PROGRESS REPORT ON

THE NATIONAL STRATEGIC PLAN FOR HIV, TB AND STIs (2012 – 2016)

South African National AIDS Council (SANAC)
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NATIONAL STRATEGIC PLAN
FOR HIV, TB AND STIs
(2012 – 2016)

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Foreword

South Africa has the largest HIV and tuberculosis (TB) epidemics in the world. As this report confirms, there are now 6.4 million people living with HIV in the country as well as almost 400,000 new cases of TB. Hundreds of thousands of South Africans become newly infected with HIV each year. Many of them are young women between the ages of 15 and 24 – in the prime of their lives and at the beginning of their reproductive years.

Fortunately, we also live in a country that has the wherewithal to take on this epidemic and to beat it! The dark days of denialism are long gone! As this report shows, there are now more than 2.5 million South Africans on antiretroviral treatment (ART). This is a remarkable achievement and has led to a substantial increase in life expectancy – one of the key outcomes of the National Development Plan.

With the biggest epidemic in the world it will come as no surprise that we are also the country that spends more money on HIV and TB than any other country in the world. At SANAC we have recently estimated that we spent R21 billion on the HIV and TB response in the last financial year.

In the context of these achievements there has not, to date, been an annual report that documents the progress we are making as a country in response to the HIV, TB and STI epidemics. We are therefore pleased to publish our first ever report on the outcomes of the goals set in the National Strategic Plan (NSP).

The task of monitoring a complex epidemic, and an even more complex response, is technically difficult and requires collaboration with multiple stakeholders in the public, private and civil society sectors. In line with our ‘learning by doing’ approach, we have noted the need to make changes to the list of indicators currently used to monitor progress of the South African National AIDS Council (SANAC) with the aim of improving tracking of the multisectoral response. We are pleased to partner with the Health Systems Trust (HST) in the preparation and publication of this report.

I would like to thank SANAC staff who have worked very hard on this report as well as HST, the National Department of Health (NDoH), other government departments, academic institutions and civil society partners for their contributions to this first Progress Report on the NSP 2012/2013.

I would also like to thank Professor Quarraisha Abdool Karim, Chair of the SANAC Prevention Technical Task Team and Director of CAPRISA, for independently reviewing this report’.

DR FAREED ABDULLAH
CHIEF EXECUTIVE OFFICER: SANAC
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AIDS</td>
<td>Acquired Immunodeficiency Syndrome</td>
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<tr>
<td>ANC</td>
<td>Antenatal care</td>
</tr>
<tr>
<td>APP</td>
<td>Annual Performance Plan</td>
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<tr>
<td>ART</td>
<td>Antiretroviral treatment</td>
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<tr>
<td>ASSA</td>
<td>Actuarial Society of South Africa</td>
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<tr>
<td>BCG</td>
<td>Bacillus Calmette-Guérin</td>
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<tr>
<td>CCMT</td>
<td>Comprehensive Care, Management and Treatment</td>
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<tr>
<td>CFR</td>
<td>Case Fatality Rate</td>
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<td>CI</td>
<td>Confidence Interval</td>
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<tr>
<td>CSOs</td>
<td>Civil society organisations</td>
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<tr>
<td>DBE</td>
<td>Department of Basic Education</td>
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<td>DCS</td>
<td>Department of Correctional Services</td>
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<td>DHET</td>
<td>Department of Higher Education and Training</td>
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<td>DHIS</td>
<td>District Health Information System</td>
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<td>DMP</td>
<td>Disease management programme</td>
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<td>DPSA</td>
<td>Department of Public Service and Administration</td>
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<td>DR-TB</td>
<td>Drug-resistant tuberculosis</td>
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<td>DSD</td>
<td>Department of Social Development</td>
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<td>EID</td>
<td>Early infant diagnosis</td>
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<td>FDC</td>
<td>Fixed-dose combination</td>
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<td>FET</td>
<td>Further Education and Training</td>
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<tr>
<td>FSWs</td>
<td>Female sex workers</td>
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<td>HEAIDS</td>
<td>Higher Education and Training HIV/AIDS Programme</td>
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<td>HEI</td>
<td>Higher Education Institutions</td>
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<td>HCP</td>
<td>Health Communication Programme</td>
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<td>HCT</td>
<td>HIV counselling and testing</td>
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<td>HCW</td>
<td>Health care workers</td>
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<tr>
<td>HDSS</td>
<td>Health and Demographic Surveillance Site</td>
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<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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HPCSA  Health Professions Council of South Africa
HPV  Human Papillomavirus
HSRC  Human Sciences Research Council
HSV  Herpes Simplex Virus
I-ACT  Integrated Access to Care and Treatment
ICF  Intensified TB case finding
IDU  Injecting drug users
IPT  Isoniazid preventive therapy
JHESSA  Johns Hopkins Health and Education South Africa
LaG  Limiting-antigen
M&E  Monitoring and evaluation
MDR-TB  Multidrug-resistant Tuberculosis
MMC  Medical male circumcision
MSM  Men who have sex with men
MTCT  Mother-to-child transmission
NCS  National Communication Strategy
NDOH  National Department of Health
NEDLAC  National Economic Development and Labour Council
NGOs  Non-governmental organisations
NHLS  National Health Laboratory Services
NIMART  Nurse-initiated management of ART
NPR  National Population Register
NSP  National Strategic Plan
OVC  Orphans and vulnerable children
PCR  Polymerase Chain Reaction
PEP  Post-exposure prophylaxis
PEPFAR  The United States President’s Emergency Plan for AIDS Relief
PWID  People who inject drugs
PLHIV  People living with HIV
PMTCT  Prevention of mother-to-child HIV transmission
PrEP  Pre-exposure prophylaxis
Glossary of terms

**Age-disparate relationships**: This refers to relationships in which the age gap between sexual partners is five years or more. The terms ‘intergenerational relationship’ and ‘cross-generation relationship’ generally refer to those with a 10-year or greater age disparity between sexual partners.

**BCG vaccination**: Vaccination with a strain of tubercle bacillus that has lost the power to cause TB.

**Extensively drug-resistant tuberculosis (XDR-TB)**: In addition to resistance to isoniazid and rifampicin, XDR-TB is also resistant to fluoroquinolones and at least one injectable second-line drug.

**Extrapulmonary TB**: TB disease in any part of the body other than the lungs, for example, the kidneys or lymph nodes.

**Gender equality**: Gender equality between men and women means that all human beings, both men and women, are free to develop their personal abilities and make choices without the limitations set by stereotypes, rigid gender roles and prejudices. Gender equality means that the different behaviours, aspirations and needs of women and men are considered, valued and favoured equally. It signifies that there is no discrimination on the grounds of a person’s gender in the allocation of resources or benefits, or in access to services.

**Health system**: A health system consists of all organisations and individuals whose actions are intended to promote, restore or maintain health at societal level. A health system includes a broad range of institutions and individuals. Their actions help to ensure the efficient and effective delivery and use of products and information for the prevention, treatment, care and support of people in need of these services.

**Human papilloma virus (HPV)**: Refers to a group of related viruses that infects skin or mucous membranes. These viruses most frequently cause warts, including genital warts, or cancers of the cervix, vulva, vagina, penis or oropharynx.

**Key populations at higher risk of HIV exposure**: Refers to those most likely to be exposed to HIV or to transmit it. Targeting this group is critical to a successful HIV response. In all countries, key populations include people living with HIV (PLHIV). In most settings, men who have sex with men (MSM), transgender persons, people who inject drugs (PWID), sex workers and their clients, and seronegative partners in serodiscordant relationships are at higher risk of exposure to HIV. There is also a strong link between various kinds of mobility and heightened risk of HIV exposure. Furthermore, the reason for increased and varied mobility and the extent to which people move outside their social contexts and norms are additional factors.
Men who have sex with men (MSM): The term ‘men who have sex with men’ describes males who have sex with males, regardless of whether or not they have sex with women or have a personal or social gay or bisexual identity. This description includes men who self-identify as heterosexual but have sex with men.

Morbidity: The state of being ill or having a disease.

Mortality: An individual’s death; loss of life.

Multidrug-resistant tuberculosis (MDR-TB): MDR-TB is a specific form of drug-resistant TB, due to a bacillus that is resistant to at least isoniazid and rifampicin, the two most powerful antituberculosis drugs.

Post-exposure prophylaxis (PEP): PEP refers to antiretroviral medicines that are taken after exposure or possible exposure to HIV. The exposure may be occupational, as in a needle stick injury, or non-occupational, as in having unprotected sex with a person infected with HIV.

Pre-exposure prophylaxis (PrEP): PrEP refers to antiretroviral medicines prescribed before exposure or possible exposure to HIV. PrEP strategies under evaluation increasingly involve the addition of a post-exposure dosage.

Positive health, dignity, and prevention (PHDP): Previously referred to as ‘positive prevention’, PHDP encompasses strategies to protect sexual and reproductive health (SRH) and delay HIV disease progression. It includes individual health promotion, access to HIV and SRH services, community participation, advocacy and policy change.

Prevention of mother-to-child transmission (PMTCT) of HIV: Refers to the prevention of HIV transmission from an HIV-infected woman to her child during pregnancy, delivery or breastfeeding. PMTCT forms part of a four-pronged strategy to prevent new HIV infections in children and keep mothers alive and families healthy. The four prongs are: halving HIV incidence in women; reducing the unmet need for family planning; providing antiretroviral prophylaxis to prevent HIV transmission during pregnancy, labour and delivery, and breastfeeding; and providing care, treatment and support for mothers and their families. Some countries prefer to use the term ‘vertical transmission’ to acknowledge the role of the father/male sexual partner in transmitting HIV to the woman and to encourage male involvement in HIV prevention.

Serodiscordant: Serodiscordant is a term used to describe a couple in which one partner is HIV-positive and the other is HIV-negative.

Seronegative: Seronegative refers to a negative serum reaction when testing for the presence of a specific antibody or immunological agent.

Sexual and reproductive health (SRH) services: This includes services for family planning; infertility services; prevention of unsafe abortion and post-abortion care; diagnosis and treatment of sexually transmitted infections, including HIV infection, reproductive tract infections, cervical cancer and other gynaecological morbidities; and the promotion of sexual health, including sexuality counselling.
Sexually transmitted infections (STIs): STIs are spread by the transfer of organisms from person to person during sexual contact. In addition to the traditional STIs (syphilis and gonorrhoea), the spectrum of STIs also includes: HIV, which causes AIDS; chlamydia trachomatis; human papilloma virus (HPV), which can cause cervical, penile or anal cancer; genital herpes; and chancroid. More than 20 disease-causing organisms and syndromes are now recognised as belonging in this category.

Social and behaviour change communication (SBCC): Behaviour change communication promotes tailored messages, personal risk assessment, greater dialogue and an increased sense of ownership.

Transgender persons: Transgender persons express a gender identity that is different from their birth sex.

Vertical transmission: Transmission of an infection such as HIV from mother to foetus via the placental circulation.

Women who have sex with women (WSW): It includes not only women who self-identify as lesbian or homosexual and have sex only with other women, but also bisexual women and those who self-identify as heterosexual but who have sex with women.
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EXECUTIVE SUMMARY

The South African National AIDS Council (SANAC) was established by the South African Government in 2000 to build consensus between government, civil society and all other stakeholders to enhance the country’s response to HIV, tuberculosis (TB) and sexually transmitted infections (STIs). In 2002, the government established and funded the SANAC Trust, which is the legal entity that carries out objectives set by government. The Trust’s primary responsibilities are to co-ordinate the response to the epidemics and to support the implementation of programmes across government, non-governmental organisations (NGOs), and the private and donor sectors. The SANAC Secretariat exists to implement the objectives of the SANAC Trust. These include supporting implementation of the National Strategic Plan (NSP) for HIV and AIDS, TB and STIs 2012–2016, fostering dialogue between key role-players; advising government; strengthening governance, leadership and management; strengthening the multisectoral response; mobilising resources domestically and internationally; ensuring the monitoring of progress; and creating and strengthening partnerships for an expanded domestic and international response.

The current NSP follows on two previous NSPs (2000–2005 and 2006–2011). The NSP 2012–2016, hereafter referred to as the NSP, was adopted by the SANAC Plenary Meeting and approved by Cabinet in 2011. It provides guidance for a five-year period of response, and is regularly reviewed and adapted to take into account the evolving epidemiology of the epidemics and outcomes and impacts of the aforementioned response. The NSP sets out to achieve the following goals:

» Reduce new HIV infections by at least 50%, using combination prevention approaches.

» Initiate at least 80% of eligible patients on antiretroviral treatment (ART), with 70% alive and on treatment five years after initiation.

» Reduce the number of new TB infections and deaths from TB by 50%.

» Ensure an enabling and accessible legal framework that protects and promotes human rights in order to support implementation of the NSP.

» Reduce self-reported stigma related to HIV and TB by at least 50%.

The overall achievements of South Africa’s response to HIV, AIDS and TB to date have occurred in a complex environment. In South Africa, as in many countries, there is no uniform monitoring system that fits exactly with the key indicators as defined in global and national strategic guidelines and plans. Furthermore, key indicators also need to be regularly adapted and redefined as a product of the evolving epidemic. Notwithstanding, South Africa has conducted robust national and sub-national studies and has relatively comprehensive health information systems that inform the country’s response.
The regular monitoring of the NSP is one of the most important functions of the Secretariat. The Secretariat has therefore established a monitoring and evaluation unit, and this report is the first major document produced by this team towards achieving this objective.

Chapter 1 of the report provides a more detailed introduction and background to the NSP, its indicators and targets, as well as progress made against these set targets. Chapter 2 provides an overall assessment of progress against the five main goals of the NSP. Chapter 3 describes progress made in each of the NSP’s four Strategic Objective areas (each section ends with a table of indicators and progress against targets). Chapter 4 contains a set of recommendations based on the information presented in the report.

Goals of the NSP

The main findings in Chapter 2 – ‘Goals of the NSP’ – are as follows:

**Goal 1: Reducing new HIV infections by at least 50%, using combination prevention approaches**

- There are now 6.4 million South Africans living with HIV.
- HIV incidence (%) in the 15–49 age group has decreased from 1.79% in 2008 to 1.47% in 2012.
- HIV incidence is highest in young women aged 15–24 at 2.83%.

A recent survey estimates that one quarter of all new HIV infections is in young women aged 15–24, pointing to major epidemic drivers underlying this phenomenon.

The NSP 2012–2016 utilises the 2008 Human Sciences Research Council (HSRC) national household HIV survey finding of HIV prevalence of 8.7% among youth aged 15–24 as a baseline for a targeted 50% HIV prevalence decline of 4.35% in 2016. Using 2012 data as a baseline, the 50% HIV prevalence decline target for 2016 is 3.55%. A prevalence of 7.1% was measured in 2012, indicating a decline of 18% since 2008.

According to all three approaches to estimating HIV incidence in South Africa, there has been a decline in HIV incidence from 2008 to 2012 among the population aged 15–49. However, although the THEMBISA model indicates declines for all age groups and both sexes, the HSRC estimates that incidence has increased among females aged 15–49 and 15–24. Spectrum estimates show a 19% decline in incidence for males and females aged 15–49, from 1.9% in 2008 to 1.54% in 2012. The HSRC survey estimates that there were 469 000 new infections in 2012.

All estimation methods suggest a dramatic decline in perinatal transmission in recent years, with declines of 23% to 36% over the period from 2010 to 2011. Furthermore, the THEMBISA model estimates a decline of 76% from 2005 to 2012.
The overall picture is that there has been a decline in adult HIV incidence over time but that this decline does not meet the 50% reduction required by the NSP. Much more needs to be done to improve prevention efforts in South Africa, especially in young women, in order to halt the spread of HIV.

**Goal 2: Initiating at least 80% of eligible patients on antiretroviral treatment, with 70% alive and on treatment five years after initiation**

- There are 2.5 million South Africans (as at March 2013) on antiretroviral treatment making it the world’s largest programme.
- An estimated 2.3 million are on treatment in the public sector (as at March 2013).
- More than 200 000 patients are on treatment in the private sector through medical schemes.
- Retention in care in the public sector is 75% after one year on treatment.
- 75% of patients in the public sector are virally suppressed.
- Life expectancy increased from 53 years in 2006 to 61 years in 2012.

South Africa has the largest ART programme in the world, with more than 2.3 million people in the public sector on ART in 2013. Using current eligibility criteria, the coverage estimate of patients in need of ART using the old coverage definition was estimated by the THEMBISA model in 2011/12 to be 57%, compared to 36% of all HIV-infected patients being on ART using the new definition. The latter estimate is slightly higher than that found in the 2012 HSRC national household HIV survey, which recorded an ART coverage of 31% of all HIV-positive samples. Coverage in excess of 50% using the new definition has also been recorded at provincial level in some provinces using routinely collected data.

To maintain an ART enrolment ratio above 1.3, South Africa will need to continuously enrol in excess of 500 000 new patients onto ART per year. The growing number of patients previously initiated on ART will need to be retained in care. Greater attention will need to be paid to improving viral load monitoring and to retaining patients in care.

**GOAL 3: Reducing the number of new TB infections and deaths from TB by 50%**

- According to WHO, TB incidence in South Africa continues to rise, with 530 000 new cases estimated for 2012, an increase from 490 000 new cases in 2009. This translates into an incidence of 1 003 per 100 000 population.
- According to the TB register there were 323 644 cases of TB (new and relapses) in the same year.
There were 88 000 deaths due to TB in PLHIV and 31 000 TB deaths in HIV uninfected patients in 2012.

Statistics South Africa (Stats SA) estimates that TB is the leading natural cause of death in South Africa.

The TB register estimates that the Case Fatality Rate for TB is 8.4%.

Of the 22 highest burden countries in the world South Africa has the third-highest absolute TB burden, after India and China. Using the WHO estimates slow progress has been made in achieving the NSP TB incidence and mortality targets for TB – to reduce new infections and deaths by 50%. Using the TB register estimates there has however been a decline in both TB incidence and mortality, which is in keeping with the increased number of patients on antiretroviral treatment.

Guidance is provided by the national TB plan, which was updated in 2013, as well as by other plans that address drug-resistant TB (DR-TB) including guidelines for the management of DR-TB and the decentralisation and deinstitutionalisation of multidrug-resistant TB (MDR-TB) services. Funding has been provided by the Global Fund to Fight AIDS, Tuberculosis and Malaria for the strengthening of TB services for mining communities and inmates in prisons, and for the decentralisation of MDR treatment. Much more needs to be done to address both the rising incidence and mortality due to TB and the dichotomy between WHO estimates and data retrieved from the South African TB register and Stats SA.

Goal 4: Ensuring an enabling and accessible legal framework that protects and promotes human rights in order to support implementation of the NSP

Growth in programmes for key populations, including sex workers, MSM and prisoners, has been demonstrated.

Targets and indicators need to be set to track this goal as well as the objectives of Strategic Objective 4 as they do not exist in the current NSP.

South Africa’s response to HIV, STIs and TB acknowledges the importance of applying and adhering to the country’s constitutional values and human rights requirements. Unfair discrimination on the basis of HIV or TB status is illegal in South Africa. The legal framework for respecting, protecting, promoting and fulfilling rights in the context of HIV and TB is largely in place. Special attention is given to groups that are at higher risk of HIV and TB to ensure that wherever service provision occurs, it is provided in a manner that upholds the dignity of PLHIV and people living with TB.

The NSP recognises that ongoing campaigns to educate citizens on human rights and discrimination are needed. Various initiatives address rights in South Africa, although improved monitoring and tracking is necessary to determine progress.
In relation to communication, HIV and TB are extensively addressed through the multisectoral response, which is bolstered by a range of formal health communication programmes (HCPs). The latter programmes have demonstrably impacted on knowledge, attitudes, behaviours and practices related to HIV and TB.

**Goal 5: Reducing self-reported stigma related to HIV and TB by at least 50%**

- A survey of 10,000 PLHIV investigating various aspects of stigma is currently underway.
- A pilot stigma reduction programme is being planned for two districts in the Eastern Cape with a view to national rollout in areas of high stigma.
- Indicators and targets for this goal and related objectives need to be revised. None are clearly stated in the current NSP.

The NSP calls for implementation of a Stigma Mitigation Framework and SANAC is leading a national stigma index survey that will cover 18 districts, and will mobilise resources for the implementation of a national stigma mitigation programme. Nationally, civil society organisations (CSOs) and government departments continue to deliver stigma and discrimination reduction programmes in line with the NSP goals and objectives.

National surveys indicate low levels of stigma and discrimination at population level, and the current Stigma Index Survey will further inform understanding thereof.

**Strategic Objectives of the NSP**

The NSP has four strategic objectives, which will form the basis of the HIV, STI and TB response.

These are:

1. Addressing social and structural barriers to HIV, STI and TB prevention, care and impact
2. Preventing new HIV, STI and TB infections
3. Sustaining health and wellness
4. Increasing the protection of human rights and improving access to justice.
Strategic Objective 1: Addressing social and structural drivers of HIV, STI and TB prevention, care and impact:

The NSP is unequivocal about the limitations of the response to HIV and TB unless key structural and social drivers are addressed. In the context of a global downturn in the economy little progress has been made against poverty, unemployment and inequality at levels that will have a meaningful protective effect on the spread of HIV. In particular, young women are the most unlikely category of South Africans to find work. Informal settlements are the location of high transmission of HIV and TB, and despite millions of houses having been built by the State there does not appear to be a significant impact on decreasing informal settlements.

Social factors that drive the epidemic, such as sexual assault, gender inequality, gender-based violence, and alcohol and substance abuse, have not been adequately addressed. Poor education, which leads to low skills levels and high dropout rates from schools, Further Education and Training (FET) colleges and universities, further compound the effect of the structural drivers by denying young South Africans the right to escape the poverty, unemployment and inequality traps that millions of them find themselves in. The high dropout rate of girls from schools is yet another complex driver. High school enrolment for boys and girls and the widely cast net of social grants are considered to have some protective effect for HIV and these need to be strengthened.

Known behavioural factors that drive HIV, such as age-disparate relationships, multiple sexual partnerships, early sexual debut and low levels of condom use are also inadequately addressed in the current response. Although the National Communication Survey of 2012 showed good progress with condom use at first sexual encounter and increasing condom use among young people over the last decade, the HSRC national household HIV survey 2012 showed declining condom use in all age groups compared to 2008. This may be reflective of the absence of any public-sector condom promotion and marketing campaign and erratic supplies to distribution outlets. The HSRC survey also showed an increase in age disparate relationships and an increase in multiple sexual partnerships, and revealed that more young people were initiating sex at younger ages. In other words, risky sexual behaviour is on the increase in South Africa.

The latest available data show that age at sexual debut is decreasing in South Africa, whereas later age at debut is protective for HIV and pregnancy.

The use of condoms addresses the prevention of HIV and other sexually transmitted infections (STIs), as well as unintended pregnancies, among sexually active people. With a 2016 target of one billion, male condom distribution has dropped from the 2010 baseline of 492 million to 230 011 696 in 2011 (53% reduction from baseline), 251 419 268 in 2012 (49% reduction from baseline) and 352 065 256 in 2013 (29% reduction from baseline).
To address HIV prevention among youth, the Department of Higher Education and Training (DHET) established the Higher Education and Training HIV/AIDS Programme (HEAIDS) as a national facility to develop and support HIV mitigation programmes at South Africa’s public-sector Higher Education Institutions (HEIs) and FET colleges. In partnership with NDOH, the Department of Basic Education (DBE) is implementing the Integrated School Health Programme (ISHP) within schools.

