

## 10 HIV

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There are an estimated 36.7 million people living with HIV across the globe.<sup>a</sup> One of the ways in which the South African government has pursued a faster move towards attaining the global 90-90-90 treatment target<sup>b</sup> was to adopt the World Health Organization (WHO) recommendations on treating all people who test positive for HIV.<sup>c</sup> This 'test and start' strategy was implemented in September 2016. These WHO guidelines are based on evidence that early initiation on antiretroviral therapy (ART) results in better clinical outcomes than delayed treatment.<sup>d</sup> South Africa currently has the world's largest national HIV treatment programme reaching about 3.4 million people.

Tuberculosis (TB) is the leading cause of death among people living with HIV and accounts for one in four HIV-related deaths.<sup>e</sup> South Africa has a high incidence of both HIV and TB. Individually they are two of the deadliest infections in the world, making them even more dangerous when combined. It is important for TB patients to be tested for HIV, and for HIV patients to be tested for TB. Patients who are dually infected need to commence treatment for both diseases as soon as is clinically possible. This section covers four HIV-related indicators, namely: (i) male condom distribution coverage; (ii) HIV testing coverage (including tests done during antenatal care (ANC)); (iii) proportion of TB cases with known HIV status; and (iv) proportion of TB/HIV co-infected clients on ART. These four indicators cover aspects of HIV prevention and treatment of TB/HIV co-infected clients. The source data for the first two indicators were obtained from the District Health Information Software (DHIS), while the source data for the TB/HIV indicators were obtained from the Electronic TB register (ETR.Net).

### 10.1 Male condom distribution coverage

Male condom distribution coverage refers to the number of male condoms distributed through public health facilities, identified outlets and other non-medical sites in a given 12-month period per male aged 15 years and older. When used consistently and correctly, condoms are highly effective in preventing the sexual transmission of HIV and are considered to be one of the cornerstones in any response to HIV due to their low cost and strong prevention efficacy.<sup>f</sup> As part of the 'Choice' condom rebranding campaign run by the National Department of Health (NDoH), condoms have been rebranded to be more appealing. The new condoms will introduce a range of scents and colours. These freely available condoms aim to promote safe sex and help in the fight against sexually transmitted infections such as HIV and AIDS.<sup>g</sup>

South Africa responded to the HIV epidemic by rapidly expanding its public sector condom programme, making male condoms freely and widely available. During the 2015/16 financial year each district prepared a 'district condom distribution plan' to ensure that condoms are distributed as effectively as possible and reach the targeted high-risk groups. Despite the country's intensified efforts to increase condom distribution, the last national household survey conducted in 2012 reported a declining use of condoms at last sex act by men and women.<sup>h</sup> Some of the challenges impeding the effectiveness of condoms in preventing HIV transmission are the inconsistent and incorrect use of condoms and the likelihood that couples in longer-term relationships discontinue the use of condoms.<sup>i</sup>

During 2015/16, a total of 839 874 751 male condoms were distributed in South Africa, compared with 712 387 234 in 2014/15. The 2015/16 figure is equivalent to distributing an average of 44.4 condoms per male aged 15 years and older. KwaZulu-Natal (KZN) had the highest male condom distribution coverage again in 2015/16, at 54.6 per male 15 years and older, followed closely by the Free State (FS) at 54.0 per male (Figure 1). Coverage in the Free State increased from 34.1 condoms per male aged 15 years and older in 2014/15. Three other provinces increased their male condom distribution coverage quite significantly, namely the Eastern Cape (EC) which increased from 33.6 to 54.0, Gauteng (GP) which increased

a UNAIDS. Fact Sheet 2016. Geneva: UNAIDS; 2016. Available from: <http://www.unaids.org/en/resources/fact-sheet> [Accessed 14 July 2016].

b UNAIDS. 90-90-90. An ambitious treatment target to help end the AIDS epidemic. 2014. Available from: [http://www.unaids.org/sites/default/files/media\\_asset/90-90-90\\_en\\_0.pdf](http://www.unaids.org/sites/default/files/media_asset/90-90-90_en_0.pdf) [Accessed 15 August 2016].

c UNAIDS. South Africa takes bold step to provide HIV treatment for all. Geneva: UNAIDS; 2016. Available from: [http://www.unaids.org/en/resources/presscentre/pressreleaseandstatementarchive/2016/may/20160513\\_UTT](http://www.unaids.org/en/resources/presscentre/pressreleaseandstatementarchive/2016/may/20160513_UTT) [Accessed 28 June 2016].

d WHO. Consolidated guidelines on the use of antiretroviral drugs for treating and preventing HIV infection: recommendations for a public health approach – 2nd ed. Switzerland: World Health Organization, 2016 <http://www.who.int/hiv/pub/arv/arv-2016/en/> [Accessed 28 June 2016].

e World Health Organization. TB and HIV Topics. Available from: [http://www.who.int/hiv/topics/tb/about\\_tb/en/](http://www.who.int/hiv/topics/tb/about_tb/en/) [Accessed 28 June 2016].

f Ashmore J, Henwood R. Choice or no choice? The need for better branded public sector condoms in South Africa. *S Afr J HIV Med.* 2015; 16(1), Art. #353. <http://dx.doi.org/10.4102/sajhivmed.v16i1.353>.

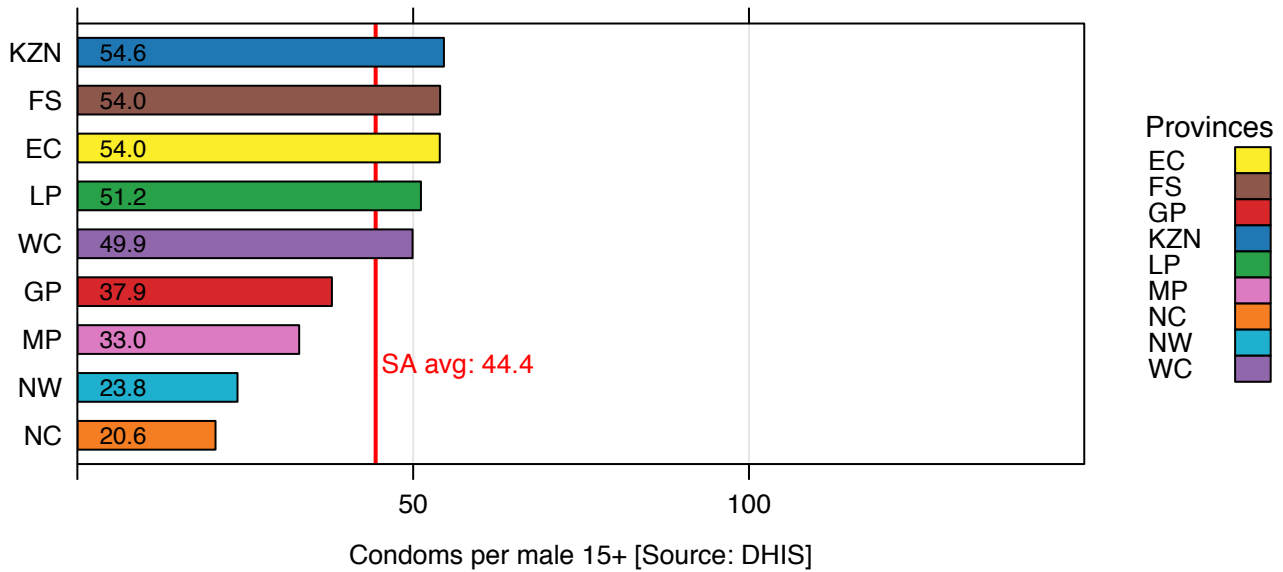
g Western Cape Government. Choice condoms go the Max. Available from: <https://www.westerncape.gov.za/general-publication/choice-condoms-go-max> [Accessed 15 August 2016].

h South African National HIV, Behaviour and Health Survey 2012. Available from: [http://www.hsarc.ac.za/en/research-areas/Research\\_Areas\\_HAST/HAST\\_National\\_HIV\\_Survey#stash.3ZHkhG7A.dpuf](http://www.hsarc.ac.za/en/research-areas/Research_Areas_HAST/HAST_National_HIV_Survey#stash.3ZHkhG7A.dpuf) [Accessed 14 July 2016].

i Beksinska ME, Smit JA, Mantell JE. Progress and challenges to male and female condom use in South Africa. *Sexual Health.* 2012; 9(1):51-8. doi:10.1071/SH11011.

from 25.8 to 37.9, and Limpopo Province (LP) which increased from 38.2 to 51.2. The worst-performing province was the Northern Cape (NC) at 20.6 condoms per male, with no improvement from the coverage of 20.3 per male in 2014/15.

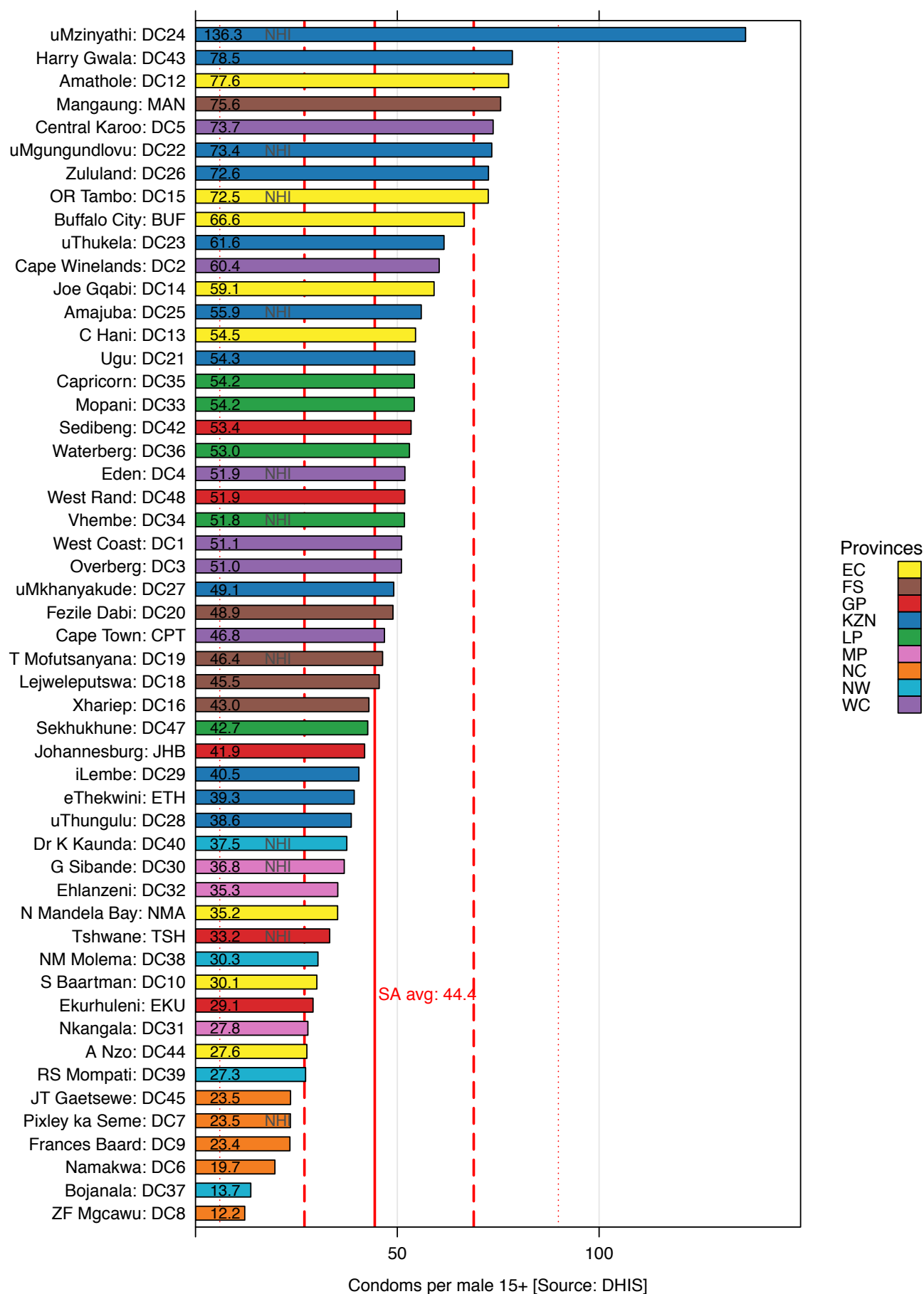
**Figure 1: Male condom distribution coverage by province, 2015/16**



