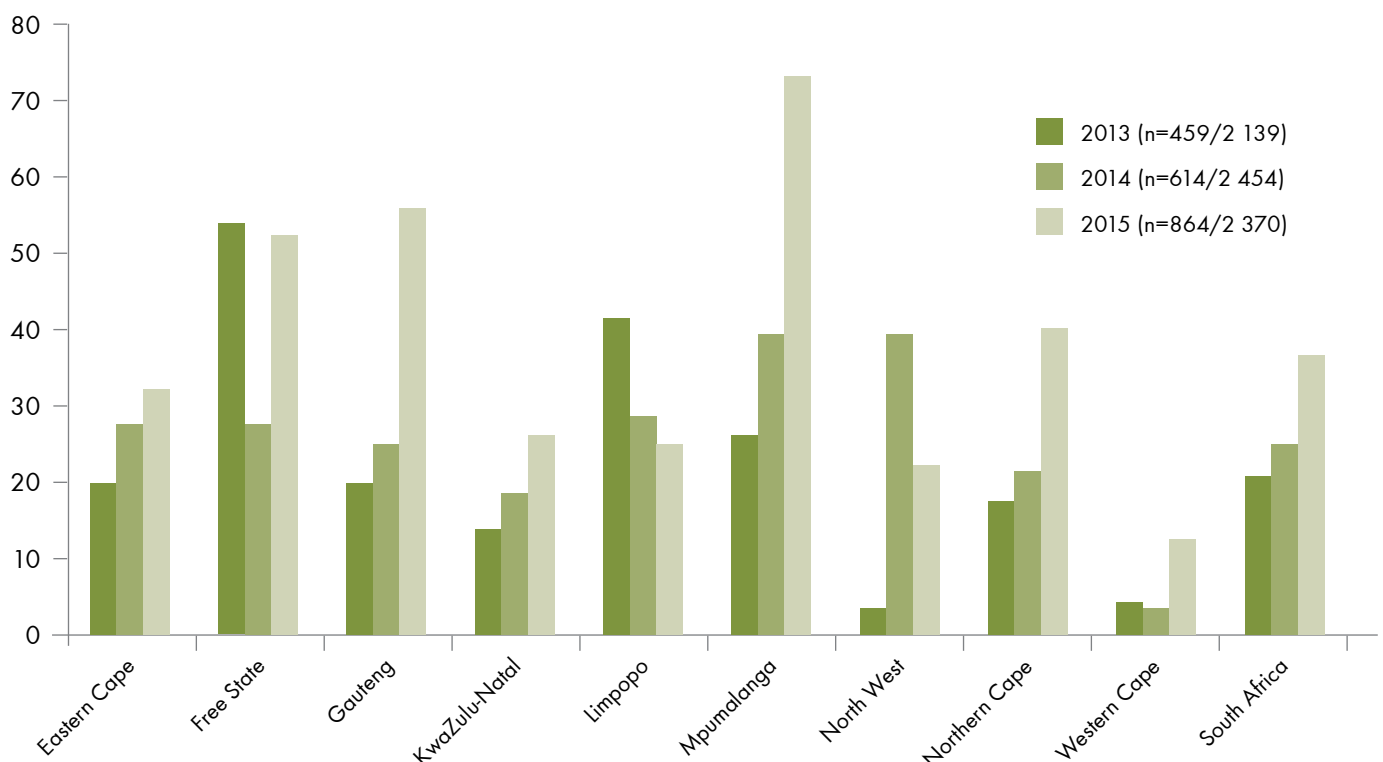


Figure 1: Percentage of facilities reporting at least one ARV or TB medicine stock out (3 months) by province (2013 - 2015).

vaccine stock outs on the day of contact. **While some stock outs were attributed to national shortages of adult lopinavir/ritonavir (LPV/r), provinces and districts differed in their ability to manage and limit stock outs.**

Stock outs do not only occur in South Africa, but are wide-spread in sub-Saharan Africa: reports from the Coordinated Procurement Planning Unit (CPP) – a body created by Supply Chain Management System (SCMS); the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM); Office of the Global AIDS Coordinator (OGAC); and World Bank (WB) – suggest that in the first quarter of 2014, 21 of 22 sub-Saharan countries were at risk of national-level stock outs in the following 18 months.^[1]

There is therefore an urgent, general need to address medicine stock outs. In South Africa, the SSP – a consortium of six civil society organisations – was formed in 2013 to monitor the availability in the South African public sector of ARV medicines for HIV, medicines for TB, routine childhood vaccines and other essential medicines.

The South African National Department of Health (NDoH) has also identified medicine stock outs as a major health systems concern.^[2] In 2015, treatment initiation criteria expanded to encompass lifelong ART for HIV-positive people with a CD4 count ≤ 500 cells/ μ l, and all pregnant and breastfeeding women regardless of CD4 count. International treatment guidelines now recommend universal test and treat (UTT) for all HIV-positive patients, regardless of CD4 count.^[3] The recently adopted guideline by the NDoH will most likely lead to a significant increase in the HIV patient cohort in South Africa, which will demand consistent, facility-level availability of medicines.

Faced with the above, all health care

workers (HCWs) have a key role to play alongside the SSP and other stakeholders in addressing the issue of medicine stock outs.

What is the Stop Stock Outs Project?

In South Africa, the SSP continues to be at the forefront (of civil society) in monitoring essential medicines availability. The mission of the SSP is to ensure that the millions of people who use the South African public health system have access to the medication they need and to which they have a right. When medical supply chains fail, stock outs come at a high cost to both the health system and its patients. Stock outs at public health facilities lead to unnecessary suffering, financial loss and an erosion of the users' faith in the ability of the service to meet their needs. Patients with chronic diseases may interrupt treatment, which increases the risk of falling ill, developing drug resistance and transmitting HIV and TB to others.

In the past three years, the SSP has established a hotline for patients and HCWs to report stock outs, and developed a reporting structure to communicate with the relevant Departments of Health (DOHs) when stock outs occur. The SSP also collaborates with a variety of stakeholders to resolve stock outs and shortages faced by patients and HCWs in facilities across the country, and advocates for policy change that will contribute to strengthening all levels of the supply chain.

Definition of stock out

A good starting point for HCWs is an understanding of what a stock out is and its impact on patients. The WHO defines a stock out as 'the complete absence of a required drug at a storage point or delivery point for at least one day.'^[4] 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 ART resistance.^[5]

Impact of stock outs

Stock outs of antiretroviral therapy (ART) lead to changes in regimens, increasing the emergence of resistant strains. HCW coping strategies – such as shortening the refill period, borrowing stock and referring patients to other facilities – increase the patient-borne costs and lead to unplanned treatment interruptions.^[6] In addition to physical and emotional stress, this situation also places an unacceptable financial burden on patients. Transport costs and the time needed to access the medicine increases, potentially discouraging patients from optimal adherence to their treatment. Unstructured treatment interruptions are associated with an increased risk for opportunistic infections, virological failure and drug resistance.^[7,8] ARV stock outs also have a negative impact on retention in care and patient survival.^[9,10] A study in South Africa concluded that patients who claimed <80% of their prescription refills were three times more likely to die than those who claimed over 80%.^[11]

The HCW and SSP

Reporting a stock out: When faced with the ever-frustrating moment of a stock out as a HCW, what do you do? One of the key objectives set out by the SSP was to establish a reporting platform for HCWs and patients. HCWs can report a stock out via the toll-free hotline: 084 855 7867, or send an SMS, whatsapp message or report via the website: www.stockouts.org.

When the SSP receives a medicine stock out report, attempts are made to establish where 'breakages' in the supply chain might have occurred and to provide a resolution to the stock out. An escalation protocol is followed (Figure 2) and the protocol loops until a resolution is found and reported back to the HCW or patient.

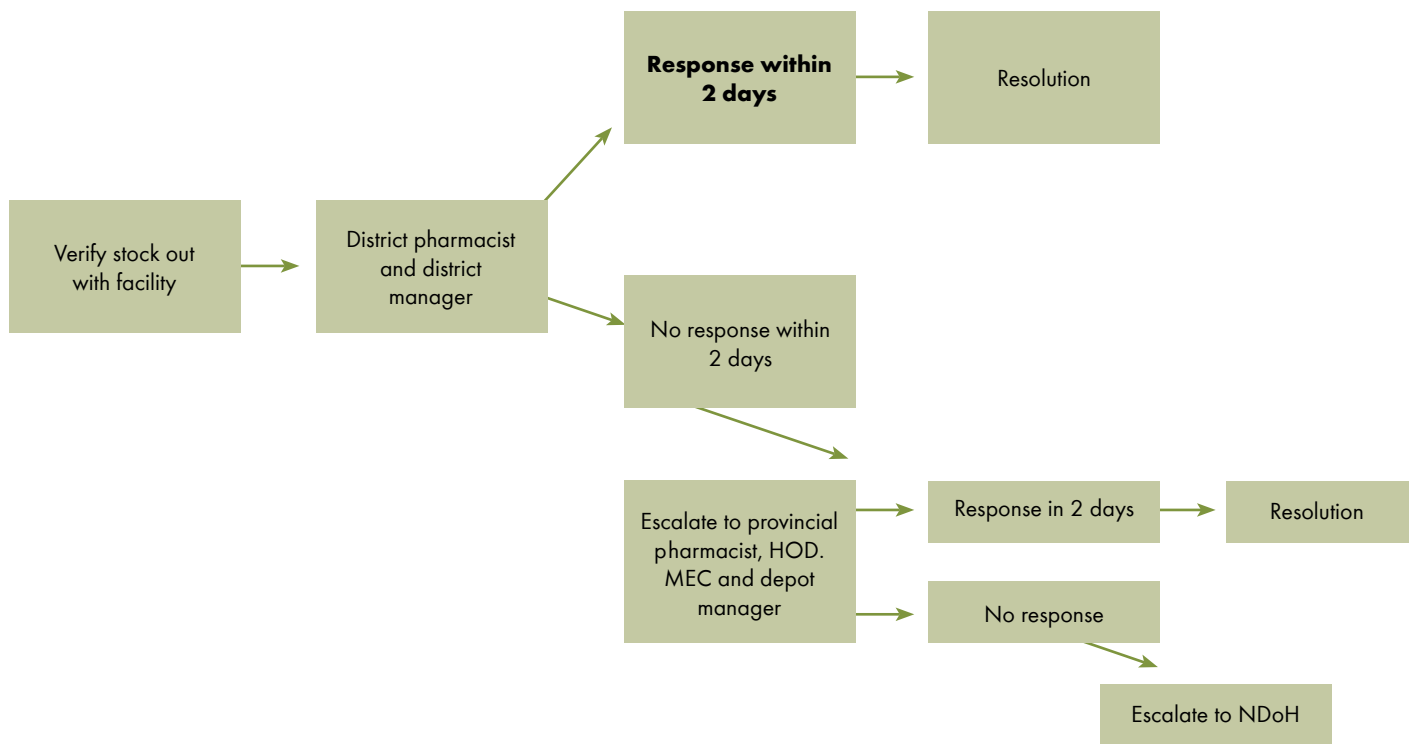


Figure 2: SSP escalation protocol.

Sentinel surveyor sign-up: HCWs can also sign up to the SSP sentinel surveyor programme. The SSP makes regular contact via a broadcast list with HCWs on the programme to remind them to report stock outs regularly and to update them on any stock-out-related issues such as ongoing national medicine stock outs.

Participation in the SSP annual survey: In addition to the above, the SSP conducts an annual survey. In 2015, 2 804 public health facilities in

South Africa were reached. Participants were asked to provide the name of each ARV and TB medicine that was out of stock on the day of contact and any additional stock outs in the 3-month period prior to contact. If a stock out was reported, respondents were asked about: (i) the duration of stock outs; and (ii) the resulting action of the facility due to the stock out.

The HCWs' participation and responses are important and instrumental in the production of the final report and in influencing policy changes around the issue of stock outs. The survey has seen participation rates increase each year, with an 88% response rate in 2015. The 2015 survey also found that 2 423 participants provided information about their position: 1 396 (58%) were nurses-in-charge, 408 (17%) other nurses at the facility, 392 (16%) pharmacists and 227 (9%) pharmacy assistants.

Conclusion

The recent adoption of UTT in South Africa and the UNAIDS 90-90-90 targets will most likely bring about an

increased strain to the medicines supply chain; HCWs need to be prepared and plan accordingly. It is envisaged that the introduction and usage of the NDoH Stock Visibility System (SVS) application will greatly enhance stock management at facility level. However, a great deal of effort by the HCW is still required, in usage of the application to ensure efficient stock management and accurate demand planning. The above, coupled with consistent reporting to the SSP and a commitment by the HCW to ensure patients receive their medicines, remains of paramount importance in managing and addressing medicine stock outs.

References

1. World Health Organization (WHO). Access to Antiretroviral Treatment in Low and Middle Income Countries. Geneva, Switzerland: WHO, 2014.
2. National Department of Health. National health tackles non-availability of medicines. Pretoria, South Africa: NDoH, 2015. <http://www.health.gov.za/index.php/component/phocadownload/category/261>
3. World Health Organization (WHO). Consolidated guidelines on HIV prevention,

Health care workers' participation and responses in the annual survey are important and instrumental in production of the final report and in influencing policy changes around the issue of stock outs.