In future years, major investments are required in the areas of social and behaviour change programmes and programmes to protect young women from high-risk exposure. Programming to address Strategic Objective 1 requires serious review, as do the financial investments and monitoring and evaluation systems.

**Strategic Objective 2: Preventing new HIV, STI and TB infections**

Prevention is the cornerstone of the NSP. This is captured in the main goal of the NSP, the reduction of incidence by 50% over the five years of the NSP. The section on incidence provides a detailed description of new cases due to adult sexual transmission. Although there has been a decline in incidence since the peak of the epidemic in 2003 and 2004, HIV incidence remains higher than expected and reductions thereof over the last five years have been disappointingly slow. The latter points to the need for greater investments in prevention efforts. Both the Global Fund to Fight AIDS, Tuberculosis and Malaria and PEPFAR have increased their investments in prevention, although the South African Government has not matched these investments.

During the current five-year NSP period, a greater effort has been made in the area of Strategic Objective 2. According to the NCS, 17 million South Africans have ever tested for HIV, with ten million tested in the 12 months prior to the survey. However, the targets for HCT set in the NSP have not been met.

The PMTCT programme has been a singular success. Transmission rates have reduced to less than 3% at 6 weeks. However, targets for other key prevention interventions have been underachieved. These include HCT and MMC.

HIV prevention programmes for key populations are increasing, especially through donor funded initiatives for key populations such as sex workers, MSM and prisoners, though it is too early to measure their impact at the end of the first year of the NSP. Pilot programmes for injecting drug users (IDUs) have commenced through funding from PEPFAR.

Greater investments in social and behaviour change communication (SBBC) programmes are needed. Programmes by NGOs, such as loveLife, Soul City, and Johns Hopkins Health and Education South Africa (JHESSA), reach millions of South Africans. There is a growing call for government to increase its investments in SBBC following the HSRC findings that condom use has declined over the last five years and risky sexual behaviour has increased. It also found that HIV knowledge in the general population has also declined.

The new strategy of the Department of Basic Education (DBE) and the scal-
ing up of university and FET college programmes is encouraging. Plans are afoot in the Departments of Health and Social Development to increase their investments in prevention.

The 2012 National Communication Survey (NCS) found that there has been a huge increase in the number of South Africans ever tested for HIV, with 2.6 million more people reporting having ever tested than three years ago.

The National Health Laboratory Services’ (NHLS) early-infant diagnosis (EID) data clearly show the rapid scale-up of EID over the first decade of the PMTCT programme from the 100-fold upsurge in PCR tests to 350 000 by 2012.

There is strong evidence that male circumcision reduces the risk of HIV acquisition in men during heterosexual intercourse by up to 60%. Thus, increasing uptake of MMC is a key HIV-prevention strategy for reducing HIV incidence among men. The NDOH Annual Performance Plan (APP) target for 2012/13 was 600 000 medical circumcisions with a total of 514 991 circumcisions being conducted during this period. Against an overall target of reaching approximately 4.3 million HIV-negative men aged 15–49, 12% of the target had been achieved by 2012/13.

Recent data on STI prevalence levels in South Africa are limited. However, the national antenatal survey of 2012 measured an HSV-2 prevalence of 55.8% in pregnant women in four provinces (KwaZulu-Natal, Gauteng, Western Cape and Northern Cape).

The October 2013 National HIV and TB Review found that the South African TB programme was not meeting its targets, although TB diagnosis and treatment is much improved. TB treatment is widely available and almost 80% of patients with new smear-positive pulmonary TB are cured. TB patient follow-up is, however, poor, and there is no effective tracing of patients who drop out of treatment programmes. TB Infection control (TBIC) has been noted to be poorly implemented.

The number of HIV-infected people screened for TB rose almost twofold (to 1.26 million), and the number of PLHIV receiving isoniazid preventive therapy (IPT) increased nearly threefold (from 146 000 to 373 000) between 2010 and 2011. With some 373 000 PLHIV receiving IPT in 2012, South Africa is now the largest provider of this prophylactic regimen in the world.

**Strategic Objective 3: Sustaining health and wellness**

The Department of Health continues to increase the number of patients on antiretroviral treatment. By March 2013 there were 2.3 million patients on treatment in the public sector. A further 200 000 patients are on treatment in the private sector. South Africa has observed a concomitant increase in life expectancy.

South Africa has the largest ART programme in the world. Domestic funding has increased to the extent that more than 75% of the HIV response has been financed from domestic revenues since 2010. South Africa is one of the four countries in the region to have coverage of ART among children infected with HIV and in need of treatment that exceeded 50% in 2011.
According to the 2013 UNAIDS Regional Report, decreases in AIDS-related deaths have occurred most prominently in countries like South Africa, where large HIV epidemics have been addressed through steep increases in ART provision. South Africa’s HIV antiretroviral treatment programme is estimated to have saved 780,000 lives between 2003 and 2012, increasing to an estimated 2.2 million lives saved by 2016. Placing children and adolescents on treatment, and ensuring retention in care remain areas where intensified focus is needed. Many of the indicators of Strategic Objective 3 are reviewed in the section under Tuberculosis in this report.

**Strategic Objective 4: Ensuring protection of human rights and improving access to justice**

The 2013 National HIV and TB Review found that informed consent is being sought prior to testing for HIV, and that those eligible for ART are being referred to appropriate facilities. Patients with drug-resistant TB are also being managed as required by the national guidelines. Women living with HIV are not denied their sexual and reproductive health rights, including the desire to have children –although some instances of discrimination have been documented. Rape survivors are provided with PEP services, and provision is granted whether or not a charge is laid at a police station. In general, human rights and access to health services are respected. As previously mentioned, unfair discrimination on the basis of HIV and/or TB status is illegal in South Africa, and significant progress has been made with regard to the development and implementation of HIV workplace policies and programmes.

**Conclusions and recommendations**

The main results to be reported are as follows:

» Considerable progress has been made in reducing HIV transmission during pregnancy and child birth, and perinatal transmission is estimated to be 2.7%. The country is on track to reach the NSP target of less than 2% perinatal transmission by 2016.

» In 2013 ART reached 2.5 million South Africans including more than 200,000 patients being treated in the private sector. The provincial health departments will however need to enrol approximately 500,000 people onto treatment over the next four years to reach the NSP targets for ART coverage.

» It is likely that there is a decline in TB incidence and mortality due to the scale-up of antiretroviral treatment, though the WHO reports an increase in incidence and high mortality for TB. The country is not on track to achieve the ambitious targets of reducing both incidence and mortality by 50%.

» In relation to rights, some vulnerable key populations, such as sex workers, MSM and prison inmates, are being addressed. Work is also underway to create access to legal services for persons discriminat-
ed against because of their HIV status, and work towards addressing gender-based violence (GBV) is in progress.

While surveys show low levels of stigmatising attitudes, the extent of stigma and discrimination from the point of view of PLHIV is yet to be determined. The implementation of the SANAC commissioned national stigma index survey will provide necessary insights and also contribute to the development of appropriate indicators to track progress.

It should be highlighted that this first Progress Report on the NSP does not adequately capture all the available data. This is especially the case in respect of government departments such as DBE, DHET, the Department of Social Development (DSD) and the Department of Correctional Services (DCS). Neither does it capture data from NGOs, provinces or the private sector. It is SANAC’s intention to address this in each subsequent year. In many cases, the systems are not in place to capture these data or the NSP does not, in its current form, require this information to be captured.

While there has been sound progress in relation to monitoring and surveillance, it remains the case that measuring, monitoring and tracking the progress of the NSP is not fully addressed through the present systems. It is necessary to identify available indicators that can serve as the basis for understanding progress over the 2012–2016 period, while also establishing appropriate approaches to address gaps for assessing progress in future. This includes a process of engagement between SANAC and various research bodies, as well as expanding the role of research, monitoring and evaluation within the multisectoral response as a whole.

This report has revealed weaknesses in programme implementation, as well as weaknesses in monitoring and evaluation (M&E) systems. The programme weaknesses must be presented to government through the structures of SANAC in order to be addressed. In terms of M&E, the report has highlighted weaknesses in the main indicators selected for monitoring, as well as indicator definitions, targets set and baselines selected in the NSP. These must be addressed as part of the mid-term review.
Chapter 1: Introduction and background

The South African National AIDS Council (SANAC) was established by the South African Government in 2000 to build consensus among government, civil society and all other stakeholders to enhance the country’s response to HIV, tuberculosis (TB) and sexually transmitted infections (STIs). In 2002, the government established and funded the SANAC Trust, which is the legal entity that carries out the objectives set by government, and co-ordinates the response and supports the implementation of programmes across government, non-governmental organisations (NGOs), and private and donor sectors. The SANAC Secretariat exists to implement the objectives of the SANAC Trust. These include:

» co-ordinating and supporting the implementation of the NSP;

» fostering dialogue between government, civil society, and all other stakeholders and overseeing the country’s response to HIV, STIs and TB;

» advising government on HIV, STI and TB policy and strategy and related matters;

» strengthening the governance, leadership and management of the response to HIV, STIs and TB at national, provincial, district and local levels;

» strengthening the multisectoral response to HIV, STIs and TB as part of the overall social and economic development of South Africa, including policy review, programme management and co-ordination, technical assistance, capacity building, and sectoral support;

» mobilising resources domestically and internationally to finance the response to HIV, TB and STIs, including stimulating expenditure and resource needs, co-ordinating and raising funds from domestic and international sources and identifying new opportunities for funding;

» ensuring the monitoring of progress against the targets set in the NSP and conducting reviews and evaluations as needed;

» creating and strengthening partnerships for an expanded domestic and international response to HIV, STIs and TB in South Africa among government agencies, NGOs, donors, agencies of the United Nations, the South African private sector, and people living with HIV, STIs and TB.

South Africa’s NSP on HIV, STIs and TB, 2012–2016, provides guidance for a five-year period of response, and is regularly reviewed and adapted to take evolving epidemiology and changes into account.

The NSP is aligned with the South African Constitution and strives towards ideals of human dignity, non-racialism, non-sexism and the rule of law. The NSP is also aligned with broader development plans including the Medium-Term
Strategic Framework (MTSF) and Programme of Action, while also linking to international and regional obligations, commitments and targets related to HIV, STIs and TB.

The 20-year vision of the NSP focuses on zero new HIV and TB infections; zero new infections due to vertical transmission; zero preventable deaths associated with HIV and TB; and zero discrimination associated with HIV and TB. The vision is framed by strategic objectives that set out to:

- address the social and structural barriers of HIV, STI and TB prevention, care and impact
- prevent new HIV, STI and TB infections
- sustain health and wellness
- increase protection through human rights and improve access to justice.

Through the above vision and strategic objectives, the NSP sets out to achieve the following goals:

1. Reduce new HIV infections by at least 50%, using combination prevention approaches.
2. Initiate at least 80% of eligible patients on antiretroviral treatment (ART), with 70% alive and on treatment five years after initiation.
3. Reduce the number of new TB infections and deaths from TB by 50%.
4. Ensure an enabling and accessible legal framework that protects and promotes human rights in order to support implementation of the NSP.
5. Reduce self-reported stigma related to HIV and TB by at least 50%.

**Strategic objectives**

There are four strategic objectives, each of which has a set of indicators that needs to be tracked by SANAC and targets that have to be achieved by implementing agencies with the support of SANAC. The strategic objectives are:

- Addressing social and structural drivers of HIV, STI and TB prevention, care and impact
- Preventing new HIV, STI and TB infections
- Sustaining health and wellness
- Ensuring protection of human rights and improving access to justice.

For purposes of consistency, this first progress report follows the prescribed list of indicators of the NSP. It is however noted that some indicators should be adapted and refined to take into account the availability of data on the one hand, and the appropriateness of the defined specific indicators on the other hand.
required to track progress on the other. A number of other reports further inform understanding of the response in South Africa. These include the National Department of Health (NDOH) Annual Report; the Joint Review of HIV, TB and PMTCT Programmes in South Africa (NDOH); the Global AIDS Response Progress Report (GARPR), SANAC; the NSP Review by Section 27 and the Treatment Action Campaign; and Financing the National Strategic Plan for 2012–2016 by SANAC.

Monitoring and evaluation of the National Strategic Plan

The NSPs M&E framework for monitoring response and tracking progress was developed by SANAC. The framework takes into account existing systems being implemented by various stakeholders, as well as planning and monitoring frameworks included in government policies.

The M&E framework seeks to:

» monitor the HIV and TB epidemics, as well as STIs, focusing on incidence, prevalence, morbidity and mortality

» build an M&E system for the NSP that strengthens existing systems, and that incorporates systems for community-based monitoring and reporting

» monitor implementation of the NSP and report periodically on its implementation

» develop and implement an evaluation agenda for the NSP.

The overall impact of the NSPs implementation is measured through the following impact indicators:

» percentage of young women and men aged 15–24 years living with HIV

» percentage of persons in key populations who are living with HIV

» number and percentage of HIV-exposed infants testing HIV-positive at six weeks and 18 months post-partum

» prevalence and incidence of TB

» percentage of adult mortality due to HIV and TB

» trends in stigma

» retention of PLHIV on ART.
Chapter 2: Assessment of Progress against the Five Main Goals of the NSP

GOAL 1: Reducing new HIV infections by at least 50%, using combination prevention approaches

There are various approaches to assessing progress in relation to reducing new HIV infections in South Africa. The UN High Level Meeting target set for South Africa for 2015, indicates a baseline among 15–49-year-olds for 2010 as 440 000 new infections (Spectrum 2013). The target for a 50% decline in 2015 is thus 220 000 new infections. The NSP aims to reduce HIV prevalence among women and men aged 15–24 by 50% using the 2008 Human Sciences Research Council (HSRC) national household HIV survey estimate of 8.7% as a baseline, with the target being 4.3% by the end of 2016.

HIV prevalence

HIV prevalence reflects the number of people that are HIV-positive in the population out of the total population at a given point in time. National population-based surveys that include HIV testing are considered to be the best approach for measuring HIV prevalence at country level. The findings from the 2012 HSRC survey estimate national HIV prevalence among all ages at 12.2% (95% CI: 11.4–13.1). This estimate is higher than the 2008 national estimate of 10.6% (95% CI: 9.8–11.6).

In Table 1 below, comparisons with earlier surveys are made. For children 2–14 years there has been a downward trend in HIV prevalence since 2002, decreasing from 5.6% in 2002 to 2.4% in 2012. This reflects the success of the scale-up of South Africa’s prevention of mother-to-child transmission (PMTCT) programme. For the 15–24 age group, there was an initial rise in prevalence from 2002 to 2005, but since then, HIV prevalence declined from 10.3% in 2005 to 7.1% in 2012. The HIV prevalence in this age group is particularly important as it serves as a proxy for HIV incidence. The targeted HIV prevalence for the 15–24 age group from 2008 to 2016 is 3.55%. HIV prevalence declined by 18% in this age group from 2008 to 2012, from 8.7% to 7.1%, indicating the need for intensified prevention efforts.

For adults older than 25 years of age, HIV prevalence has increased significantly from 15.5% in 2002 to 19.9% in 2012. Among the 15–49 age group, there have also been significant increases in HIV prevalence from 15.6% in 2002 to 18.8% in 2012. Interpreting HIV prevalence in relation to potential declines in new infections requires additional estimation calculations, however, given that life expectancy has been increased through South Africa’s expanded roll-out of ART.
Table 1: HIV prevalence by age, South Africa, 2002, 2005, 2008 and 2012

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>2002</th>
<th>2005</th>
<th>2008</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>2–14</td>
<td>5.6</td>
<td>3.3</td>
<td>2.5</td>
<td>2.4</td>
</tr>
<tr>
<td>15–24</td>
<td>9.3</td>
<td>10.3</td>
<td>8.7</td>
<td>7.1</td>
</tr>
<tr>
<td>15–49</td>
<td>15.6</td>
<td>16.2</td>
<td>16.9</td>
<td>18.8</td>
</tr>
<tr>
<td>2+</td>
<td>11.4</td>
<td>10.8</td>
<td>10.9</td>
<td>12.6</td>
</tr>
<tr>
<td>25+</td>
<td>15.5</td>
<td>15.6</td>
<td>16.8</td>
<td>19.9</td>
</tr>
</tbody>
</table>

Figure 1 shows the substantial differences in HIV prevalence by sex. These differences illustrate the higher biological and social vulnerability to HIV among females in comparison to males.

Figure 1: HIV prevalence by sex and age, South Africa, 2012
Figure 2 shows the substantial provincial variation in HIV prevalence. These variations between provinces have been consistent over time.

Figure 2: HIV prevalence by province, South Africa, 2012

In absolute numbers, there has been an increase in the number of people living with HIV (PLHIV) from 5,253,493 in 2008 to 6,422,179 in 2012 – an increase of almost 1.2 million over the period. Spectrum 2013 estimates indicate that the number of adults and children living with HIV in South Africa rose from 6.1 million in 2008 to 6.2 million in 2012.

Antenatal HIV surveillance

HIV prevalence among women aged 15–49 years attending public-sector antenatal clinics in South Africa was 29.5% (95% CI: 28.8–30.2) in 2012. Figure 3 shows sharp increases in antenatal HIV prevalence through to 2007, with a stabilising trend through to 2012.
HIV prevalence among younger women attending antenatal clinics is also a useful proxy for HIV incidence for this group. Antenatal HIV prevalence in the 15–19 age group was 12.4% in 2012, illustrating a decline from 12.7% in 2011, and 14.0% in 2010. Figure 4 shows declines among young women aged 15–19, 20–24 and in the 15–24 age group as a whole over the 2010 to 2012 period. Figure 4 also illustrates increases over the period among women in older age groups.

Figure 4: HIV prevalence among antenatal women, by age group, South Africa, 1990-2012

Most-at-risk key populations for HIV are identified in the NSP 2012–2016 as follows:

» young women aged 15–24 years
» people living close to national roads and in informal settlements
» young people not attending school and girls who drop out of school before matriculating
» people from low socio-economic groups
» uncircumcised men
» people with disabilities and mental disorders
» sex workers and their clients
» people who abuse alcohol and illegal substances
» men who have sex with men (MSM)
» transgender (TG) individuals.
**Box 1: Estimation of HIV incidence**

**HIV incidence studies**

The traditional method to estimate HIV incidence is through longitudinal studies that follow cohorts of HIV-negative individuals over time and that measure their rate of HIV seroconversion. Although this is generally accepted as the most accurate method, it is relatively expensive to conduct longitudinal studies of this nature, and because it is generally only feasible to conduct such studies in small geographical areas, the results are seldom, if ever, nationally representative. Previously published estimates of HIV incidence in South Africa based on longitudinal surveys, include those conducted by the Africa Centre and in southeast Limpopo.

An alternative approach is to make use of data from cross-sectional surveys conducted in the same population at different times. By comparing the HIV prevalence in a specified age group in the first survey to the HIV prevalence in the second survey (among people who were in the same age group at the time of the first survey), and adjusting the difference for the level of HIV mortality we would expect to see in this cohort, it is possible to derive a measure of HIV incidence over the period between the surveys.

This is sometimes referred to as the ‘synthetic cohort’ approach, since it attempts to replace a real cohort with an approximation to a cohort (i.e. the individuals sampled in the second survey are not the same as the individuals sampled in the first survey). The method has the advantage of being low-cost, but it can be inaccurate if there are differences between the two surveys in the sampling strategies, the HIV testing algorithms or the level of non-response bias (all of these deviations would violate the assumption that it is the same cohort being sampled in both surveys). An additional limitation is that the confidence intervals around these incidence estimates are typically very wide.

In the last decade there has been substantial interest in the use of assays to detect recent HIV infection, as a measure for HIV incidence. A major limitation of these assays is that they are not completely specific, and even small ‘false recent’ rates can lead to bias in HIV incidence measurements. Although it is mathematically simple to adjust the incidence rate calculation to reflect this false recent rate, the false recent rate appears to vary between settings, making it difficult to know what adjustment to make when applying the test locally. There is encouraging evidence of low false recent rates on the recently-developed Limiting-Antigen LAg avidity assay, and many false positive reactions can be excluded through additional testing for low viral load and ART (so-called multi-assay algorithms). However, there remains some uncertainty regarding the accuracy of the LAg avidity assay, and the extent to which the accuracy varies between settings.

Finally, HIV incidence can be estimated through mathematical models that have been fitted to HIV prevalence data. An advantage of the mathematical modelling approach is that it is possible to integrate data sources other than household HIV prevalence in the model fitting procedure (e.g. mortality data, sexual behaviour data and antenatal prevalence data), and thus to achieve greater statistical precision. Another advantage is that mathematical models can be used to construct counterfactual scenarios (i.e. estimating what the HIV incidence rate would have been in the absence of interventions), making it possible to quantify the impact of interventions on HIV incidence. However, mathematical models require many assumptions about sexual behaviour, HIV transmission and HIV disease progression, and these can all influence the fitted HIV incidence trend as well as the estimates of intervention impact. There is thus the risk that mathematical models may yield overly-precise estimates of HIV incidence if they do not fully account for the uncertainties inherent in model specification and parameterisation.
HIV Incidence

HIV incidence is defined as the rate at which new infections occur over a specified period (as distinct from HIV prevalence, which is the proportion of individuals who are infected at a point in time). The HIV incidence rate is most commonly calculated as the number of new infections occurring in a particular year, divided by the number of individuals who were HIV-negative at the start of the year.

The NSP 2012–2016 aims to achieve a 50% reduction in adult HIV incidence over the period from 2012 to 2016. It will be challenging to measure the actual reduction in incidence with a high degree of precision, given that measures of HIV incidence typically have wide confidence intervals. Even if it is possible to measure the change in incidence with a fair degree of precision, it will be difficult to determine how much of the incidence decline is due to the effect of interventions and how much is due simply to the ‘natural dynamics’ of the epidemic. Mathematical models have suggested that in a mature HIV epidemic, some incidence decline might be expected in the absence of any intervention, and the achievement of a particular incidence target should therefore not necessarily be interpreted as being completely attributable to the success of interventions.

The NSP 2012–2016 aims to achieve substantial reductions in mother-to-child transmission (MTCT). The target for 2016 is a transmission rate of <2% at 6 weeks and <5% at 18 months. Although recent surveys have been able to measure the transmission rates at around six weeks, there is some concern that the sensitivity of the Polymerase Chain Reaction (PCR) used in testing for HIV may be compromised if the infant is receiving nevirapine prophylaxis. By implication, the actual six-week transmission rate could be underestimated – since almost all HIV-exposed infants should be receiving nevirapine prophylaxis according to current prevention of mother-to-child transmission (PMTCT) protocols. There are no recent published estimates of cumulative transmission up to 18 months, although this is currently being investigated through SANAC funding by the South African Prevention of Mother-to-Child Transmission Evaluation (SAPMTCTE) study group.

Although it is too soon to state definitively that HIV incidence has declined since 2012, the sections that follow provide insight into HIV incidence trends over the last decade (since 2005).