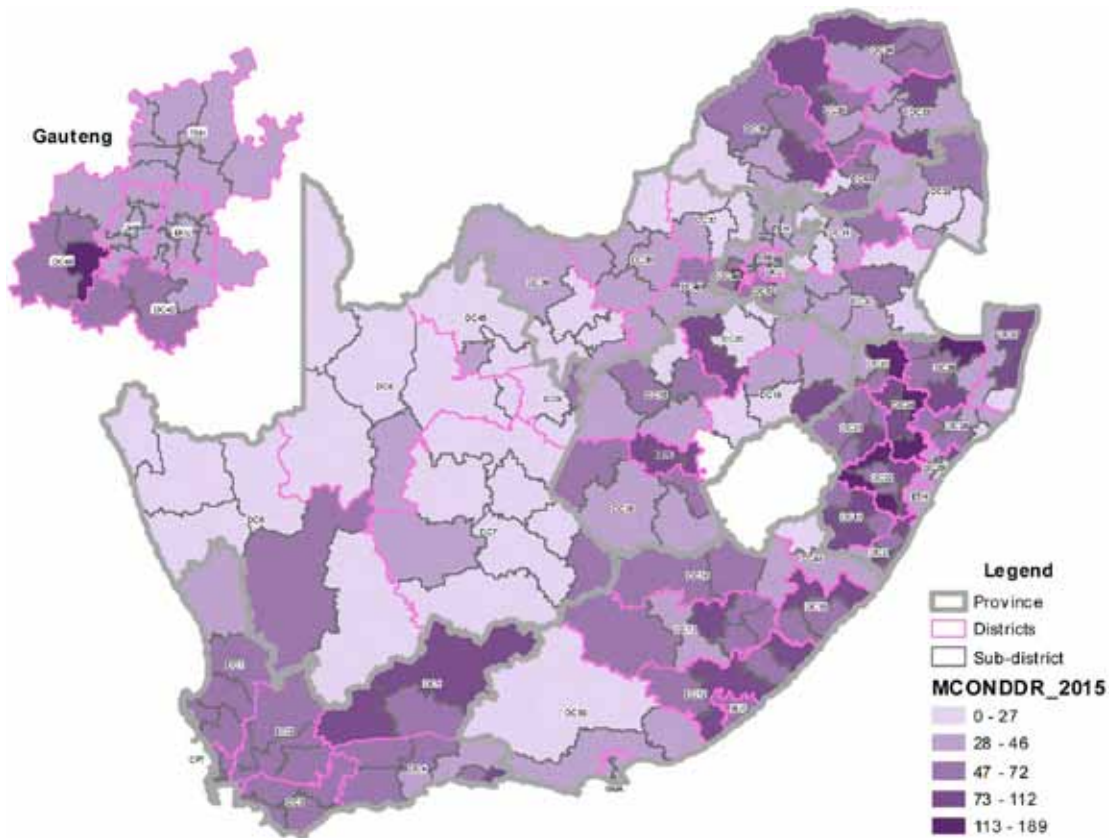
The district with the highest coverage was uMzinyathi (KZN) at 136.3 condoms per male aged 15 years and older, while the lowest coverage was recorded in ZF Mgcawu (NC) at only 12.2 per male (Figure 2). Half of the 10 best-performing districts were from KwaZulu-Natal. However, there was a dramatic drop in male condom distribution in uMgungundlovu district (KZN), from 216.8 per male over 15 years in 2014/15 to 73.4 in 2015/16. Since 2010/11, coverage has fluctuated significantly in uMgungundlovu, driven by the huge changes in data reported from a range of ‘condom distribution sites’. Most of the worst-performing districts were located in the Northern Cape.

According to Map 1, Botshabelo in Mangaung (FS) was the best-performing sub-district with 197.5 condoms distributed per male aged 15 and older, followed by Impendle in uMgungundlovu (KZN) and Nquthu in uMzinyathi (KZN).

Figure 2: Male condom distribution coverage by district, 2015/16



Map 1: Male condom distribution coverage by sub-district, 2015/16



In 2015/16, uMzinyathi (KZN) and uMgungundlovu (KZN) were again the top-performing National Health Insurance (NHI) districts for this indicator, while Pixley ka Seme (NC) remained the worst-performing NHI district (Figure 3). However, there was a massive improvement in Pixley ka Seme (over 100%) from coverage of only 11.4 condoms per male aged 15 and older in 2014/15 to 23.5 per male in 2015/16. Four of the 11 NHI districts had male condom distribution coverage less than the national average. In addition, most of the NHI districts were not the best-performing districts in their respective provinces. This suggests that these districts are not benefitting from the additional resources and attention that they receive.

Figure 3: Male condom distribution coverage by National Health Insurance district, 2015/16

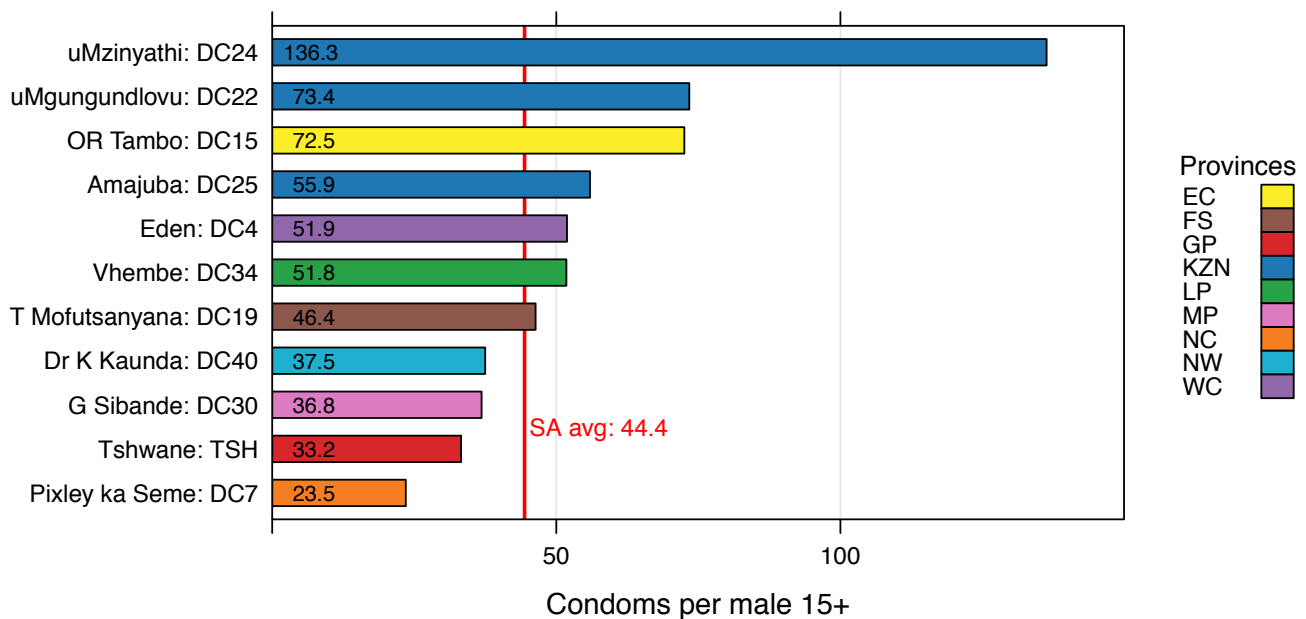
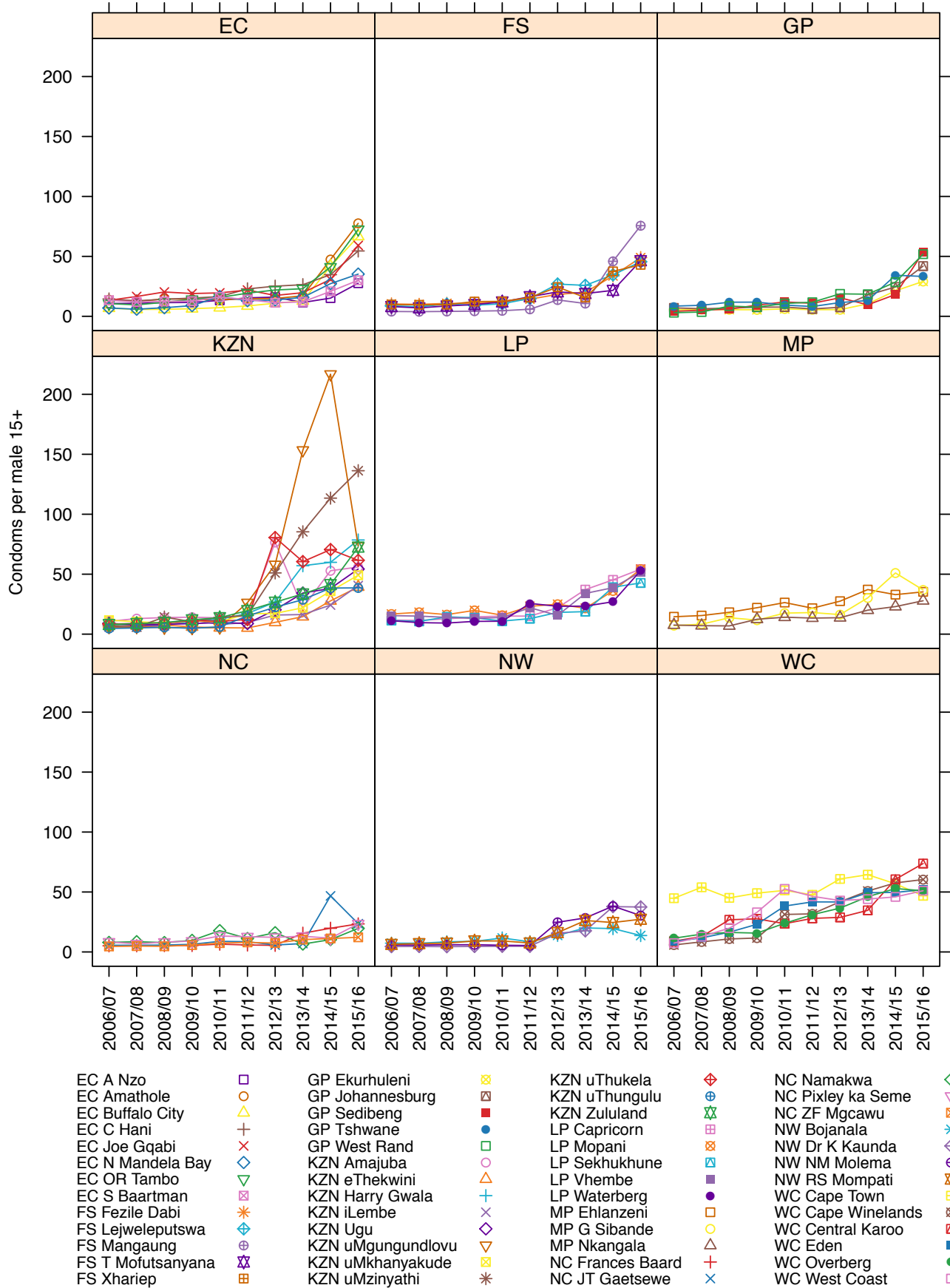
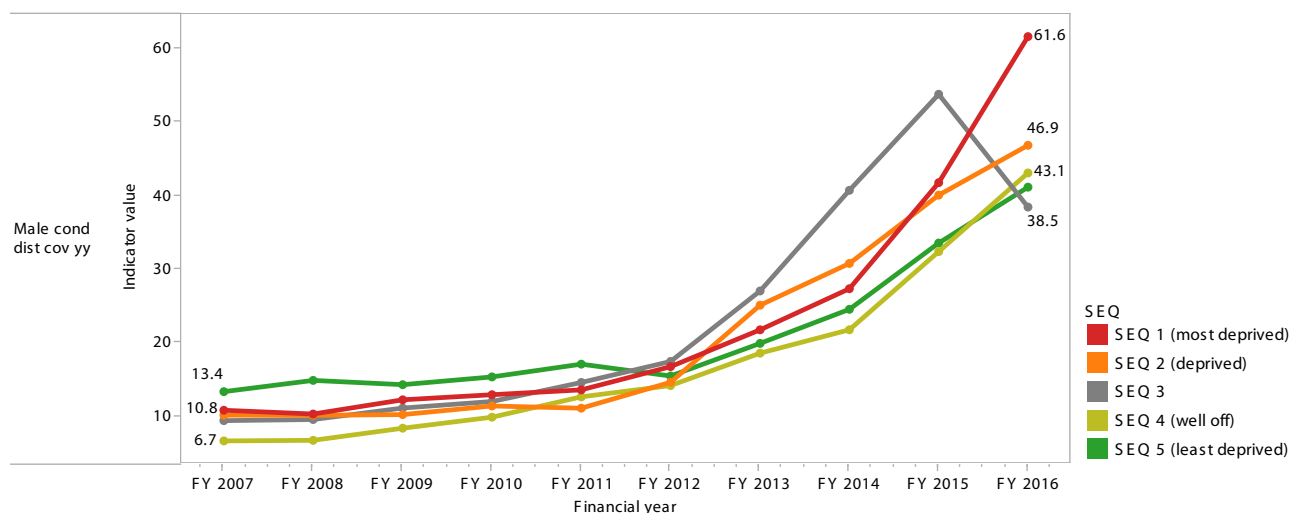