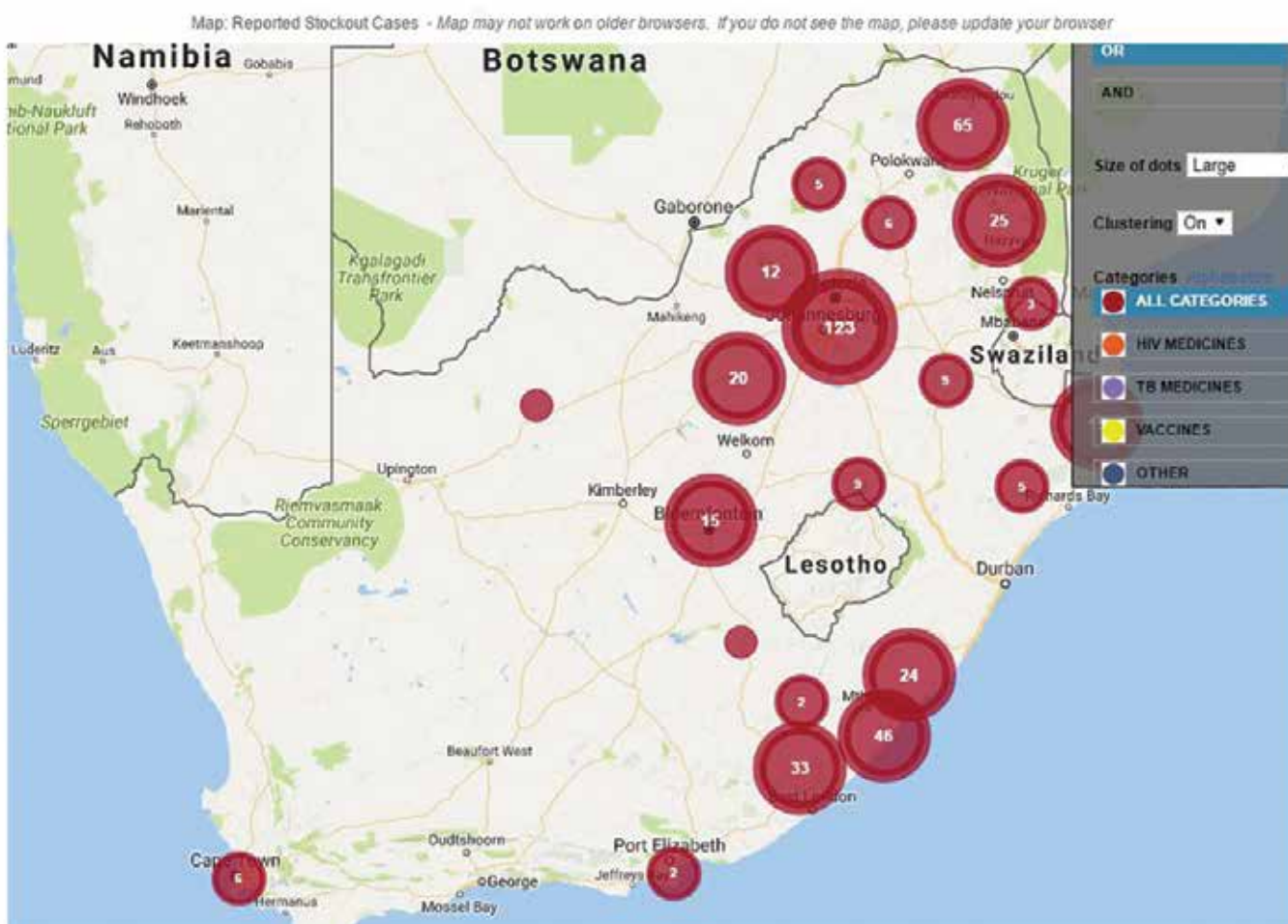
diagnosis, treatment and care for key populations. Pretoria, South Africa: NDoH, 2015.

4. World Health Organization (WHO). Geneva, Switzerland: WHO, 2006.
5. World Health Organization (WHO). Assessment of WHO HIV Drug Resistance Early Warning Indicators. Report of the Early Warning Indicator Advisory Panel Meeting. Geneva, Switzerland: WHO, 2011.
6. Mori AT, Owenya J. Stock-outs of antiretroviral drugs and coping strategies used to prevent changes in treatment regimens in Kinondoni District, Tanzania: A cross-sectional study. J Pharm Policy Prac 2014;7:3.
7. Kaufmann GR, Elzi L, Weber R, Furrer H, et al. Swiss HIVCS: Interruptions of cART limits CD4 T-cell recovery and increases the risk for opportunistic complications and death. AIDS 2011;25(4):441-451.
8. Llibre JM, Young B. Unplanned antiretroviral treatment interruptions, genetic barrier, and development of resistance. HIV Medicine 2014;15:193-195.
9. Pasquet A, Messou E, Gabillard D, et al. Impact of drug stock-outs on death and retention to care among HIV infected patients on combination antiretroviral therapy in Abidjan, Côte d'Ivoire. PLoS ONE 2010;5(10):e13414.
10. Holkmann Olsen C, Mocroft A, Kirk O, et al. Interruption of combination antiretroviral therapy and risk of clinical disease progression to AIDS or death. HIV Med 2007;8(2):96-104.
11. Nachega JB, Hislop M, Dowdy DW, et al. Adherence to highly active antiretroviral therapy assessed by pharmacy claims predicts survival in HIV-infected South African adults. J Acquir Immune Defic Syndr 2007;43:78-84.

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Trying to nurse ethically in a broken system

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'I didn't go to nursing college to become a politician,' says the matron in her neat office in the facility she heads up. Nurse X has been working in the Free State health care system since 1988. She's risen through the ranks over the years and has watched with a heavy heart as the department has slipped into a state of dysfunction – a casualty of gross mismanagement and too much political interference. She has a long list of what's gone wrong: the exodus of established nurses from public health care; posts being frozen; nurses not being paid overtime for more than three-quarters of last year; budgeting that has compromised the efficient running of institutions; private ambulances arriving to fetch patients without surgical gloves and drip kits, but 'start charging you the minute they arrive'; intimidation from politicians who allow politicking to go on in hospitals and clinics, but prohibit senior personnel, like herself, to speak to the media.

She doesn't want her identity revealed because she says the politicians have become tyrants. At the same time she wants to talk because she says the truth must out and the department's bloodletting must stop, because it costs patients' lives. 'I don't want to keep quiet anymore, because it is the truth. And if the politicians want to deny it, they just have to come and speak to the patients. 'Every night I go home and I tell my husband that I just want to go to work and be proud of the service that we give our patients, but I know that that's not what we are doing,' says Nurse X. Her voice shakes and a

few tears roll down her face. It hurts for someone who has dedicated her life to public health care. She apologises and composes herself.

She clearly still manages a tight ship, even with the constraints. Her facility is spotless and well-kept and there's a general sense of calm and order. She also doesn't shy away from doing the heavy lifting herself when there's work to be done. She does this too because she says in a medical facility you never know what kind of day you will have – emergencies don't have a schedule. 'We are often short-staffed and I know that my nurses cannot claim for more than 16 hours a month for overtime. So some days when there's no one to help, I lock my hospital and go help with the patients – you have to be a jack of all trades to survive,' she says.

Still, the difficulties have been immense and, she admits, at times even life-threatening for the patients. She tells of a period when nurses were not throwing away their surgical gloves in-between patients, resorting instead to disinfecting them and reusing them, such was the shortage of something as basic as surgical gloves. 'It is just common sense that you never do that. It's an absolute no-no, but there was just nothing we could do,' she says.

She also tells of how the nurses at different hospitals and clinics work on their own system of trade – swapping out medicines with each other so that their supply cupboards and dispensaries

can circumvent the central medical depot from whence their orders are returned with 'Used Up' or 'Stock Out'. 'The medical depots have not paid suppliers, that's why they often don't have what we're asking for. Sometimes it's as small as some cotton wool, but they won't have it and we are not allowed to buy directly from a supplier since they took away our budgets by 2004. 'Before, if you were a certain salary code, you could sign for certain supplies to be put to a quotation committee. Then they said only CEOs could do it. Then they said, no, it had to be decisions made by the medical depot in Bloemfontein. That is when things went wrong. Now we get quotations for catering from construction companies even – how can that be right? But it doesn't help to get on a phone to complain or to get cross. When we see that the supplies are low we will phone other clinics and see what we can trade,' she says.

She says it's increasingly tough to make any sensible decision and to stand in her authority as a professional, because intimidation and harassment by MEC Benny Malakoane is very real. 'Have you ever been in a meeting with him?' She asks. 'He will tell you it's his way, or you can get out. He'll say: "There's the door and you can pick up your paper from HR as you leave",' she says. 'I can honestly say that with our HODs, our MEC and even our Premier in this province, we need change. We cannot go on like this.'



Reflection on the pre-ARV era: A Zambian scenario

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The morbidity and mortality HIV/AIDS caused in our communities in the late 80s and early 90s cannot be denied. Zambia was one of four countries to have piloted the home-based care programme and acknowledges the positive impact of ARVs. Communities were caught up in the mayhem and wondered about the origins of the disease. It was causing extreme emaciation in both adults and children, and subsequent death. There was so much anticipatory and actual grieving in

the communities, and within a short space of time, people realised that the disease was incurable and capable of wiping out families if no treatment was found. There was a negative impact on the economy because it was affecting levels of production in the workplace. There was an increase in co-morbidities such as tuberculosis (TB), repeated attacks of malaria, and an increase in mortality during the cholera outbreak of 1992/1993. An interdisciplinary, inter-sectoral

approach was needed. The health department had to act fast to address cultural weaknesses that contributed to the spread of the epidemic and behaviour change was paramount.

Declaration

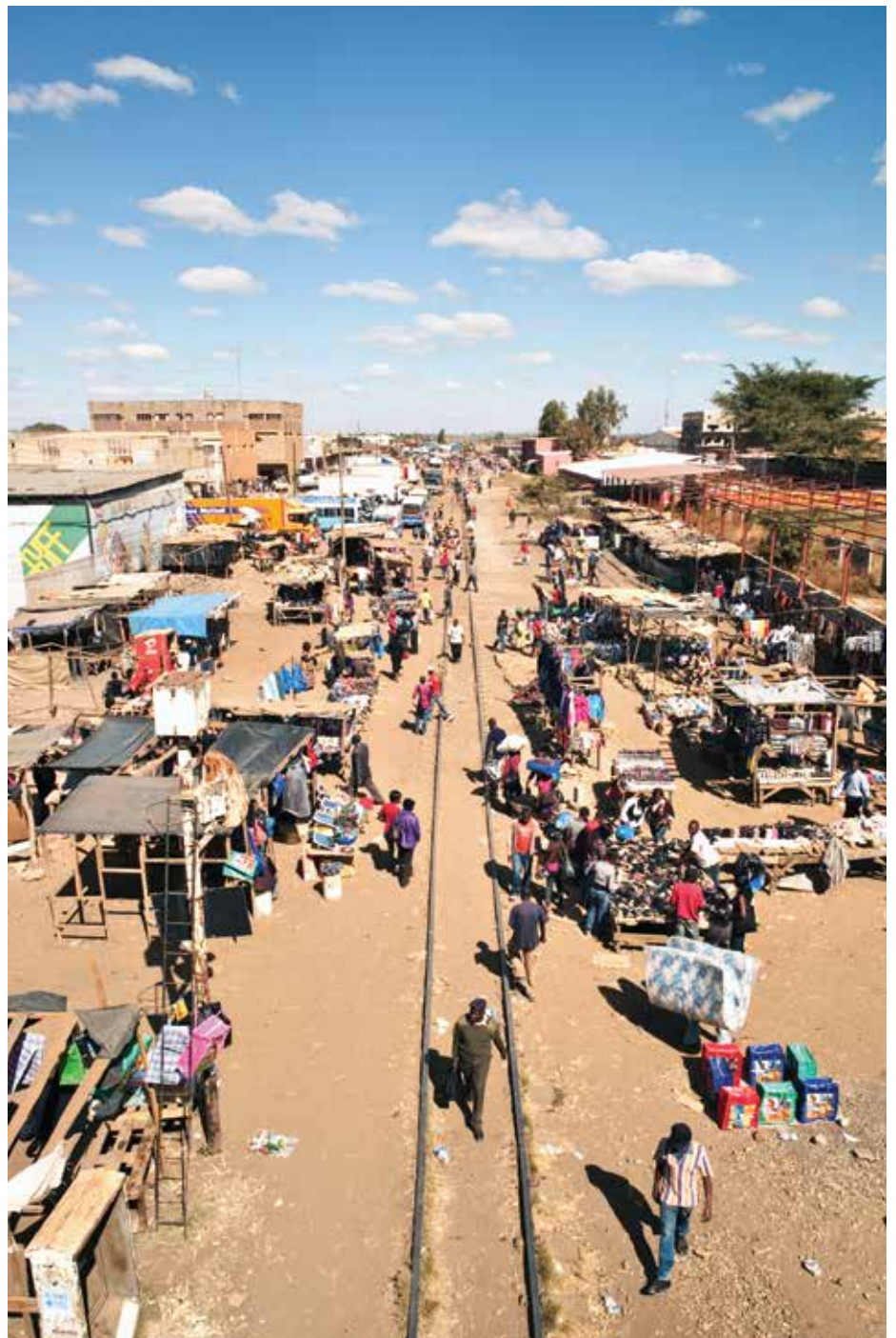
The source of information for this reflective article is based on personal experience working at Arthur Davidson Children's Hospital from 1984 to 1989, and at

government clinics from 1990 to 1996 in Chingola and Kitwe on the Copperbelt of Zambia doing clinical management and triage for referrals. I settled at Buchi Clinic where we did health reforms from 1994 to 1996; I was responsible for administration, patient management and referrals. I also had the opportunity to co-ordinate the HIV/TB home-based care programme for Kitwe central catchment area. We had 23 clinics in the district. Statistics not included.