Table 2 compares HIV incidence estimates for the 15–49 age group, obtained using different methods. The different methods are roughly consistent, suggesting an HIV incidence rate of between 1.5% and 1.7% over the period between mid-2011 and mid-2012. The various methods also suggest some decline in incidence over the period since 2005, although the magnitude of this decline is not consistent: the HSRC estimates suggest only a very modest decline in incidence in recent years, while the THEMBISA and Spectrum estimates suggest a steeper decline.
Table 2: HIV incidence estimates by various methods, 2008–2012

<table>
<thead>
<tr>
<th>Source</th>
<th>Method</th>
<th>Period</th>
<th>Total</th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSRC household survey</td>
<td>Ag avidity assay</td>
<td>2012</td>
<td>1.72</td>
<td>1.21</td>
<td>2.28</td>
<td>1.49</td>
<td>0.55</td>
<td>2.54</td>
</tr>
<tr>
<td>LAg avidity assay</td>
<td>Synthetic cohort</td>
<td>2008–2009</td>
<td>1.9</td>
<td>1.6</td>
<td>2.19</td>
<td>1.5</td>
<td>1.04</td>
<td>2.12</td>
</tr>
<tr>
<td>Synthetic cohort</td>
<td>Spectrum model</td>
<td>Mid-2005 to mid-2006</td>
<td>1.52</td>
<td>1.10</td>
<td>1.88</td>
<td>1.77</td>
<td>1.40</td>
<td>2.17</td>
</tr>
<tr>
<td>Spectrum model</td>
<td>Mathematical model</td>
<td>Mid-2009 to mid-2010</td>
<td>1.99</td>
<td>1.59</td>
<td>2.30</td>
<td>1.79</td>
<td>1.17</td>
<td>2.09</td>
</tr>
<tr>
<td>Mathematical model</td>
<td>Mathematical model</td>
<td>Mid-2011 to mid-2012</td>
<td>1.88</td>
<td>1.48</td>
<td>2.15</td>
<td>1.77</td>
<td>1.38</td>
<td>2.15</td>
</tr>
</tbody>
</table>

Note: Incidence estimates are rounded to the nearest whole number. The confidence intervals for the estimates are given in parentheses.
HIV incidence differs substantially by age and sex. As shown in Table 2, the HSRC and THEMBSIA incidence estimates are both higher in females than in males, especially in the 15–24 age group. However, the effects of age are somewhat different in the HSRC and THEMBSIA estimations. The HSRC estimates suggest a higher HIV incidence in the 25–49 age group than in the 15–24 age group, while the THEMBSIA estimates suggest incidence is higher in youth than among older age groups. Although both sources suggest that HIV incidence has declined among youth over the past five years, the HSRC survey suggests that HIV incidence has increased in the 25–49 age group, while the THEMBSIA model suggests that incidence has declined. The THEMBSIA estimates suggest that the HIV incidence level in 15–49-year-olds has declined among males and females, while the HSRC estimates suggest that the decline has been limited to males. In all of these comparisons, it needs to be considered that the confidence intervals around the incidence estimates are wide, and that the differences in age and sex estimated by the different estimation methods could simply be due to chance.

**Comparison of different estimates of HIV incidence in children**

Mother-to-child transmission of HIV is usually characterised by perinatal infection (transmission occurring at or before the time of birth) or postnatal infection (transmission occurring after birth, usually through breastfeeding). Table 3 compares estimates of perinatal transmission rates.

All estimation methods suggest a dramatic decline in perinatal transmission rates in recent years, with declines of 23–36% over the period from 2010 to 2011. The THEMBSIA model estimates a decline of 76% since 2005. The THEMBSIA estimates of HIV incidence are somewhat higher than those of the other two sources. There are two likely explanations for this. Firstly, the SAPMTCTE and National Health Laboratory Service (NHLS) estimates may be compromised by the diminished PCR sensitivity in infants who are receiving nevirapine prophylaxis. Secondly, the SAPMTCTE and NHLS estimates relate only to those infants who have survived to the age where they are eligible for PCR screening (6 weeks), although there is known to be a high rate of HIV-related mortality in perinatally-infected infants in the first few months of life. In the THEMBSIA model it is estimated that about 8.0% of all perinatally-infected infants die from HIV-related causes before the age of 2 months. The THEMBSIA model estimates should be treated with caution, as the model has not been recalibrated to recent paediatric HIV prevalence and mortality data. Nevertheless, the model estimates an infant HIV prevalence of 1.3% (mid-2012), which is consistent with the HIV prevalence measured in the 2012 HSRC survey among children under the age of 12 months (1.3%, 95% CI: 0.6-2.7%).
Table 3: Comparison of South African perinatal transmission rates, 2005–2012

<table>
<thead>
<tr>
<th>Source</th>
<th>Method</th>
<th>Period</th>
<th>Estimate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAPMTCTE study</td>
<td>DBS testing</td>
<td>Aug 2011–March 2012</td>
<td>2.7 (2.1–3.2)</td>
</tr>
<tr>
<td>SAPMTCTE study</td>
<td>DBS testing</td>
<td>June–Nov 2010</td>
<td>3.5 (2.9–4.1)</td>
</tr>
<tr>
<td>NHLS data</td>
<td>PCR tests in infants &lt;2 months old</td>
<td>2013</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2012</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2011</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2010</td>
<td>4.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2009</td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2008</td>
<td>9.6</td>
</tr>
<tr>
<td>THEMBISA</td>
<td>Mathematical model</td>
<td>2011/12</td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2010/11</td>
<td>5.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2009/10</td>
<td>8.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2008/09</td>
<td>12.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2007/08</td>
<td>14.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2006/07</td>
<td>16.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2005/06</td>
<td>17.7</td>
</tr>
</tbody>
</table>

Few estimates exist of postnatal transmission rates. The THEMBISA model estimates that of the 33 000 cases of mother-to-child transmission that occurred between mid-2011 and mid-2012, 21 000 (63%) were cases of postnatal transmission. Relative to the model estimate of the number of births to HIV-positive mothers in 2011/12 (289 000), this suggests a total mother-to-child transmission rate in excess of 10%. However, it is not correct to divide the number of postnatal infections by the number of births to HIV-positive mothers, as a high proportion of the postnatal infections are in fact estimated to be from mothers who seroconverted after delivery. As the SANAC indicator is the cumulative transmission from mothers who were positive at delivery, the ratio should be calculated after excluding the transmissions from postnatally-infected mothers. However, it is also important to consider the latter when evaluating overall progress towards reducing vertical transmission.

The Spectrum model estimates that over the period mid-2011 to mid-2012, there were 15 000 cases of mother-to-child transmission in South Africa (14 000–19 000), which is substantially lower than the THEMBISA estimate of 33 000. This difference could be partially due to transmission from mothers who seroconvert after their first antenatal HIV test, either during late pregnancy or while breastfeeding – a dynamic that is allowed for in the THEMBISA model but not in the Spectrum model.

Few estimates exist of the incidence of non-vertical transmission in children. Based on the LAg avidity assay, the 2012 HSRC survey estimated an incidence rate of 0.25% (95% CI: 0.21–0.29%) in children aged 2–14.
**Total new HIV infections**

The 2012 HSRC survey estimates that over the period mid-2011 to mid-2012 there were approximately 469 000 new infections (95% CI: 381 000–557 000) in the population aged 2 years and older. This compares with estimates of 408 000 (95% CI: 352 000–464 000) from THEMBISA and 380 000 (350 000–410 000) from Spectrum, when including cases of vertical transmission, and estimates of 375 000 and 360 000 respectively when excluding mother-to-child transmission. Some of the disparities between the HSRC survey estimate and the model-derived estimates are due to differences in the assumed size of the South African population, which is believed to be somewhat underestimated in both models. However, this by itself would account for only a 2% difference. It is worth noting that the HSRC survey estimate indicates 29 000 new infections in the 2–14 age group, which both the Spectrum and THEMBISA models assume to be an age group in which there is negligible transmission. It could therefore be argued that it is more appropriate to compare the Spectrum and THEMBISA estimates of 360 000 and 375 000 respectively to an HSRC estimate of 440 000. These differences are roughly consistent with the differences in 15–49 age group incidence rates shown in Table 2 above.

**Geographical differences**

There are no recently published estimates of HIV incidence in adults by province. However, a number of earlier models have produced estimates of HIV incidence by province, and these estimates are summarised in Table 4. Differences in HIV incidence trends by province are important in identifying variations in changes in the epidemic, including potential influence of HIV prevention programmes. The earlier Spectrum and ASSA 2008 estimates of adult HIV incidence both suggested that incidence was highest in KwaZulu-Natal and second-highest in Mpumalanga, with Free State and the North West provinces following at similar incidence rates. Incidence was lowest in the Western Cape, second-lowest in the Northern Cape and third-lowest in Limpopo Province.

**Table 4: Estimates of HIV incidence by province**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Cape</td>
<td>1.30%</td>
<td>1.20%</td>
<td>2.20%</td>
<td>1.3% (0.7-1.8)</td>
</tr>
<tr>
<td>Free State</td>
<td>1.65%</td>
<td>1.23%</td>
<td>1.89%</td>
<td>1.2% (0.7-1.7)</td>
</tr>
<tr>
<td>Gauteng</td>
<td>1.30%</td>
<td>0.97%</td>
<td>1.39%</td>
<td>0.8% (0.3-1.2)</td>
</tr>
<tr>
<td>KwaZulu-Natal</td>
<td>2.22%</td>
<td>1.60%</td>
<td>2.47%</td>
<td>0.9% (0.4-1.5)</td>
</tr>
<tr>
<td>Limpopo</td>
<td>1.00%</td>
<td>0.62%</td>
<td>1.59%</td>
<td>0.8% (0.3-1.2)</td>
</tr>
<tr>
<td>Mpumalanga</td>
<td>2.15%</td>
<td>1.23%</td>
<td>2.45%</td>
<td>1.2% (0.8-1.7)</td>
</tr>
<tr>
<td>Northern Cape</td>
<td>0.69%</td>
<td>0.59%</td>
<td>1.19%</td>
<td>1.0% (0.4-1.6)</td>
</tr>
<tr>
<td>North West</td>
<td>1.58%</td>
<td>1.21%</td>
<td>1.90%</td>
<td>0.8% (0.4-1.2)</td>
</tr>
<tr>
<td>Western Cape</td>
<td>0.34%</td>
<td>0.41%</td>
<td>0.77%</td>
<td>0.4% (0.1-0.6)</td>
</tr>
<tr>
<td>Total</td>
<td>1.43%</td>
<td>1.11%</td>
<td>1.81%</td>
<td>0.9% (0.7-1.1)</td>
</tr>
</tbody>
</table>
The incidence of perinatally-acquired HIV infection in children differs between provinces (Table 5), with estimates ranging from 0.4% in the Western Cape to 1.3% in the Eastern Cape. Despite having the highest maternal HIV prevalence in the country, KwaZulu-Natal has an HIV prevalence at age 6 weeks of 0.9%, the same as the national average. This suggests that PMTCT programmes in this province have been relatively successful.

Although the 2012 HSRC national household HIV survey does not report HIV incidence rates by province, it does report HIV incidence by locality type. The HIV incidence rate in the population aged 2 and older was substantially higher in urban informal settlements at 2.46% (95% CI: 1.98–2.94%) than in other settlement types where it ranged from 0.84% and 1.06%. Data from the most recent HSRC survey strongly suggests the need for focused interventions in urban informal settlements, although it should be noted that these settlements account for only about 17.0% of all new HIV infections.

Another gap in the understanding of HIV incidence is for the population aged 50 and older. Although it is often assumed that HIV incidence in this age group is negligible, data from the Africa Centre suggests annual HIV incidence rates in this group were 0.9% in men and 0.4% in women over the 2006–8 period, compared to rates of around 4.0% per annum in the 15–49-year-old population.

While none of the HIV incidence estimates are more recent than the period from mid-2011 to mid-2012, they serve as a useful baseline for evaluating progress towards meeting the goals of the 2012–2016 National Strategic Plan.

Despite the lack of recent data, it seems unlikely that the 50% HIV incidence reduction target will be met by 2016 if HIV incidence trends continue to follow a pattern of slow decline. At the present rate, HIV prevalence in youth is unlikely to fall below the 50% target before 2016, unless substantial changes to current HIV prevention efforts are introduced. However, there is a good chance that the goal of a reduction in perinatal transmission to less than 2% will be met by 2016.
GOAL 2: Initiating at least 80% of eligible patients on antiretroviral treatment (ART), with 70% alive and on treatment five years after initiation

Antiretroviral treatment exposure

This section addresses coverage, effectiveness and impact. For each subsection, the indicators and targets in the NSP 2012–16 are reviewed and, where relevant, revised targets are introduced.

Coverage

Coverage refers to the ratio of people starting ART relative to people who became newly eligible for ART in the same year. This enrolment ratio defines need as being new needs for ART rather than prevalent need for ART. In mature HIV treatment programmes, coverage at a given point in time is particularly difficult to interpret as the accumulating number of patients already on treatment, irrespective of when they became eligible for or started ART, outnumber those who remain in need of treatment but untreated. The enrolment ratio has been proposed as a metric that, if calculated over multiple years, provides a responsive and meaningful measure of trends in coverage relative to need. The existing NSP indicator—percentage of people per year becoming eligible for ART who receive ART—was intended to measure this. The proposed denominator against this indicator, as well as the baseline value and target, are all premised on the historical UNAIDS ART coverage definition, which includes all those already on treatment in the numerator and denominator, and additionally those who are untreated and in need of treatment in the denominator.

More recently, the UNAIDS ART coverage definition has been modified to include the denominator for coverage as the entire population living with HIV. This report covers all three definitions. The final definition is triangulated with population-level cross-sectional surveys. The advantage of the current UNAIDS recommendation for calculating coverage is that it situates universal treatment for everyone living with HIV as the ultimate goal, in line with a more expansive view of the role of ART as an important component for curbing the HIV epidemic through reducing population-level viral load.

The NSP indicator combines adults and children. For the purposes of calculating the enrolment ratio, the denominator for children is taken as all children who acquire HIV from their mothers, while for the historical UNAIDS coverage definition, the denominator is now all children under five years old living with HIV irrespective of CD4 count, plus those aged 5–14 with CD4 counts <350 cells/µL.

Although historically eligibility criteria have changed, a consistent definition (newly infected with CD4<350 cells/µL in adults or newly infected with HIV in children) is used in order to show the current enrolment ratio in line with similarly defined historical performance. It is fortunately an inherent characteristic of the enrolment ratio, that changes in eligibility threshold do not dramatically alter the calculation of the enrolment ratios. This is due to slow
changes in the underlying HIV incidence, which drives annual progression of disease beyond any defined threshold.

A further barometer of coverage and access to ART is the baseline CD4 count at ART enrolment. This report includes a plot of the evolving median baseline CD4 count at ART enrolment alongside changes in ART eligibility. Data are presented annually from April 2004 until March 2013. Some estimates of numbers of patients on treatment are reported or estimated at mid-year of the given year. Provincial estimates of coverage are not calculated as adequate estimates of the denominators are not yet readily available. They should, however, be available for future reports.

**Box 2: Data sources for estimating patients initiated and remaining on ART**

<table>
<thead>
<tr>
<th>Data sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data on the total number of patients initiating and remaining on ART are derived from a number of sources, including a published review of coverage until mid-2011, outputs of the THEMBISA model, the South African Department of Health National Indicator Dataset (NIDS) which contains relatively complete data for the last two years of the period, historical data from the Comprehensive Care, Management and Treatment (CCMT) programme for HIV and related UNGASS reports; Estimates of the enrolment ratio are from the THEMBISA model and utilise model-based estimates of the proportion of patients meeting eligibility criteria. Cross-sectional surveys were available from 2008 and 2012. The annual health statistics for 2012 includes an estimate of the numbers of patients on ART at the end of March 2012 derived from CCMT data. CD4 count data at ART initiation in adults is derived from the I-DEA cohort collaboration, which tracks a number of public-sector cohorts that are broadly representative of the national programme, and for which individual level data have been available for many years.</td>
</tr>
</tbody>
</table>

**Determining an appropriate enrolment ratio target**

Historically, targets for the enrolment ratio were set at 80% of need. South Africa had already surpassed this target for the enrolment ratio at the conclusion of the previous NSP. In the current context of gradual expansion of eligibility criteria, an enrolment ratio of greater than 1 or 100% is desirable in order to ensure that those newly requiring treatment are provided for, but that there is also excess treatment capacity. The excess capacity is to provide treatment for those who might have become eligible previously, but who did not access treatment either due to insufficient service provision or to previous guidelines not providing for treatment at the time they first became eligible in terms of current guidelines.
Ensuring that the service platform has sufficient capacity to treat all new need and ‘mop up’ historical unmet need, if applied over many years, will result in a gradual shift to earlier ART initiation and ultimately universal ART provision for all those who meet eligibility criteria. For this reason it is proposed that an enrolment ratio of 1.3, achieved consistently, would be an appropriate target for the remainder of the current NSP, as it copes well with shifts in eligibility criteria.

Patients remaining on ART in South Africa

Routine reporting estimated that at the end of March 2013 (the conclusion of the 2012/3 financial year), there were 2,309,411 patients on ART in the public sector in South Africa (Table 5), of whom 148,331 (6.4%) were children. It is estimated that 250,000 patients were on ART in the private sector at this time (the last robust estimate was for 2011 when 190,000 patients were estimated to be on ART in the private sector), putting the number of patients in care at the end of March 2013 at between 2.5 and 2.6 million. As a model-based estimate was not available for 2013, it was estimated that the combined (public and private) patients in care nine months previously was 2,322,000, which is consistent with this estimate. While the monthly reporting system does not differentiate between men and women, the cohort data report the proportion of women among the public-sector adults as 65% in the most recent year.

The cross-sectional estimates from the HSRC household surveys are broadly consistent with routine reporting (Figure 5), notwithstanding potential bias due to respondents who did not consent to HIV testing, or due to incomplete adherence to ART at the time of HIV testing.
Table 5: Adults and children on ART in South Africa by year and source

<table>
<thead>
<tr>
<th>Year</th>
<th>Private Sector</th>
<th>Annual Health Statistics</th>
<th>DHIS</th>
<th>DHIS</th>
<th>DHIS</th>
<th>DHIS</th>
<th>DHIS</th>
<th>DHIS</th>
<th>DHIS</th>
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<th>DHIS</th>
<th>DHIS</th>
<th>DHIS</th>
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<th>DHIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>553 000</td>
<td>588 000</td>
<td>727 991</td>
<td>532 693</td>
<td>532 693</td>
<td>532 693</td>
<td>532 693</td>
<td>532 693</td>
<td>532 693</td>
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<td>532 693</td>
<td>532 693</td>
<td>532 693</td>
<td>532 693</td>
</tr>
<tr>
<td>2009</td>
<td>869 000</td>
<td>912 000</td>
<td>919 923</td>
<td>695 293</td>
<td>695 293</td>
<td>695 293</td>
<td>695 293</td>
<td>695 293</td>
<td>695 293</td>
<td>695 293</td>
<td>695 293</td>
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<td>695 293</td>
<td>695 293</td>
<td>695 293</td>
<td>695 293</td>
<td>695 293</td>
</tr>
<tr>
<td>2010</td>
<td>1 247 000</td>
<td>1 287 000</td>
<td>1 231 000</td>
<td>1 247 000</td>
<td>1 247 000</td>
<td>1 247 000</td>
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<td>1 247 000</td>
<td>1 247 000</td>
<td>1 247 000</td>
<td>1 247 000</td>
</tr>
<tr>
<td>2011</td>
<td>1 007 763</td>
<td>1 176 875</td>
<td>1 698 000</td>
<td>1 007 763</td>
<td>1 007 763</td>
<td>1 007 763</td>
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<td>1 007 763</td>
<td>1 007 763</td>
<td>1 007 763</td>
</tr>
<tr>
<td>2012</td>
<td>1 735 690</td>
<td>1 933 799</td>
<td>2 322 000</td>
<td>1 534 827</td>
<td>1 534 827</td>
<td>1 534 827</td>
<td>1 534 827</td>
<td>1 534 827</td>
<td>1 534 827</td>
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<td>1 534 827</td>
<td>1 534 827</td>
<td>1 534 827</td>
<td>1 534 827</td>
</tr>
</tbody>
</table>

- **2007, 2008, 2009:** Derived from DHIS, annual reporting through the three tier system, for end March each year.
- **2007:** Based on data from CCMT, estimated for March of 2007.
- **2008:** Derived from testing HIV-positive samples for ART.
- **2009:** Derived from annual health statistics for ART.
- **2010, 2011, 2012, 2013:** Derived from mid-year reporting through the three tier system, for end March each year.
Patients starting ART by year in South Africa and treatment coverage

Eligibility for ART

Eligibility criteria for ART initiation have evolved progressively over time. From programme inception until early 2010, adults were eligible for ART initiation when their CD4 counts dropped to below 200 cells/µl, or if they had an AIDS defining illness other than extra-pulmonary TB. In early 2010 pregnant women and patients co-infected with TB became eligible for ART when their CD4 counts dropped below 350 cells/µl. In late 2011, all HIV-infected adults became eligible when their CD4 counts dropped below 350 cells/µl. In April 2013, all pregnant women and TB co-infected patients became eligible for ART irrespective of CD4 count, although pregnant women with CD4 counts above 350 cells/µl when initiating ART are expected to interrupt ART on cessation of breastfeeding, until their CD4 counts drop below the 350 cells/µl threshold. There is some variability in the implementation of interrupting ART in pregnant women at the end of breastfeeding. These changes are represented alongside the evolution in baseline CD4 count at ART enrolment in Figure 6.
ART coverage – baseline estimates

In the 2011/12 financial year, 558 085 patients started ART in the public sector based on routine reporting, whereas the model-based estimate was slightly higher and included patients in the private sector (681 400). This represents a combined enrolment ratio of 1.42, being slightly higher in children (1.81) and higher in women than in men (1.57 vs 1.13). Using current eligibility criteria, the old UNAIDS coverage estimate of patients in need of ART in the THEMBI-SA model was 57%, compared to 36% of all HIV-infected patients being on ART (the new UNAIDS definition of coverage). The latter estimate is slightly higher than that found in the nationally representative population survey conducted in 2012, which recorded an ART coverage of 31% of all HIV-positive samples. Higher coverage (in excess of 50%) in terms of this expanded definition has been recorded at provincial level in some provinces based on routine data, and in smaller population-based surveys representing variability in coverage.