Figure 4 shows the upward trend observed for male condom distribution coverage in the majority of districts over the last 10 years. Figure 5 shows the trends in average district values by socio-economic quintile (SEQ), with SEQ1 showing the highest male condom coverage at 61.6 condoms per male aged 15 years and older. Previously, SEQ3 had the highest male condom distribution coverage but this dropped to the lowest coverage at 38.5 condoms per male. The reason for this may be the huge drop in male condom distribution coverage in uMgungundlovu (KZN), which falls in SEQ3. The male condom distribution for SEQs 4 and 5 was the same at 43.1 condoms per male aged 15 years and older.

Figure 4: Annual trends for male condom distribution coverage



**Figure 5: Trends in average district values by socio-economic quintile for male condom distribution coverage**



## 10.2 HIV testing coverage (including antenatal care)

The HIV testing coverage indicator was introduced in the 2014/15 *District Health Barometer* to monitor the progress of HIV testing. It measures all people aged from 15 to 49 years who were tested for HIV during the year as a proportion of the total population in this age group. This indicator reports on HIV testing done within public health facilities as well as any non-medical sites that report data to the DHIS. It also includes tests administered to antenatal clients. When accessing HIV testing services people are provided with pre-test information, HIV testing and diagnosis, post-test counselling if applicable, and referral and linkage to prevention, care and treatment services.<sup>d</sup>

HIV counselling and testing (HCT) has been advocated as a critical entry point for care and treatment services, including prevention, clinical management of HIV-related illnesses, and psychosocial support. There are still major research gaps about the best ways to provide HCT, especially to the youth<sup>j</sup> as they have historically exhibited lower uptake of HIV testing services.<sup>k</sup> There is a particular need to target this group, especially young women and adolescent girls who bear a disproportionate burden of HIV in South Africa. One of the ways in which the South African government is trying to fast-track HCT among young women and adolescent girls is through a national three-year campaign that was launched in June 2016, targeting this specific population. The campaign was a response to the unacceptably high rate of new infections among this group who have an HIV infection rate two-and-a-half times that of their male peers. Currently it is estimated that there are 2 000 new infections per week among adolescent girls and young women aged 15–24 years.<sup>l</sup>

An additional component that has been introduced to HIV testing services in South Africa is the self-testing kit, which pharmacies are now permitted to sell. However, there are concerns about whether people who test positive will actually report to their local clinic for further testing and treatment.<sup>m</sup> Some countries (e.g. Kenya) have already introduced self-test monitoring and reporting into national population-based surveys.<sup>n</sup>

The South African average for HIV testing coverage has been increasing steadily, from 26.1% in 2013/14 to 34.5% in 2015/16. Although the testing coverage in Limpopo decreased slightly in 2015/16, Limpopo remained the province with the highest testing coverage at 39.1%, followed by the Eastern Cape at 37.3% (Figure 6). Compared with 2014/15, the HIV testing coverage in KwaZulu-Natal decreased by 3.0 percentage points to 36.0%. The province that showed significant improvement was Gauteng, with a dramatic increase of nearly 10 percentage points from 23.3% in 2014/15 to 32.6% in 2015/16. This significant improvement could be the result of the awareness campaign launched in 2014 by the Gauteng

<sup>j</sup> Lawrence E, Struthers P, Van Hove G. HIV counselling and testing in secondary schools: What students want. *S Afr J HIV Med.* 2015; 16(1), Art. #390. doi:<http://www.sajhivmed.org.za/index.php/hivmed/article/view/390>.

<sup>k</sup> Maughan-Brown B, Lloyd N, Bor J, Venkataramani A. Increasing access to HIV testing: Impacts on equity of coverage and uptake from a national campaign in South Africa. Southern Africa Labour and Development Research Unit Working Paper Number 145. Cape Town: SALDRU, University of Cape Town; 2015.

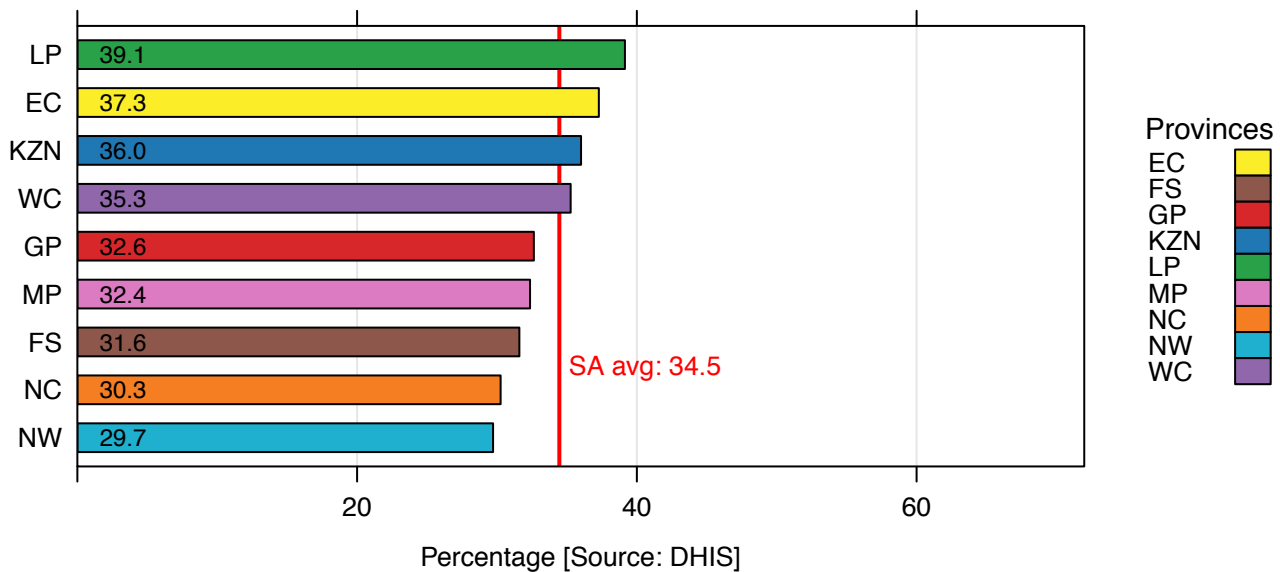
<sup>l</sup> UNAIDS. South Africa Launches National Campaign for Young Women and Adolescent Girls. Geneva: UNAIDS; 2016. Available from: [http://www.unaids.org/en/resources/presscentre/featurestories/2016/june/20160624\\_south-africa](http://www.unaids.org/en/resources/presscentre/featurestories/2016/june/20160624_south-africa) [Accessed 14 July 2016].

<sup>m</sup> Gonzalez L, Polao K, Warby V. Home HIV testing gets green light. *Health-e;* 2016. Available from: <https://www.health-e.org.za/2016/02/08/home-hiv-testing-gets-the-green-light/> [Accessed 28 June 2016].

<sup>n</sup> World Health Organization. Consolidated Strategic Information Guidelines For HIV in the Health Sector. Geneva: WHO; 2015.

Department of Health. Called PASOP (Prevent, Avoid, Stop, Overcome and Protect), the campaign seeks to reduce the new HIV infection rate by at least 50% in the province.<sup>o</sup>

Figure 6: HIV testing coverage (including antenatal care) by province, 2015/16



Four districts reached coverage of more than 50% (Figure 7 and Map 2). These districts were Xhariep (FS) at 65.4%, Central Karoo (Western Cape (WC)) at 62.2%, Amathole (EC) at 60.2% and uMzinyathi (KZN) at 52.0%. Although uMzinyathi was still among the top-performing districts for this indicator, it is disconcerting to note that its coverage rate decreased by over 10 percentage points, along with uThungulu (KZN) (12.4 percentage point decrease), uMkhanyakude (KZN) (9.9 percentage point decrease) and NM Molema (North West (NW)) (8.8 percentage point decrease). The worst-performing district was once again Johannesburg (GP) at 23.3%, even though the coverage increased by 4.5 percentage points compared with 2014/15.