'Counselling was a difficult process because when the results were positive, it was like announcing a death sentence. People would move from clinic to clinic hoping to get a negative result because people saw that the impact of HIV in the community without antiretrovirals (ARVs) was a hopeless situation, regardless of social circumstances.'

Disease presentation

By the late 80s and early 90s, awareness of the incurable disease had taken effect and the means of transmission was known. It became common to observe skeletal adults and children in the community, at clinics and admitted to hospitals, thus the name 'slim disease' by the locals. Hardly a few months into a relationship or marriage, one or both partners would begin presenting with signs and symptoms of AIDS; many women would get sick during pregnancy and deteriorate after delivery. If the baby was HIV-positive, it would present with symptoms, despite good nutrition, and eventually die. HIV-negative babies would remain orphaned in the care of immediate family members or foster parents from church organisations. Women from within these organisations were also becoming infected and dying.



Diagnosis

Diagnosis in clinics without rapid test kits was initially based on clinical manifestations and laboratory tests were only confirmatory. Accuracy was impressive; it was very rare to miss due to the blatant clinical manifestations in tropical countries. Counselling was a difficult process because when the results were positive, it was like announcing a death sentence. People would move from clinic to clinic

hoping to get a negative result because people saw that the impact of HIV in the community without antiretrovirals (ARVs) was a hopeless situation, regardless of social circumstances.

Social impact – stigma

AIDS patients were exposed to stigma because of the obvious signs of illness and people were still unsure of the means by which the virus could be transmitted.

Reports of patients – including children – being stigmatised by immediate family members because of their skeletal appearance were common. Marriages broke down on the basis of blame and some could not cope with caring for someone with a chronic illness that seemed to have no solution.

A good friend of mine's husband used to threaten to shoot her, the child and then himself.

Stigma had no boundaries as this example from a rural health centre reveals: A mentally disturbed woman confronted a patient by staring at his skeletal figure and proclaiming, 'Who brought this patient to the clinic? Are these the type of patients to bring to the clinic? Who's going to cure this one? Where is he going to come from?'

Increase in orphans

Orphans remained the responsibility of immediate families with the help of well-wishers and non-governmental organisations such as the church. Some were being fostered by women from church organisations, but those women became infected and died as well. The Zambian government does not issue child grants, so to foster a child, one needs to be financially stable.

Impact on health services

During this time, we did health reforms and worked very hard in our clinics towards 'Health for all by the year 2000', only to be overwhelmed by the epidemic. Clinics and hospitals were congested with repeated attacks of malaria and other co-morbidities including a high incident rate of TB. Sexually transmitted infections such as granuloma inguinale proved to be persistent in HIV immunocompromised patients. TB patients for review had to be transferred to clinics. Most of the patients co-infected with HIV had lost their spouses during the cholera epidemic where many people died despite timely intervention by

medical personnel. It is believed that truck drivers using this same catchment area to camp en-route to various destinations, contributed to the spread of HIV.

Home-based care

Hospitals could not cope with the admissions and re-admissions. Home-based care, with the help of unpaid community health care workers, became essential and patients preferred to be nursed in their homes among their families. Patients who were terminal wanted to transfer to their home villages although this came with the stigma that 'they were going to bid farewell to their mothers'.

People were happy to see us in their communities. They felt accepted and gave us an opportunity to observe their environments and to intervene where necessary. We also observed that some were sharing the anti-TB drugs with other family members who had not been diagnosed with TB, but were coughing.

Economic impact

Some of the people who died during this period were in the prime of their careers; Zambia had free education but few universities, so it was competitive. Significant loss of much-needed human resource was evident in the economy.

Cultural weaknesses that contributed to the spread of the epidemic

Polygamy: Some tribes in the southern part of Zambia are polygamists; one man can marry ten wives. When health care workers went into the communities, sometimes they would find only old people and small children; it was understood the middle-aged bracket had died of AIDS.

System of succession: A system of succession was commonly practised in the northern part of Zambia. This is a system whereby a relative can succeed the deceased and marry their spouse. If the

deceased relative died from AIDS, it was assumed the new partner would contract the virus and become HIV-positive.

Extramarital affairs: Other practises such as extramarital affairs and the so-called 'sugar daddies' (intergenerational relationships) contributed to the spike of the disease.

Prevention

The basic primary approach in any epidemic is to prevent transmission. We understood the means of transmission and by default, the means of prevention. An inter-disciplinary, inter-sectoral approach had to be deployed. Community leaders, church leaders and unpaid volunteers were essential in educating and sensitising the communities in HIV prevention. We took advantage of the high esteem in which traditional leaders and elders are held; and used their voices to spread the messages of prevention in the community. Cultural weaknesses and behaviours that contributed to the spread of HIV had to be addressed. Zambian law now forbids the system of succession due to the high risk of HIV infection. Prevention messages such as ABC (Abstinence, Being faithful and Condom use), and testing to know one's status, were emphasised.

Couples were advised to know their status before thinking about falling pregnant, and an informed choice was given to HIV-positive couples, because some women started getting sick during pregnancy and deteriorated after delivery. Some babies were born HIV-positive and others not.

Conclusion

The pre-ARV era was a challenging time and a hopeless situation. It proved that without ARVs and adherence to preventive measures, HIV does not discriminate and can wipe out individuals, families and communities.

inPractice Africa: Free HIV training and reference resource for nurses in South Africa

Ed C J King,¹ MA, CEO

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inPractice Africa is a unique training and reference resource for HIV clinicians in South Africa. It can be used online at its website but also entirely offline, by installing it on Android and Apple phones/tablets or on Windows PCs and laptops.

After a successful initial pilot period, inPractice Africa has been updated and relaunched. It was produced in partnership by Clinical Care Options (CCO), the Foundation for Professional Development (FPD) and the University of the Witwatersrand, with continuing professional development (CPD) certification by the South African Medical Association. Thanks to an educational grant from ViiV Healthcare, it remains completely free to use.

To get started right away, visit <http://www.inpracticeafrica.com> and register for free. Read on to find out all about its key features.

Update your knowledge through training modules

inPractice Africa consists of three curricula created by South Africa experts. All are relevant to nurses, and one is specifically targeted at nurses:

- Applying South African national guidelines on antiretroviral therapy (ten modules)
- Management of tuberculosis (TB) in HIV-co-infected patients (five modules)
- Nursing care of HIV-infected patients (ten modules)

You can study each module in your own time and earn free CPD credits (for doctors) or obtain a certificate of participation (other clinicians).

As well as text, tables, figures and charts, the modules also include brief cases where you can test your learning. After answering the case questions, the correct answer is displayed and explained. If you successfully complete all of the modules in any of the three curricula, then FPD will send you an additional certificate recognising your achievement.

Find the information you need for patient care

inPractice Africa is more than just a self-study training resource. It has also been designed so you can efficiently search for the information you need to care for your patients every day. Imagine you want to remind yourself of the current guidelines on whether to start antiretroviral therapy in a patient who tests positive for HIV after she is diagnosed with cryptococcal meningitis. Rather than wade through guidelines or all the inPractice modules looking for the information, you can use inPractice's search box and it will take you directly to the advice you need. Better still, when you search inPractice Africa it also provides results from all the key South African and international guidelines and from a database of prescribing information for HIV and TB drugs, making it very efficient to find exactly what you are looking for.

Work online or offline

Because internet access is not always available or affordable, we have also ensured that you can use inPractice Africa when you are not connected to the internet.

As well as the website at <http://www.inpracticeafrica.com>, we have created apps you can install on your devices and use offline. First, visit our website to set up your user account. Then, if you have an Android or Apple smartphone or tablet, visit <http://www.inpracticeafrica.com/pages/mobile-access.aspx> for full details on how to install these apps. For iPhones or iPads, you need to install the app from our own website – not from the iTunes app store – but the Android app can be downloaded from the Google Play app store. If you have a Windows PC or laptop, then there is also an installable version for you. An installation CD was mailed with this issue of *HIV Nursing Matters*, and you can also download the installer from <http://www.inpracticeafrica.com/pages/mobile-access.aspx>.

After you have installed any of these versions, you can then use them offline without an internet connection. However, there is no need to worry that downloaded information may become out-of-date. Whenever the app detects that you are connected to the internet, it will ask you if it is OK to download any updates to the content, ensuring you always have the latest information at your fingertips.

Tip: After you have used the CD to install the Windows version, you do not need the CD any more as all the content is copied onto your computer. So please pass on the CD to your colleagues who would also benefit from this resource!

Please let us know your feedback

If you need any help getting the most out of inPractice Africa, then feel free to contact us at techhelp@inpracticeafrica.com. We would value your feedback: what you like about it and any additional content or features that you would find helpful.



Search point-of-care reference resources... **GO**

- Home
- Certification Programs
- Drug Database
- Guidelines
- Clinical Support
- Help

Welcome

inPractice[®] Africa is a continually updated reference and learning resource for South African clinicians, available both online and offline. Originally launched in 2013, it was relaunched with new features in July 2016. The program provides continuing professional development certificate programs, practice guidelines, and drug reference information, as well as referral clinical support. inPractice[®] Africa is also available for offline use as downloadable apps for tablets, smartphones, and Windows PCs.

How It Works

inPractice[®] Africa is designed to be used in 2 ways:





- Search and efficiently find the information you need to care for individual patients
- Study complete modules and earn credit

The 3 curricula offered through inPractice[®] Africa each contain learning modules that can be completed in any order. By passing the posttest in each module, physicians can earn CPD credits and other participants can receive a participation certificate. Users who complete all of the modules that make up a curriculum will receive a certificate of curriculum completion from FPD.

Curricula

- ▶ **Applying South Africa National Guidelines on Antiretroviral Therapy**
Comprehensive 10-chapter curriculum on the use of antiretroviral therapy in South Africa:
 - ▶ Identify and prepare patients for treatment, recommended regimens, monitoring treatment, managing adverse effects, treatment failure, and considerations in specific populations including women, children, and patients with advanced disease.
- ▶ **Management of Tuberculosis in HIV-Coinfected Patients**
5 chapters detailing:
 - ▶ The prevention, diagnosis, and treatment of drug-sensitive and drug-resistant tuberculosis in HIV-infected patients in South Africa.
- ▶ **Nursing Care of HIV-Infected Patients**
A 10-chapter comprehensive curriculum designed to provide nurses and nurse managers with guidance on diverse aspects of HIV care, including:

How to Get Started

-  First, register with inPractice[®] Africa, then you can access the online content. Click [here](#) to register.
-  inPractice[®] Africa includes apps for Apple tablets and smartphones, Android tablets and smartphones, and Windows PCs. Click [here](#) for more information on the apps.
-  Start learning now. To search for the information you need, enter a search term in the search bar in the upper right-hand corner. To browse the curricula, click on "Certification Programs" in the horizontal navigation bar.
-  Need technical support? Click the help link above.
- ▶ For a user guide (PDF) with more information on how to use this site, click [here](#).

Additional Resources

inPractice[®] Africa also includes the following South Africa-specific resources on HIV/AIDS and TB:

- ▶ [Drug Database](#)
- ▶ [Guidelines](#)
- ▶ [Clinical Support](#) (hotline for further clinical questions and support)



Preventing TB in child contacts in South Africa: Where are we and where should we be going?

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Why is TB preventive therapy important in children?

South Africa currently ranks first among the 22 highest tuberculosis (TB) burden countries in the world, with an annual incidence (new cases) of 834 per 100 000 in 2014, and 61% of TB patients co-infected with HIV. At least 10% of the national TB disease burden in South Africa occurs among children under 14 years of age.^[1] TB in young children is a sign of ongoing transmission of *Mycobacterium tuberculosis* from infectious source cases to

children, and is evidence of inadequate TB control.^[2]

Natural history of disease studies showed that following exposure to *M. tuberculosis*, approximately 10% of infected individuals progress to develop active TB disease in the absence of preventive therapy.^[3] Certain groups, however, are more vulnerable to progress to active TB disease. Following primary infection, children under the age of 2 years have up to a 40% chance of developing active TB disease, and the risk of developing severe disease such as TB

meningitis is up to 20% higher in infants if they do not get TB preventive therapy.^[3] HIV-infected children are also at higher risk compared to uninfected children of the same age, even while on antiretroviral therapy (ART);^[4] and they have poorer TB treatment outcomes than HIV-negative children.^[5]

The risk of TB disease progression is greatest during the first year following *M. tuberculosis* infection and is inversely related to age, i.e. the youngest children have the highest risk.^[6] Recent TB exposure

in a young or HIV-infected child is therefore of key importance.