In the forthcoming period, South Africa will need to continuously enrol in excess of 500 000 new patients onto ART per year to maintain an enrolment ratio above 1.3, and to progress steadily to an ever-increasing proportion of the overall HIV-infected population being on ART, alongside retaining in care the ever-growing number of patients previously initiated on ART.
Table 6: PLHIV and progression, new patients, coverage and enrolment in South Africa

<table>
<thead>
<tr>
<th>Year</th>
<th>PLHIV and progression</th>
<th>New patients on ART</th>
<th>Coverage old definition</th>
<th>Coverage new definition</th>
<th>Enrolment ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HIV infections</td>
<td>Total on ART</td>
<td>New Need</td>
<td>DHIS</td>
<td>THEMBISA</td>
</tr>
<tr>
<td>2000/01</td>
<td>3 628 000</td>
<td>6 000</td>
<td>419 176</td>
<td>6 700</td>
<td>0.4%</td>
</tr>
<tr>
<td>2001/02</td>
<td>3 992 000</td>
<td>14 000</td>
<td>460 665</td>
<td>10 400</td>
<td>0.9%</td>
</tr>
<tr>
<td>2002/03</td>
<td>4 309 000</td>
<td>23 000</td>
<td>489 852</td>
<td>12 200</td>
<td>1.3%</td>
</tr>
<tr>
<td>2003/04</td>
<td>4 582 000</td>
<td>43 000</td>
<td>510 980</td>
<td>24 700</td>
<td>2.1%</td>
</tr>
<tr>
<td>2004/05</td>
<td>4 818 000</td>
<td>101 000</td>
<td>526 498</td>
<td>71 200</td>
<td>4.4%</td>
</tr>
<tr>
<td>2005/06</td>
<td>5 033 000</td>
<td>215 000</td>
<td>536 666</td>
<td>139 900</td>
<td>8.6%</td>
</tr>
<tr>
<td>2006/07</td>
<td>5 267 000</td>
<td>354 000</td>
<td>537 262</td>
<td>171 400</td>
<td>13.0%</td>
</tr>
<tr>
<td>2007/08</td>
<td>5 500 000</td>
<td>553 000</td>
<td>535 956</td>
<td>242 200</td>
<td>18.7%</td>
</tr>
<tr>
<td>2008/09</td>
<td>5 727 000</td>
<td>869 000</td>
<td>529 158</td>
<td>380 200</td>
<td>27.0%</td>
</tr>
<tr>
<td>2009/10</td>
<td>5 955 000</td>
<td>1 247 000</td>
<td>514 129</td>
<td>453 100</td>
<td>25.7%</td>
</tr>
<tr>
<td>2010/11</td>
<td>6 175 000</td>
<td>1 735 000</td>
<td>495 328</td>
<td>582 900</td>
<td>46.0%</td>
</tr>
<tr>
<td>2011/12</td>
<td>6 402 000</td>
<td>2 322 000</td>
<td>479 046</td>
<td>558 085</td>
<td>57.0%</td>
</tr>
<tr>
<td>2012/13</td>
<td>6 612 137</td>
<td>681 400</td>
<td>57.0%</td>
<td>31.2%</td>
<td>36.3%</td>
</tr>
</tbody>
</table>
Treatment effectiveness

Retaining patients in long-term care is the key to ensuring that achievements for enrolment onto ART are translated into improved survival and reduced morbidity. The key measure here is retention in care. The cohort system, from which outcome data are derived, is not equipped to reliably measure mortality on ART, either while patients remain in care or subsequent to leaving care, due to many deaths not being known, or reported, to the primary treating clinic. There are, however, some reasonably representative cohort studies in which estimates of mortality can be made based on linkages to the national population register.

Although not an NSP core indicator, completeness of viral load testing as a marker of quality of care, alongside the proportion of patients who are suppressed for any duration on ART, is a useful measure of progress.

Appropriate targets

The targets included in the NSP for retention in care (94% at one year, and 70% at five years) are aspirational and are unlikely to be achieved. Operationally, some provinces have tried to achieve 85% of patients retained in care at one year on ART, and this aligns with the upper end of published reports from routine implementation of ART in high HIV burden settings. It is suggested that there are more realistic one-year and five-year retention-in-care targets set for the NSP 2012–2016. These levels are 85% and 65% respectively. For viral loads, it is suggested that targets be set at 80% of patients in care having a documented viral load result soon after ART initiation, and then at annual durations post-ART initiation. Furthermore, for those tested, 85% are virologically suppressed.

Stability of estimates of retention over time

Examining trends for retention in care needs to be approached with caution, as a high proportion of patients who are lost to care may subsequently return to care. The longer the duration between when patients reach a reported duration on ART and the calendar period when the report is drawn, the higher the probability that more patients will have returned to care.

In the cohort system described below, a patient who may previously have been classified as lost to care but who has subsequently returned to care, will appear as being in care throughout follow-up. The targets in the NSP should therefore be approached as targets for current reporting, and inferences on trends should be approached with caution. When comparisons are made with previous outcomes, they should ideally be made with the historically reported outcomes recorded at the time that the outcomes were first reported. It will be possible in the future to calculate the time to the first-ever loss to care based on patient-level data at provincial and national level as the TIER.Net (Figure 7) and related patient-level datasets become centrally available.
Figure 7: The TIER.Net system

<table>
<thead>
<tr>
<th>Tier 1 - Paper registers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate solution while waiting for hardware to be procured</td>
</tr>
<tr>
<td>Ideal for small facilities with low enrolment</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tier 2 - Offline electronic register</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick back-capture directly from paper registers</td>
</tr>
<tr>
<td>Offline, simple yet robust system</td>
</tr>
<tr>
<td>Can scale up quickly and relatively inexpensively</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tier 3 - Networked electronic medical record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can collect a larger dataset and offers more management functions</td>
</tr>
<tr>
<td>Can be used as a sentinel surveillance database for answering more complicated clinical questions and tracking patient movement</td>
</tr>
<tr>
<td>Correctly utilising sentinel sites takes the burden of collecting large data sets away from the rest of the HIV &amp; ART facilities</td>
</tr>
</tbody>
</table>

Increased functionality and reports to enhance management
Box 3: Data sources for monitoring HIV treatment programmes

Data sources

In the last few years, the National Department of Health in South Africa has led the implementation of a nationally standardised approach to monitoring HIV treatment programmes. Referenced as the three-tier system, three solutions of increasing sophistication (from paper to full electronic medical records) are available to facilities and all produce the same standardised monthly and quarterly aggregate reports (Figure 7). Currently, the majority of facilities are using a standalone electronic register (TIER.Net) for the purposes of reporting.

The first national training was conducted in late 2011, although one province has been using the system since 2009. The data included here are therefore the first routinely available national cohort outcome data for the ART programme and are from a system that has been in active implementation for less than two years at the time of reporting. Outcome data were available from this system for 791,430 treatment-naïve adults and children who started ART between April 2004 and the end of March 2013, including 212,911 from the most recent financial year (FY 2012/13). This represents almost half the public-sector patients nationally who would have been expected to have reached one of the reporting durations (earliest is three months on ART) by March 2013. For a subset of 458,860 patients, the systems have been validated by the National Department of Health to have been fully implemented. Outcomes did not differ between validated and other sites, and are therefore presented for all sites. Full details of these data including patient characteristics and outcomes have been released by the Department of Health (http://www.health.gov.za/docs/reports/2013/ARTProgramme.pdf).

The calculation of the remaining-in-care proportion uses as the numerator all patients who are documented to be on first- or second-line ART, or in care not on ART, at a particular duration of follow-up. The denominator is all treatment-naïve patients who originally started on treatment who could have reached the duration of follow-up in question during the reporting period. There is a proportion of patients for whom minimal follow-up data are available other than a register entry that indicated that they started ART. If the facilities did not rigorously review each of these patients, some will not appear as being in care and will be counted as lost to follow-up. An alternative definition treats these patients as retained in care, which explains the differences between the current report and data released by the National Department of Health for the same period.

Outcomes are presented by the financial year in which patients reached a reporting duration, rather than by the year in which they started treatment. For example, patients reaching five years on ART in FY 2012/13 will therefore
have started ART in FY 2007/08.

**Patient characteristics**

Of the 791 430 treatment-naive patients included in the cohort analysis since 2004, 5.5% were children (4.2% of those initiating in FY 2012/13), of whom 14.4% were infants (18.3% FY 2012/13). An additional 2.4% (19 095) of patients were treatment-experienced and were not included in the total above. Of adult patients initiating ART, 35% were men and almost half of all patients were initiated with CD4 counts above 200 cells/μl in FY 2012/13 (46.1%) compared to a quarter (25.6%) with CD4 counts below 100 cells/μl. Although the proportion of patients with low CD4 counts has declined over time (from 51.1% with CD4 counts below 100 cells/μl in FY 2004/05), the absolute numbers of patients initiating ART with CD4 counts below 100 cells/μl was highest in the most recent year due to the increasing total number of patients initiated on ART each year. Roughly 40% of adults initiated on ART in FY 2012/13 were either on IPT (25.4%) or treatment for tuberculosis (15.1%). Data on pregnant women initiated on ART (3.8% of women in 2012) may not be reliable from this dataset due to many ART initiations occurring in maternity settings in which the data system is not yet fully implemented, or failure to record pregnancy status in the register.

**Retention in care**

Data were available for 522 636 patients who had started ART by the end of FY 2011/12, of whom 59.7% remained in care when monitored in FY 2012/13 (59.0% for adults and 71.6% for children), irrespective of the duration of follow-up when they were monitored. As expected, retention in care declined with duration on treatment and calendar period of reporting. For comparative purposes this report includes data that would first have been reported in FY 2009/10 had the system been in place then, alongside the current FY 2012/13 retention data (Table 7). FY 2009/10 was the first year in which patients reached five years on treatment following the launch of the National Antiretroviral Treatment Programme in FY 2004/05. It is important to note that there are multiple explanations for patients not being recorded in care. Monitoring a programme of this magnitude on a primary-care platform with limited infrastructure is a huge undertaking, and failure to document patients in care results from both administrative and patient factors, which may under-estimate true patient retention. Administrative procedures for primary documentation of attendances and transfers, as well as operational responses to recall patients to care, require constant improvement.
Table 7: Patients initiating ART and retention in care in South Africa for adults and children reaching between 1 and 5 years on ART, by financial year of outcome reporting

<table>
<thead>
<tr>
<th></th>
<th>Adults</th>
<th></th>
<th>Children</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients evaluated</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 year</td>
<td>61 731</td>
<td>177 301</td>
<td>4 462</td>
<td>7 681</td>
</tr>
<tr>
<td>2 years</td>
<td>40 206</td>
<td>114 973</td>
<td>3 104</td>
<td>7 322</td>
</tr>
<tr>
<td>3 years</td>
<td>26 695</td>
<td>70 958</td>
<td>2 360</td>
<td>4 957</td>
</tr>
<tr>
<td>4 years</td>
<td>14 997</td>
<td>54 460</td>
<td>1 352</td>
<td>3 930</td>
</tr>
<tr>
<td>5 years</td>
<td>6 019</td>
<td>34 929</td>
<td>489</td>
<td>2 581</td>
</tr>
<tr>
<td>Retention in care</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 year</td>
<td>74.9%</td>
<td>71.7%</td>
<td>83.7%</td>
<td>79.3%</td>
</tr>
<tr>
<td>2 years</td>
<td>67.6%</td>
<td>58.1%</td>
<td>82.1%</td>
<td>71.6%</td>
</tr>
<tr>
<td>3 years</td>
<td>64.0%</td>
<td>50.6%</td>
<td>84.0%</td>
<td>67.7%</td>
</tr>
<tr>
<td>4 years</td>
<td>64.5%</td>
<td>46.6%</td>
<td>86.2%</td>
<td>65.7%</td>
</tr>
<tr>
<td>5 years</td>
<td>64.1%</td>
<td>42.2%</td>
<td>83.5%</td>
<td>68.2%</td>
</tr>
</tbody>
</table>

For some cohorts in which South African civil identification numbers are available (ID numbers) for linkage to the national population register (NPR), it has been possible to ascertain the proportion of patients who have died by duration of follow-up after ART initiation. One estimate across multiple cohorts with data up until 2010, was that by one and four years on ART, 9.7% and 16.6% of adult patients had died respectively. Cohorts that have looked at trends in mortality where linkage to the NPR has been possible, have found that mortality has been declining with time in line with earlier initiation of ART. The majority of patients who are lost to care are therefore not recorded due to administrative failure, have transferred care to another site without notifying their original site, or more importantly, have left care and could potentially be traced and re-established on treatment.

**Virological outcomes**

In addition to ensuring that patients remain in care, the next most important outcome is ensuring viral load monitoring and that patients on ART remain virologically suppressed. Fewer than half of patients who remain in care currently have a viral load documented on the cohort monitoring system. Of those tested in FY 2012/13 at any duration from one year on ART onwards, the proportion who were suppressed was 75.9% (76.6% for adults and 66% for children). The proportion suppressed has dropped with duration of follow-up and calendar period of testing (Table 8). In the case of children, this shift could in part be the result of younger children being initiated on ART with a higher risk of non-suppression or virological rebound.

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1 Reporting year refers to a year in which patients reach duration on treatment. Patients reaching one year on treatment in a given reporting year will have started ART in the previous year, whereas those who could have reached five years on ART will have started ART five years previously.
Table 8: Viral load testing and suppression in adults and children on ART in South Africa by duration of follow-up and financial year of outcome reporting

<table>
<thead>
<tr>
<th></th>
<th>Adults FY 2008/09</th>
<th>Adults FY 2012/13</th>
<th>Children FY 2008/09</th>
<th>Children FY 2012/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients remaining on ART</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 year</td>
<td>42 370</td>
<td>115 839</td>
<td>3 535</td>
<td>5 537</td>
</tr>
<tr>
<td>5 years</td>
<td>3 273</td>
<td>11 622</td>
<td>329</td>
<td>1 469</td>
</tr>
<tr>
<td>Viral load done</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 year</td>
<td>42.0%</td>
<td>37.6%</td>
<td>40.1%</td>
<td>36.6%</td>
</tr>
<tr>
<td>5 years</td>
<td>56.3%</td>
<td>37.2%</td>
<td>55.6%</td>
<td>35.8%</td>
</tr>
<tr>
<td>Viral load &lt;400 copies/ml</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 years</td>
<td>83.7%</td>
<td>77.4%</td>
<td>77.2%</td>
<td>62.3%</td>
</tr>
<tr>
<td>5 years</td>
<td>87.9%</td>
<td>74.0%</td>
<td>79.4%</td>
<td>69.9%</td>
</tr>
</tbody>
</table>

**Impact of ART**

With the increase in ART coverage, as well as the retention of 60% of patients started on ART in care, an impact on population-level mortality would be expected, and has indeed been described. The most recent update from rapid mortality surveillance conducted by the South African Medical Research Council (MRC), including data from calendar year 2012, estimates that adult mortality has continued to decline (most likely the result of HIV treatment), and was lower at the end of 2012 than in 2000. The probability that a 15-year-old may die before reaching age 60 has fallen from 50% in 2006 to 38% in 2012. This has contributed to an increase in life expectancy at birth to 61 years in 2012, from 53 years in 2006. The ART programme has clearly had a profound impact on patient survival. With the large number of people already on treatment, and the challenges documented here associated with retaining patients in care, medium-term morbidity and mortality may well be as dependent on the ability to retain patients already in care as on further increases in enrolment.

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2 Reporting year refers to the year in which patients are tested, and not the year in which they first started ART.
GOAL 3: Reducing the number of new TB infections and deaths from TB by 50%

TB incidence

TB incidence relates to new TB cases that occur within a certain period (in this case a year), and can be expressed as an actual number or proportion of the total population (rate per 100 000). The burden of disease caused by TB can be measured in terms of incidence: the number of new and relapse cases of TB arising in a one-year period. As this is based on estimations, and limited detail is available, the number of cases notified is included in this section. For the first time in 2013, estimates of TB incidence (and TB mortality) among people living with HIV were generated using the Spectrum model and were included in the World Health Organization (WHO) Global TB report (WHO, 2013).

In 2012, TB incidence (total) was estimated to be 530 000 (430 000–630 000) cases and 1 003 (827–1 194) cases per 100 000 (WHO, 2013). Trends over time are given in Figure 8, showing a large increase from about 1997 to 2005, after which trends stabilised, increasing only slightly.

According to the TB Register the total number of new and relapsed TB cases was 323 664 in 2012. Of these 91.8% (296 996) were new cases and 8.2% (26 668) relapsed cases. Of the new cases, 40.4% (119 898) were smear-positive (Sm+) and 14.3% (42 467) extra-pulmonary TB. Furthermore, 15.0% (52 586) of the sum of new and retreatment cases (349 582) were retreatment cases.

The notifications rate has seen an increasing trend since 1995 (with some spikes, probably due to gaps in the reporting), although there has been a decrease since 2011. The NSP target is 491 new and relapse cases (all forms) per 100 000 population by 2016 (50% reduction). In 2012 this was about 611
Trends in the proportion of smear-positive, extra-pulmonary and retreatment cases over the past six years can be seen in Table 9. The percentage of smear-positive cases went down from 2007 and seems to have stabilised at around 40%. For extra-pulmonary cases the percentage shows a very small decrease over the six-year period. And there was a decrease in the percentage of retreatment cases until 2011, but there seems to be an increase again in 2012.

<table>
<thead>
<tr>
<th>Year</th>
<th>% Smear-positive</th>
<th>% Extrapulmonary</th>
<th>% Retreatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>43.0</td>
<td>15.0</td>
<td>17.0</td>
</tr>
<tr>
<td>2009</td>
<td>41.0</td>
<td>16.0</td>
<td>16.0</td>
</tr>
<tr>
<td>2010</td>
<td>39.0</td>
<td>16.0</td>
<td>15.0</td>
</tr>
<tr>
<td>2011</td>
<td>40.0</td>
<td>15.0</td>
<td>12.0</td>
</tr>
<tr>
<td>2012</td>
<td>40.0</td>
<td>14.0</td>
<td>15.0</td>
</tr>
</tbody>
</table>

Limited information is available on the sex and age distribution of TB. In both 2010 and 2011, 3% of the new smear-positive (Sm+) cases occurred in children under 15 years, while this was 2% in 2012.\(^53,54\) For extra-pulmonary cases this was 5% in both 2011 and 2012. The male/female ratio for new Sm+ cases was 1.2 in both 2010 and 2011, and 1.3 in 2012. For extra-pulmonary cases this was 1.0 in both 2011 and 2012.

With respect to multidrug-resistant TB (MDR-TB), 1.8% (1.4–2.3%) of all new cases had MDR-TB in 2012, and this was 6.7% (5.4–8.2%) of all retreatment cases and has been stable over time (2010–2012).\(^49,52,53,54\) Among new pulmonary TB cases, 4 600 (3 700–5 800) had MDR-TB in 2012 (5 100 in 2010, 5 000 in 2011), and this was 3 500 (2 800–4 300) among retreatment pulmonary TB cases (4 100 in 2010). There is an increasing trend in the number of laboratory confirmed MDR-TB cases, from 7 386 in 2010, to 10 085 in 2011, to 15 419 in 2012.

Certain populations are at higher risk of TB infection and re-infection, or progressing from TB infection to TB disease. The NSP considers the following groups as key populations for TB: household contacts of confirmed TB cases, including infants and young children; healthcare workers, mine workers, correctional services staff and inmates; children and adults living with HIV; diabetics and people who are malnourished; smokers, drug users and alcohol abusers; mobile, migrant and refugee populations; people living and working in poorly ventilated and overcrowded environments, including those who live in informal settlements.

Although it is outside the scope of the current report to give a comprehensive review of the available literature, some research findings are highlighted here. Most important are the prisoners and those working in the mines, although limited information is available for these groups.
No studies on TB incidence could be found for household contacts. A TB prevalence study, conducted in North West Province, showed that the prevalence of TB in household contacts was 6,075 per 100,000, whereas the prevalence detected in randomly selected households was 407 per 100,000 (prevalence difference, 5,668 per 100,000; p < 0.001).\(^{55}\)

In KwaZulu-Natal, a study found an incidence of MDR-TB hospitalisation of 64.8 per 100,000 among health-care workers versus 11.9 per 100,000 among non-health-care workers – an incidence rate ratio of 5.46 (95% CI: 4.75–6.28).\(^{56}\) Estimated incidence of extensively drug-resistant TB (XDR-TB) hospitalisations was 7.2 per 100,000 among health-care workers versus 1.1 per 100,000 among non-health-care workers – an incidence rate ratio of 6.69 (95% CI: 4.38–10.20). Another study found that more than half of health-care workers tested positive for TB (56.7% tuberculin skin test positive; 69.2% interferon-gamma release assay-positive).\(^{57}\)

With respect to miners, a recent intervention trial showed that incidence in the control group of gold miners was 2.95 per 100 person-years.\(^{58}\) A study using routinely collected data found that gold miners have an increased risk of TB with rates of 3.261 per 100,000 in 2008, which is much higher than the population estimates from the WHO report (857 per 100,000 in 2012).\(^{59}\) A retrospective cohort study of South African gold miners over 14 years found that among HIV-negative men, TB incidence was 0.48 per 100 person-years (95% CI: 0.33–0.70) in 1991–1993, doubling over the period of the study (after adjusting for age).\(^{60}\) TB incidence was higher among HIV-positive men: 1.4 per 100 person-years (95% CI: 1.1–1.9) within two years after HIV infection, and 10.0 per 100 person-years (95% CI: 6.5–15.5) at 10 or more years. By 11 years from seroconversion, nearly half the men had had TB. Another study found that 89.0% of gold miners had a latent TB infection.\(^{61}\)

No study on TB incidence was found for prisoners. A prevalence study found TB in a prison in KwaZulu-Natal was 4.5% (undiagnosed), which is higher than the estimated prevalence for the general population in South Africa (0.9%) in 2012.\(^{62}\)

In the Western Cape a study found that the prevalence of TB was 3,488 per 100,000 population among patients (0–21 years) with type 1 diabetes.\(^{63}\) Furthermore, in Cape Town, the prevalence of smoking among patients with suspected and confirmed TB (57.0%) was much higher than in the general South African population.\(^{64}\)

**TB mortality**

According to the global TB report of the WHO, the TB mortality (excluding HIV-positive TB patients) was 31,000 deaths (3,700–86,000) or 59 per 100,000 population (7–164) in 2012.\(^{49}\) The mortality rate fluctuates over time and seems to have increased over the past years (Figure 9). The target mentioned in the NSP is 25/100,000 population in 2016.
TB mortality among HIV-positive people is estimated to be much higher at 88,000 (75,000–100,000) deaths in 2012, with a rate of 168 (144–192) per 100,000 population in 2012.\(^4\) No trend over time is available, as this is the first time this indicator has been reported. The NSP target for this indicator is 42,500 TB deaths among HIV-positive people in 2016 (50.0% reduction).

According to the mortality and causes of death report, TB mortality is much lower than the WHO estimates, and is decreasing. There were 54,112 deaths in 2011 with TB as the underlying natural cause of death (10.7% of all deaths) and this was 63,281 (11.6%) in 2010, 69,791 (12.0%) in 2009 and 75,281 (12.6%) in 2008.\(^5\) In 2011 TB was still the leading cause of death in South Africa among both men and women at 30,807 (11.8%) and 23,112 (9.5%), respectively.\(^6\)

With respect to age, there were 1,426 deaths due to TB (3.1%) among those aged 0–14 years, 36,728 (18.1%) among those 15–49, 10,983 (10.6%) among those 50–64, and 4,771 (3.2%) among those 65+ years.