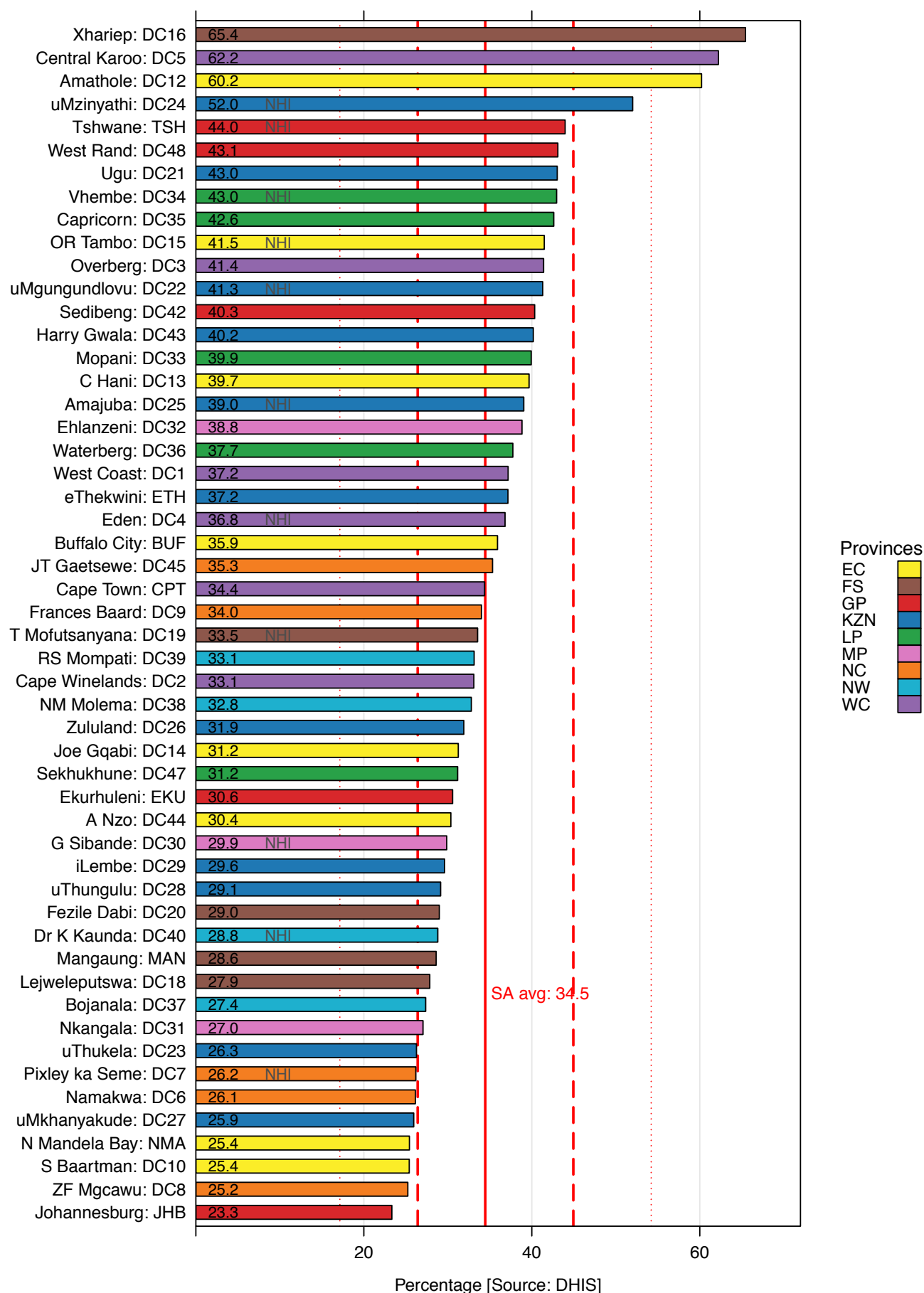
Seven of the 11 NHI pilot districts achieved coverage higher than the national average of 34.5%, with the worst-performing district being Pixley ka Seme (NC) at 26.2% (Figure 8). uMzinyathi (KZN) was the only NHI pilot district with coverage above 50%.

As the proportion of HIV-positive people who know their status increases, so the yields from increased HIV testing coverage are decreasing. In other words, more HIV tests have to be done to discover one positive person, and the cost-effectiveness of testing decreases. Strategies are being sought so that testing increasingly targets people at higher risk of being infected with HIV.

<sup>o</sup> Tladi T. Premier Makhura calls for reinforced fight against HIV and AIDS. Gauteng Department of Health; 2014. Available from: <https://gphealthdepartment.wordpress.com/tag/pasop/> [Accessed 19 July 2016].



Figure 7: HIV testing coverage (including antenatal care) by district, 2015/16



Map 2: HIV testing coverage by district, 2015/16

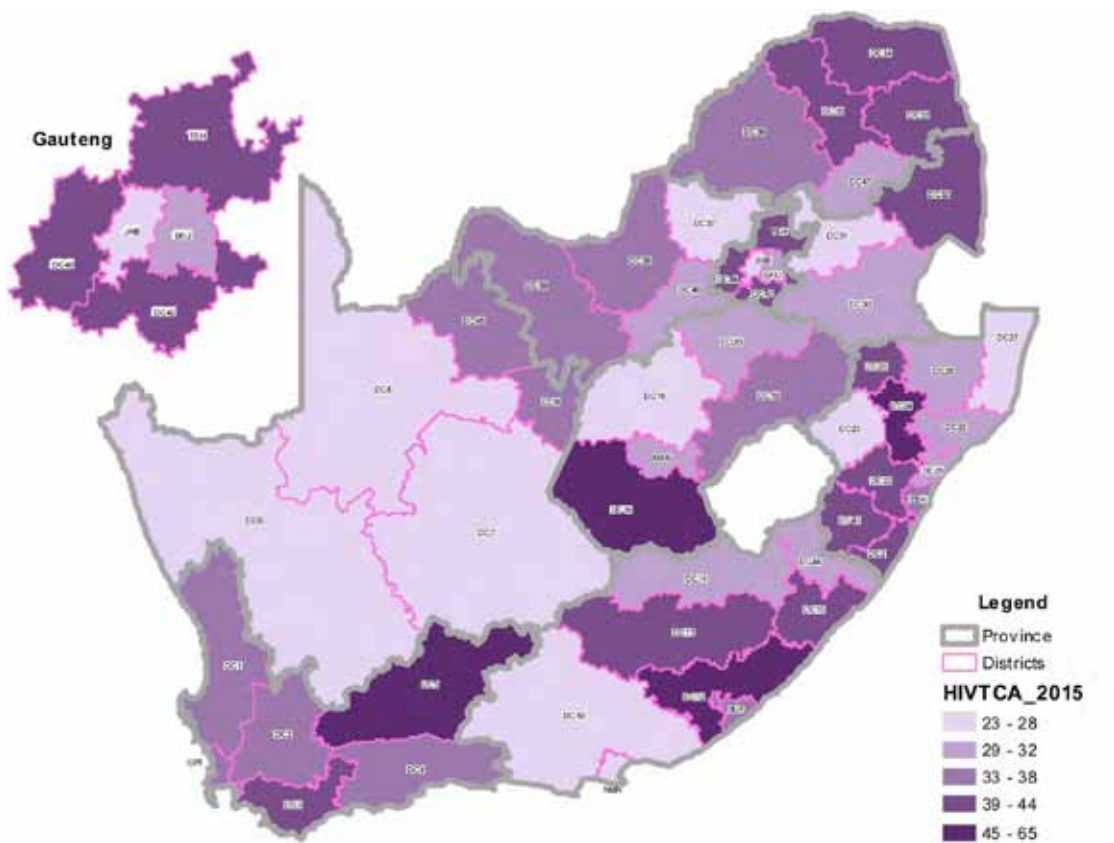
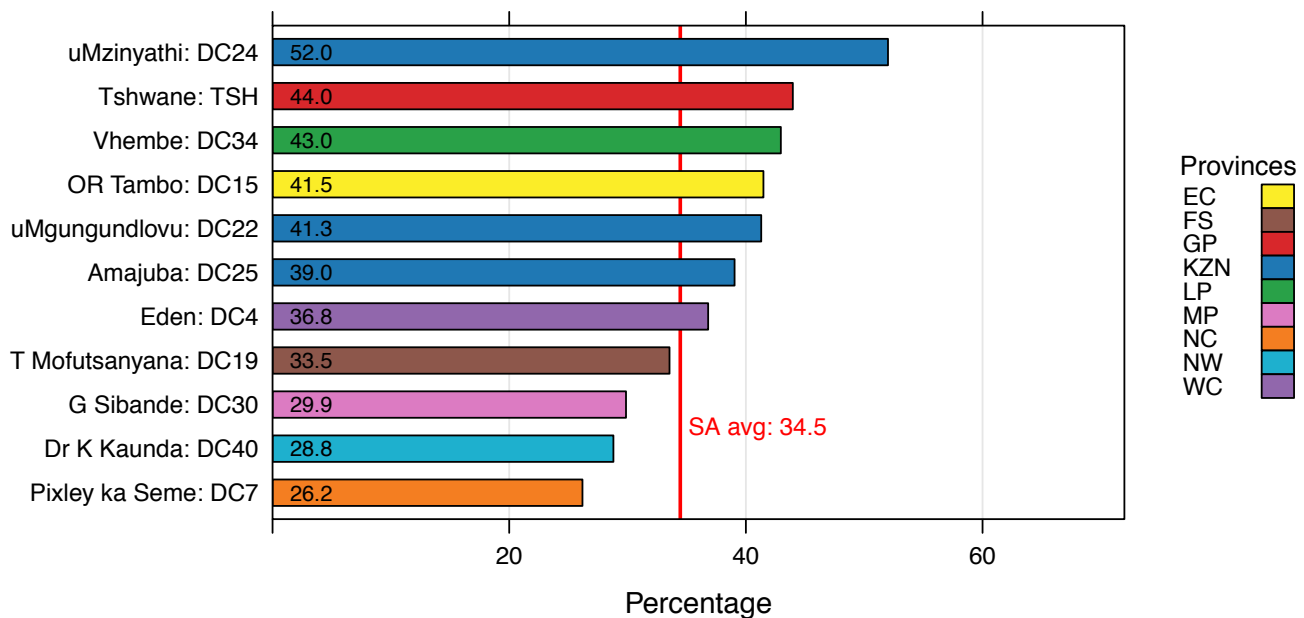
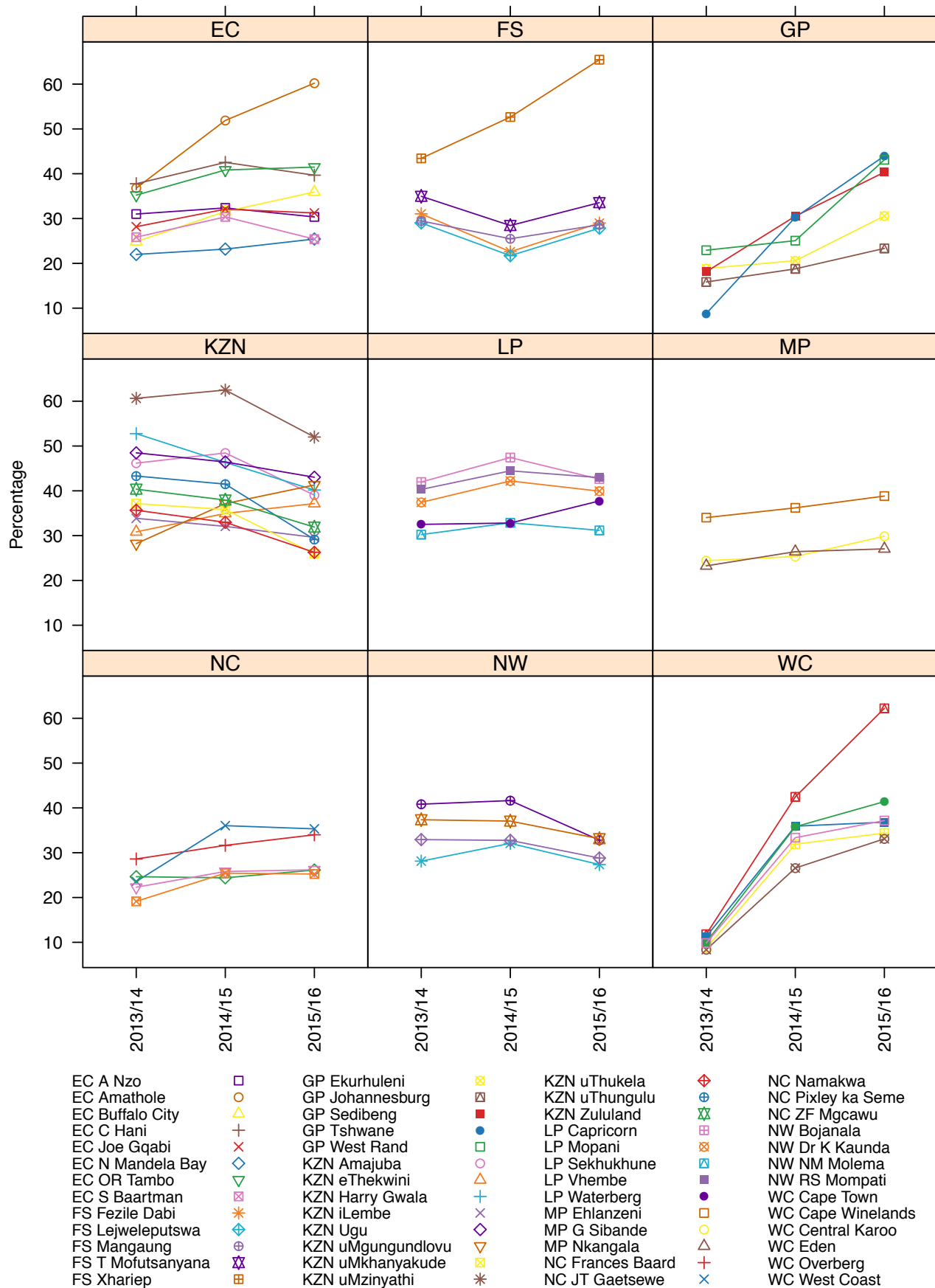