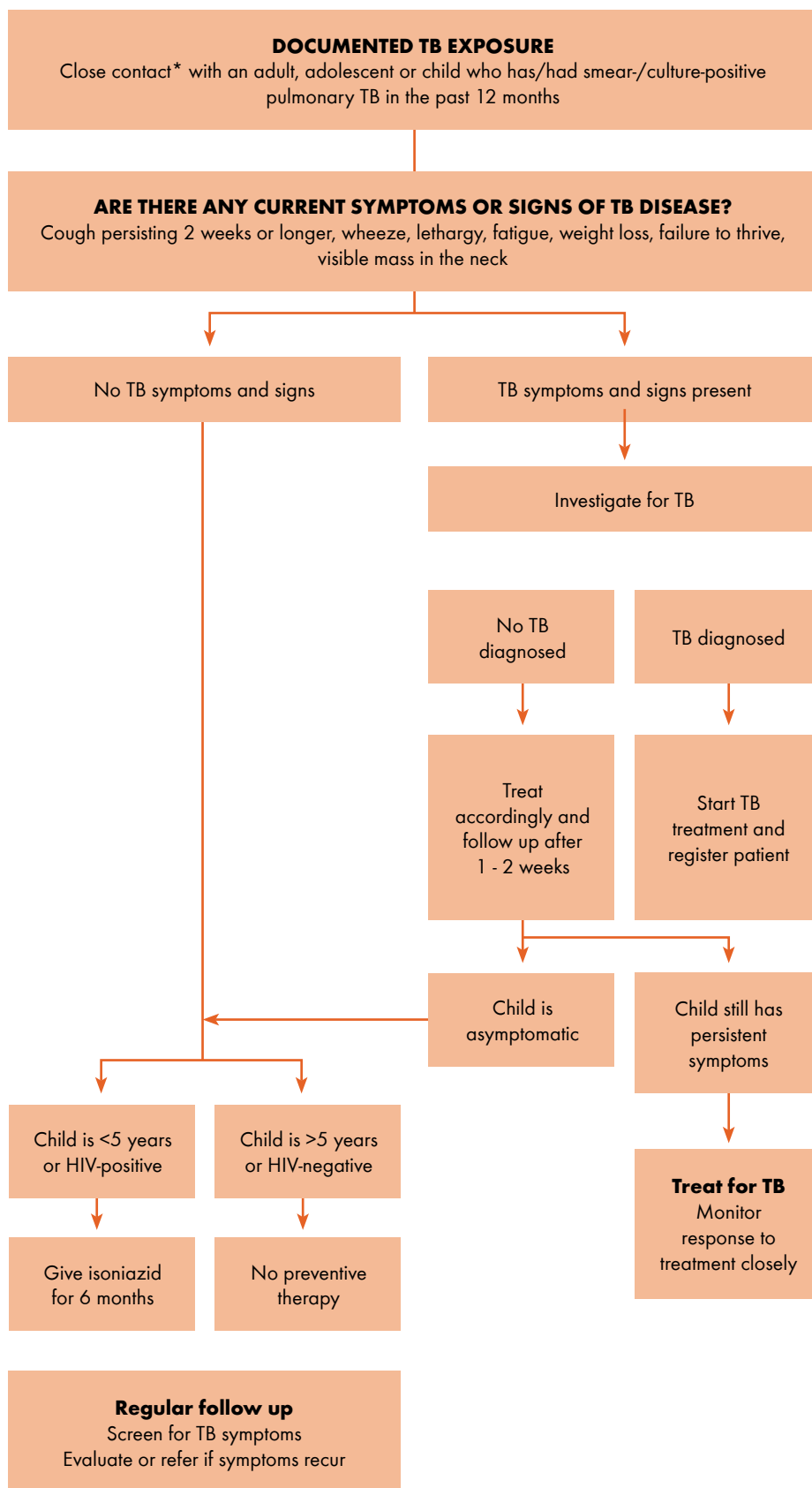
TB post-exposure preventive therapy

Following TB exposure, progression to TB disease can be prevented through a course of TB preventive therapy. The current (2013) South African National TB Program (SANTP) guidelines, consistent with World Health Organization (WHO) guidelines, recommend that all children under 5 years of age and all HIV-infected children, regardless of age, should receive isoniazid preventive therapy (IPT) following exposure to an infectious (sputum smear- and/or culture-positive) pulmonary TB case, once active TB disease is excluded.^[7,8]

IPT prevents TB in as many as 60% of HIV-uninfected adults and children who are infected with *M. tuberculosis*.^[9] A recent systematic review showed a 52% risk reduction for developing TB disease in TB skin-positive HIV-infected adults, and the risk reduction is likely to be even more pronounced in HIV-infected children.^[10] Research has shown that IPT is safe, effective and cost-effective in preventing TB in children post exposure, in high-burden settings such as South Africa.^[11]

Current guidelines for contact management in children use a symptom-based screening approach (Figure 1). Further tests are only needed in children with symptoms. Therefore, a child with no symptoms does not require a TB skin test (TST), chest x-ray (CXR) or respiratory sampling (sputum or gastric aspirate).

A TST has limited value after known TB exposure, as an asymptomatic young or HIV-infected child needs IPT irrespective of their TST result.^[12] Therefore, a TST is not needed for an asymptomatic child to start IPT. This current algorithm allows community clinic TB nurses to start IPT without consulting doctors in the majority of child contacts, since only symptomatic children need to be referred for further investigation.



*Close contact is defined as any household contact or contact outside the household that is of sufficient duration and proximity to pose a high risk of infection.

Figure 1: TB contact screening algorithm.^[8]

All child contacts aged <5 years, or those HIV-infected and exposed to TB in the household, should be started on IPT once TB disease has been excluded; however, children in contact with TB outside of their household may also benefit from IPT after significant exposure. Deciding if exposure is significant to non-household TB cases, the following four factors should be considered: (i) the total duration of exposure (regular vs. one-time event), (ii) the proximity of the child to the TB case, (iii) the infectiousness of the TB case (i.e. smear-negative vs. 3+ smear-positive), and (iv) being in contact with multiple TB cases.^[13] The eligibility of child contacts for IPT should be evaluated for each TB exposure episode, as IPT should be repeated with each new exposure episode (isoniazid does not provide long-term protection against future infection with *M. tuberculosis*).^[14] SANTP recommends dosing according to a weight-banded

vomits, has abdominal pain or complains of painful feet and hands, isoniazid should be stopped immediately. Such a child should be referred to hospital immediately. Although liver side-effects (hepatotoxicity) are very rare, these can be very serious. HIV-infected children on IPT should also receive vitamin B6 (pyridoxine) supplementation to prevent peripheral neuropathy.

It is also very important to ensure that children are not unnecessarily exposed to TB at clinics (e.g. waiting in the same area where symptomatic (coughing) adults are being screened e.g. CXR waiting areas).

Preventive therapy delivery relies on the successful completion of multiple actions

Following diagnosis of an infectious adult TB case, all exposed individuals should be

Operational challenges with IPT implementation

Despite the above-mentioned guidelines, implementation of IPT delivery has been sub-optimal with many documented challenges. Many programmes do not have standardised tools for recording TB contact management and IPT, and have not had to report this as a TB programme ‘indicator’.

A city-wide audit from Cape Town illustrated losses to follow-up at each step of the TB contact management cascade in children. A low proportion of identified child contacts were screened (46%); only 58% of those screened started IPT and an even lower proportion (13%) completed IPT (Figure 3).^[15] This has been consistent with findings from other audits in South Africa^[16] and in other high-burden TB settings such as India^[17] and Malawi.^[18]

Barriers and solutions to IPT implementation

A systematic review^[19] to identify universal barriers at each step of the contact management cascade provided possible solutions to overcome these barriers (Table 2).

Many of these solutions have already been adopted by SANTP as discussed earlier. However, more efforts are needed. Programmatic prioritisation of contact management should not only include updated guidelines, but also wide-scale roll-out of standardised management tools like a contact management register, as well as reporting indicators for contact management.^[16]

Implementation of a simple contact screening register in a primary health care clinic in Cape Town improved documentation and implementation of contact management considerably,^[20] and similar interventions have been successful in other resource-limited settings.^[21,22]

The long duration of IPT (6 months) makes retention in care difficult, and new shorter

Table 1: Weight-banded dosing chart for isoniazid^[8]

Weight band (kg)	Daily 100 mg isoniazid tablet
2 - 3.4	1/4 tab
3.5 - 4.9	1/2 tab
5 - 7.4	3/4 tab
7.5 - 9.9	1 tab
10 - 14.9	1 1/2 tabs
15 - 19.9	2 tabs
20 - 29.9	3 tabs
30 - 40	4 tabs

dosing chart ranging from 10 to 15 mg/kg/day (Table 1).

Children on IPT need monthly follow-up and weighing, similar to children on TB treatment. This ensures continued health, appropriate adjustment of medication dosage in relation to growth, and monitoring for possible development of side-effects and disease progression. In a child who is jaundiced (yellow eyes),

identified and screened for TB symptoms. This can happen either at the household level or at the clinic, depending on local resources. If children have no symptoms suggestive of TB and are eligible, then they should start IPT, and be followed up monthly for 6 months until completion. If they have symptoms, then they need to be investigated for TB, and either start TB treatment, or IPT once active TB disease has been excluded.

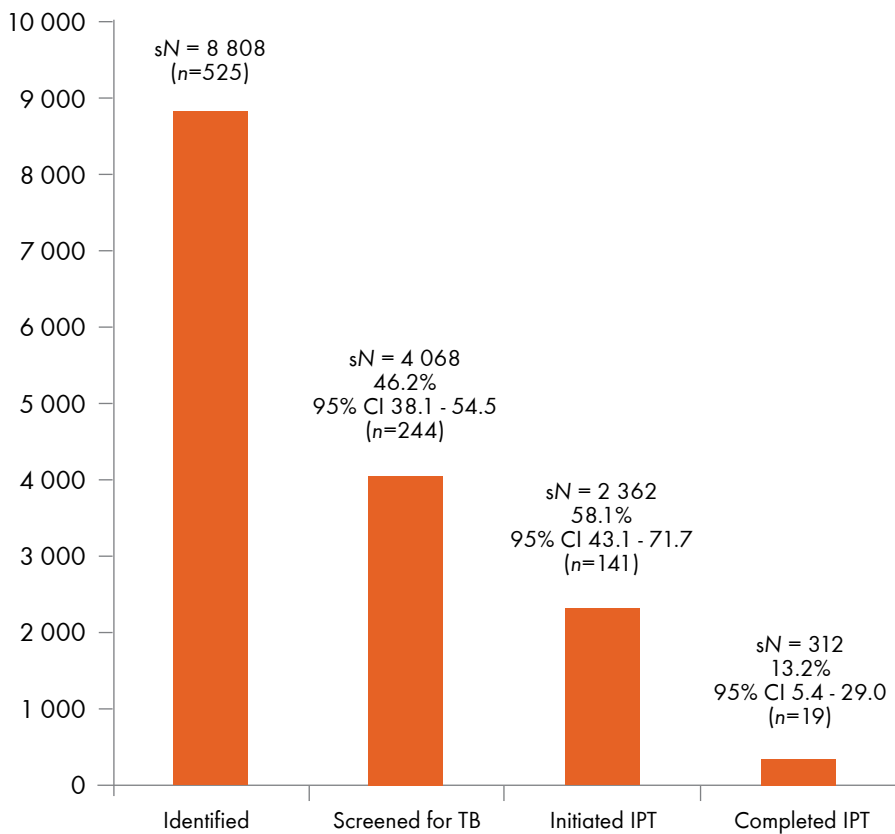


Figure 2. IPT cascade and programme performance in a retrospective audit in Cape Town.^[15]

and combination drug regimens are much needed.^[23]

Inadequate knowledge and false beliefs may be a contributing factor to poor acceptability of IPT for both caregivers

and health care workers (HCWs).^[11] False beliefs about IPT increase the perception of risk and minimise the perception of benefit. HCWs may be concerned that it is dangerous to prescribe isoniazid to healthy children. However, serious side-

effects, including hepatotoxicity, are very rare in infants and children.^[24] Common side-effects such as nausea and vomiting are minimal and self-limiting in most cases, and in three large trials with over 2 000 patients, no participant had to discontinue isoniazid due to serious side-effects.^[25] The safety of isoniazid in HIV-infected children has also been established.^[26]

Another concern may be that IPT can result in the development of drug-resistant TB. There is, however, no evidence of this in adults or children.^[27] In fact, the risk in children is considered negligible due to the paucibacillary nature (low organism load) of childhood TB disease.^[28]

Caregivers may also have false beliefs for instance that the risk of TB in 'healthy' children is low, or lack knowledge and understanding of the concept and purpose of preventive treatment.^[29] HCWs need evidence-based education on IPT to challenge their own as well as caregivers' false beliefs. Caregiver education from HCWs needs to be ongoing at each visit throughout IPT to support retention in care.