**Table 10: Number and percentage of TB deaths, South Africa, 2008-11**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of TB deaths</th>
<th>% of all deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>54,112</td>
<td>10.7</td>
</tr>
<tr>
<td>2010</td>
<td>63,281</td>
<td>11.6</td>
</tr>
<tr>
<td>2009</td>
<td>69,791</td>
<td>12.0</td>
</tr>
<tr>
<td>2008</td>
<td>75,281</td>
<td>12.6</td>
</tr>
</tbody>
</table>

According to TB programme data, there were 29,709 deaths out of all treated cases. The discrepancy in the numbers and trend in TB mortality between the different sources might be due to different factors. The treatment cohort data only take into account those that started treatment in a certain year. WHO and Stats SA data might differ due to the fact that different data sources are used, estimation methods differ, and/or data are from different years. This discrepancy should be further checked and closely monitored in the coming years.
Data from the National TB Programme showed that of all those on treatment, 29 708 people with TB died in 2012 – a case fatality rate (CFR) of 8.4%. In 2011 this was 33 608 (8.6%), 32 601 in 2010 (9.2%) and 38 889 (9.5%) in 2009. A declining trend in the CFR can be seen. In 2011 the CFR was 8.1% among women and 9.0% among men. The CFR increased with age: from 1.7% (0-4 years) to 19.2% (aged 75+) among women, and from 1.6% to 26.4% respectively among men in 2011. The CFR was highest among PLHIV at 10.5%. In 2011, the CFR was highest in Limpopo (13.2%) and the Free State (12.8%), and lowest in the Western Cape (4.3%).
GOAL 4: Ensuring an enabling and accessible legal framework that protects and promotes human rights in order to support implementation of the NSP

South Africa’s response to HIV, STIs and TB acknowledges the importance of constitutional values and human rights. Thus the NSP considers the constitutional commitment to access to healthcare and other social services including reproductive healthcare, as the first step to protecting and promoting the human rights of PLHIV and people with TB. The legal framework to address this requirement is fundamentally in place, including special consideration being given to groups that are at higher risk, to ensure that wherever service provision happens, it is provided in a way that maintains the dignity of PLHIV and people living with TB.

Reviews of the NSP 2007–2011 noted numerous weaknesses in implementation of specific activities related to human rights. In addition, the 2009 NSP Midterm Review recognised that ongoing campaigns to educate citizens on human rights and discrimination are needed.

Unfair discrimination on the basis of HIV and/or TB status has been acknowledged as an area that necessitates a comprehensive approach by all stakeholders. Organised labour, business and government, with support from SANAC structures, have the responsibility to conceptualise, develop and support the implementation of national campaigns to address unfair discrimination in the workplace, public amenities and communities in general. Recognising that the NSP cannot address the sum of all legal and human rights interventions required, the focus should be on addressing a sufficient number of achievable, measurable and mutually supportive objectives and interventions appropriate to deal with the objectives of the NSP.

The South African Department of Labour and National Economic Development and Labour Council (NEDLAC) code of good practice on aspects of HIV and AIDS employment gives direction towards ensuring that PLHIV are not unfairly discriminated against in the workplace. The Code is read in conjunction with the Constitution of South Africa Act, No. 108 of 1996 and all relevant legislation.

Substantial progress has been made with respect to the management of HIV and AIDS in the workplace. Technical Assistance Guidelines (TAG) on Managing HIV and AIDS in the workplace were established to support the implementation of potential policies and programmes, including strategies to address the needs of small businesses and the informal sector. Likewise, the Department of Public Service and Administration (DPSA) has developed a guide for government departments to manage HIV and AIDS in the workplace, and the South African Local Government Association (SALGA) has developed a Local Government Guide for Managing HIV/AIDS in the Municipal Workplace.

Through Global Fund to Fight AIDS, Tuberculosis and Malaria HIV programming in South Africa, there are collaborative efforts to reach farm workers and persons working in the informal sector through combination prevention,
care and treatment programmes. The activities are carried out across all nine provinces in partnership with civil society organisations. Government departments and parastatals are observed to have comprehensive HIV workplace policies and employee assistance and wellness programmes in place, although suitable systems for M&E are not yet institutionalised.

Management of HIV and TB national policies and guidelines are in place and are evaluated periodically to tackle any potential rights violations. Government departments, and private and civil-society entities are supposed to implement processes to guard against potential rights violations and manage any that are found. Healthcare workers cannot coerce patients to test for HIV against their will, and are required to make every effort to help patients make informed decisions. Patient refusal to test for HIV cannot be utilised by health workers to refuse access to any other available healthcare services. HIV testing in South Africa is carried out with appropriate informed consent, and those eligible for ART are referred to applicable facilities. Patients with drug-resistant TB are managed as per national guidelines. Women living with HIV are not denied their sexual and reproductive health rights, including the desire to have children. Likewise, rape survivors are provided with PEP services, and these can be accessed even prior to laying a charge at a police station.69

In an effort to strengthen systems to guard against and monitor human rights violations, the South African Human Rights Commission (SAHRC) has updated the Flowcentric Complaints System to enhance complaints handling and management, as well as investigating high-profile cases concerning various counts of violation of human rights. Via its Legal Services Unit, the SAHRC was able to examine the violation of human rights, and concluded 7 047 complaints and enquiries – representing 79% of the total received in the period 2012/13. A relative analysis of caseload revealed a reduction in the number of cases the SAHRC investigated in 2012/13, with a 27% drop from 2011/12. The number of cases carried over to 2013/14 was addressed through organisational restructuring.70 HIV- and TB-related cases do nevertheless need to be more appropriately categorised for inclusion into the reporting system. The Thuthuzela Care Centres (TCCs) also help in dealing with human rights infringements.

An analytical review of the NSP 2012–2016 response to women’s sexual and reproductive rights conducted in 2012 by the AIDS Legal Network71 showed that interventions and programmes ought to sufficiently address women’s realities, risks and needs. Her Rights Initiative (HRI), together with the Health Economics AIDS Research Division (HEARD), University of KwaZulu-Natal, Justice and Women (JAW), Positive Women’s Network and the AIDS Legal Network (ALN), carried out a qualitative study to verify and record HIV-positive women’s experiences of coerced or forced sterilisation in Gauteng and KwaZulu-Natal. Regardless of a protective legal framework that specifies that sterilisation should be voluntary and informed in clinical practice in the two provinces, it was established that in both rural and urban settings, and in both public and private facilities, women described having been coerced, and sometimes forced into sterilisation procedures. Participants’ narratives
of their experiences showed areas where the informed consent process was inadequate or failed in practice.50

To address any impediments and inadequacies – legal, social or economic – that may be present and therefore could undermine the rights of individuals, reviews and assessments of laws and policies that may impact negatively on the response to HIV and TB should be sustained. Audits of interventions related to HIV, STIs and TB by all stakeholders should be constantly conducted to ensure legal compliance. Furthermore, all high-risk workplaces should maintain well-defined management policies on confidentiality, discrimination, routine medical screening and testing of employees, respiratory infection control, treatment, sick leave, psychosocial support, and job modification / alternative placement, as necessary. All workplace wellness programmes should address HIV, STIs and TB in an integrated manner and in accordance with national standards and international best practice.

Key vulnerable populations

According to the NSP 2012–2016, key populations that are most affected by HIV include young women aged 15–24; people living close to national roads and in informal settlements; young people not attending school and girls who drop out of school before matriculating; people from low socio-economic groups; uncircumcised men; people with disabilities and mental disorders; sex workers and their clients; people who abuse alcohol and illegal substances; men who have sex with men (MSM) and transgender individuals. More recently the focus has placed emphasis on MSM, prisoners, female sex workers (FSWs) and people who inject drugs (PWID) to better align the definition of key populations with international norms. Although it is outside the scope of this report to provide a comprehensive overview of the literature, some research findings are presented here.

The NSP target is to reduce the HIV prevalence in key populations by 50% by 2016, but this is difficult to determine for most groups, due to an unclear baseline.

With respect to young women aged 15–24 years, secondary analysis of the HSRC survey data showed that the HIV prevalence was 12% in 2002, 16.7% in 2005 and 13.9% in 2008.72 The report on the 2012 HSRC survey gives a prevalence of 11.4% for young women (for women and men together in this age category it was 7.1%).

A study investigating whether the prevalence of HIV infection among young people aged 14–25 years was different between students and those not attending school or college found that male non-students had a higher HIV prevalence compared to students at 8.2% in comparison to 1.6%, which was statistically significant.73 For females, this was 16.6% versus 5.7%, but was not statistically significant.

Secondary analysis of the 2008 HSRC prevalence data showed that with respect to socio-economic status,74 HIV prevalence levels were highest in Africans with very small monthly incomes (below R500) at 24.9%, followed by
21.5% among those without income, 20.5% among those earning R501–R1 000, 15.5% among those earning R1 001–R2 000, 21.6% among those earning R2 001–R4 000, 11.0% among those earning R4 001–R8 000. In Africans, HIV prevalence was significantly higher among those reporting deprivation using any of five measures (going without shelter, fuel, clean water, medicine and food). Finally, African respondents working in the informal sector had overall the highest HIV prevalence at 31.7%, followed by 27.6% among unemployed persons, 26.0% among sick/disabled persons, 23.8% among housewives and 20.1% among employed persons.

Recently published HIV prevalence data for MSM can be found in Table 13. Prevalence levels vary considerably from 8.6% to 49.5%.

Table 11: Published HIV prevalence data for men having sex with men, South Africa

<table>
<thead>
<tr>
<th>Source</th>
<th>Characteristics of sample</th>
<th>HIV prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lane et al., 2011</td>
<td>MSM from Soweto (n=387)</td>
<td>13.2% (95% CI: 12.4%–13.9%)</td>
</tr>
<tr>
<td>Rispel et al., 2011</td>
<td>MSM from Johannesburg and Durban (n=285)</td>
<td>49.5% (95% CI: 42.5%–56.5%) in Johannesburg and 27.5% (95% CI: 17.0%–38.1%) in Durban</td>
</tr>
<tr>
<td>Baral et al., 2011</td>
<td>MSM from peri-urban townships in Cape Town (n=200)</td>
<td>25.5%</td>
</tr>
<tr>
<td>Sandfort et al., 2008</td>
<td>MSM in Gauteng, KwaZulu-Natal and Western Cape (n=728)</td>
<td>14.1%</td>
</tr>
<tr>
<td>Burrell et al., 2010</td>
<td>MSM in Greater Cape Town (n=542)</td>
<td>10.4%</td>
</tr>
<tr>
<td>Shisana et al., 2014</td>
<td>MSM in national sample</td>
<td>8.6%</td>
</tr>
<tr>
<td>Dunkle et al., 2011</td>
<td>Eastern Cape and KwaZulu-Natal (n=94)</td>
<td>20–50%</td>
</tr>
</tbody>
</table>

Table 14 presents data on the HIV prevalence among prisoners in South Africa. Accurate data is limited. The Department of Correctional Services (DCS) reported HIV prevalence among inmates to be 19.8% in 2006 and 22.8% in 2009. However, this is based on voluntary counselling and testing (VCT) and treatment access, suggesting that HIV prevalence may in fact be higher.

Table 12: Published HIV prevalence data for prisoners, South Africa

<table>
<thead>
<tr>
<th>Source</th>
<th>Characteristics of sample</th>
<th>HIV prevalence (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCS, 2010</td>
<td>National data from 47 011 HIV tests conducted among prisoners in 2009-2010</td>
<td>22.8%</td>
</tr>
<tr>
<td>Mutingh, 2008</td>
<td>Cross-sectional survey; n=5 299 (participation rate only 46.4%)</td>
<td>19.8%</td>
</tr>
</tbody>
</table>

Table 15 presents recently published HIV prevalence data for FSWs. This only includes studies that selected participants on their sexual behaviour. Here too, a large variation can be seen, from 26% to 59.6%. Note that the lowest value comes from a survey conducted in a VCT centre, not a formal HIV prevalence survey.
Table 13: Published HIV prevalence data for female sex workers, South Africa

<table>
<thead>
<tr>
<th>Source</th>
<th>Characteristics of sample</th>
<th>HIV prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunkle et al., 2005</td>
<td>Female sex workers in Johannesburg (n=295)</td>
<td>46.4%</td>
</tr>
<tr>
<td>van Loggerenberg et al., 2008</td>
<td>Female sex workers (78.8% of sample) in urban KwaZulu-Natal (n=775)</td>
<td>59.6%</td>
</tr>
<tr>
<td>Sibanyoni et al, 2011</td>
<td>Sex workers attending health services (n=343)</td>
<td>26%</td>
</tr>
</tbody>
</table>

A recent small study comparing injecting and non-injecting drug users in Cape Town, Pretoria and Durban found no HIV-positive cases among non-injecting drug users, and 20.0% prevalence among injecting drug users.

Other studies that have been published included sex workers in their sample but selected participants on their drug use. This combines the effects of both exposures.

**National Sex Workers Programme**

In collaboration with SANAC Sex Worker Sector and SWEAT, SANAC co-hosted the first Sex Workers Symposium. The symposium theme was ‘Best Practices in HIV Prevention, Care and Treatment for Sex Workers in South Africa’. The aim of the symposium was to (1) consolidate the evidence from research programmatic experience and sex workers’ lived experiences and (2) use the evidence to drive forward an improved, co-ordinated, rights-based, effective HIV programme for the sex workers in South Africa.

Important achievements made in this reporting period were the development of the National Strategic Plan for HIV Prevention, Care and Treatment for Sex Workers and the completion of the Sex Workers Size estimation Survey.

**Men who have sex with men (MSM)**

Through its work on the Global Fund for AIDS, TB and Malaria application, SANAC worked with partners to plan and expand the prevention, care and treatment programming for MSM.

**Effective communication to support implementation of the NSP**

The NSP 2012–2016 highlights that effective communication, including attitudinal and behaviour change communication, is critical to supporting the NSP, as well as promoting rights to health in general. This includes communication focused on the general population as well as most at-risk populations.

Organised labour, business and government, with support from SANAC structures, have the responsibility to conceptualise, develop and support the implementation of national campaigns to address unfair discrimination in the workplace, public amenities and communities in general.

Communication on HIV, AIDS and related health issues including TB, is delivered in all South African languages via interpersonal and mass media communication through various sectors, through health and social services and through a range of formalised health communication programmes (HCPs).
HCPs include partnerships between government (including SANAC), international donors, mass media entities including the South African Broadcasting Corporation (SABC), NGOs and the private sector.

The 2012 National Communication Survey (NCS)\(^\text{92}\) indicated that 82% of the South African population aged 16–55 are reached by one or more HCPs. The reach of HCPs is higher among populations at higher risk of HIV infection, as well as being higher among PLHIV. The 2012 NCS also reported that exposure to higher numbers of HCPs increased the likelihood of greater knowledge, more appropriate attitudes and safer sexual behaviours among respondents.

HCPs have demonstrably impacted on HIV and AIDS-related knowledge, attitudes and behaviours, with outcomes for 2012 among male and female respondents aged 16–55 including the following:

- 65% had ever tested for HIV.
- 41% mentioned faithfulness as a strategy for HIV prevention, while 24% mentioned partner reduction.
- 47% of sexually active respondents used a condom at last sex.
- 13% of sexually active respondents had more than one sexual partner in the past year.
- 89% agreed that a woman has a right to say no to sex if she does not want it.
- 82% knew that a person can get TB through the air when a person with TB coughs or sneezes.
- 92% knew of the availability of treatment for HIV and AIDS.
- 78% knew that it is possible to cure TB in people with HIV.

In sum, in 2012, the vast majority of the South African population was well informed about HIV and were taking appropriate steps to address it.
GOAL 5: Reducing self-reported stigma related to HIV and TB by at least 50%

TB and HIV infection is accompanied by the risks of stigma and discrimination generated by lack of understanding of the illness, fear, prejudice and socially sensitive issues, such as sexuality and gender identity, and HIV and TB-related stigma and discrimination, which constrain HIV and TB prevention and mitigation. The 2012 HSRC survey indicates improvement in attitudes towards PLHIV over the past five years with positive attitudes towards PLHIV among persons 15 years and older ranging from 79.0%–91.6%. The 2012 NCS also showed that there were high levels of acceptance of PLHIV in communities. Changes in attitudes are thought to be linked to HCT promotion and increased ART uptake, both of which promote normalisation of HIV. ART programmes diminish the perceived link between AIDS and death, and thereby encourage support for PLHIV.

The extent of perceptions and experiences of stigma and discrimination among PLHIV has not yet been measured at national level.

The AIDS Consortium, with financial assistance from the NDOH, has implemented the ‘Combating HIV-related Stigma in South African communities through Community Dialogues’ project in three provinces, namely, Limpopo, Northern Cape and North West Provinces from October 2012 to December 2013. The project reached almost 2 000 people through HIV stigma-related information distribution, small group discussions, HIV stigma eradication workshops, and allowed the gathering of profile stories to tell of experiences of stigma in communities.

Stigma Index implementation in South Africa

The Stigma Index, a system for measuring and determining trends in relation to stigma and discrimination experienced by PLHIV, was included in the NSP 2012–2016. Currently, SANAC is driving efforts to implement the Stigma Index to monitor efforts to reduce stigma and discrimination and meet this fifth goal of the NSP.

In partnership with the Eastern Cape AIDS Council (ECAC) and Walter Sisulu University (WSU), and with technical and financial support from the Global Network of PLHIV (GNP+), the United Kingdom’s Department for International Development Governance and Transparency Fund (DfID GTF) and the Department of Social Development (DSD), the National Association of PLHIV (NAPWA) conducted a Stigma Index Survey in the OR Tambo District of the Eastern Cape Province in 2011. The survey generated strategic information which is presently being used to advise programmes addressing stigma. The survey results are also being utilised to develop tangible action plans for stigma and discrimination reduction initiatives in the Eastern Cape. These provincial initiatives will be used as a pilot to inform the national stigma reduction programme.

South Africa has begun conducting the Stigma Index Survey in 18 districts across the country, to better understand and address stigma and discrimi-
nation. This is a SANAC-supported initiative, in collaboration with the HSRC, NAPWA, Treatment Action Campaign (TAC), UNAIDS and the ECAC. The national Stigma Index Survey outcomes will advise future plans for stigma and discrimination reduction across the country.

The NSP also calls for implementation of a Stigma Mitigation Framework and SANAC is mobilising resources for implementation. Nationally, CSOs and government departments continue to deliver stigma and discrimination reduction programmes in line with the NSP goals and objectives.
Table 14: NSP Impact Indicators: core indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Baseline</th>
<th>Achieved by 2013</th>
<th>Target for 2017</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. HIV prevalence among women and men aged 15-24</td>
<td>8.7% (HSRC, 2008)</td>
<td>7.1% (HSRC, 2012)</td>
<td>Decline of 50%</td>
<td>18% decline (HSRC 2008-2012)</td>
</tr>
<tr>
<td>2. HIV prevalence in key populations</td>
<td>Not defined</td>
<td>Not defined</td>
<td>Not defined</td>
<td>Not defined</td>
</tr>
<tr>
<td>3. HIV Incidence, males and females aged 15-49</td>
<td>1.79% (THEMBISA 2008)</td>
<td>1.47% (THEMBISA 2012)</td>
<td>50% reduction</td>
<td>Original estimate and baseline date incorrectly stated, 18% decline on corrected baseline estimate and date</td>
</tr>
<tr>
<td>4. TB Incidence</td>
<td>(WHO, 2010) 981/100 000</td>
<td>(WHO, 2013) 1003/100 000</td>
<td>Decline of 50%</td>
<td>WHO 2014 (860/100 000) Also see case registrations</td>
</tr>
<tr>
<td>5. TB Mortality</td>
<td>(WHO, 2010) 50/100 000</td>
<td>(WHO, 2012) 59/100 000</td>
<td>WHO, decline of 50%</td>
<td>WHO 2010-2012 -18% (increase) WHO 2014 shows 48/100 000</td>
</tr>
<tr>
<td></td>
<td>(TB Mortality in PLHIV 85 000)</td>
<td>(TB Mortality in PLHIV 88 000)</td>
<td>WHO 2014 shows TB Mortality in PLHIV 64 000</td>
<td></td>
</tr>
<tr>
<td>6. HIV mortality</td>
<td>3.4% (StatsSA, 2011)</td>
<td>3.9% (Stats SA, 2012)</td>
<td>Decline of 50%</td>
<td>Unreliable due to misclassification</td>
</tr>
<tr>
<td>7. MTCT rate</td>
<td>3.6% at 6 weeks (MRC, 2010)</td>
<td>2.7% at 6 weeks (MRC 2012)</td>
<td>2% at 6 weeks 5% at 18 months</td>
<td>18 month estimate due for MRC in December 2014</td>
</tr>
<tr>
<td>8. Stigma Index</td>
<td>To be determined</td>
<td>To be determined</td>
<td>To be determined</td>
<td>Indicator undefined</td>
</tr>
<tr>
<td>9. Patients alive and on treatment</td>
<td>1735 000 on treatment</td>
<td>2322 000</td>
<td>94% after 1 year</td>
<td>ART based on Thembisa estimate</td>
</tr>
<tr>
<td>Retention in care after ART initiation</td>
<td>Retention in Care Adults, 74.9%, at 1 year, 64.1% at 5 years</td>
<td>Retention in Care Adults, 74.9%, at 1 year, 64.1% at 5 years</td>
<td>Retention based on subset from tier.net</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 3: National Strategic Plan strategic objectives

The NSP 2012–2016 is a multisectoral, overarching guide that informs national, provincial, municipal and community-level stakeholders on the strategic direction to be considered when developing implementation plans for a co-ordinated response to HIV in South Africa. These implementation plans should reflect stakeholder-specific contributions to the achievement of the NSP goals and objectives and the plans should be costed and resources mobilised to support implementation. A national framework provides guidance to all sectors and provinces to develop and cost implementation plans. The NSP 2012–2016 is also aligned and consistent with national, regional and international obligations, commitments and targets.¹

The plan has four strategic objectives, which form the basis of the HIV, STI and TB response. These are:

1. Addressing social and structural barriers to HIV, STI and TB prevention, care and impact
2. Preventing new HIV, STI and TB infections
3. Sustaining health and wellness
4. Increasing the protection of human rights and improving access to justice.
**Strategic Objective 1: Addressing social and structural drivers of HIV, STI and TB prevention, care and impact**

Strategic Objective 1 focuses on addressing the structural, social, economic and behavioural factors that drive the HIV and TB epidemics. The sub-objectives are:

- Mainstreaming HIV and TB and related gender- and rights-based dimensions into the core mandates of all government departments and all other sectors of SANAC.
- Addressing social, cultural, economic and behavioural drivers of HIV, STIs and TB, including the challenges posed by socialisation practices; living in informal settlements, as well as rural and hard-to-reach areas; migration and mobility; and alcohol and substance abuse.
- Implementing interventions to address gender norms and gender-based violence.
- Mitigating the impact of HIV, STIs and TB on orphans, vulnerable children and youths.
- Reducing the vulnerability of young people to HIV infection by retaining them in schools, and increasing access to post-school education and work opportunities.
- Reducing HIV- and TB-related stigma and discrimination.
- Strengthening community systems to expand access to services.
- Supporting efforts aimed at poverty alleviation and enhancing food-security programmes.

**Behavioural determinants**

Based on the latest available evidence – primarily the 2012 NCS and 2012 HSRC survey – this section explores the status of a number of key behavioural indicators.

**Sexual debut**

Initiating sexual activity at an early age increases lifetime risk of acquiring HIV and is associated with other HIV risk factors, including alcohol use, unprotected sex, unplanned pregnancy and having multiple sexual partners. A major goal is to delay the age at which young people first have sex because it reduces their potential exposure to HIV. Emphasis on delaying sexual debut remains an important focal area for reducing HIV infections among adolescents.

The latest available evidence shows that age at sexual debut is declining in South Africa. The 2012 HSRC survey found that among youth aged 15–24 years, 10.7% had initiated sex before the age of 15 years – a small increase compared to previous years. More males reported having initiated sex before the age of 15 than females. Table 17 below shows that age of sexual debut varies considerably between provinces.
The 2012 NCS found that 85% of all respondents had ever had sex, and the mean age of sexual debut was 18.0 years. The mean age of sexual debut among youth aged 16–24 years was 16.9 years, which is similar to the 2009 survey, which was 16.8 years. Furthermore, 20% of young respondents who had ever had sex reported that they were 15 years or younger when they first had sex.