Figure 8: HIV testing coverage (including antenatal care) by National Health Insurance district, 2015/16



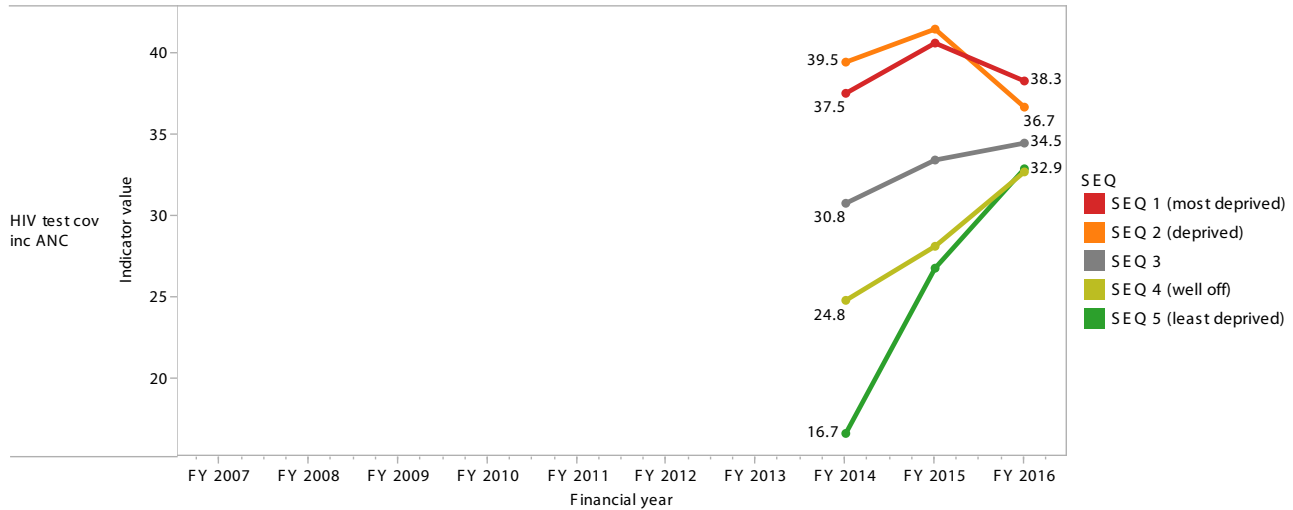
Annual trend data in Figure 9 indicate that all districts in the Western Cape and Free State increased their HIV testing coverage between 2014/15 and 2015/16. Coverage remained stable in Mpumalanga (MP) and the Northern Cape districts, and dropped in all districts in the North West. Testing coverage decreased in most KwaZulu-Natal districts, with the exception of eThekweni and uMgungundlovu. There was variation among the districts in the Eastern Cape, with some decreasing quite significantly, such as S Baartman from 30.4% to 25.4%, while others like Amathole increased by almost 10 percentage points from 51.9% to 60.2%. There must be reasons why a province like KwaZulu-Natal that was performing quite well on this indicator suddenly dropped HIV testing coverage, when all districts should be working to reach the UNAIDS 90-90-90 goals.<sup>b</sup>

Figure 9: Annual trends for HIV testing coverage (including antenatal care)



HIV testing coverage increased in the higher socio-economic quintiles (SEQ3–SEQ 5) between 2014/15 and 2015/16 (Figure 10). Although a downward trend was observed in the two lowest SEQs, coverage was still highest in SEQ1 (38.3%) and SEQ2 (36.7%).

**Figure 10: Trends in average district values by socio-economic quintile for HIV testing coverage (including antenatal care)**



### 10.3 Percentage of TB cases with known HIV status

This indicator measures the percentage of TB patients who know their HIV status. The source of data is the ETR.Net database. Tuberculosis remains the leading cause of death among people living with HIV; as such it is important that TB patients are aware of their HIV status so that if they are dually infected with TB and HIV, antiretroviral treatment (ART) can be started immediately.

South Africa is considered the epicentre of HIV and TB co-infection, with around 70% of patients with TB in South Africa also infected with HIV. The national average percentage of TB patients with known HIV status increased slightly to 94.8% in 2015, more than double the 2008 rate of 43.3%. In 2015, all the provinces had rates above 93%. The Western Cape remained the province with the highest rate at 96.1%, followed by Gauteng at 95.9%. The poorest-performing province was the Free State (93.0%), followed by the Northern Cape (93.2%), as shown in Figure 11.

The best-performing district was uMgungundlovu (KZN) at 98.7%, followed closely by Cape Town (WC) and Xhariep (FS) at 98.5% (Figure 12 and Map 3). Only two districts had rates below 90%, namely JT Gaetsewe (NC) and Lejweleputswa (FS) at 88.7% and 86.1%, respectively. Very few districts deviated significantly from the national average.

The three top-performing NHI districts were in KwaZulu-Natal, namely uMgungundlovu, uMzinyathi and Amajuba. The worst-performing NHI district was G Sibande (MP) at 89.9%. Essentially, all the NHI districts had rates of 90% or above.

Annual trend data in Figure 13 illustrate positive trends between 2008 and 2015 for all the provinces with the exception of the Northern Cape, which had some variation over this period. This is a good indication that HIV and TB services are being integrated and that TB patients are in fact being tested for HIV, as per the guideline recommendation.

Figure 11: Percentage of TB cases with known HIV status by province, 2015/16

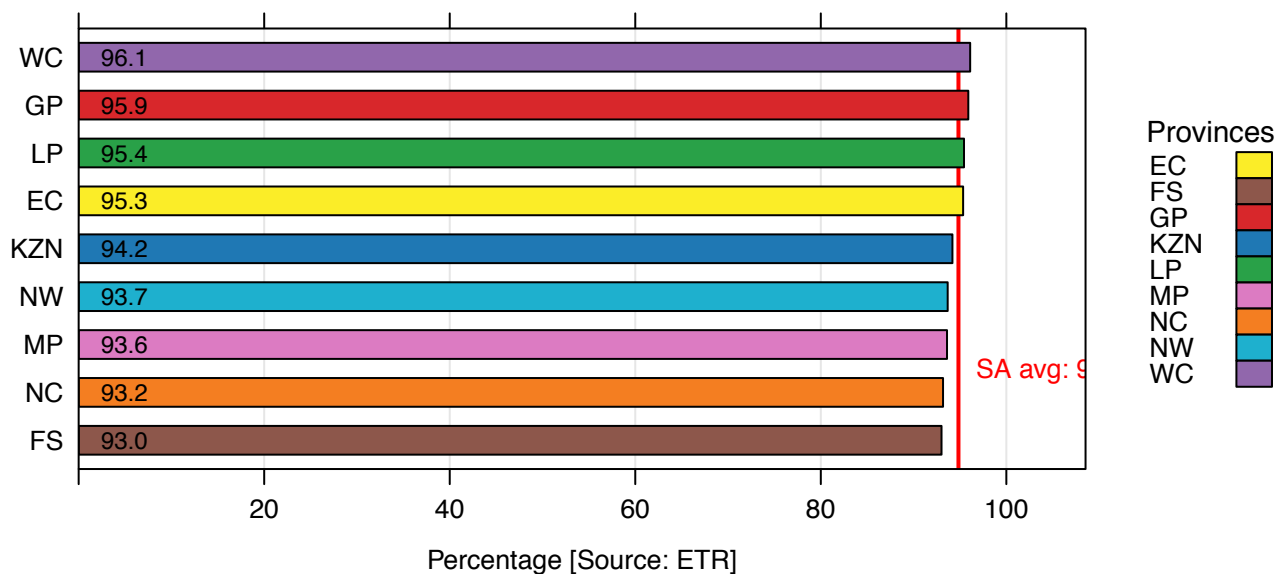
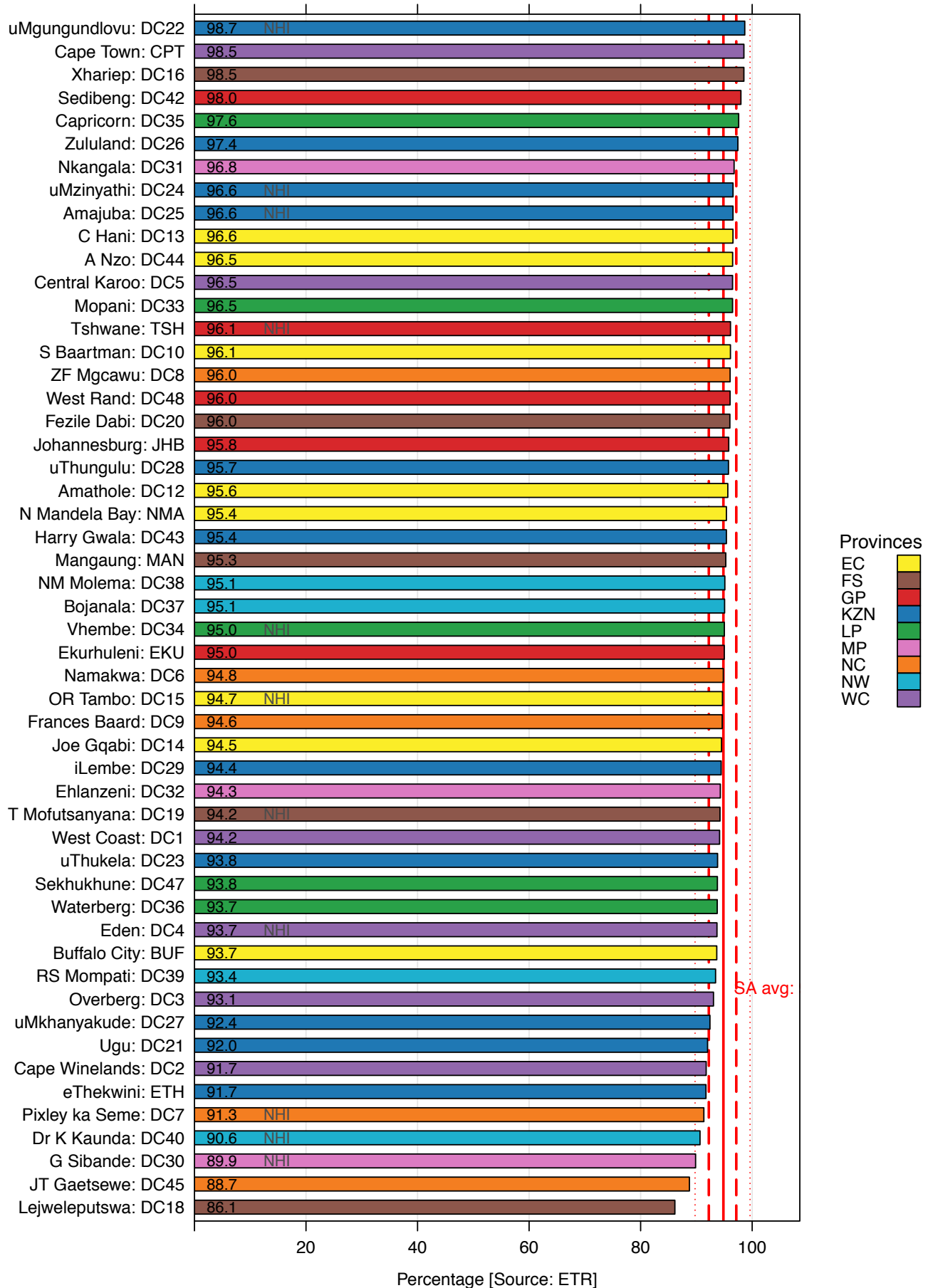