Summary

Preventing TB in young and HIV-infected children is an important strategy to achieve

Table 2: Barriers and possible solutions to improve performance of TB preventive therapy programmes^[19]

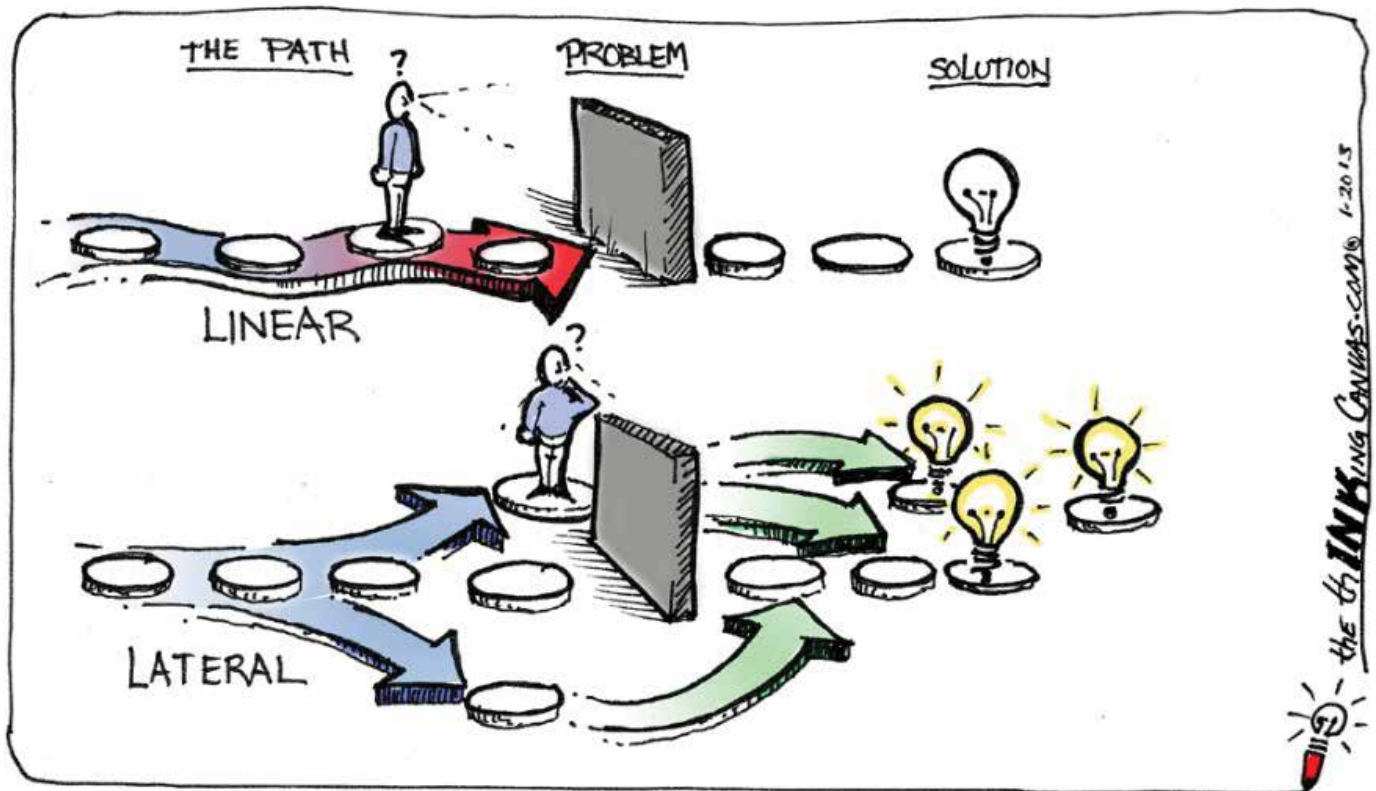
Barriers	Possible solutions
Little emphasis placed on childhood tuberculosis (TB)	National TB programmes to prioritise child TB activities
High burden of screening and preventive therapy (PT) in endemic settings	Focus screening and PT to the highest-risk groups, e.g. children <3 years and HIV-infected children in contact with a sputum smear-positive case
Screening is burdensome on resources in endemic settings	Evaluate the safety and acceptability of symptom-based screening
Poor adherence to screening by primary caregiver (PCG)	Conduct site-specific investigation of barriers to screening adherence by PCGs
Long duration of PT	Adopt short treatment regimens shown to be safe in children
Poor acceptability of PT by health care worker (HCW)	Conduct site-specific investigation of barriers to PT acceptability by HCWs
Poor acceptability of PT by PCGs	Conduct site-specific investigations of barriers to PT acceptability by PCGs

better control of the TB epidemic in children in South Africa.^[30] Guidelines for contact management in South Africa are clear and simple and can readily be implemented by nurses in primary health care settings, even in the absence of special investigations.

Integrating standardised tools to record and report contact activities is inexpensive, and can assist HCWs with implementation and also with monitoring and evaluation of their activities. A positive health care environment is absolutely essential to improve attitudes and acceptability among HCWs, TB patients, caregivers and the community towards TB preventive therapy as a whole.

References

- World Health Organization. Global tuberculosis report 2015. WHO. Geneva, Switzerland: WHO, 2016. http://www.who.int/tb/publications/global_report/en/
- Middelkoop K, Bekker L-G, Morrow C, Zwane E, Wood R. Childhood tuberculosis infection and disease: a spatial and temporal transmission analysis in a South African township. *S Afr Med J* 2009;99(10):738-743.
- Marais BJ, Gie RP, Schaaf HS, et al. The clinical epidemiology of childhood pulmonary tuberculosis: A critical review of literature from the pre-chemotherapy era. *Int J Tuberc Lung Dis* 2004;8(3):278-285.
- Hesseling AC, Cotton MF, Jennings T, et al. High incidence of tuberculosis among HIV-infected infants: evidence from a South African population-based study highlights the need for improved tuberculosis control strategies. *Clin Infect Dis* 2009;48(1):108-114.
- Hesseling AC, Westra AE, Werschkull H, et al. Outcome of HIV infected children with culture confirmed tuberculosis. *Arch Dis Child* 2005;90(11):1171-1174.
- Nelson LJ, Wells CD. Tuberculosis in children: Considerations for children from developing countries. *Semin Pediatr Infect Dis* 2004;15(3):150-154.
- World Health Organization. Roadmap for childhood tuberculosis. Geneva, Switzerland: WHO, 2013. http://apps.who.int/iris/bitstream/10665/89506/1/9789241506137_eng.pdf
- Health Systems Trust (HST). Guidelines for the Management of Tuberculosis in Children 2013. <http://www.hst.org.za/publications/guidelines-management-tuberculosis-children-2013> 9. Smieja M, Marchetti C, Cook D, Smaill FM. Isoniazid for preventing tuberculosis in non-HIV infected persons. In: Smieja M, editor. *Cochrane Database of Systematic Reviews*. Chichester, UK: John Wiley & Sons Ltd, 1999.
- Ayele HT, Mourik MSM van, Debray TPA, Bonten MJM. Isoniazid prophylactic therapy for the prevention of tuberculosis in HIV infected adults: A systematic review and meta-analysis of randomized trials. *PLoS One* 2015;10(11):e0142290.
- Mandalakas M, Hesseling C, Gie RP, et al. Modelling the cost-effectiveness of strategies to prevent tuberculosis in child contacts in a high-burden setting. *Thorax* 2012;247-255.
- Kruk A, Gie RP, Schaaf HS, Marais BJ. Symptom-based screening of child tuberculosis contacts: Improved feasibility in resource-limited settings. *Pediatrics* 2008;121(6).
- Mandalakas AM, Kirchner HL, Lombard C, et al. Well-quantified tuberculosis exposure is a reliable surrogate measure of tuberculosis infection. *Int J Tuberc Lung Dis* 2012;16(8):1033-1039.
- Schaaf HS, Cotton MF, Boon GPG, Jeena PM. Isoniazid preventive therapy in HIV-infected and -uninfected children (0 - 14 years). *South African Med J* 2013;103(10):714.
- Osman M, Hesseling AC, Beyers N, et al. Routine programmatic delivery of isoniazid preventive therapy to children in Cape Town, South Africa. *Public Heal Action* 2013;3(3):199-203.
- van Wyk SS, Reid AJ, Mandalakas AM, et al. Operational challenges in managing Isoniazid Preventive Therapy in child contacts: A high-burden setting perspective. *BMC Public Health* 2011;11:544.
- Shivaramakrishna HR, Frederick A, Shazia A, et al. Isoniazid preventive treatment in children in two districts of South India: Does practice follow policy? *Int J Tuberc Lung Dis* 2014;18(8):919-924.
- Claessens NJM, Gausi FF, Meijnen S, et al. Screening childhood contacts of patients with smear-positive pulmonary tuberculosis in Malawi. *IJTL* 2002;6:362-364.
- Rutherford ME, Hill PC, Triasih R, et al. Preventive therapy in children exposed to *Mycobacterium tuberculosis*: Problems and solutions. *Trop Med Int Heal* 2012;17(10):1264-1273.
- van Soelen N, du Preez K, van Wyk SS, et al. Does an isoniazid prophylaxis register improve tuberculosis contact management in South African children? *PLoS One* 2013;8(12):e80803.
- Tadesse Y, Gebre N, Daba S, et al. Uptake of Isoniazid Preventive Therapy among under-five children: TB contact investigation as an entry point. *PLoS One* 2016;11(5):e0155525.
- Rekha B, Jagarajamma K, Chandrasekaran V, et al. Improving screening and chemoprophylaxis among child contacts in India's RNTCP: A pilot study. *Int J Tuberc Lung Dis* 2013;17(2):163-168.
- van Zyl S, Marais BJ, Hesseling AC, et al. Adherence to anti-tuberculosis chemoprophylaxis and treatment in children. *Int J Tuberc Lung Dis* 2006;10(1):13-18.
- Donald PR. Antituberculosis drug-induced hepatotoxicity in children. *Pediatr Rep* 2011;3(2):e16.
- Frydenberg AR, Graham SM. Toxicity of first-line drugs for treatment of tuberculosis in children: Review. *Trop Med Int Heal* 2009;14(11):1329-1337.
- Le Roux SM, Cotton MF, Myer L, et al. Safety of long-term isoniazid preventive therapy in children with HIV: A comparison of two dosing schedules. *Int J Tuberc Lung Dis* 2013;17(1):26-31.
- Balcells ME, Thomas SL, Godfrey-Faussett P, Grant AD. Isoniazid preventive therapy and risk for resistant tuberculosis. *Emerg Infect Dis* 2006;12(5):744-751.
- Schaaf HS, Marais BJ. Management of multidrug-resistant tuberculosis in children: A survival guide for paediatricians. *Paediatr Respir Rev* 2011;12(1):31-38.
- Tornee S, Kaewkungwal J, Fungladda W, Silachamroon U. Factors associated with the household contact screening adherence of tuberculosis patients. *Southeast Asian J Trop Med Public Health* 2005;36(2):331-340.
- Diel R, Loddenkemper R, Zellweger J-PPJ, et al. Old ideas to innovate tuberculosis control: Preventive treatment to achieve elimination. *Eur Respir J* 2013;42(3):785-801.



Are you prepared to think differently?

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Albert Einstein stated that 'the significant problems we face today cannot be solved by the same level of thinking we were at when we created them'. Thinking harder and concentrating more doesn't necessarily equate to different. If improvement is our goal, then thinking as we routinely do, in a way that comes naturally and comfortably, will not bring about a solution to a problem we created or of which we were part.

We are often told to think 'out of the box', but what does that mean? How do I do that? A new way of thinking about a problem, its causes etc., enables a new perspective, dimension, understanding and information that will help to see the situation differently. Edward De

Bono, who is world-renowned for his concept of Lateral Thinking,^[1] and tools and techniques used to enable people to thinking creatively, stated: 'We can't look in a new direction by staring harder in the same direction'.

The basis of our **improvement work then, must be underpinned by the need and desire for change** – doing things differently. If we continuously do and think in the same way, then we can always be sure the result will be the same as what we got last time... Paul Sloane states that we need to 'Turn **deliberately** to see the problem from a different direction'.^[2] It is in the 'turning deliberately' that we open an opportunity for improvement.

De Bono^[1] teaches that lateral thinking vs. traditional thinking is about '**... creating an escape for your mind, a new path to think new and different ideas**'.

This is not easy! It takes a conscious effort and tools to guide and prompt us away from what Einstein termed as his theory of insanity: 'doing the same thing over and over again and expecting a different result'.

Here are a number of tools and ideas that can help you to **begin your journey of thinking differently**. We don't want to think differently just for the sake of being different, the difference must add value to the

situation and/or process at hand. The tools listed below provide you with a framework required in turning random ideas into valuable ideas. All of these tools and much more information can be found in the **Aurum Institute Quality Improvement HOW TO Guide**, Module 2.

Tools used in gathering and generating new ideas

One way of exploring new ideas that may lead to an improvement is to find out what other people are doing in a similar situation, and who are more successful than you. This is known as **benchmarking**; comparing yourself to others. Read, ask, mingle and pay attention – these are small ways of beginning the process of benchmarking.

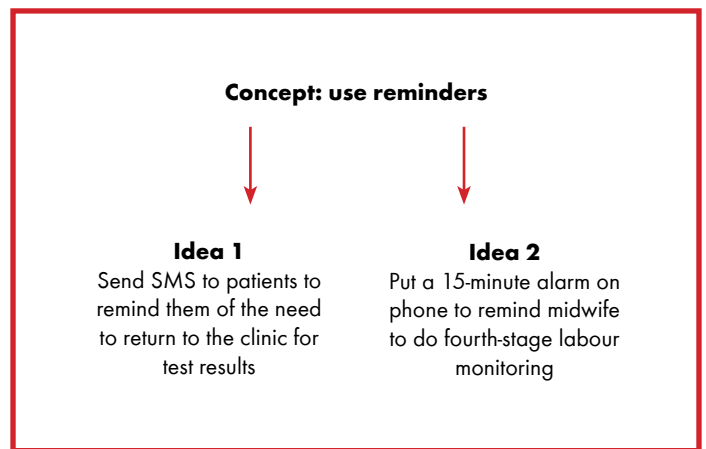
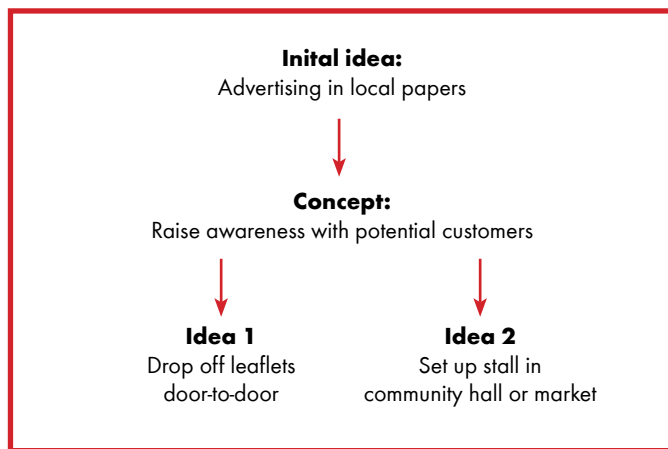
Some factors such as number of staff, rural vs. urban setting, etc., may make the direct application of benchmarked

ideas difficult, but if we **turn ideas into concepts** that capture the principles behind the changes, then we can make them easier to transfer. We **take the concept and generate an idea** from it that could be applied in your own particular set of circumstances.