Condom use and distribution

The use of condoms, both male and female, is currently the most effective and inexpensive method to prevent HIV and other STIs, as well as unintended pregnancies. Correct and consistent use of condoms is an integral component of combination HIV-prevention strategies to reduce risks of sexual exposure to HIV and other STIs, or as a dual protective method for also preventing pregnancy among women.

There is a varied picture for condom use in different studies. The 2012 NCS found that the vast majority of respondents (89%) were aware of the importance of condom use as a measure of HIV prevention, similar to 86% awareness in 2009. Among the respondents who had sex in the past year, 47% had used a condom at last sex, an increase from 40% reported in the 2009 survey. This survey also showed that 76% of respondents used a condom at last sex with a casual partner, 65% used a condom at last sex with a main or regular partner, and 28% used a condom at last sex with their spouse or live-in partner.

Nearly half (49%) of respondents who had ever had sex reported using a condom the first time they had sex.

In contrast, the 2012 HSRC survey found that among respondents who had sex in the past year, 36.2% had used a condom at last sex.

Analysis of trends in condom use showed that condom use at last sex had increased from 2002 to 2008, but then dropped in 2012 among all age groups and both sexes, except among females aged 50 years and older. Condom use at last sex decreased from 75.9% in 2008 to 58.4% in 2012 among youth aged 15–24 years. It was also found that condom use had decreased in older age groups. For example, 34.4% among adults aged 25–49 years and 12.4% among persons aged 50 years and older. Decreases in condom use at last sex have also been observed in other studies – for example the 2013
Available DHIS data shows declines in condom distribution. With a 2016 target of one billion condoms for male condom distribution, distribution has decreased from 492 million in 2010 to 230 011 696 in 2011 (a 53% reduction from the 2010 baseline). In 2012, the figures were 251 419 268 (a 49% reduction from baseline) and in 2013, 352 065 256 (a 29% reduction from baseline).

With regard to female condom distribution, a 16% decrease was recorded in both 2011 (4 325 196) and 2012 (4 309 146) from the 2010 baseline of 5.1 million. In 2013, a 51% increase from baseline (7 686 231) was recorded. The 2016 target for female condom distribution is 25 million condoms, a 400% increase from baseline. Female condom procurement and distribution systems strengthening should be prioritised if South Africa is to meet the 2016 NSP target.

**Multiple sexual partners**

Having multiple sexual partners increases the likelihood of exposure to HIV through expanding sexual networks. Reducing partner turnover, and overall numbers of sexual partners, is therefore a key component of an effective HIV-prevention response.

The 2012 HSRC survey found that 12.6% of respondents had more than one sexual partner in the past 12 months. Trend analysis over the four surveys conducted from 2002 to 2012 show that there has been a steady rise in the percentage of respondents reporting multiple partners in the past 12 months – from 11.5% in 2002 and 18.3% in 2012. Higher percentages of males reported they had multiple partners in the past 12 months, in comparison to females (20.1% versus 4.6%). In the 15–24 age group, 23.0% of males reported having had multiple partners in 2002 in comparison to 37.5% in 2012. The range was 6–8% for young females.

In the 2012 NCS, it was established that only 40.7% of respondents mentioned faithfulness as a measure to prevent HIV, while only 23.5% mentioned reducing the number of sexual partners – although these proportions have risen steadily since 2006. See Table 18 below.

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2009</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faithfulness</td>
<td>26.0</td>
<td>39.1</td>
<td>40.7</td>
</tr>
<tr>
<td>Partner reduction</td>
<td>6.7</td>
<td>12.2</td>
<td>23.5</td>
</tr>
</tbody>
</table>
**Age-disparate relationships**

The 2012 HSRC survey established that 19.8% of respondents had a sexual partner who was five or more years older than they were. Trend analysis of data from previous national surveys conducted in 2005, 2008 and 2012 indicates a steady rise in having age-disparate relationships amongst females aged 15–19 years, reaching a high rate of one-third (33.6%) in 2012. In contrast, 4.1% of young males had older partners in 2012 and matching findings were reported in the 2005 and 2008 surveys.

The 2012 NCS found that 42% of sexually active respondents had sexual partners who were five or more years older or younger than themselves. Among young people aged 16–24 years, having a partner who was five years older was more common amongst females (39%) than in males (13%). In addition, 10% of women aged 16–24 years had a sex partner 10 or more years older than themselves.

**Social and structural determinants**

To enable policymakers and programme managers to strengthen national efforts to address social and structural drivers of HIV, and to ensure that HCPs are strategically aligned with the prevailing risk behaviours and key drivers, this section looks into the current status of the following social and structural drivers: education, employment, socio-economic status, marital status, violence, stigma and alcohol use.

**Education**

Education has been identified as a protective factor against HIV infection. School-going children and young people are less likely to become HIV-positive than those who do not attend school, even if HIV is not included in the curriculum. The 2012 NCS found that 40% of respondents were educated up to Grade 11, 34% had completed matric and 14% had tertiary education. Lastly, about 12% of respondents reported a primary school education or no schooling. Trend analysis of data from previous surveys indicates noticeable improvements in education from 2009 to 2012, with more people having completed matric or having had tertiary-level education in 2012.

The Department of Higher Education and Training (DHET) established the Higher Education and Training HIV/AIDS Programme (HEAIDS) as a national structure to develop and support the HIV prevention and mitigation programmes at South Africa’s public Higher Education Institutions (HEIs) and Further Education and Training (FET) colleges. Under the guidance of a Strategy Group that includes institutional and stakeholder representatives, including the FET college sector and HIV and AIDS experts, HEAIDS supports institutions in responding to the pandemic through their core functions of teaching and learning; research and innovation, and community engagement. Institutions are encouraged and supported to address HIV on a human rights basis through HIV prevention, treatment, care and support programmes for students and staff living with HIV, comprehensive workplace HIV and AIDS programmes that cater to staff needs, educating and equipping students
through formal teaching and learning programmes, conducting research and providing HIV and AIDS services to related communities through outreach projects and practical training programmes.

In partnership with NDOH, the Department of Basic Education (DBE) is implementing the Integrated School Health Programme (ISHP) within schools. The programme is designed to make sexual and reproductive health (SRH) and youth-friendly services accessible in the school setting, augmenting prevention efforts among youth and making certain they remain HIV-negative. Retaining youth in schools and increasing access to post-school education and work opportunities reduces the vulnerability of young people to HIV infection.

**Unemployment**

Unemployment is a risk factor for HIV. The 2012 NCS found that 38% of respondents were employed and 15% were currently students. Significantly more men were employed than women – 46% versus 29%. Despite improved levels of education, unemployment remains high. Unemployment was particularly high amongst young people, with over 50% of people aged 20–34 years reporting being unemployed.

**Socio-economic status and poverty**

The 2012 NCS established that 39% of the respondents had a ‘high’ socio-economic status, 32% had a ‘medium’ socio-economic status and 29% had a ‘low’ socio-economic status. Socio-economic status differed markedly across provinces, with KwaZulu-Natal and Limpopo having the highest percentage of people with a ‘low’ socio-economic status, while Northern Cape and Gauteng had the lowest proportion among this group. People from the higher socio-economic group were likely to demonstrate better knowledge of HIV prevention measures (e.g. condom use, protective effect of few sexual partners) in comparison with the ‘low’ socio-economic groups.

**Violence**

Violence against women in South Africa includes sexual assault and intimate partner violence – both of which contribute to increased risks for HIV infection. The 2012 NCS found that the majority of respondents knew that rape survivors needed to go to the clinic, but few respondents mentioned that someone who has been raped should take PEP.

**Alcohol use**

Heavy drinking is associated with lower rates of condom use and increase in multiple and concurrent sexual partners. It can also be a barrier to treatment adherence. The 2012 NCS found that 52% of respondents agreed that excessive alcohol consumption would mean that they and their sex partners would not care about getting HIV, 66% of the respondents said that it was easier to have sex with people who go to clubs and shebeens, and 37% of all respondents reported having ever had an alcoholic drink. Compared to 2009, fewer men and women reported ever drinking. Of those who reported drinking, a
significant percentage reported drinking excessively (defined as five or more drinks on one occasion for men and four or more for women), 47% of men and 30% of women reported binge drinking more than once a month.

**Addressing gender-based violence**

Gender equality is of national priority and has been guided by a set of policies, guidelines and relevant frameworks. These have advanced over time and are linked to global and national priorities for addressing gender inequality and gender-based violence (GBV). Human rights, including gender rights, are clearly outlined in South Africa’s Constitution. South Africa is a signatory to international and regional commitments to reducing GBV including the Universal Declaration of Human Rights, the African Charter on Human Rights and Women’s Rights, the Convention on the Elimination of all forms of Discrimination Against Women (CEDAW), the Beijing Platform for Action, and the 1997 and 2008 Gender Declaration and Protocol by Heads of State of Government of the Southern African Development Community (SADC).

The links between HIV and GBV are well-established. GBV affects a much higher proportion of girls and young women, leading to lifelong negative impacts. Intimate partner violence (IPV) in South Africa includes severe assault and violence, and it is has been found that rate of intimate partner homicide among women in 2009 was 5.6 per 100 000. This accounts for nearly half of the total female homicides (12.9 per 100 000), although there has been a decline from 8.8 per 100 000 in 1999. More than one in 20 women experienced partner violence, and this is higher for younger women – 7.7% for women aged 15–19 and 7.3% for women aged 20–24. Similar findings were made in a study in the Western Cape and KwaZulu-Natal where it was found that women under the age of 20 were significantly more likely to have experienced GBV. Women were also found to have been physically assaulted by household visitors and strangers, although men experienced the highest proportion of physical assaults overall. The South African Police Services (SAPS) Unit on Crime Research and Statistics reported a total of 66 387 sexual offence cases in 2012/2013, which constituted 10.8% of the total contact crimes in the country.

Physical and sexual assault, including rape of girls in school, is known to be prevalent, with perpetrators including fellow learners and educators. A national study found that 12.7% of girls experienced threats of violence in school, 5.8% experienced assault and 7.6% experienced sexual assault. Teenage pregnancy is a related issue for girls. In 2012, 4.2% of 18-year-olds out of school reported that pregnancy was the reason they were no longer in school, although this has declined from 5.2% in 2008.

The 2012 NCS findings show that GBV is not supported by the vast majority of people in South Africa – for example 88.9% of respondents rejected the statement that it was okay to beat a partner if they were presumed to be unfaithful, while 85.9% agreed that men should talk to a woman when they had a misunderstanding, rather than resorting to violence, and 88.9% agreed that a woman had a right to say no to sex if she did not want it.
The Department of Women, Children and People with Disabilities (DWCPD) steered the completion of the South African Gender Scorecard from 2011 to 2013. The Gender Scorecard is a tool with 14 proxy indicators to rate the advancement of the national HIV response in relation to women, girls and gender equality. All SANAC sectors were afforded the chance to populate the electronic version of the tool. The primary findings of the scorecard are largely positive apart from for the inadequate budgeting and funding for programme implementation. Together with UNAIDS, the DWCPD also headed a Gender Equality Assessment of Provincial HIV, STIs and TB Strategic and Operational Plans. The results indicate a general prioritisation of interventions for women and girls, including gender equality in the Provincial Strategic Plans, but structural weaknesses are also acknowledged.

The sustained government leadership, advocacy, and persistent community awareness and education on GBV prevention and alleviation are reflected in the annual 16 Days of Activism Campaign, an initiative led by key political leaders and stakeholders devoted to ending GBV. The commemoration of the 16 Days of Activism on GBV campaign which runs from 25 November (International Day for the Elimination of Violence Against Women) through to International Human Rights Day (10 December) is usually integrated, in part, with the commemoration of World AIDS Day on 1 December, although it has its own theme every year. The activities implemented as a buildup to this commemoration educate communities on gender rights and gender equality, and emphasise the importance of mainstreaming GBV prevention and mitigation activities into key programmes.

Although there is a sound policy environment for the eradication of gender inequalities and sexual violence, challenges remain in the translation of policy into good practice. It has been noted that the impact of initiatives to empower women and girls are varied and inadequate.

Decreasing new HIV infections among girls and young women aged 15–24 years is a priority for South Africa. In an effort to strengthen efforts to reduce HIV vulnerability, the Johns Hopkins Health and Education South Africa (JH-HESA) HIV Communication Programme, in partnership with SANAC, DOWCPD, NDOH and SANAC Women’s Sector and other stakeholders, developed the Zazi Project to address the increasing vulnerability to HIV infection of young girls and women. Through TV, radio and print media, peer pressure and temptations like early sexual debut, poor condom use, intergenerational relationships and multiple sexual partners that may lead to HIV infection, STIs and unwanted pregnancies, are addressed. The focus is on reflecting on and building self-esteem to reduce vulnerability.

In collaboration with the National Association of Child Care Workers (NAC-CW), NACOSA and DSD, SANAC is overseeing the implementation of the Isibindi Model for Orphans and Vulnerable Children (OVC) and Youth, with financial assistance from the Global Fund. The Isibindi model of care is designed to create safe and caring communities for vulnerable children and youth at risk through a developmental child and youth care work response. The Isibindi Model deploys trained community-based child and youth care workers in communities in an innovative team outreach programme provid-
ing developmental support to children and families declared vulnerable as a result of the HIV and AIDS pandemic. It is a cost-effective model operating accountably at prevention and early intervention levels of the child and youth care system in partnership with a range of intersectoral actors.
### Table 17: NSP Strategic Objective 1: Core indicators

<table>
<thead>
<tr>
<th>Indicator(s)</th>
<th>Baseline</th>
<th>Achieved by 2013</th>
<th>Target for 2017</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of government departments and sectors with operational plans with HIV, TB and related gender- and rights-based dimensions integrated</td>
<td>Not obtained</td>
<td>Estimated at 96%</td>
<td>100% of government departments</td>
<td>Not evaluated</td>
</tr>
<tr>
<td>Proportion of Sectors with plans</td>
<td>None</td>
<td>12 of 18</td>
<td>100%</td>
<td>Not formally evaluated</td>
</tr>
<tr>
<td>Proportion of municipalities with at least one informal settlement where targeted comprehensive HIV, STI and TB services are implemented</td>
<td>No data</td>
<td>Not obtained</td>
<td>100% of municipalities</td>
<td>Indicator need to be reviewed</td>
</tr>
<tr>
<td>Current school attendance among orphans and non-orphans aged 10-14</td>
<td>98%</td>
<td>98%</td>
<td>100%</td>
<td>Same as baseline data</td>
</tr>
<tr>
<td>Delivery rates for women under 18</td>
<td>Not obtained</td>
<td>Not obtained</td>
<td>No target set</td>
<td>Indicator and data source needs to be reviewed</td>
</tr>
<tr>
<td>TB and HIV Spend</td>
<td>R9.7 billion (NASA 2010)</td>
<td>R15.8 billion (13/14 budget)</td>
<td>R32 billion</td>
<td>Indicator needs to be defined. Should include government and donor funding.</td>
</tr>
<tr>
<td>Number of women and children reporting gender based violence to the police in the last year</td>
<td>Baseline not obtained</td>
<td>Data not obtained</td>
<td>Target not set</td>
<td>Indicator and target needs to be determined</td>
</tr>
<tr>
<td>Percentage of women who have experienced physical or sexual violence in the last year</td>
<td>Baseline not obtained</td>
<td>Data not available</td>
<td>Target not set</td>
<td>Indicator and data source needs to be reviewed</td>
</tr>
</tbody>
</table>

3 The baseline values are those previously assumed in the original drafting of the NSP (based on the limited available data at that time) and don’t necessarily represent values that are now considered realistic for the start of the 2012–2016 period.
Strategic Objective 2: Preventing new HIV, STI and TB Infections

Strategic Objective 2 is focused on primary strategies to prevent sexual and vertical transmission of HIV and STIs, and to prevent TB infection and disease, using combination prevention approaches. The following sub-objectives are included for HIV, STI and TB prevention:

- Maximising opportunities for testing and screening to ensure that everyone in South Africa is tested for HIV and screened for TB at least annually, and appropriately enrolled in wellness and treatment, care and support programmes.

- Increasing access to a package of sexual and reproductive health services, including those for people living with HIV and young people, and conducting prevention activities in non-traditional outlets. The package includes medical male circumcision (for adults and neonates), an emphasis on dual protection, the provision of both male and female condoms, the termination of pregnancy and the provision of contraception.

- Reducing transmission of HIV from mother to child to less than 2% at six weeks after birth and reducing MTCT to less than 5% at 18 months of age by 2016. This includes strengthening the management, leadership and co-ordination of the prevention of mother-to-child HIV transmission (PMTCT) programme and ensuring its integration with maternal and child health programmes.

- Integrating TB screening into the PMTCT programme. In addition, screening and treatment of syphilis will be strengthened to eliminate neonatal syphilis.

- Implementing a comprehensive national social and behavioural change communication (SBBC) strategy with a focus on key populations. This aims to increase the demand and uptake of services, promote healthy behaviours, and address norms and behaviours that put people at risk for HIV, STIs and TB.

- Preparing for the potential implementation of future innovative, scientifically proven HIV, STI and TB-prevention strategies, such as pre-exposure prophylaxis (PrEP), new TB vaccines and microbicides.

- Preventing TB infection and disease through intensified TB case finding, TB infection control, workplace/occupational health policies on TB and HIV, isoniazid preventive therapy (IPT), immunisation, prevention of multidrug-resistant TB (MDR-TB), and reducing TB-related stigma, alcohol consumption and smoking.

- Addressing sexual abuse and improving services for survivors of sexual assault.

Targeted, evidence-based combination prevention interventions are needed to achieve the long-term goal of zero new HIV and TB infections. The
Joint United Nations Programme on AIDS (UNAIDS) defines combination prevention as comprising ‘... rights-based, evidence-informed, and community-owned programmes that use a mix of biomedical, behavioural, and structural interventions, prioritised to meet the current HIV prevention needs of particular individuals and communities, so as to have the greatest sustained impact on reducing new infections’.

The combination prevention approach recognises a multidimensional response that takes local conditions and variations into account. Underlying vulnerabilities and overt risks are addressed simultaneously, and a key to response is mobilising partnerships between community groups and networks, civil society organisations, health and social services, government, donors and international organisations. Emphasis is placed on flexibility through ongoing learning and adaptation as the epidemic evolves. Support for combination prevention is provided by communication in all three domains.

Combination prevention takes into account that no single domain is sufficient to address HIV prevention, and further, that placing emphasis on all three domains produces a multiplier effect that accelerates HIV prevention. A package of combination prevention approaches may include male and female condoms; medical male circumcision (MMC); HIV counselling and testing (HCT); TB screening and preventive therapy; social and behaviour change communication (SBCC); increasing access to sexual and reproductive health (SRH) services; providing post-exposure prophylaxis (PEP); peer education; and prevention of mother-to-child HIV transmission (PMTCT) services. In addition, focusing prevention efforts in high-transmission areas and on key populations is likely to have the greatest impact, while simultaneously sustaining and expanding efforts in the general population. Combination prevention efforts must also consider the needs of people living with HIV and their role in the prevention of new HIV infections, and must be guided by a human rights framework that promotes health, empowerment and dignity. Empowerment through social programmes and community mobilisation are integral aspects of combination prevention, and there has been limited focus on the latter in South Africa.

**HIV and TB screening and healthcare enrolment**

Maintaining awareness of one’s HIV status through routine HIV testing is deemed to be a vital entry point to a comprehensive package of care for HIV prevention and treatment. HCT services are available in all public health facilities in South Africa. Population-level HIV testing in South Africa is among the highest globally, with a large proportion of South Africans knowing their HIV status. Following the intensified national HCT roll-out initiated in April 2010, 8 772 423 people were tested in FY 2011/12 and 8 978 177 in FY 2012/13.

The 2012 NCS found that 38% of respondents had tested for HIV in the past 12 months, translating to more than 10.7 million people. More than 17.6 million people have ever tested for HIV.
Table 18: Proportions and weighted totals of persons testing for HIV

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Weighted number</td>
</tr>
<tr>
<td>Ever tested for HIV</td>
<td>5 214</td>
<td>14 947 451</td>
</tr>
<tr>
<td>Tested for HIV in the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>past 12 months</td>
<td>3 169</td>
<td>8 849 625</td>
</tr>
</tbody>
</table>

The 2012 HSRC survey established that the percentage of people who tested for HIV in the 12 months prior to the survey had increased compared to 2008. HIV testing increased from 19.9% in 2008 to 37.5% in 2012 amongst males, and from 28.7% in 2008 to 52.6% among females. Females are more likely to test as a result of antenatal care where HIV testing is routinely offered.

To further enhance HCT uptake in 2012/13, the NDOH developed an HCT revival strategy. The strategy was centred on three goals: ensuring that (1) HIV-positive individuals are linked to care; (2) patients are provided with behavioural change counselling; (3) patients are screened for TB and non-communicable diseases.

**Reducing MTCT to 2% at six weeks after birth and less than 5% at 18 months**

Since the launch of the PMTCT programme in 2000, South Africa has shown commitment to eradicating vertical transmission of HIV by keeping up with new policy developments based on the latest available scientific evidence. In March 2013, the PMTCT guidelines – which were last reviewed in 2010 – were updated in accordance with international good practice. The updated guidelines advocate for a standardised triple-drug regimen – including a fixed-dose combination (FDC) – to be administered to women, regardless of CD4 count or clinical stage, during pregnancy and breastfeeding. There is continuation of ART after breastfeeding for women with CD4 counts less than 350. The PMTCT guidelines also recommend integration of TB and syphilis screening and treatment, which also contributes to the elimination of neonatal syphilis.

To reach the set targets for universal coverage of quality antenatal, labour, delivery and postnatal services for all women is essential. In the last ten years, the PMTCT programme was scaled up to all healthcare facilities country-wide.

An assessment of the effectiveness of the national PMTCT programme, focused on the elimination of mother to child transmission (eMTCT) conducted by the MRC, revealed that the rate of MTCT of HIV at six weeks postpartum fell from 3.5% in 2010 to 2.7% in 2011. The 2012/13 District Health Barometer indicates a further reduction to 2.4% in 2012. While the latest surveys have measured HIV transmission at around six weeks, it has been observed that the sensitivity of the PCR used for testing for HIV may be compromised if the infant is receiving nevirapine prophylaxis. The six-week transmission level could therefore be underestimated, as nevirapine is routinely given to infants for HIV prophylaxis.
The National Health Laboratory Services (NHLS) early infant diagnosis (EID) data clearly shows the rapid scale-up of EID over the first decade of the PMTCT programme with a 100-fold upsurge in PCR tests to 350 000 by 2012. Based on NHLS 2012 EID data, 73% of the estimated 270 000 HIV-exposed infants requiring an EID were tested and the early vertical transmission levels fell to 2.4% as a result of the programme. The NHLS data provides for timeous and affordable monitoring of the PMTCT programme.

The 2013 national HIV, TB and PMTCT review found that gaps in the PMTCT cascade remain a challenge. Late booking for ANC services by pregnant women, and re-testing of HIV-negative pregnant women at 32 weeks and three monthly thereafter are not optimal. The post-partum follow-up of the mother–infant pairs remains inadequate, and as a result, few babies with HIV-positive mothers are tested for HIV at 18 months.