Figure 12: Percentage of TB cases with known HIV status by district, 2015



Map 3: Percentage of TB cases with known HIV status by district, 2015

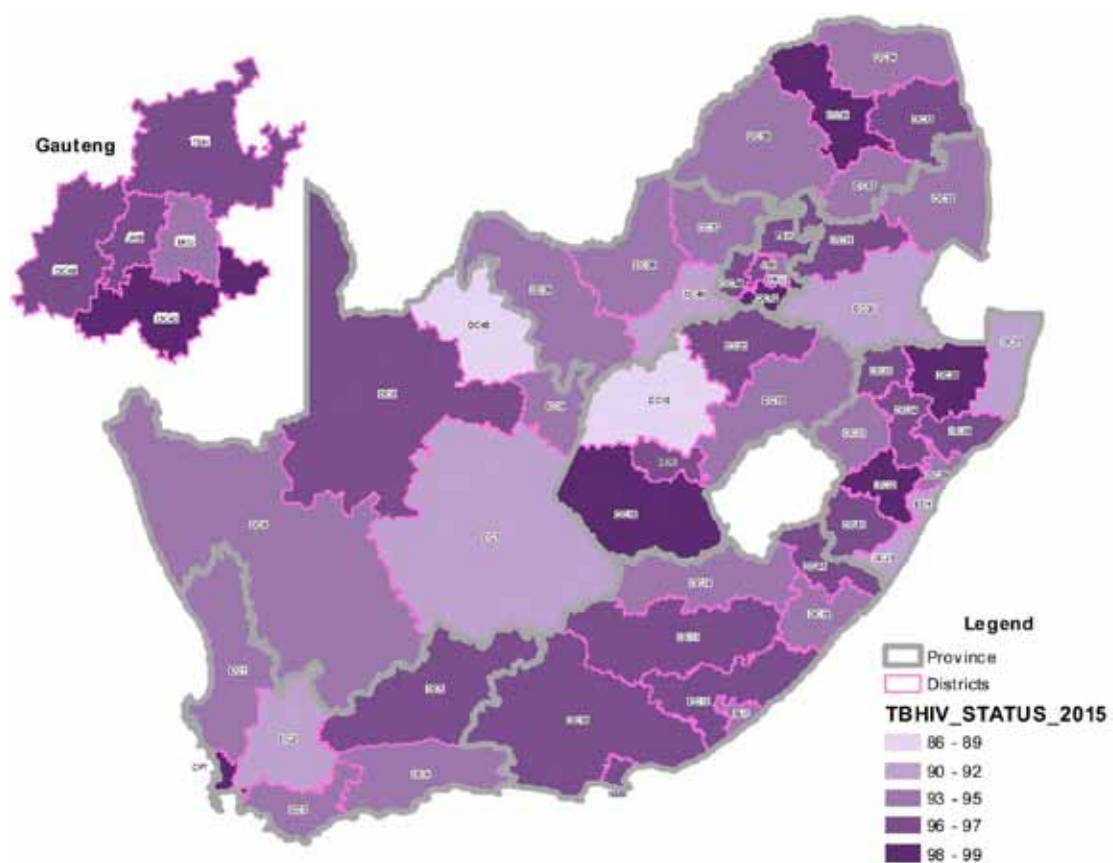
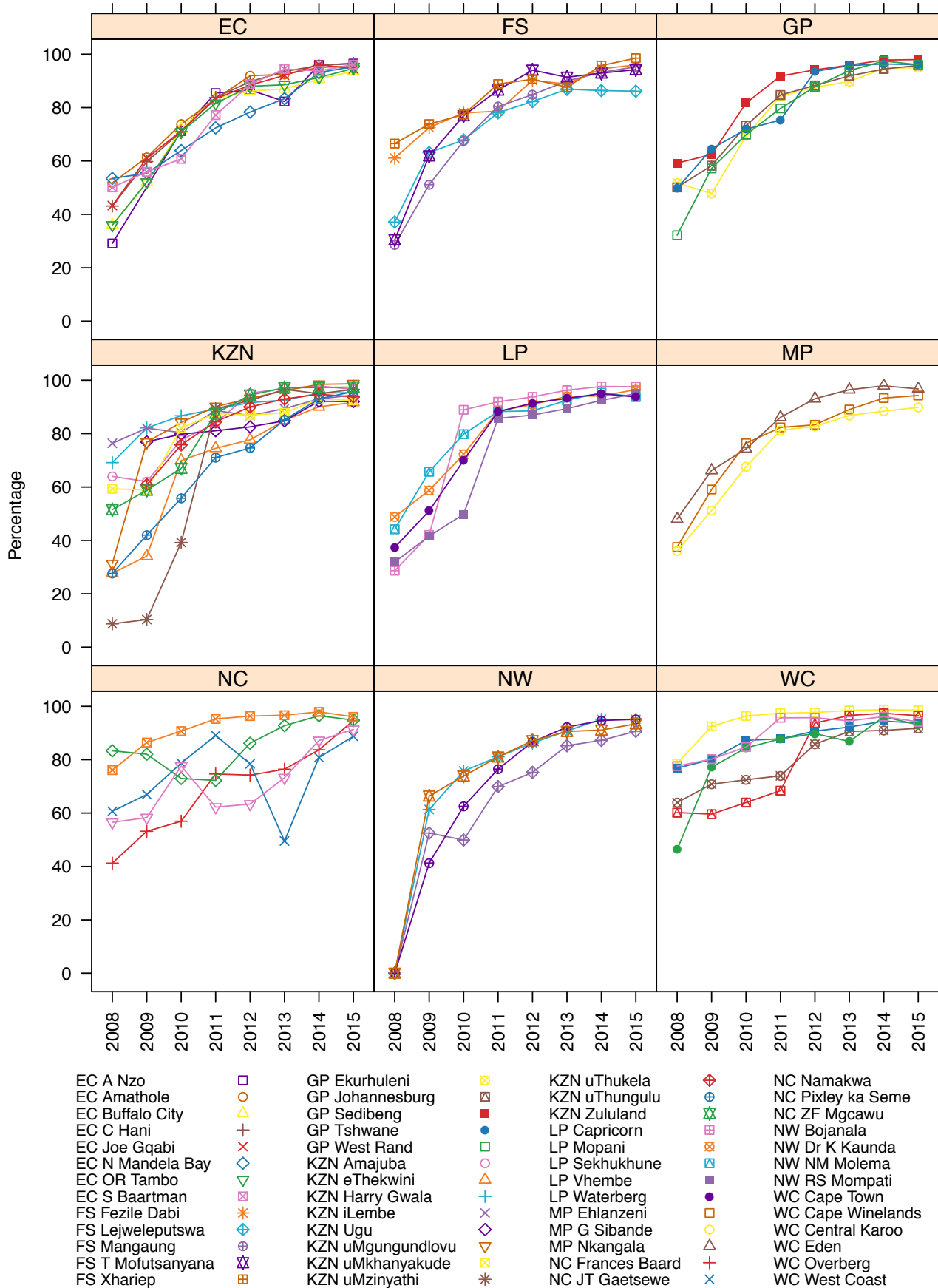


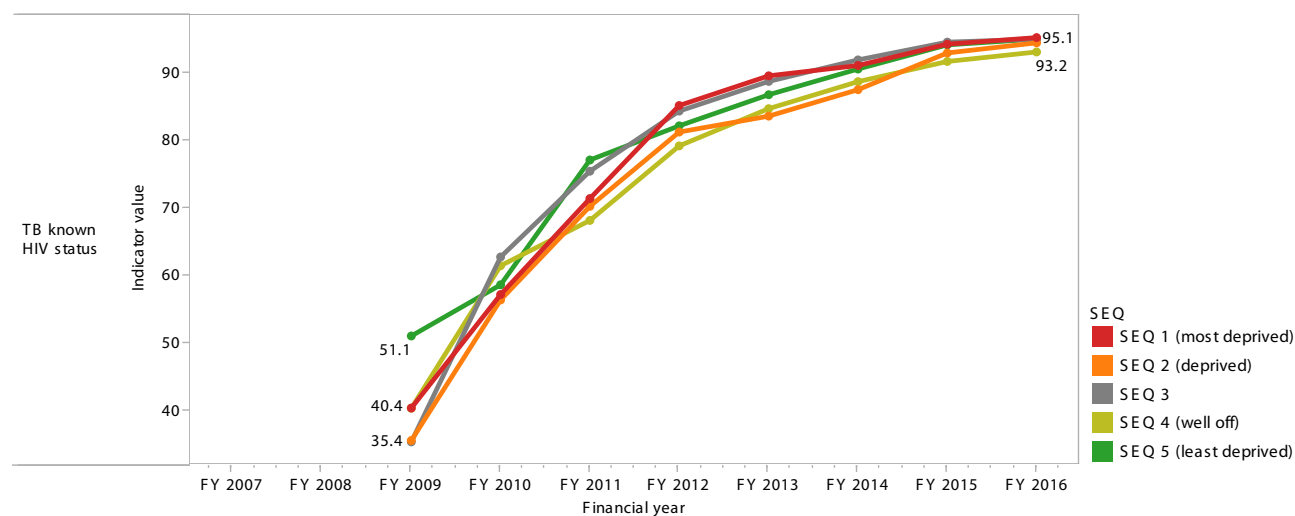
Figure 13: Annual trends for percentage of TB cases with known HIV status





There was no variation among the socio-economic quintiles for this indicator as the rates ranged from 93.2% to 95.1%. Rates almost tripled in SEQ3 and SEQ4 between 2008 and 2015 (Figure 14).

**Figure 14: Trends in average district values by socio-economic quintile for percentage of TB cases with known HIV status**



## 10.4 TB/HIV co-infected client on ART

Globally, people living with HIV are 26 times more likely to develop active TB than those without HIV, and South Africa is ranked third among the 22 high-burden TB countries on the WHO list.<sup>p</sup> The 2012 WHO guidelines and the 2015 South African ART guidelines<sup>q</sup> recommend that people with TB be initiated on ART as soon as possible, viz. within the first two weeks of initiating TB treatment for those patients with profound immunosuppression (CD4 cell counts <50 cells/mm<sup>3</sup>), and within the first eight weeks of treatment in all other TB patients.<sup>m</sup>

However, TB and HIV present particular challenges that involve complex treatment regimens with potentially severe side-effects, and as such it has been found that healthcare workers are often reluctant to start combination ART in patients receiving TB treatment. In addition to this, there is fear of a high pill burden and immune reconstitution inflammatory syndrome. These complexities can be compounded by poor patient adherence to treatment.<sup>r</sup>

The TB/HIV co-infected client on ART indicator measures the percentage of all HIV-positive TB patients on ART and is derived from the ETR-Net. The initiation of ART can greatly improve the survival and quality of life of TB patients living with HIV. This indicator serves as a proxy of how well HIV and TB services are being integrated.