Change concepts are very generalisable changes that can be applied to many different circumstances. For example, 'reduce waste', 'task-shifting', and 'match supply and demand'. These concepts could usefully be applied to identify potential improvements in the most sophisticated of manufacturing processes, as well as in a rural health care clinic with no electricity. For a substantial list of concepts that you could apply in your setting, refer to page 23 of Module 2 in the HOW TO Guide.

Sometimes we find it hard to come up with really innovative ideas for change.

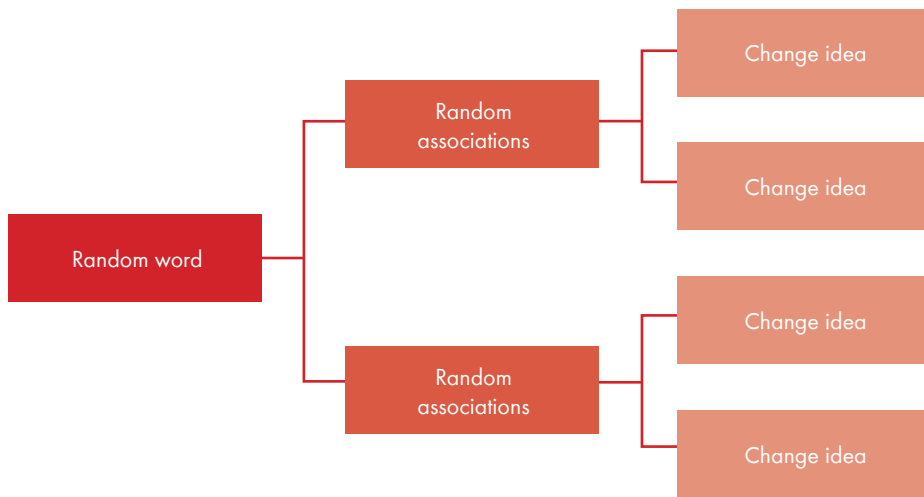
We get stuck. We can see our problem all too clearly but can't see any solutions other than things beyond our control. For example: 'I need more money', 'we need more staff', 'there is not enough space'. Edward de Bono has provided us with a number of techniques to use to help get unstuck. One is called **provocations**.^[1] To provoke is defined as 'to stimulate or incite someone to do or feel something'. In this case we are using provocations to stimulate different thinking. He introduced five provocations designed to help us think the impossible: reversal, exaggeration, escape, distortion and wishful thinking. We are encouraged to explore whether any of our crazy thinking throws up ideas that we could actually apply to the current situation to improve outcomes. For each provocation, we have to create a relevant example that is applicable to the topic area in which we are interested.



Provocation	Description	Example for health
Reversal	Go in the opposite direction to the norm	Patients treat the staff
Exaggeration	Greatly exaggerate current situation	Over 80% of the population are infected with HIV
Escape	Escape from what you take for granted	There is enough money to do what is good for patients
Distortion	Make changes to current relationships and/or time	Primary health care clinics are open for only 5 hours/day
Wishful thinking	An impossible fantasy	Patients do exactly what they are told to do

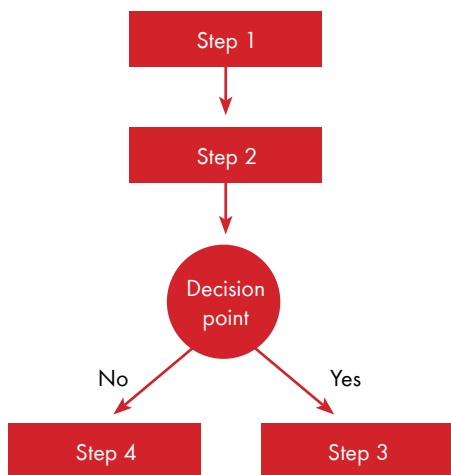
Another creativity technique described by de Bono is **random words**.^[3] A random word (noun or verb) is selected from a book or website designed for this purpose. Through lateral thinking and random associations originating from the random word, new thinking and ideas can be generated that are applicable to a problem or shortfall in performance. Examples of websites that can be used for this exercise include:

- <http://www.randomwordgenerator.com/>



- <http://www.listofrandomwords.com>
- <http://www.random.org>

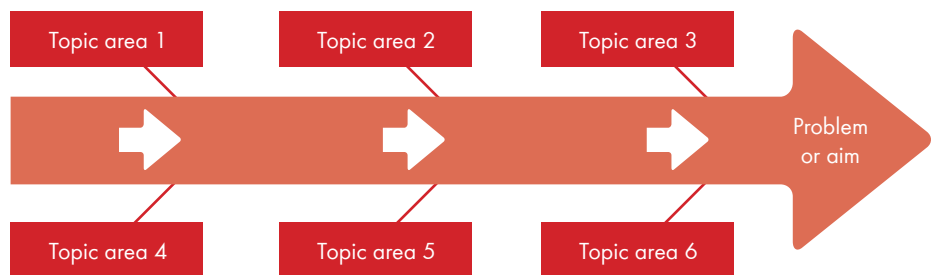
When we are working to improve the outcome of a clearly identifiable process, **process mapping** and analysis can be invaluable techniques in helping detect problems and generating change ideas. A process is a series of sequential tasks, known as 'steps', that together achieve a defined outcome. Process mapping, also known as 'flow charting', provides a visual representation of a process with its constituent steps. Each key step is described in a rectangle and steps are organised according to the order in which they occur in the process. The steps are connected with arrows. Where there are decision points in the process that determines the steps followed after the decision, the map will split into two



or more separate 'branches'. Decision points are usually represented as diamond shapes. See *Module 3 - How to Produce and Analyse and Process Map* for more detail.

One of the simplest tools for generating ideas is **brainstorming**. Most of us are familiar with this technique. Usually conducted in a group, individuals share their thoughts about a given topic. While gathering ideas, participants are encouraged to think as freely as possible. Contributions are not judged or analysed until the production of ideas has been exhausted. **Simply gathering ideas, however, may not open the channels for new ones, but it may trigger new thoughts, a 'new path to think new and different ideas'**. Pay attention to these ideas, explore them and test their impact in your context.

There are a number of different tools we can use to help analyse why we are getting the particular results we get.



These tools don't automatically generate ideas for change but they do help us **analyse our problem** in detail and in doing so make it **more likely that any changes we identify as a consequence will address the cause of poor performance**. One such tool is known as the **fishbone** or cause-and-effect diagram. This tool is very versatile and can be used in a number of different ways, but here we are going to look at how it can encourage more breadth of thinking. The fishbone is so-called because it looks like a fish skeleton. In the head of the fish, you write either your problem or your aim and at the end of each diagonal bone, you write topic areas selected to help guide your brainstorming.

A quicker, simpler way of identifying the root cause of your problem is to use the **'Five Why's'** technique. We start by asking why we have our problem or are not meeting our aim. We then ask 'why?' to the answer given and continue to do this until we feel we are at the root cause of the problem. This will be the point at which we may be able to intervene to stop the chain of events that is generating the problem or failure to meet our aim.

List of change ideas generated using the techniques described

Using plan-do-study-act cycles, the following ideas have been tested and shown to impact positively on outcomes. Please benchmark by testing these ideas in your own setting to see their impact on your outcome measures.

Topic covered	Change idea
Condom distribution	<ul style="list-style-type: none"> • Package condoms in brown bags and attach a note from the facility QI team • Attach a sweet as an attractor
Cervical cancer screening	<ul style="list-style-type: none"> • Use a screening tool to identify women eligible for pap smear and provide the service on the same day • Recruit clients at waiting area and allocate one professional nurse to perform cervical cancer screening daily
TB screening	<ul style="list-style-type: none"> • Centralise TB screening at the reception • Task-shifting – allocate a CHW to perform TB screening in a centralised area • Use a TB screening form with the date and the five TB screening questions stapled in front of every patient file, to remind the nurse to screen the patient at every visit
ANC bookings before 20 weeks	<ul style="list-style-type: none"> • Use the ANC screening tool to identify women who could be pregnant and book the ones who are pregnant on the same day of the clinic visit
HCT	<ul style="list-style-type: none"> • Allocate daily PICT target of three clients per professional nurse • NA identifies clients eligible for HCT at the vital signs area and refers them for HCT before consultation • Counsellor allocated to work shifts, including weekends • Allocate counsellors to perform outreach HCT • Give counsellors weekly targets and monitor them using run charts • Provide extra health talks throughout the day and not just first thing in the morning • Group counselling sessions in order to test more clients • Record PICT in correct source document and create a monitoring system of the allocated two per day target for nurses • Use gazebos or empty spaces at facility as HCT rooms for facilities with no space • Frequently plan for outreach campaigns outside the facility every month • Send a counsellor with the mobile clinic every day • Open Saturday clinics for HCT services • Counsellors target key populations, e.g. family-planning clients, breastfeeding mothers, new acute patients
VL completion	<ul style="list-style-type: none"> • Data capturer to write the VL due date and highlight it on the patient's file as a reminder for taking bloods for VLs • Data capturer uses the designed cohort guide to identify clients due for VL and attaches a VL reminder slip for professional nurses to collect VL • Allocation of one clinician to: take bloods daily for a week, interpret the VL results, and update the clinical stationery • Reminder systems to identify patients due for VL: e.g. highlight ART start date, sticker inside clinical stationery, pull out files of patients due by using the patient lists due for VL daily/weekly/monthly, and call patients weekly to remind them of their clinic appointment
Waiting times	<ul style="list-style-type: none"> • On a daily basis, pre-retrieve booked patient files the day before: label all pre-retrieved patient files with a consultation room number for allocation to the correct consulting room when they arrive for their appointment, and attach the pre-packed medication to the pre-retrieved patient file

ANC = antenatal care; ART = antiretroviral therapy; CHW = community health worker; HCT = HIV counselling and testing; NA = nursing assistant; PICT = provider-initiated counselling and testing; TB = tuberculosis; QI = quality improvement; VL = viral load.

Conclusion

Tools and assistance are available to each of us, and our teams, to break through the routine channels of thinking, create 'new channels' of thought and frames of reference, to help us view

the world and indeed our problems differently; this new way of thinking is vital for any improvement project!

References

1. De Bono E. *Lateral Thinking: Creativity Step By Step*. New York, USA: Harper & Row, 1970.

2. Sloane P. *The leader's guide to lateral thinking skills: Unlocking the creativity and innovation in you and your team*. 2nd ed. 1950.

3. De Bono E. *Teach Your Child How to Think*. London, UK: Penguin Books, 1994.

Toll-Free National HIV & TB Health Care Worker Hotline

Are you a doctor, nurse or pharmacist?

Do you need clinical assistance with the treatment of your HIV or TB patients?

Contact the TOLL-FREE National HIV & TB Health Care Worker Hotline



0800 212 506 /

021 406 6782

Alternatively send an SMS or
"Please Call Me" to 071 840 1572

www.hivhotline.uct.ac.za



The Medicines Information Centre (MIC) situated within the Division of Clinical Pharmacology, Department of Medicine at the University of Cape Town is the largest and only clinically-based medicine information centre in South Africa.

In collaboration with the Foundation for Professional Development and USAID/PEPFAR, the MIC provides a toll-free national HIV & TB hotline to all health care workers in South Africa for patient treatment related enquiries.

What questions can you ask?

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

- HIV testing
- Post exposure prophylaxis: health care workers and sexual assault victims
- Management of HIV in pregnancy, and prevention of mother-to-child transmission
- Antiretroviral Therapy
 - When to initiate
 - Treatment selection
 - Recommendations for laboratory and clinical monitoring
 - How to interpret and respond to laboratory results
 - Management of adverse events
- Drug interactions
- Treatment and prophylaxis of opportunistic infections

- Drug availability
- Adherence support
- Management of tuberculosis and its problems

When is this free service available?

The hotline operates from Mondays to Fridays 8.30am – 4.30pm.

Who answers the questions?

The centre is staffed by specially-trained drug information pharmacists who share 50 years of drug information experience between them. They have direct access to:

- The latest information databases and reference sources
- The clinical expertise of consultants at the University of Cape Town's Faculty of Health Sciences, Groote Schuur Hospital and the Red Cross War Memorial Children's Hospital



**MEDICINES
INFORMATION
CENTRE**





Quality improvement of the viral load programme in Mopani District, Limpopo Province

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Towards the HIV 90-90-90 target: A simple and low-cost intervention to improve viral load completion

The aim of initiating HIV-positive patients onto antiretroviral therapy (ART) is to have a durable viral load (VL) suppression leading to improved health outcomes. In 2015/2016, the US President's Emergency Plan for AIDS Relief (PEPFAR) adopted the Joint United Nations Programme on HIV/AIDS Fast-Track strategy and 90-90-90 targets for 2020. These targets are to ensure that 90% of all people living with HIV know their HIV status; 90% of all people with diagnosed HIV infection receive sustained ART; and 90% of all people receiving ART have viral suppression. When this three-part target is achieved, at least 73% of all people living with HIV worldwide will be virally suppressed. This is compared to the estimated 57%

based on projections using current VL completion (VLC) rates.^[1] To meet the 90-90-90 target, every person starting HIV treatment will need to have access to VL monitoring, which requires improved access and efficiency in VL testing. According to the 2015 ART guidelines, patients receiving ART should be monitored for VL at 6 months, 12 months and yearly while on treatment.