The 2013 national HIV, TB and PMTCT review showed that the percentage of HIV-positive pregnant women receiving ART was 83% in 2009, 87.3% in 2010 and 87.1% in 2011. It was also found that 91.7% of women in 2010 were given ART or prophylaxis. The percentage of antenatal clients initiated on ART was 64.1% in 2011/12, increasing to 75.4% in 2011/12, according to manual calculations using the Health Data Advisory and Co-ordination Committee (HDACC) method. A target of 100% was set for both ART and prophylaxis in the Annual Performance Plan (APP) for 2011/12. The District Health Barometer 2011/12 indicates that ART coverage for babies under 18 months was 54.4% nationally, suggesting a slight improvement from 52.7% in 2010/11 against a target of 100%. According to the 2013 UNAIDS Regional Report, the proportions of mother–infant pairs receiving ART during breastfeeding increased at least four-fold in South Africa between 2009 and 2011.

A case study from the Lejweleputswa District in the Free State Province illustrated that quality improvement initiatives implemented at facility level utilising participatory data-driven methods and onsite monitoring and supervisory support enhanced PMTCT coverage and service delivery (Table 21).

Table 19: Lejweleputswa District case study results

<table>
<thead>
<tr>
<th>Indicators</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>National target 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANC 1st visit &lt;20 weeks</td>
<td>43%</td>
<td>48%</td>
<td>54%</td>
<td>60%</td>
</tr>
<tr>
<td>ANC client CD4+ test rate</td>
<td>86%</td>
<td>92%</td>
<td>97%</td>
<td>80%</td>
</tr>
<tr>
<td>ANC initiated on AZT during ANC rate</td>
<td>86%</td>
<td>99%</td>
<td>108%</td>
<td>85%</td>
</tr>
<tr>
<td>ANC initiated on HAART rate</td>
<td>62%</td>
<td>67%</td>
<td>80%</td>
<td>90%</td>
</tr>
<tr>
<td>ANC clients ≥32 weeks retesting rate</td>
<td>31%</td>
<td>51%</td>
<td>51%</td>
<td>50%</td>
</tr>
<tr>
<td>Postnatal care mother visits within 6 days rate</td>
<td>23%</td>
<td>70%</td>
<td>80%</td>
<td>40%</td>
</tr>
<tr>
<td>Baby PCR test rate at 6 weeks</td>
<td>105%</td>
<td>104%</td>
<td>105%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Voluntary Medical Male Circumcision (VMMC)

Male circumcision reduces the risk of HIV acquisition in men during heterosexual intercourse by up to 60%. UN guidance advises that at least five million voluntary medical male circumcisions (VMMCs) would be needed as a prevention strategy to impact on new HIV infections. In 2010, a target of 80%
of HIV-negative men aged 15–49 – approximately 4.3 million men – was set for 2015. In 2012/13 a total of 514,991 circumcisions were conducted, representing about 12% of the target. The NDOH Annual Performance Plan (APP) target for 2012/13 was 600,000 medical circumcisions.

The 2012 HSRC survey showed that circumcision had increased among men 15 years and older. However, the number of males who are medically circumcised has remained low, with only about one million men having been medically circumcised between 2008 and 2012. MMC levels are also low in comparison to traditional circumcision.

The 2013 National HIV and TB Review found that low VMMC uptake could be attributed to a doctor-centred approach. For example, in provinces such as the Eastern Cape, Mpumalanga and Limpopo, where traditional circumcision is normally practised, VMMC rates were low. There has been little change in the proportion of traditional circumcisions reported relative to medical circumcisions over the past 10 years. The absence of uniformity of traditional practices and resistance from some traditional leaders to adopt VMMC remain challenges for the programme. It appears that South Africa may not be able to achieve the 80% target by 2015 and there is a need to engage with traditional leaders on the integration of medical circumcisions into traditional practices.

**Sexually transmitted infections (STIs)**

The NSP 2012–2016 does not identify indicators nor suggest targets for STIs other than HIV. Table 12 summarises modelled estimates of the prevalence of various STIs in South Africa in 2005 based on various local data. These STI prevalence estimates are compared to WHO estimates for the African region. Although the prevalence of syphilis is lower in South Africa than the African average, the prevalence of other STIs (gonorrhoea, chlamydia and trichomoniasis) is higher in South Africa than in the region as a whole. The prevalence of syphilis and chancroid in South Africa is estimated to have declined substantially since the mid-1990s, largely due to the effect of syndromic management programmes and increases in condom use. While evidence of declines in the prevalence of other STIs is limited, higher levels of condom use are likely to have contributed to declines in prevalence.


<table>
<thead>
<tr>
<th>South Africa</th>
<th>African region</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Females</td>
</tr>
<tr>
<td>HIV</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>19.1%</td>
</tr>
<tr>
<td>Males</td>
<td>-</td>
</tr>
<tr>
<td>Genital herpes (HSV-2)</td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>54.4%</td>
</tr>
<tr>
<td>Males</td>
<td>-</td>
</tr>
<tr>
<td>Chancroid</td>
<td>0.0%</td>
</tr>
<tr>
<td>Syphilis</td>
<td>1.9%</td>
</tr>
<tr>
<td>Gonorrhoea</td>
<td>4.4%</td>
</tr>
<tr>
<td>Chlamydia</td>
<td>10.1%</td>
</tr>
<tr>
<td>Trichomoniasis</td>
<td>24.2%</td>
</tr>
</tbody>
</table>
Recent data on STI prevalence levels in South Africa are limited. The 2012 antenatal survey found a prevalence of Herpes Simplex Virus 2 (HSV-2) among pregnant women of 55.8% in four provinces (KwaZulu-Natal, Gauteng, Western Cape and Northern Cape). This was the first time HSV-2 prevalence was measured in the national antenatal survey and trend data is therefore not available. Modelled estimates for females aged 15–49 in 2005 was reported to be 54.4% (Table 22). The national antenatal surveys measured the prevalence of syphilis up to 2011, and recorded stable prevalence levels of around 1.5–1.9% over the 2008–2011 period. Monitoring of syphilis was discontinued in 2011, and this limits the possibility of tracking rapid changes in sexual behaviour for which syphilis is an indicator. There is currently no national approach monitoring the prevalence of STIs other than HIV and HSV-2, though curable STIs are estimated to have accounted for around 14% of all new HIV infections in South Africa in 2010.

There is a lack of recent data on the extent and quality of STI prevention and treatment programmes. The last national survey on the quality of STI treatment in the South African public-health sector was conducted in 2003. Vaccination of adolescent girls against human papillomavirus (HPV) has recently been introduced, but there are currently limited data on HPV vaccinations, including in relation to protocols. Furthermore, it is recognised that there are problems with the current syndromic management protocols, particularly in the management of women with vaginal discharge. It will be important to consider new strategies for STI prevention and treatment in women, particularly in light of recent advances in point-of-care diagnostics for gonorrhoea and chlamydia.

Preventing TB infection and TB disease

South Africa has one of the world’s worst TB epidemics as a product of interaction with HIV. Approximately 330 000 of the estimated 520 000 new TB infections in 2011 occurred among PLHIV – a co-infection rate of more than 60%. TB is the leading cause of death in South Africa. By comparison however, TB rates are decreasing worldwide. Among the 22 high-burden countries (HBCs), which account for 81% of all estimated incident TB cases globally, South Africa has the third-largest absolute number of reported incident active TB cases. TB incidence in South Africa is now estimated to be more than 1 000 cases per 100 000 people. The causes of the recent increases in TB in South Africa are complex and include poverty, inequality and suboptimal delivery via the public health system. It is estimated that 25% of people diagnosed with TB in South Africa are never started on treatment. Treatment outcomes for new smear-positive pulmonary TB (PTB) are encouraging. The TB treatment cure rate for new smear-positive pulmonary TB has improved from 61.6% to 74.2% between 2006 and 2011. The treatment success rate for all TB has also increased from 70.0% to almost 75.4% over the same period.

The 2013 HIV and TB Review found that the national TB programme is failing to meet targets, although TB diagnosis and treatment is much improved.
Notwithstanding, TB treatment is widely available and almost 80 percent of patients with new smear-positive pulmonary TB are cured. TB patient follow-up is however poor and there is no effective tracing of patients who drop out of treatment programmes. As with HIV, it is important to realise that a combination of behavioural, social, structural and biomedical prevention approaches are necessary in order to respond effectively to TB infection and disease.

**Intensified TB case finding (ICF)**

In South Africa, the number of HIV-infected people screened for TB rose almost twofold (to 1.26 million) between 2010 and 2011. This was achieved through routine TB symptom screening and testing (for those with a positive symptom screen); testing campaigns in communities, schools, universities, workplaces; and focused provider-initiated screening of all health facility attendees and at-risk populations (TB-exposed infants and children, people living with HIV, contacts of people with drug-sensitive and DR-TB, pregnant women, healthcare workers, mine workers, prisoners and prison staff).

To address the limitations in diagnosing TB in PLHIV, South Africa prepared and introduced a national plan for phased implementation of the GeneXpert MTB/RIF assay to replace microscopy as the first diagnostic method. Using available microscopy centres, more than 290 GeneXpert machines were introduced in more than 140 centres. By March, 2013, 1.2 million tests had been carried out across the nine provinces. In comparison with smear microscopy, GeneXpert doubled the number of laboratory-confirmed TB cases and detected 7% rifampin resistance, allowing clinicians to tailor regimens to the needs of individual patients.

The 2013 HIV and TB review recommended the introduction of routine TB screening – especially for pregnant women, small children and health workers – and the targeting of ‘key groups’ particularly vulnerable to TB and HIV, including children and people living in mining communities.

**TB infection control**

TB Infection control remains poorly implemented in South Africa. This occurs against the backdrop of factors including: (1) limited use and availability of N95 masks; (2) limited infrastructure for proper infection control practices; and (3) lack of facility infection control plans, facility risk assessments, related quality assurance, and monitoring checklists for inadequate airborne infection control. The 2013 national HIV, TB and PMTCT review found that infection control practices were heterogeneous across and within provinces, with ineffective triaging of potentially infectious TB cases, and inadequate ventilation of waiting areas and consultation rooms. The use and maintenance of ultraviolet (UV) light varies considerably and there is also an over-reliance on non-serviced/non-working UV lights. Respiratory infection control should be prioritised in prisons, mines, single-sex hostels, long-distance public transport, schools, homeless shelters and repatriation centres.

Instilling a culture of cough hygiene is essential to achieving better respirato-
ry infection control in the community. A greater emphasis on TB and respiratory infection control is needed in households, schools, healthcare facilities, prisons, and other settings where people congregate. All health facilities providing HIV and TB care must have an infection control plan and officer.

**Isoniazid preventive therapy (IPT)**

Prevention of TB among exposed persons can be achieved with daily IPT. IPT is low cost and simple to use. Everyone enrolled in HIV care should therefore be screened for TB at each visit, and those without active TB should receive at least six months of IPT.

There were some 373 000 PLHIV receiving IPT in 2012, and South Africa is now the largest provider of this prophylactic regimen in the world. Notwithstanding, the number of PLHIV receiving IPT is still not optimal relative to the size of the PLHIV population. The implementation, monitoring and evaluation of IPT needs to be scaled up for adults and children living with HIV, with clear recommendations for ages 5–15 years. There is also a need to address asymptomatic child contacts of people with infectious TB and mine workers.

**Immunisation**

Bacillus Calmette-Guérin (BCG) is part of the Expanded Programme on Immunization (EPI) schedule. National guidelines encourage BCG vaccination for all eligible infants at birth. The vaccination schedule remains unchanged in HIV-exposed children. If a child is asymptomatic at birth, BCG is administered irrespective of HIV status.

**Preventing drug-resistant TB (DR-TB)**

South Africa has the second-largest number of diagnosed MDR-TB cases after India, and is also one of three countries (together with India and Ukraine) with the largest increases in MDR-TB between 2011 and 2012. The WHO Global TB Report, 2013 estimates that 1.8% of new TB cases have MDR-TB compared to 6.7% of retreatment cases. According to the National Health Laboratory Service (NHLS), 4.0% of all TB is MDR-TB. In 2012, South Africa reported 14 161 cases. The NHLS cumulatively diagnosed 69 460 MDR-TB cases from 2004 to 2012. In addition, the NHLS cumulatively diagnosed 6 242 XDR-TB cases during the same period.

The gap in treatment coverage for detected cases of MDR-TB is also continuing to widen. TB and drug-resistant TB remain a major public health problem in South Africa, and the NDOH is scaling up proven strategies to address DR-TB.

With the institutionalisation of new technologies like Cepheid’s GeneXpert MTB/RIF in the public sector, there has been a rise in the identification of MDR-TB cases. The NHLS cumulatively diagnosed 69 460 MDR-TB cases from 2004 to 2012. In addition, the NHLS cumulatively diagnosed 6 242 XDR-TB cases during the same period. However, only, a cumulative total of 10 095 (14.9%) MDR-TB patients were started on treatment from 2007 to 2012, with KwaZulu-Natal, the Eastern Cape, Gauteng and the Western Cape accounting for 80% of the MDR-TB cases. With regard to XDR-TB, only 713 (11.4%) patients were cumulatively started on treatment from 2007 to 2013.
The apparent gap between patients diagnosed with DR-TB and those treated is of serious public health concern. Available national TB programme data shows a decrease in the number of TB cases (from 389,974 in 2011 to 344,748 in 2012) and an increase in the number of MDR-TB cases (from 10,085 in 2011 to 14,161 in 2012). It is also believed that half of all DR-TB cases are undiagnosed. The high risk of DR-TB transmission in hospitals is also apparent – resulting in an increase in nosocomial DR-TB infection amongst healthcare workers (HCWs). Equally, the national MDR-TB treatment outcomes are not encouraging. In 2010, the MDR-TB treatment success rate was 40.0%, despite the fact that there are four times as many sites offering treatment for MDR-TB as in 2009. In 2010, the XDR-TB treatment success rate was 18% and mortality rate almost 50%. Despite the high investment in the management of DR-TB, the outcomes remain poor.

Specific measures to prevent further development and spread of DR-TB include improvement in identifying and curing drug-susceptible TB and early detection and effective treatment of all MDR-TB and XDR-TB cases. The decentralisation of MDR-TB management is in process and is expected to reduce the MDR-TB diagnosis–treatment gap. Uninterrupted supply of and adherence to quality assured first- and second-line therapies (including FDCs), is critical for effective DR-TB management.

Implementing a comprehensive national SBCC strategy with a focus on key populations

Susceptible key populations in South Africa include MSM, transgender persons, sex workers, prison populations, specific migrant groups and injecting drug users (IDU). Research has shown that decreasing incidence in key populations contributes to HIV incidence reduction at population level. It has been estimated that 19.8% of all new HIV infections in South Africa are related to sex work and 9.2% to MSM.²

A gap analysis survey carried out by the Desmond Tutu HIV Foundation in 2011¹¹⁶ gave an overview of the current status relating to key populations including issues influencing their vulnerability to HIV. To address the current needs and gaps in services, research, and support for key populations, the NDOH has developed Operational Guidelines for HIV, STIs and TB Programmes for key populations in South Africa. The guidelines are intended to assist health planners to develop, plan, implement, monitor and evaluate programmes in order to achieve the targets for key populations as set out in the NSP 2012–2016.

National Sex Workers Programmes

In partnership with the SANAC Sex Worker Sector and SWEAT, SANAC co-hosted the first Sex Workers Symposium. The symposium theme was ‘Best Practices in HIV Prevention, Care and Treatment for Sex Workers in South Africa’. The purpose of the symposium was to consolidate the evidence from research programmatic experience and sex workers’ lived experiences, and to use this evidence to drive forward an improved, co-ordinated, rights-based, joined-up, effective sex worker HIV programme in South Africa. Sim-
ilarly, SANAC, in collaboration with the Sex Worker Sector and other SANAC sectors have developed as National Strategic Plan for HIV Prevention, Care and Treatment for Sex Workers and completed a Sex Workers Size Estimation Survey in 2012/13.

SANAC, in partnership with National AIDS Convention of South Africa (NA-COSA) and the Sex Worker Evaluation and Advocacy Taskforce (SWEAT), conducted a National Sex Worker Programme Evaluation in 2012/13 with financial support from the Global Fund to Fight AIDS, TB and Malaria (GFATM). Clearly aligned with the Global AIDS Response Progress Report (GARPR) indicators for knowledge and behaviour, the evaluation revealed that 60% of sex workers were reached with HIV prevention programmes, 81% reported using condoms with their most recent client, 88% had undertaken an HIV test in the last 12 months and knew their results, and 59.6% were PLHIV.

Men who Have Sex with Men (MSM)

Through GFATM HIV programming, SANAC is working with NDOH and development partners to plan, expand and integrate the prevention, care and treatment programming for MSM into the public health service delivery system.

Addressing sexual abuse and improving services for survivors of sexual assault

In an effort to strengthen the management of sexual assault cases and comprehensively address sexual violence, a collaboration between various departments and donors the National Prosecution Authority’s (NPA) Sexual Offences and Community Affairs Unit (SOCA) is leading the implementation of the Thuthuzela Project. This initiative was conceptualised as a response to the urgent need for an integrated strategy for prevention, response and support for rape victims by healthcare providers. Countrywide, the Thuthuzela Care Centres (TCCs) provide all-encompassing support to victims of gender violence including post-exposure prophylaxis (PEP). TCCs are a model of good practice for addressing the links between rape and HIV. Operationalisation of the TCCs has highlighted challenges related to institutional and human capacity. The full impact of the TCCs is yet to be measured.
<table>
<thead>
<tr>
<th>Indicator(s)</th>
<th>Baseline</th>
<th>Achieved by 2013</th>
<th>Target for 2017</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number (and percentage) of men and women counselled and tested for HIV in the past year</td>
<td>13 million (HCT Review 2012); 62% ever tested, 37% tested in the past 12 months (2009 NCS)</td>
<td>8,978,177 (NDOH Annual Report 2012)</td>
<td>30 million</td>
<td>30% of target. Annual incremental targets should be set.</td>
</tr>
<tr>
<td>Number of people screened for TB</td>
<td>8 million</td>
<td>1,710,626 (DHS)</td>
<td>5.1 million</td>
<td>Number of people reached by prevention communications to be determined</td>
</tr>
<tr>
<td>Number of newly diagnosed HIV positive clients who are given IPT for latent TB infection</td>
<td>371,456 (DHIS)</td>
<td>4.3 million</td>
<td>25 million</td>
<td>More condoms distributed</td>
</tr>
<tr>
<td>Proportion of men screened for TB</td>
<td>16% of target</td>
<td>99%</td>
<td>82%</td>
<td>Male condoms distributed</td>
</tr>
<tr>
<td>Proportion of women and men reporting contraception available, not avoidable</td>
<td>80% of target</td>
<td>7%</td>
<td>10%</td>
<td>The NDOH has revised this target to 4.5 million</td>
</tr>
<tr>
<td>Proportion of women and men reporting condom use at last sex</td>
<td>47% of target</td>
<td>100%</td>
<td>100%</td>
<td>Number of people reached by prevention communications. To be determined</td>
</tr>
<tr>
<td>Proportion of young women and men reporting condom use at last sex</td>
<td>47% of target</td>
<td>100%</td>
<td>47%</td>
<td>Number of people reached by prevention communications</td>
</tr>
<tr>
<td>Proportion of women and men reporting condom use at last sex</td>
<td>47% of target</td>
<td>100%</td>
<td>47%</td>
<td>Number of people reached by prevention communications</td>
</tr>
<tr>
<td>Proportion of women and men reporting condom use at last sex</td>
<td>47% of target</td>
<td>100%</td>
<td>47%</td>
<td>Number of people reached by prevention communications</td>
</tr>
</tbody>
</table>
Strategic Objective 3: Sustaining health and wellness

The primary focus of Strategic Objective 3 is to achieve significant reduction in deaths and disability as a result of HIV and TB. The sub-objectives are:

- Reducing disability and death resulting from HIV and TB. This includes annual testing/screening for HIV and TB, particularly for key populations; improved contact tracing; early diagnosis and rapid enrolment into treatment; increased access to high-quality drugs; improved access to treatment for children, adolescents and youth; early initiation of all HIV-positive TB patients on ART; strengthened implementation of a patient-centred pre-ART package; early referral of all patients with complications; appropriate screening and treatment for cryptococcal infection; and strengthened screening and treatment of pregnant women for syphilis.

- Ensuring that people living with HIV and TB remain within the healthcare system, are adherent to treatment and maintain optimal health. The means to achieve this include the establishment of ward-based primary healthcare outreach teams and regular communication using all appropriate media.

- Ensuring that systems and services remain responsive to the needs of people living with HIV and TB. This includes integrating HIV and TB care with an efficient chronic care delivery system; expanding operating hours at service delivery points; ensuring a continuum of care across service delivery points; strengthening quality standards; and adequate monitoring of drug resistance.

Reducing disability and death resulting from HIV and TB

South Africa’s domestic HIV and AIDS investments have increased to US$ 1.9 billion per year, the second-largest national AIDS investment in the world. Domestic funding has increased to such an extent that more than 75% of the HIV response has been financed from domestic tax revenues since 2010. South Africa is one of the four countries in the region to have coverage of ART among children infected with HIV and in need of treatment that exceeded 50% in 2011. In South Africa, treatment coverage among children aged 0–14 years was estimated to be 58% in 2011.

The 2013 HIV, TB and PMTCT review, found that the numbers of people on ART increased four-fold in four years. The national ART patient-level health information system, TIER.Net, shows a four-fold increase of people on ART between 2009 and 2012 (Figure 11).
The 2012 HSRC survey estimates that 31.2% of PLHIV are on ART – 2 002 000 of 6 422 000 PLHIV in total. ART exposure among PLHIV nearly doubled between the last two surveys – from 16.6% in 2008 to 31.2% in 2012. The goal of starting 500 000 new patients on ART during 2012/13 has also been exceeded. A total of 612 118 new patients were placed on ART in 2012/13 and the country is on track for reaching the SANAC target of four million patients on ART by 2017.\(^\text{121}\)

South Africa’s successes towards reaching the target for PLHIV on ART can be credited to the roll-out and decentralisation of the ART programme through Nurse-Initiated Management of ART (NIMART). Following the approval and introduction of NIMART in 2010, nurses initiate eligible HIV patients onto ART at local PHC level, thereby enhancing access and availability of ART services for those in need. The number of NIMART-trained nurses rose from 10 000 in 2011/12 to 23 000 at the end of 2012/13.\(^\text{122}\) One of the key recommendations from the 2013 review was ensuring that all nurses are trained to start patients on ARVs, if the country is to reach 80% of those eligible for ART and keep 70% of those initiated alive and on treatment five years after ART initiation.