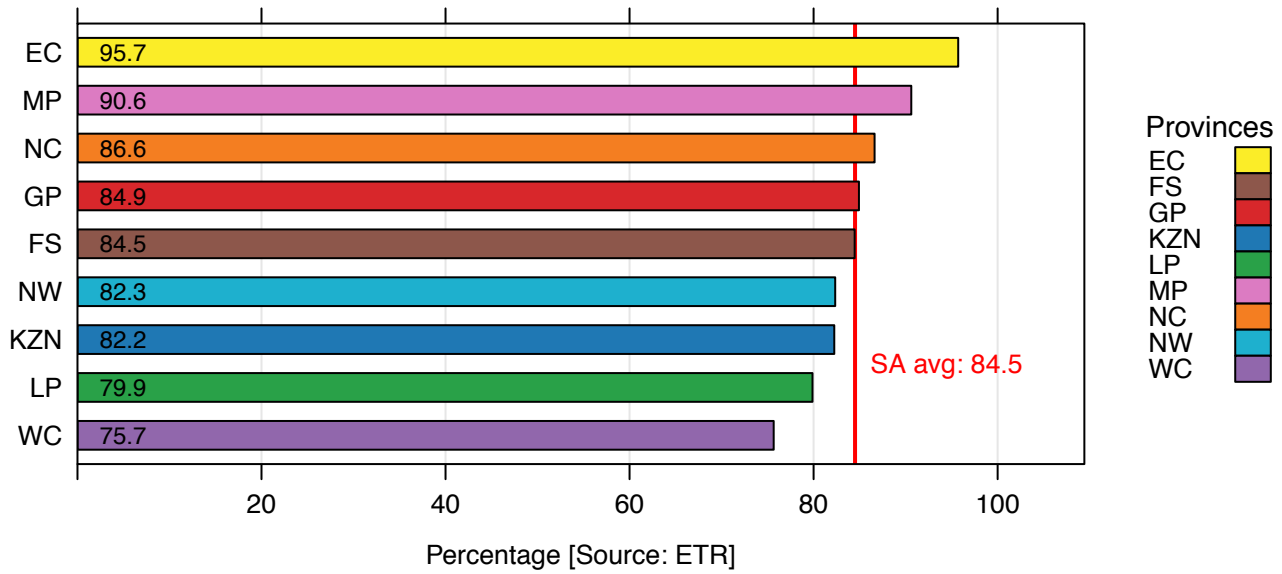
The national average for 2015 was 84.5%, down slightly from of 85.8% in 2014. The Eastern Cape was the best-performing province in 2015 with a rate of 95.7%, as shown in Figure 15. The TB/HIV co-infected client on ART rate decreased from 92.9% in 2014 to 90.6% in 2015 in Mpumalanga but it was still the second-best performing province. The rate in the Western Cape decreased from 84.9% to 75.7% in the same period, when it became the poorest-performing province. This is likely to be a data-related problem rather than a real decrease. All other provinces increased their TB/HIV co-infected client on ART rate.

<sup>p</sup> Hecht R. As donor funding falls, SA must come up with a plan to stretch HIV bucks. Bhekisisa. 2016. Available from: <http://bhekisisa.org/article/2016-07-08-as-donors-scale-back-funding-sa-must-come-up-with-a-plan-to-stretch-its-hiv-and-aids-buck> [Accessed 21 July 2016].

<sup>q</sup> South African National Department of Health. National Consolidated Guidelines for the Prevention of Mother-to-child Transmission of HIV (PMTCT) and the Management of HIV in Children, Adolescents and Adults. Pretoria: NDoH; April 2015.

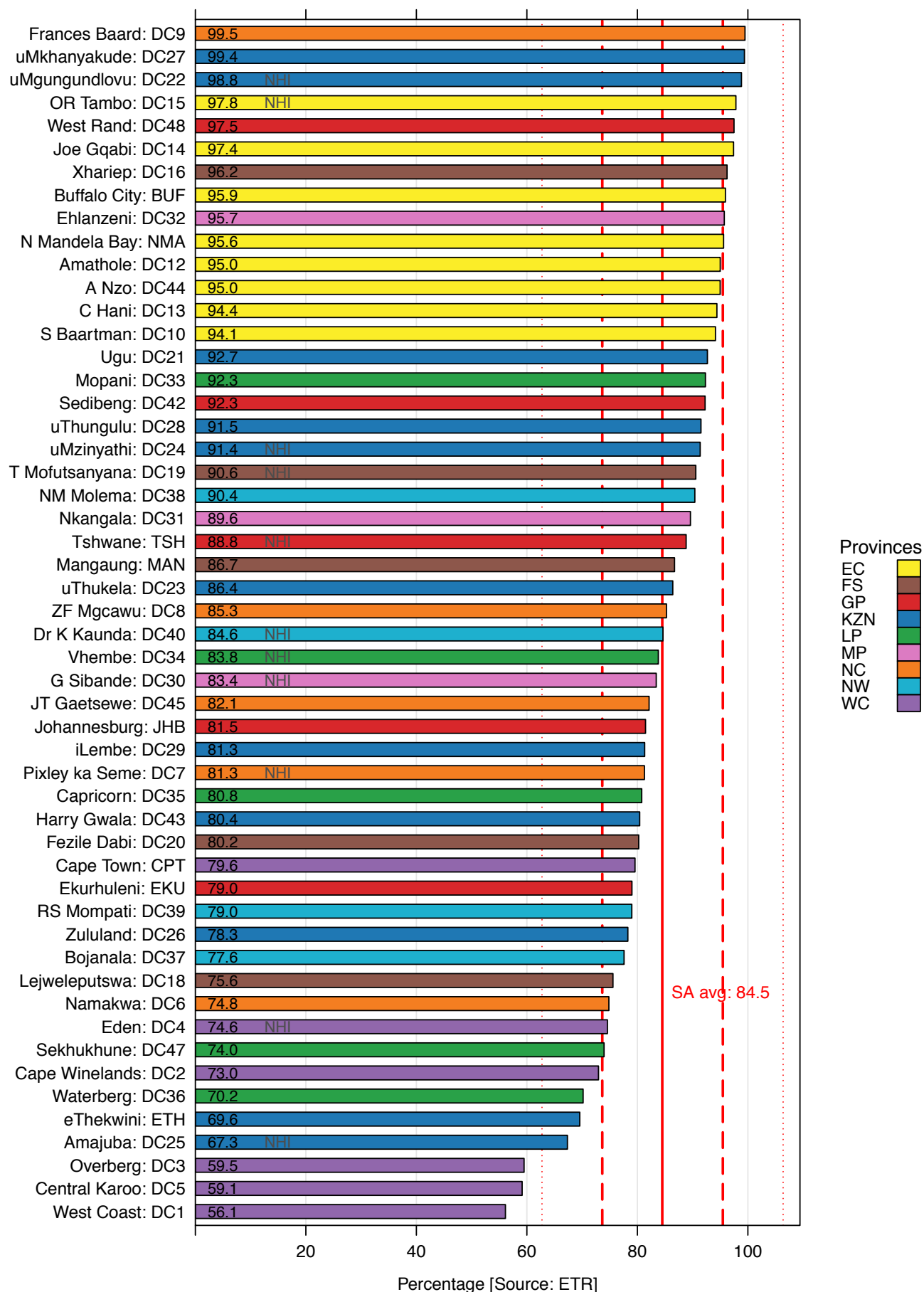
<sup>r</sup> Knight M, Van Zyl RL, Sanne I, Bassett J, Van Rie A. Impact of combination antiretroviral therapy initiation on adherence to antituberculosis treatment. *S Afr J HIV Med.* 2015; 16(1), Art.#346, 6 pages. doi:<http://www.sajhivmed.org.za/index.php/hivmed/article/view/346>.

Figure 15: TB/HIV co-infected client on ART rate by province, 2015

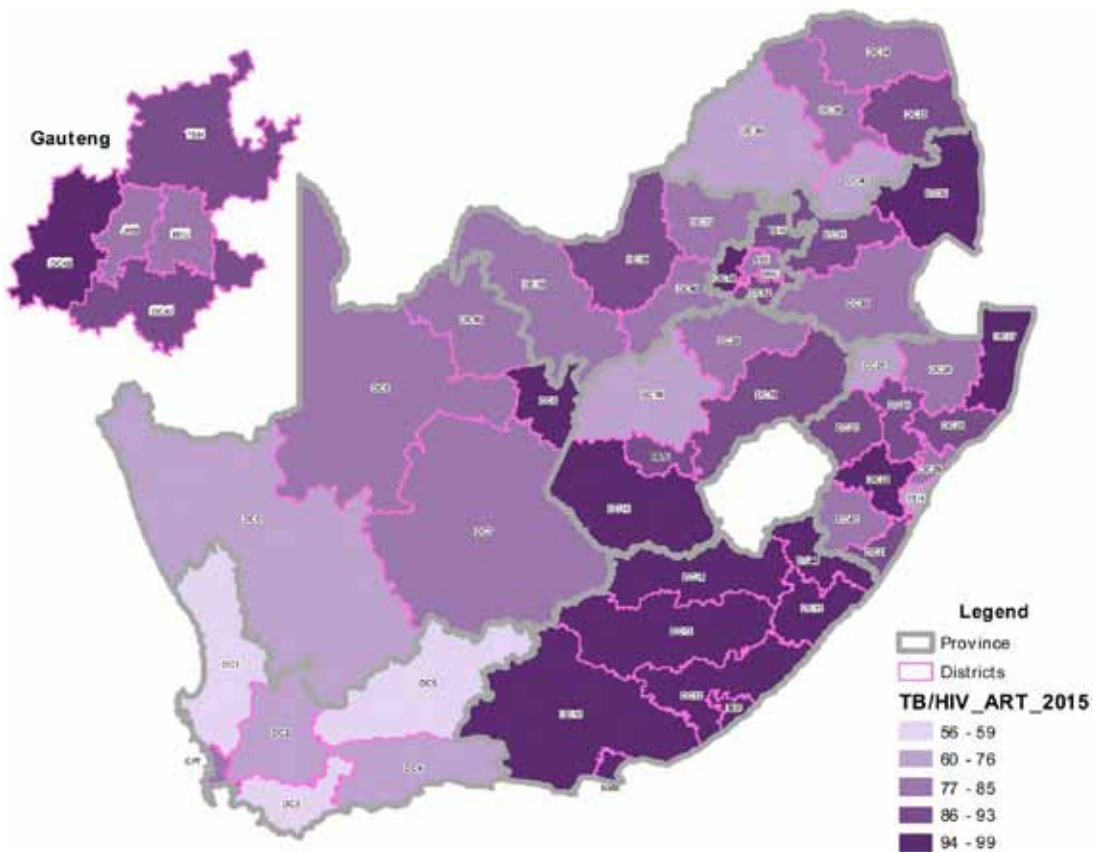


In 2015, the best-performing districts were Frances Baard (NC) and uMkhanyakude (KZN), which almost achieved 100% for this indicator (99.5% and 99.4%, respectively) (Figure 16). It is encouraging to see uMkhanyakude district doing so well on this indicator as in 2006 it had the largest outbreak of drug-resistant TB (XDR-TB) in history.<sup>d</sup> All districts in the Eastern Cape had TB/HIV co-infected client on ART rates above 94%, as did uMgungundlovu (KZN), West Rand (GP), Xhariep (FS) and Ehlanzeni (MP) (Map 4).