Methods

Setting

Anova Health Institute (Anova), a partner to Mopani District Department of Health (DoH) in Limpopo Province, is providing support to, and working with primary health care (PHC) facilities in

the district to reach the VL suppression targets using simple interventions to improve VLC.

An evaluation of VL testing of patients (adults) was conducted in all facilities in Mopani District between January and March 2014, prior to the introduction of nurse-initiated management of anti-retroviral therapy (NIMART) mentorship. An ART file review tool was developed and utilised when conducting the audit and the main focus was on clinical management of patients. The aim was to evaluate the status of the facilities, specifically: the availability of HIV/ART/sexually transmitted infection (STI)/tuberculosis (TB) guidelines, identifying skills gaps; and the clinical management

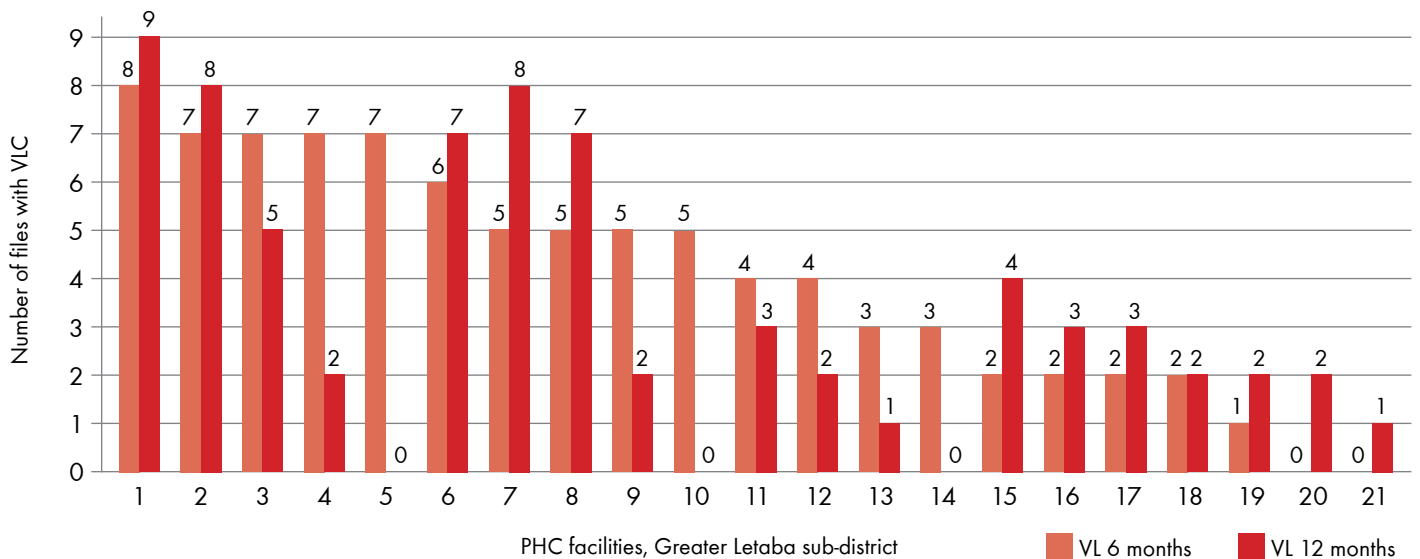


Figure 1: Number of files with VL at 6 and 12 months after ART initiation for the 2012 cohort in Greater Letaba sub-district.

of patients on ART through file audits. Statistics showed that of the 50 298 patients on treatment, only 20 886 (41.5%) had VL testing within the preceding 12 months.^[2]

‘VL testing’ within the cohort was defined as one month before, the month due and one month after; i.e. a 3-month grace period. This is accepted for clinical management of patients by the DoH in Mopani District. VL suppression was considered achieved with a VL <400 copies/ml.

For the pilot project, data directly from the file audits were used. For the evaluation of the roll-out of the project, all data used were sourced from Tier.net.^[2] Findings from file audits in one of the sub-districts, Greater Letaba, with 21 primary health care (PHC) facilities, revealed that of the files reviewed, 40% of patients had VL testing in the 6-month period and 34% of patients within the 12-month period.

In response to this evaluation, the nurse mentors undertook a quality improvement (QI) evaluation process. Using the fishbone tool, Anova analysed the skills audits completed

Table 1. Identified contributors to low VLC in 21 PHC facilities – Mopani District, 2014

<p>Patient factors</p> <ul style="list-style-type: none"> • Relatives collecting treatment • Clients uninformed of importance of VL monitoring • Low socio-economic status – clients missing appointments 	<p>Staff factors</p> <ul style="list-style-type: none"> • Missed opportunities • Data not captured • Clinical stationery not fully utilised • Clinical notes, not communicating to self or others
<p>Systems</p> <ul style="list-style-type: none"> • Courier challenges on weekends • Lack of communication between clinics 	<p>Operations and equipment</p> <ul style="list-style-type: none"> • Lab consumables not ordered or a shortage thereof

and observations made during support visits at each of the 21 facilities. From this process, challenges were identified as contributing to low VLC (Table 1).

The answer to ‘What change can we make that will result in improvement?’ led to the development of the sticker project as a cross-cutting resolution to many of the challenges.

Sticker pilot project

Keeping track of the month in which the patient is due to have a VL test was one of the main problems. Twelve colours were identified and each allocated to a month in the calendar year to allow for easy identification. Each colour

represents an ART-start month, which is also a blood-monitoring month. The sticker was placed on each file and a copy of the coded chart was placed in each consultation room. Patient education on the importance of VL testing was then conducted.

It was decided to pilot this project in the two worst-performing PHC facilities (14 and 21) in Greater Letaba sub-district for a 3-month period from January to March 2015. A series of steps was followed to implement the project:

1. Secure buy-in: meet facility staff, provide feedback on the baseline assessment and explain the importance of the project

2. Reference chart: place sticker chart on the notice board in all consultation rooms
3. Work with data capture; sorting files (removing inactive files) and identifying defaulters
4. Put VL month stickers on files according to start month and audit files for clinical management
5. Feedback report to the clinic staff with improvement plan:
 - VL recording and capturing according to SOPs

Ease of implementation of the sticker project

The sticker project can be introduced anywhere utilising the 12 colour stickers representing each calendar month. It can be applied to other chronic clients to identify their review months. Each facility needed only 12 differently coloured sticker boxes. The process can easily be incorporated into the daily activities and routine of existing staff; therefore, no extra personnel are needed.

Analysis

The sticker project was rolled out from June 2015. From July 2014 to June 2015 (pre-intervention), the VLC within 12 months increased by 2.1% and within the cohort grace period by 6%. From June 2015 to March 2016 (pilot and implementation), the VLC within 12 months increased by 15.9% and within the cohort grace period by 20.5%, showing an improvement in quality of VLC.

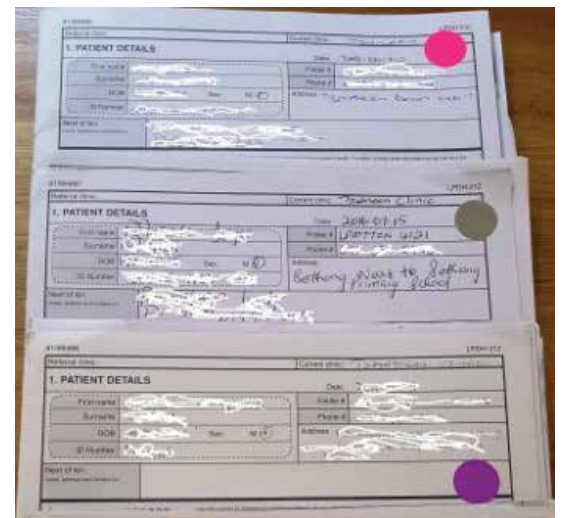
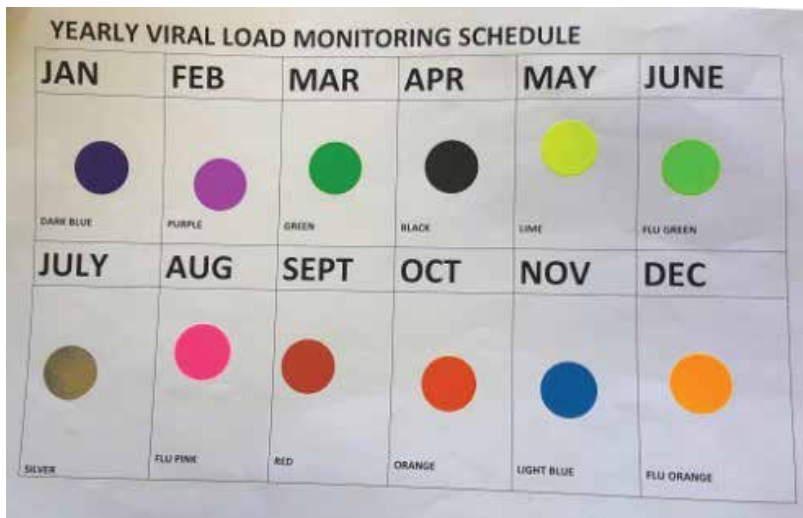


Figure 2: (a) Monthly colour-coded VL sticker chart; (b) patient charts with stickers (patient details removed).

- defaulter tracing
- identify and discuss challenges
- in-service training as required
- mentoring plan
- monthly support visits to each facility.

Pilot project results

There was a significant improvement in both the 6- and 12-month cohorts as illustrated in Figure 3. Based on the initial results and feedback from clinic staff and nurse mentors, the decision was taken to roll out the sticker project to all 111 PHC facilities in Mopani District. By June 2015, the sticker project had been cascaded out to 88 PHC facilities in Mopani District, and by May 2016, 110 of the 111 PHC facilities had introduced the project.

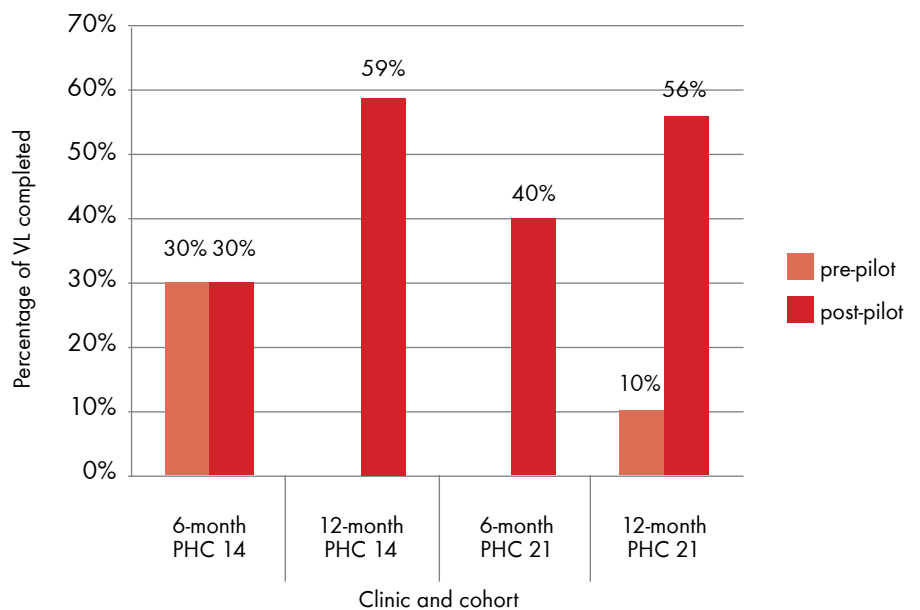


Figure 3: VLC for the 6- and 12-month cohorts pre and post sticker pilot project roll-out in clinic 14 and 21.