According to the 2013 UNAIDS Regional Report, decreases in AIDS-related deaths have been most prominent in countries like South Africa – with large HIV epidemics and steep increases in ART provision. South Africa’s ART programme saved 780 000 lives between 2003 and 2012, and it is estimated that 2.2 million lives will have been saved through implementation of the ART programme by 2016. The 2013 review did however highlight that ART among children and adolescents was sub-optimal, while the 2013 UNAIDS Regional Report notes that the proportion of HIV-infected TB patients who had started ART was still under 50% in South Africa in 2011. There is evidence that an increase in ART coverage lowers TB incidence at community level. In countries where large proportions of people are receiving ART, significant drops in TB incidence have been achieved. For example, ART scale-up has been associated with reductions in TB incidence of 33% and 24% in high-burden Malawian and South African communities, respectively.
Ensuring that people living with HIV, STIs and/or TB remain within the healthcare system

Retention in care remains a challenge, and lack of success is often attributed to ineffective tracking systems. Systems to provide patient outreach and trace patients who default on ART are seen to be insufficient. Retention in care dropped in 2012/2013 from 71% to 42.2% in adults and 79.3% to 68.2% in children. The deteriorating retention rates seen can be ascribed to inefficiencies in referral systems within or between communities, health facilities, districts and provinces. The expanded implementation of TIER.Net is expected to address some of these gaps.

South Africa’s updated treatment guidelines include the introduction and phased replacement of the multiple drug regimens with FDCs. FDCs are intended to reduce the burden of drug intake from triple-drugs three times per day to a single tablet daily. The institution of FDCs is expected to improve treatment uptake, adherence and compliance.

The 2013 HIV, TB and PMTCT review suggested that making services accessible at local level is expected to help improve patient retention. The deployment of ward-based PHC re-engineering outreach teams is expected to strengthen defaulter tracing, facility-to-community linkages and referral systems, and improve patient retention in care for both pre-ART and ART patients.

The NDOH is in the process of finalising the adherence and retention in care strategy that will include adherence clubs and the wellness strategy Integrated Access to Care and Treatment (I-ACT). I-ACT is a strategy designed to prolong the pre-ART period, improve retention in care and ART adherence, and enhance PLHIV self-health advocacy, knowledge and skills to live positively, through open information sessions, training, closed support groups and strong linkages and referral between health facilities and community-based care and support services. It is being implemented nationally as a collaborative effort between the National and Provincial Departments of Health and development partners. Two evaluations are underway to assess the impact of I-ACT. The outcomes of the evaluations will guide future I-ACT implementation and advise national HIV care and support policy. Likewise, a paediatric I-ACT module for children and adolescents has also been developed and will be piloted in the next reporting period.

Lastly, one of the key recommendations from the 2013 HIV, TB and PMTCT review is the need to strengthen monitoring and evaluation of the HIV, TB and PMTCT programme through the introduction of a unique patient identifier that can trace patients electronically throughout South Africa.

Ensuring that systems and services remain responsive to the needs of PLHIV

In 2013, South Africa demonstrated its commitment to improving HIV and TB integration through numerous initiatives. Two key activities were: (1) the first integrated Joint Health Review of the HIV, TB and PMTCT programme in 2013; (2) the development of national policy and the National Guidelines for Ad-
herence and Retention in Care for HIV, TB and Non-Communicable Diseases (NCD). The review assisted in portraying a clearer picture of the current status of various systems. The adherence and retention in care guidelines stipulate practical actions towards ensuring that patients who have HIV, TB and NCD co-morbidities are retained in care and adhere to the long-term treatments through the support of efficient chronic care delivery systems. The integration of TB and HIV services is intended to ensure that the health systems and services remain responsive to the needs of people living with HIV and TB and ensure a continuum of care across service points.

**TB treatment success rate**

In 2011, the TB treatment success rate (all forms) for the country was 75.4%, which was slightly higher than in 2010 (70.8%) and 2009 (72.3%) respectively. For new smear-positive cases it was 77.6% in 2011, which is an improvement compared to 2010 (73.3%) and 2009 (74.3%).

Although this improvement is encouraging, it falls far short of the NSP target of 85%. Treatment success rates differ by province as can be seen from Table 11, with the Western Cape having the highest rate (81.1%) and North West Province the lowest (73.6%).

*Figure 11: TB treatment success rate new Sm+ cases by province, South Africa, 2011*
Table 22: TB treatment success rate of new smear-positive cases by province, South Africa, 2011

<table>
<thead>
<tr>
<th>Province</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastern Cape</td>
<td>74.4%</td>
</tr>
<tr>
<td>Free State</td>
<td>76.4%</td>
</tr>
<tr>
<td>Gauteng</td>
<td>80.6%</td>
</tr>
<tr>
<td>KwaZulu-Natal</td>
<td>78.1%</td>
</tr>
<tr>
<td>Limpopo</td>
<td>75.8%</td>
</tr>
<tr>
<td>Mpumalanga</td>
<td>78.3%</td>
</tr>
<tr>
<td>Northern Cape</td>
<td>74.9%</td>
</tr>
<tr>
<td>North West</td>
<td>73.6%</td>
</tr>
<tr>
<td>Western Cape</td>
<td>81.1%</td>
</tr>
</tbody>
</table>

Treatment success rates for smear-positive cases also vary by age and gender (Table 12). Females have slightly higher success rates compared to males for all age categories. Furthermore, rates are highest in the 0–4 and 5–14 age groups. When looking at HIV status, treatment success rates of those that are HIV-negative are higher (82.1%) than those that are HIV-positive (75.4%) and those with unknown HIV status (73.7%). However, even for those that are HIV-negative, the target of 85% has not been reached.

Table 23: TB cure rate for new smear-positive cases by age and gender, South Africa, 2011

<table>
<thead>
<tr>
<th>Age group (years)</th>
<th>Females</th>
<th>Males</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–4</td>
<td>84.4%</td>
<td>81.5%</td>
</tr>
<tr>
<td>5–14</td>
<td>89.6%</td>
<td>87.6%</td>
</tr>
<tr>
<td>15–24</td>
<td>79.9%</td>
<td>78.0%</td>
</tr>
<tr>
<td>25–34</td>
<td>78.9%</td>
<td>74.4%</td>
</tr>
<tr>
<td>35–44</td>
<td>79.9%</td>
<td>74.7%</td>
</tr>
<tr>
<td>45–54</td>
<td>81.7%</td>
<td>76.1%</td>
</tr>
<tr>
<td>55–64</td>
<td>81.2%</td>
<td>76.0%</td>
</tr>
<tr>
<td>65–74</td>
<td>80.3%</td>
<td>74.7%</td>
</tr>
<tr>
<td>75+</td>
<td>78.3%</td>
<td>73.3%</td>
</tr>
</tbody>
</table>

The global target success rate for TB treatment is 85%. The most recent data for 2011 indicate a TB treatment success rate of 75.4%.
Table 24: Strategic Objective 3: Core indicators

<table>
<thead>
<tr>
<th>Indicator(s)</th>
<th>Baseline</th>
<th>Achieved by 2013</th>
<th>Target 2017</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of people per year becoming eligible who receive ART</td>
<td>58% (ART cohort and ASSA)</td>
<td>Adults: 78%</td>
<td>98%. Indicator and target needs to be reviewed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Children: 68% Spectrum</td>
<td>80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TB case registration rate</td>
<td>708/100 000 (National TB Programme)</td>
<td>687.3/100 000</td>
<td>354/100 000</td>
<td>687.3/100 000</td>
</tr>
<tr>
<td>TB case detection rate</td>
<td>72% (WHO 2010)</td>
<td>62% (WHO 2013)</td>
<td>&gt;85%</td>
<td>WHO 2014 reports 69%</td>
</tr>
<tr>
<td>% smear positive TB cases that are successfully treated</td>
<td>73% smear positive (Quarterly cohort analysis)</td>
<td>77.6% (2011)</td>
<td>&gt;85%</td>
<td>Baseline needs to be agreed</td>
</tr>
<tr>
<td>TB case fatality rate (CFR)</td>
<td>9.2 (2010)% (National TB register)</td>
<td>8.6% (2011)</td>
<td>50% reduction</td>
<td>6.5%</td>
</tr>
<tr>
<td>CFR HIV-positive = CFR HIV-negative</td>
<td>54% (2010 WHO)</td>
<td>4.7 HIV- vs 10.5% HIV+ (2011)</td>
<td>90%</td>
<td>4.7 HIV- vs 10.5% HIV+ (2011)</td>
</tr>
<tr>
<td>Number and percentage of registered TB patients who tested for HIV</td>
<td>54% (2010 WHO) (Electronic TB Register, DHIS)</td>
<td>85.8%</td>
<td>90%</td>
<td>85.8%</td>
</tr>
<tr>
<td>Number of all newly registered TB patients expressed as a proportion of all newly registered TB patients</td>
<td>60% (WHO) (Electronic TB Register, DHIS)</td>
<td>64.1%</td>
<td>90%</td>
<td>64.1%</td>
</tr>
</tbody>
</table>
Strategic Objective 4: Ensuring protection of human rights and improving access to justice

Strategic Objective 4 aims to ensure that rights are not violated when interventions are implemented, and that discrimination on the basis of HIV and TB is not only reduced, but ultimately eliminated. It has the following sub-objectives:

- Ensuring that rights are not violated when the interventions under the other three strategic objectives are implemented, and that functioning mechanisms for monitoring abuses and asserting rights are established.
- Reducing HIV and TB discrimination, especially in the workplace.
- Reducing unfair discrimination in access to social services.

It is vital that when implementing entities conceptualise and plan the interventions advocated in the NSP, they take reasonable measures to guard against rights violations. Human and institutional resources of existing constitutional and statutory structures and civil society organisations should also advance the NSP’s human rights agenda. Furthermore, a co-ordinated structure for monitoring human rights abuses and ensuring that rights, where violated, may be asserted efficiently and effectively is essential.

Audit interventions to identify potential for human rights abuses

The 2013 HIV and TB Review found that informed consent is being sought prior to HCT being conducted, and those eligible for ART are referred to appropriate facilities and patients with drug-resistant TB are managed as per national guidelines. Women living with HIV are not denied their sexual and reproductive health rights, including the desire to have children, although instances of such violations have been documented. Rape survivors are provided with PEP services even before a rape charge is laid at a police station. In general, human rights and access to health services are respected.

An analytical review of the NSP 2012–2016 response to women’s sexual and reproductive rights conducted by AIDS Legal Network in 2012 concluded that interventions and programmes are unlikely to successfully address women’s risks to HIV exposure and transmission, and to related rights abuses, stigma, discrimination and violence unless the concerns with regard to the response to women and HIV, including the conceptualisation of women’s realities, risks and needs, are addressed.125

Guard against rights violations as part of policy development and programme planning

Government departments, and private and civil society entities are expected to take reasonable measures to guard against potential rights violations. National policies and guidelines on the management of HIV and TB have been developed and are reviewed periodically to guard against potential rights violations. For example, healthcare workers cannot force patients to
test for HIV against their will, but should make every effort to help patients make an informed decision. Patient refusal to test for HIV cannot be used by health workers to deny them access to other available healthcare services. For any health worker found to be in violation of the policies and guidelines, appropriate corrective action should be taken, including educating them on patients’ rights through value clarification or sensitisation training. With regard to issues that are of public health concern and have serious health implications and sequelae – such as DR-TB – the management of patients suffering from these conditions should include extended stays in hospital or long-stay facilities, as per national policies and guidelines and under conditions consistent with international good practice.

Through the Thuthuzela Project (an initiative led by the National Prosecution Authority (NPA)’s Sexual Offences and Community Affairs Unit (SOCA) in partnership with various departments and donors, as a response to the urgent need for an integrated strategy for prevention, response and support for rape victims) there is ongoing training of healthcare providers, and other relevant public servants, e.g. South African Police Services (SAPS), and Social Development, on the requirements of the Criminal Laws (Sexual Offences and Related Matters) Amendment Act 32 of 2007 relating to the laying of charges and access to PEP services.

A collaborative project between the Women’s Legal Centre (WLC), Sisonke and SWEAT, produced a report on human rights violations by police against sex workers in South Africa in 2012. The report found that South Africa’s current legal framework on sex work fails to conform to international, regional and domestic law in relation to violence against women and equality, and underpins concerns about abuse by law-enforcement officials. Police were discovered to be the main violators of the human rights of sex workers and, currently, there is inadequate protection of sex workers. For example, inapplicable by-laws were used to arrest sex workers, or they were arrested without following correct procedures. There is thus a need for reforms focused on addressing the human rights of sex workers. The Sex Worker Sector has made repeated calls for the decriminalisation of sex work. A ‘Human Rights Count’ study conducted by NAPWA in the OR Tambo District, with technical support the Global Network of PLHIV and the Eastern Cape AIDS Council (ECAC), revealed that poor, illiterate, uneducated and unemployed persons, predominantly women, bore the brunt of human rights violations.

These abuses could be aggravated by HIV acquisition.

Use existing bodies to monitor human rights abuses and increase access to justice

SANAC, the South African Human Rights Commission (SAHRC) and other relevant institutions established in terms of the Constitution responsible for protecting and upholding the rights of individuals, have a responsibility to monitor human rights abuses of those living with HIV and TB or at the greatest risk of infection, as well as the appropriate referral to legal service providers of those whose rights have been violated.
According to the 2013 SAHRC Annual Report, the SAHRC upgraded the Flowcentric Complaints System to enhance complaints handling and management, and investigating high-profile cases regarding various counts of violation of human rights. Out of its Legal Services Unit, the SAHRC was able to investigate the violation of human rights, and concluded 79% (7 047 of 8 919) of complaints and enquires received in the period 2012/13. A relative analysis of caseload showed a decrease in the number of cases the SAHRC examined in 2012/13, i.e. a decrease of 27% in the number of cases investigated in 2012/13 (8 919) compared to 2011/12 (11 363). The number of cases carried over to 2013/14 had increased to 21% as a result of challenges such as restructuring and freezing of posts.

An analysis of the nature of complaints showed that the top five complaints that were received and finalised by the Commission were mainly in the areas of (1) Just Administrative Action (14%); (2) Equality (12%); (3) Labour Relations (13%); (4) Arrested, Detained and Accused Person (13%); and (5) Human Dignity (8%). Classification to further categorise complaints to enable the identification HIV- and/ or TB-related cases is not documented in the report.

**Build capacity within public institutions and civil society to increase access to justice and redress**

Better use should be made of existing pro bono departments of private law firms, law clinics and public-interest law centres, primarily through appropriate co-ordination and an effective referral system. In this regard, the SAHRC should assume responsibility for bringing together civil society organisations working on access to justice. In turn, these organisations should take joint responsibility for developing a plan of action to build the capacity of community-based organisations so that they are better placed to assist their members and communities in understanding and claiming their rights.

**Reducing HIV and TB discrimination, especially in the workplace**


Technical Assistance Guidelines (TAG) on Managing HIV/AIDS in the Workplace were developed to provide more detail on the implementation of potential policies and programmes to address these impacts, including strat-
egies to accommodate the needs of small businesses and the informal sector. In addition, the Department of Public Service and Administration (DPSA), as part of the work of the DPSA Impact and Action Project initiated in 2000, developed a guide for Government Departments to manage HIV and AIDS in the workplace. The South African Local Government Association (SALGA) also developed a Local Government Guide for Managing HIV/AIDS in the Municipal Workplace. It is the Implementation of a well-co-ordinated monitoring and evaluation plan for the above mentioned Code and technical guidelines that is needed to determine if HIV and TB discrimination in the workplace is declining.

National campaign against unfair discrimination

Significant progress has been made with regard to the development and implementation of HIV workplace policies and programmes. To show commitment to mitigating the impact of HIV in the workplace, government departments, parastatals and most private employers have comprehensive HIV workplace policies and employee assistance/wellness programmes in place. However, the actual implementation and impact of these initiatives needs to be monitored and evaluated for quality improvement and to advise future programme planning and decision-making.

Organised labour, business and government, with the assistance of SANAC Secretariat, and under the auspices of the NEDLAC, have a responsibility to conceptualise, develop, resource and implement a national multi-media campaign to address unfair discrimination in the workplace. Such a campaign is yet to be realised. It would be address how HIV and TB are acquired and treated, what services are available to prevent and treat them, and why discrimination therefore cannot be justified.

Empower employees in small and informal workplaces

Through the current Global Fund to Fight AIDS, Tuberculosis and Malaria HIV programming in South Africa, there are concerted efforts to reach farm workers and other key populations through combination prevention, care and treatment programmes. The activities are implemented across all nine provinces and in collaboration CSOs.

It is important to recognise that CSOs working on access to justice, under the leadership of the Department of Labour, SAHRC and SANAC, have a responsibility to conceptualise, develop, resource and implement plans to build the capacity of organisations working with and/or representing employees in small and informal workplaces, including domestic workers and farm workers. Every effort must be made by employers, both public and private, to ensure that HIV and TB transmission in the workplace is mitigated, and that appropriate treatment, care and support is provided or accessible and available to those affected.

Reducing unfair discrimination in access to social services

People’s right to services must be respected and protected at all times. As
such, people may not be denied access to the HIV, STI and TB services on the grounds of age, race, gender (including gender identity or sexual orientation), sex, pregnancy, marital status, ethnic or social origin, colour, sexual orientation, age, disability, religion, occupation, conscience, belief, culture, language, birth, geography, socio-economic status and other grounds inconsistent with the laws of the country.

Denial of access may take place in a number of ways, including by way of services being provided in a manner that fails to address or understand a person’s specific needs, e.g. information that is provided only in written form may limit the ability of the visually impaired to provide informed consent; judgemental attitudes of health staff when young people attempt to access SRH services may discourage them from accessing the services; understanding the difference between transgender persons and gay men is essential for the provision of appropriate HIV-counselling services.

**Ensure that oversight bodies receive and address complaints**

The statutory mandates of professional oversight bodies, for example the Health Professions Council of South Africa (HPCSA), the South African Nursing Council (SANC), the Pharmacy Council of South Africa, the South African Council for Social Service Professions and the South African Council for Educators, are adequately broad to receive and address complaints of unfair discrimination. What is currently lacking to enable them to discharge this function optimally is sufficient dedicated funding, a co-ordinated plan to make the best use of their collective capacity and an accountability matrix that includes regular reporting to SANAC.

**Provide training to prevent unfair discrimination**

It is vital that social service providers or professionals have access to dedicated human rights training programmes designed to equip them with the necessary skills to respect, protect and promote equality in the provision of social services. All public and private bodies providing training on HIV, STIs and/or TB, as well as dedicated services for pregnant women, children and adolescents, must include modules dealing with unfair discrimination, including a focus on the needs of persons with disability.

The DHET established HEAIDS as a national facility to develop and support the HIV-mitigation programmes at South Africa’s public HEIs and Further Education and Training colleges. HEAIDS strengthens and supports institutional HIV and TB response through their fundamental functions of teaching and learning, research and innovation, and community engagement. Institutions are encouraged and assisted to address HIV on a human rights basis through HIV prevention, treatment, care and support programmes for students and staff living with HIV, comprehensive workplace HIV programmes that serve staff needs, educating and equipping students through formal teaching and learning programmes, conducting research, and providing HIV services to related communities through outreach projects and practical training programmes.
Chapter 4: Closing the gaps and recommendations

Main findings and challenges

HIV incidence is declining in South Africa, especially in younger age categories, but it is unlikely that the target of less than 150,000 new infections annually will be reached by the end of 2016. In the year that the NSP was launched there were 370,000 new infections annually estimated by UNAIDS, and 469,000 new infections annually estimated by the HSRC. These estimates illustrate that risky sexual behaviour driven by early sexual debut, low and inconsistent condom use and multiple sexual partnerships has not been adequately addressed. Structural drivers of HIV, such as gender inequality, GBV, inter-generational and transactional sex, stigma, alcohol and substance abuse, youth unemployment and vulnerability, and low levels of knowledge or skill in negotiating safe sex, also contribute to sustained new infections.

Tremendous progress has been made in reducing HIV transmission through the PMTCT programme, and is estimated to be 2.7% in 2012. The country is thus on track to reach the NSP target of less than 2% perinatal transmission by 2016. Although there has been a four-fold increase in the use of ART during breastfeeding, modelling suggests that postnatal transmission during breastfeeding may still be high. An ongoing study, supported in part by SANAC, and conducted by the MRC, will provide the first estimates for transmission at 18 months by the end of 2014.

ART now reaches 2.5 million South Africans with about 200,000 patients being treated in the private sector. The provincial health departments will need to enrol approximately 500,000 people onto treatment over the next four years to reach the NSP targets for ART coverage. This will require enormous effort from the NDOH, donors and NGOs to support this level of scale-up. The target of retaining 94% of patients on treatment is not being met and the quality of services will have to be addressed to ensure that a higher rate of retention of patients in care is achieved. Notwithstanding all the difficulties in the treatment programme, including drug stock-outs and the slow uptake of FDCs, the ART programme is having a major impact on increasing life expectancy. At the end of the first year of the NSP, life expectancy rose to 61 years from a low of 53 years in 2006.

A critical component of the NSP is to ensure that human rights and access to justice are addressed within the HIV, STI and TB response. The NSP states sub-objectives for this work but falls short of recommending programmes and setting targets. In the first year of the NSP, a tangible agenda has been set, with specific attention being paid to addressing vulnerable key populations such as sex workers, MSM and prison inmates. Work is also underway to create access to legal services for persons discriminated against because of their HIV status. Victims of rape and domestic violence will also be addressed, and a stigma reduction campaign is under development.
Conclusion and recommendations

The first Annual NSP Progress Report does not adequately capture all the available data. This is particularly the case with respect to government departments such as DBE, DHET, DSD and DCS. Neither does it capture data from NGOs, provinces or the private sector. It is SANAC’s intention to address this in forthcoming reporting phases. In many cases, the systems are not in place to capture these data, or the NSP does not, in its current form, require this information to be captured.

The NSP provides for the most comprehensive response to the HIV, TB and STI epidemics to date. The goals, targets and indicators stated in the NSP also provide a good framework for monitoring the implementation of the NSP and measuring our progress against the targets set in the NSP. There are, however, some indicators that will need to be more precisely defined and a few indicators that may be unnecessary to monitor in this form. For instance, there may be too many TB indicators for the purposes of SANAC monitoring.

There may be a need for programmatic indicators relating to key populations. The recommendation is that SANAC should work with relevant stakeholders and propose amendments to indicator definitions and targets where appropriate. This should be done as part of the mid-term review of the NSP.

There seems to be growing concern that the methodologies and technologies for surveillance are changing significantly, while the need for measuring incidence at sub-national levels and in key populations is growing. SANAC should collaborate with the NDOH and research agencies to review surveillance systems for HIV in the country and improve planning and efficiencies of surveys undertaken. SANAC must first increase its own capacity to take on this responsibility.

The data presented in this report address previous gaps in the baseline data for the NSP. This augurs well for future monitoring of the NSP.

This report does not offer detailed interpretation of the data. Instead, this is the task of various key departments and stakeholders. This is in line with one of the aims of SANAC – to foster dialogue and create room for varying interpretations of the data.

There is a need to expand the data sources in future reports to include data from provincial, district and local AIDS councils, civil society bodies at national and provincial levels, service delivery NGOs, donors such as the Global Fund to Fight AIDS, Tuberculosis and Malaria and PEPFAR, and the private sector. SANAC is negotiating with all these stakeholders and will publish appropriate data from relevant and available sources in future annual reports.

As monitoring and evaluation is one of the main functions of SANAC, in the five-year period between revising the National Strategic Plan, SANAC needs to expand its M&E capacity. A unit has now been established at national level and staff are being recruited at provincial levels. Greater investments will need to be made to expand and to attract expertise to the national and provincial teams. Consideration should be given to better design the
M&E framework, as well as the systems for collating and collecting data. Attention will also need to be paid to strengthening the M&E capacity of implementing agencies and building verification and data quality audit capability within SANAC.
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