Figure 16: TB/HIV co-infected client on ART rate by district, 2015

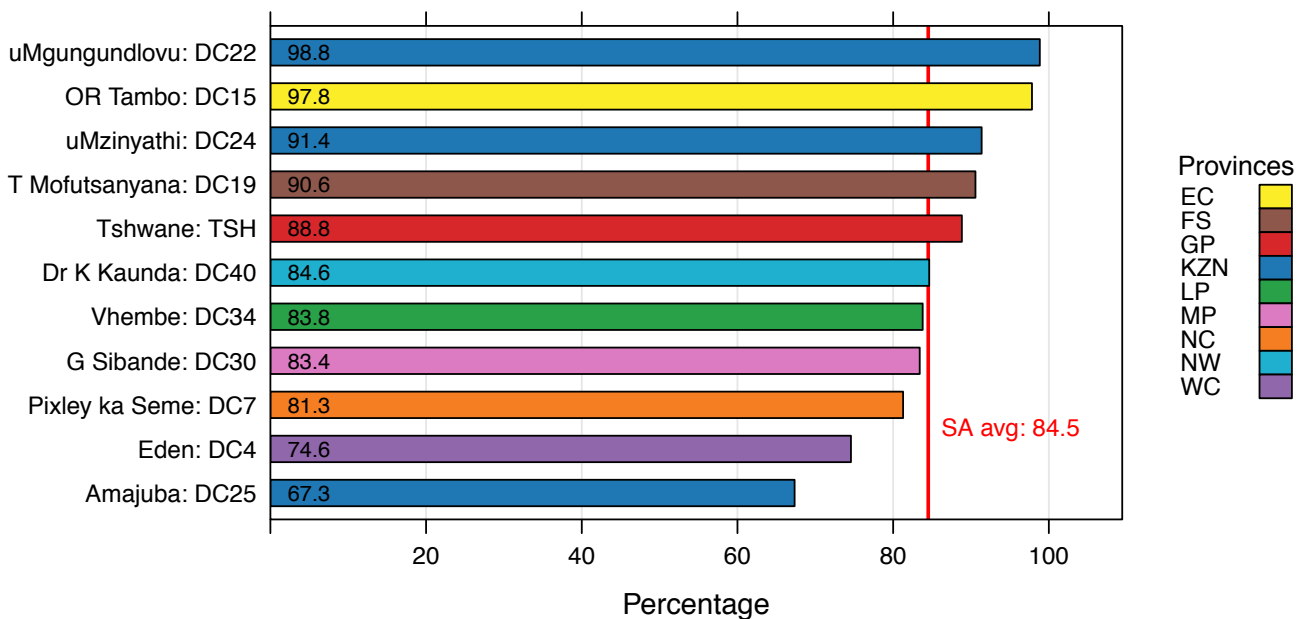


Map 4: TB/HIV co-infected client on ART rate by district, 2015



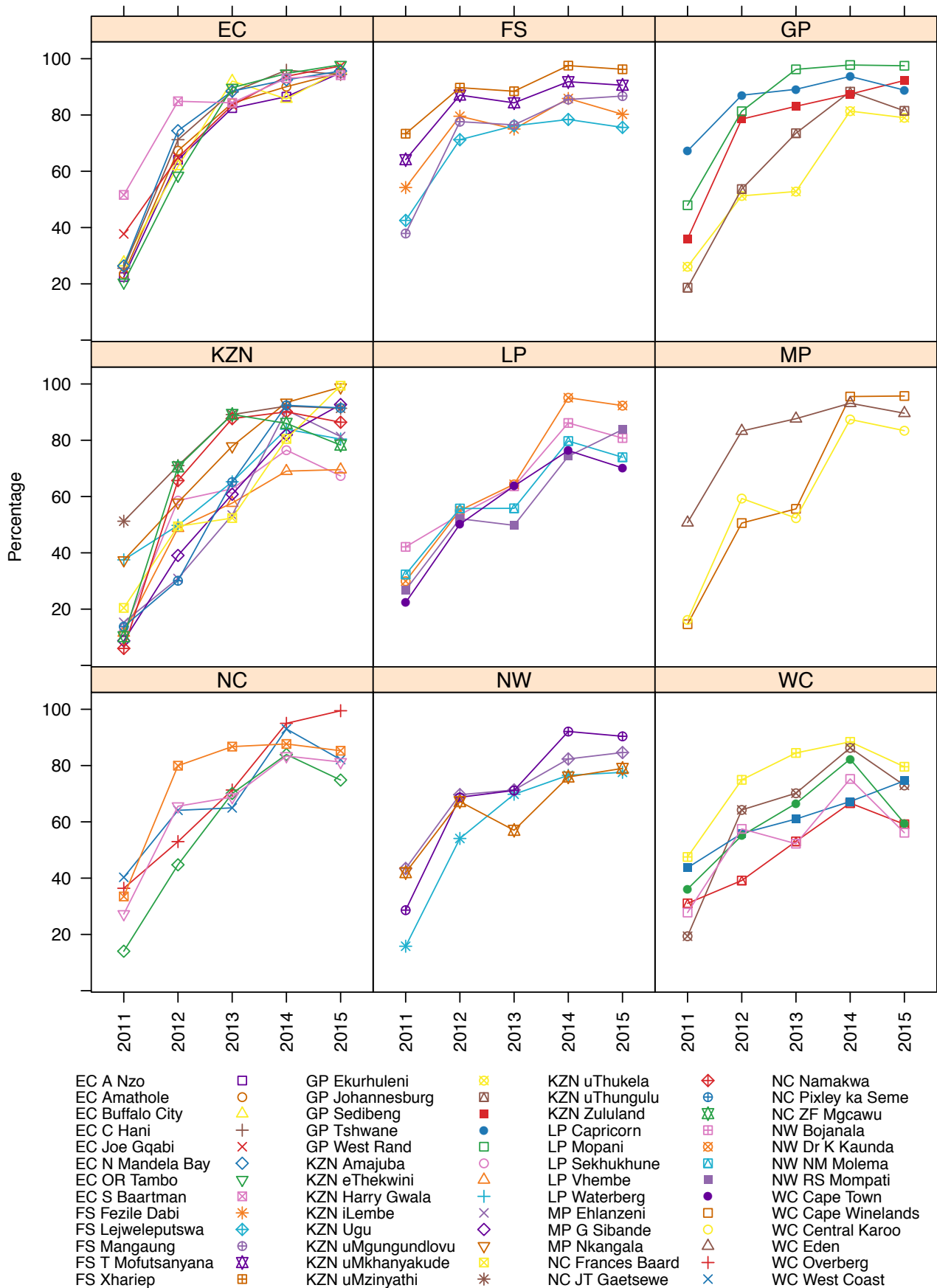
The best-performing NHI districts were uMgungundlovu (KZN) (98.8%) and OR Tambo (EC) (97.8%) (Figure 17). The poorest-performing NHI district was Amajuba (KZN), while Eden (WC) increased its performance significantly from 55.9% in 2012 to 74.6% in 2015. All the other NHI districts had TB/HIV co-infection client on ART rates above 80%.

Figure 17: TB/HIV co-infected client on ART rate by National Health Insurance district, 2015



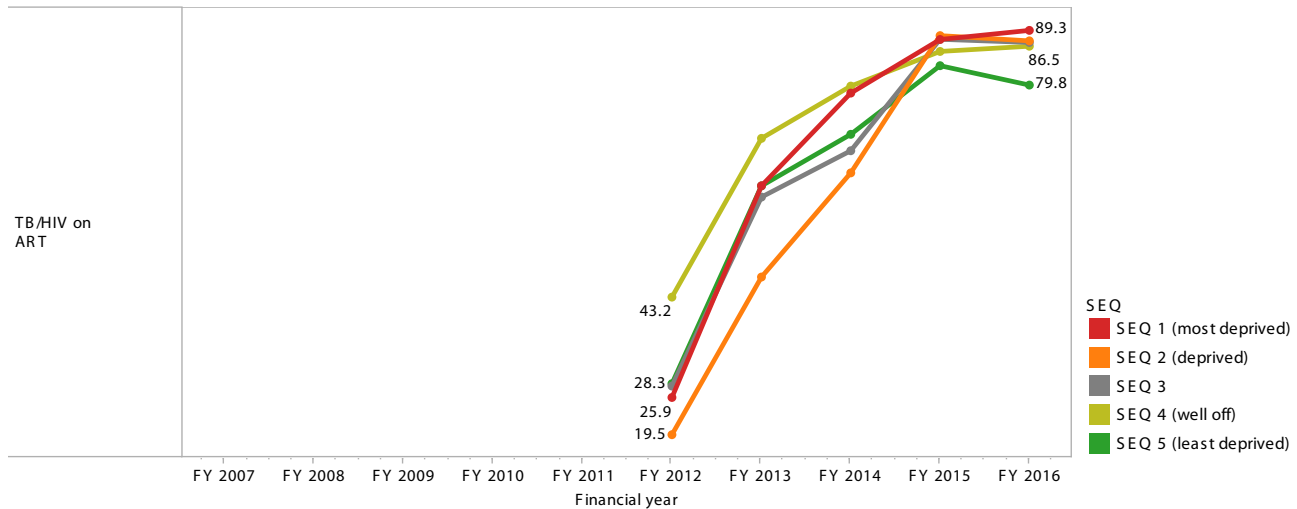
The annual trend data in Figure 18 show that the TB/HIV co-infected client on ART rate increased significantly from 2011 in all provinces, especially between 2011 and 2012. The highest declines were observed in the West Coast (WC) and Overberg (WC), which both decreased by around 20% between 2014 and 2015. This is likely to be a data-related problem rather than a real decrease.

Figure 18: Annual trends for TB/HIV co-infected client on ART rate



TB/HIV co-infected client on ART rates increased sharply for all socio-economic quintiles between 2011 and 2015 (Figure 19). The rates were highest for SEQ1 (89.3%), while SEQs 2, 3 and 4 all had the same rate (86.5%), and SEQ2 improved the most, from 19.5% in 2011 to 86.5% in 2015.

**Figure 19: Trends in average district values by socio-economic quintile for TB/HIV co-infected client on ART rate**



### Key findings

- ◆ Undoubtedly, South Africa still has a high burden of HIV and AIDS, but the country has also made significant gains in ensuring that HIV and AIDS is no longer a death sentence but a treatable and manageable chronic disease.
- ◆ South Africa currently has the largest antiretroviral programme in the world, which will expand even more as the new policy of universal testing and treating is rolled out.
- ◆ The HIV indicators provide some insight into the challenges and achievements of the HIV and AIDS epidemic in South Africa. On average, the male condom distribution coverage was 44.4 male condoms per male 15 years and older, and the number of condoms distributed increased by over 1 million from 2014/15.
- ◆ HIV testing coverage increased by almost 10 percentage points from 2013/14, to 34.5%; however, this is still far from the 90-90-90 targets.<sup>b</sup>
- ◆ The percentage of TB cases with known HIV status had a national average close to 100% at ~95%, and all provinces had rates above 93%.
- ◆ The percentage of HIV-positive TB cases on ART increased rapidly but has now plateaued at around 85%.

### Recommendations

- ◆ How funds directed at HIV and AIDS programmes are managed will become even more important going forward as South Africa adopts the universal testing and treating policy to reach the 90-90-90 goals by 2030.