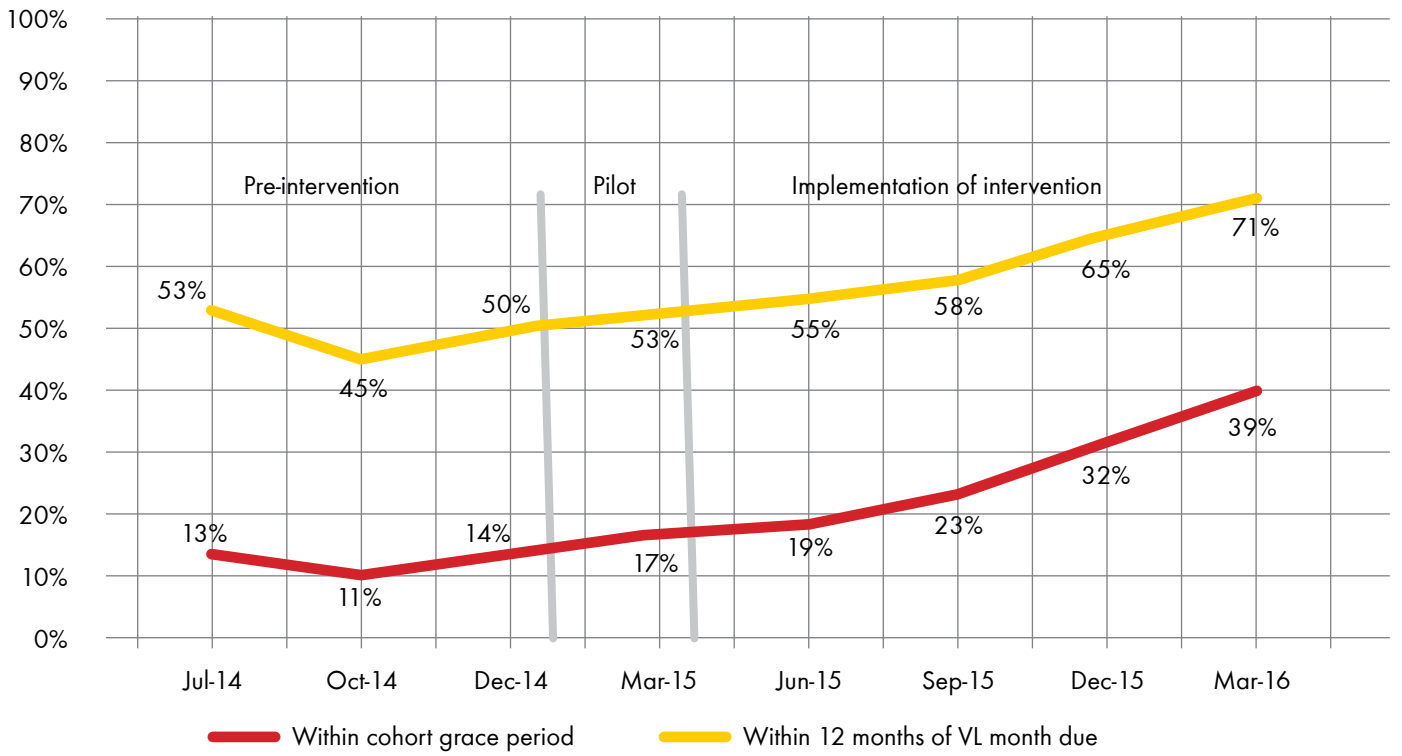


Figure 4: Mopani District – VLC for all cohorts, July 2014 to March 2016.

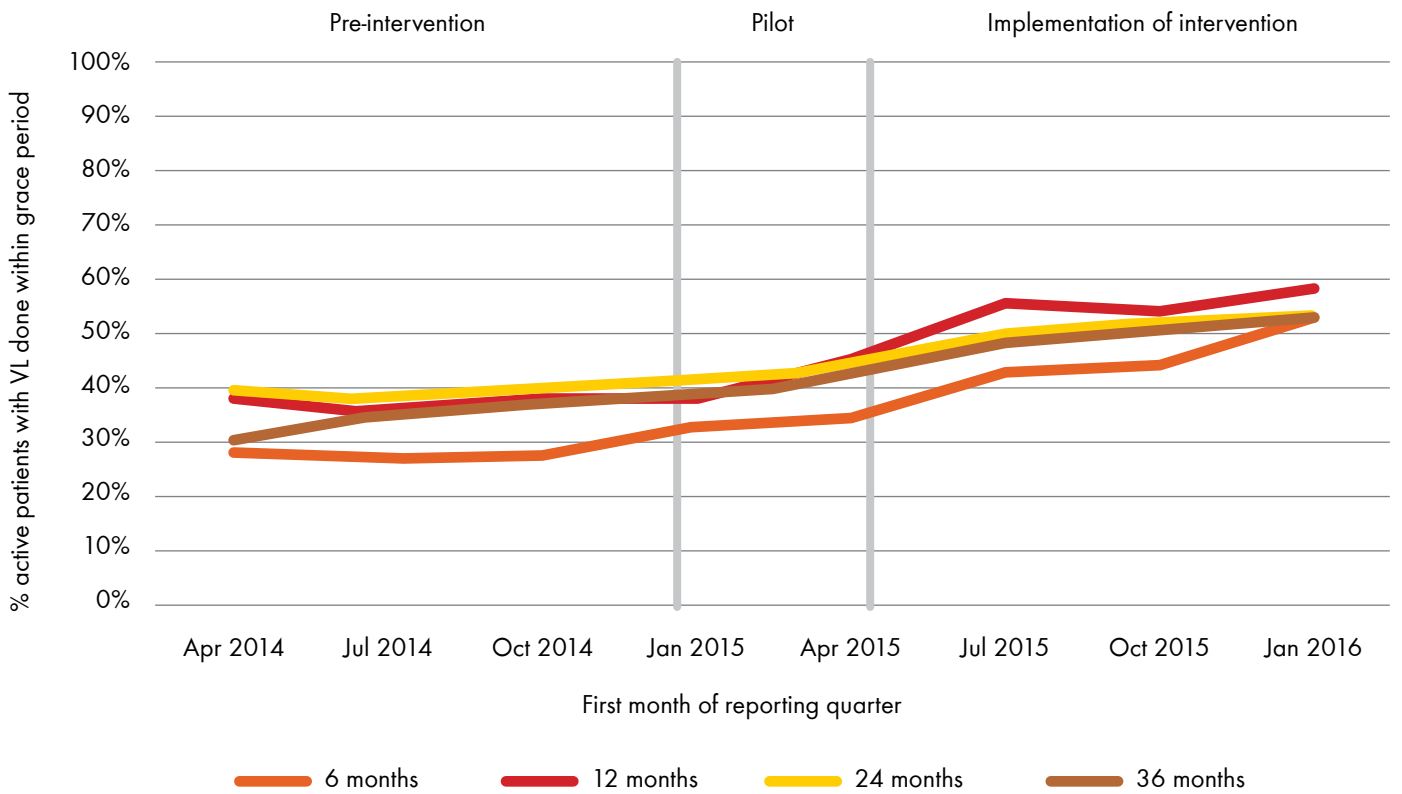


Figure 5: VLC within grace period by cohort for Mopani District.

Table 2: VL suppression for Mopani District, January to March 2016^[2]

Remaining in care 31/03/2016	Unsuppressed VL	Suppressed VL	All VL done within 1 year	% performance	% from target (90%)
67 054	9 137	42 839	51 976	82%	92%

Figure 5 illustrates the trend of improvement in cohort VL monitoring in Mopani District with the introduction of the sticker project.

Viral suppression

The improvement in VLC is reflected in the Mopani District VL suppression rate of 82%, which is 92% of the target of 90%. Of the 67 054 patients remaining in care, 22.5% are not having VL testing.

Balancing measures

A number of additional positive spin-offs were observed from the sticker project:

- Mentors extracted all files and removed old files, creating more space for filing
- Enhanced PHC re-engineering/facility collaboration as community health workers were tracing defaulters and clients who had missed appointments
- Tracing of clients was more effective leading to a greater number of clients returning for treatment
- Increased number of clients who were virally suppressed, and who were easily enrolled into ART adherence clubs
- Nurse mentors established clinical issues that were specific to each facility and are addressing these challenges.

Limitations

Change as a result of the project was more difficult to assess with the long roll-out period. There was no transport to laboratories on weekends, resulting in facilities not taking VL blood samples on Fridays, Saturdays and Sundays (which affects the VLC rate).

Conclusion

Only one PHC facility, of the 111 in the district, has not introduced the project since its roll-out in June 2015. This project can make a significant difference in any PHC facility as it requires minimal expenditure and training and does not require additional personnel. This process can readily be applied to any chronic disease management programme. Its simplicity and low cost ensures its sustainability.

If the picture continues to improve at the same pace, Mopani District will achieve 90% VLC before the target date of 2017.

The sticker project is a simple and easy-to-implement system that significantly improved our VL programme.

Acknowledgements: Department of Health, Mopani District; US President's Emergency Plan for AIDS Relief (PEPFAR); Grace Segage, Anova Health Institute; Anova Health Institute staff.

References

1. UNAIDS. 90-90-90: An Ambitious Treatment Target to Help End the AIDS Epidemic. UNAIDS, 2014. <http://www.unaids.org/en/resources/documents/2014/90-90-90>
2. University of Cape Town. Tier.net version 1.9.2.0. 2016.





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 February 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 the next issue of *HIV Nursing Matters*. The winner agrees to the publication of their story in Vol. 8(1) of *HIV Nursing Matters in 2017* 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



**NATIONAL HEALTH
LABORATORY SERVICE**

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.

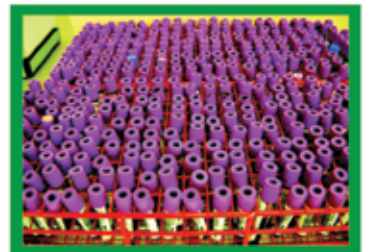
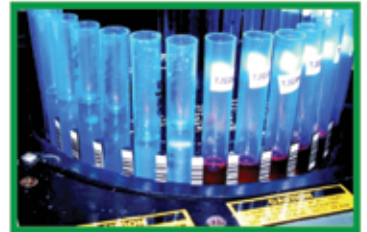
Once you have a Reference number

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 July 2016 issue

1. **Sleep problems, obesity, diabetes, hypertension, mental illness, substance abuse, 'burnout', compassion fatigue, influenza, hepatitis B, dread diseases, backaches, joint problems or workplace violence.**
2. **Post-exposure prophylaxis (PEP) should be offered, and initiated as early as possible (ideally within 72 hours), to all individuals with exposure that has the potential for HIV transmission. If the source is virologically suppressed, then PEP should still be offered.**
3. **The Southern African HIV Clinicians Society (SAHIVSoc) recommends using tenofovir (TDF) and lamivudine/emtricitabine (3TC/FTC) as the PEP backbone and raltegravir (RAL), a protease inhibitor, as the third drug, except in pregnant women, where boosted atazanavir (ATV) is the preferred third drug.**
4. **True**
5. **Personal risk reduction includes the appropriate use of N95 respirators by staff and training of health care workers on infection-control practices.**
6. **Nurses have a heavy workload, consisting both of paid and unpaid work, and often feel fatigued, overwhelmed and stressed as a result.**
7. **True**
8. **True**
9. **In the mid-2000s, fewer than 20% of teenage mothers accessed the child support grant.**
10. **Improving relationships and communication with colleagues, facilitating supportive relationships among nurses, including mentoring.**

Quiz questions for December 2016

1. What is the most effective form of pre-exposure prophylaxis (PrEP) according to current evidence?
Answer.....
2. What is the estimated HIV prevalence rate among sex workers in South Africa and what makes them vulnerable to HIV infection?
Answer.....
3. Should PrEP be offered to sex workers, and if so, how should this be done?
Answer.....
4. When should patients on antiretroviral therapy (ART) be monitored for viral load (VL)?
Answer.....
5. Is a patient who tests positive for HIV eligible for PrEP?
Answer.....
6. What is the definition of a medication stock out and why is this important for HIV management?
Answer.....
7. How do you report a stock out and is it difficult or time-consuming?
Answer.....
8. What are the current (2013) South African National TB Program (SANTP) guidelines for tuberculosis (TB) prevention in children?
Answer.....
9. Can community clinic TB nurses start isoniazid preventive therapy (IPT) without consulting a doctor? Which cases get referred for further investigation?
Answer.....
10. Describe the 'five why's' technique which helps identify the root cause of your problem when brainstorming?
Answer.....

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
sanacfreestate@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, then 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

Working with patients to counsel them on HIV testing for themselves and their children, as well as on the importance of adhering to medication can be challenging, particularly as the antiretroviral therapy (ART) guidelines change often. How can I make sure that I am up-to-date and well prepared for this component of my job?

Dear nurse clinician

The urgent need for scaled-up HIV services and the shift towards decentralised, primary care makes your role incredibly important when it comes to helping patients to test for HIV and manage their HIV correctly. This can be challenging for any health care worker. However, you are uniquely placed to give patients valuable support, build their knowledge, and encourage them to attend follow-up visits and to adhere to their medication regimens. Studies have indicated that when a patient has a good relationship with a nurse, the increased trust that this builds helps patients to adhere.^[1]

We realise that this means that you need adequate training and support to perform this role effectively. If you have an immediate query, the Medicines Information Centre (MIC) runs the South African National HIV & TB Health Care Worker Hotline: you can call 0800 212 506 or send an SMS or 'Please Call Me' to 071 840 1572, and someone will assist you.

Training courses can also be a valuable way of boosting your knowledge and skills.^[2] The organisations listed below all run courses for nurses:

- Foundation for Professional Development: http://www.foundation.co.za/FPD/about-fpd/school_of_health.html
- Anova Health Institute: <http://www.anovahealth.co.za/training/>
- Right to Care: <http://www.righttocare.org/what-we-do/training/>
- Desmond Tutu HIV Foundation: <http://desmondtutuhivfoundation.org.za/our-projects/> - (online/distance learning course that comes with a training manual)

There may be other courses and we suggest that you speak to the clinicians/line managers at your site to ask for assistance in motivating for training sessions. There may be an opportunity to apply for bursaries to attend trainings or events, such as the nurse bursaries provided by the Southern African HIV Clinicians Society to attend conferences.

Best of luck!

References

1. Campbell C, Skovdal M, Mupambireyi Z, et al. Building adherence-competent communities: Factors promoting children's adherence to anti-retroviral HIV/AIDS treatment in rural Zimbabwe, *Health & Place* 2012;18(2):123-131.
2. Cameron D. Nurse-initiation and maintenance of patients on antiretroviral therapy: Are nurses in primary care clinics initiating ART after attending NIMART training? *S Afr Med J* 2012;102(2):98-100.



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 speciality:

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** R14000 per annum
includes 10 pharma rep memberships, 2 mailers and 1 social media event / article
- **Organisation (NGO) Package** R3500 per annum
for 10 staff memberships or R6000 per annum for 20 staff memberships

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:

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

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