

## 5 PMTCT

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This chapter presents three core national indicators used to assess the progress and performance of key services in the prevention of mother-to-child transmission (PMTCT) programme. Data are from the District Health Information Software (DHIS).

### 5.1 Antenatal 1<sup>st</sup> visit before 20 weeks rate

The antenatal 1<sup>st</sup> visit before 20 weeks rate measures the number of women who have a booking visit (first visit) before they are 20 weeks (about half way) into their pregnancy as a proportion of all antenatal 1<sup>st</sup> visits. The numerator is the number of antenatal 1<sup>st</sup> visits before 20 weeks and the denominator is the total number of antenatal 1<sup>st</sup> visits. The National Department of Health's (NDoH) Annual Performance Plan (APP) 2016/17–2018/19 set a national target of 62.0% for antenatal 1<sup>st</sup> visit before 20 weeks rate.<sup>a</sup> With its latest strategic plan, the NDoH aims to achieve an antenatal 1<sup>st</sup> visit before 20 weeks rate of 66.0% by 2018/19.

Antenatal care (ANC) is a public health strategy that provides pregnant<sup>b</sup> women with an opportunity to receive critical interventions to improve the health of mother and baby, and to reduce poor pregnancy outcomes and maternal and child mortality. Antenatal care attendance is associated with an increased chance of receiving skilled birth attendance. Early ANC booking increases the likelihood of HIV-positive women being started on antiretroviral treatment (ART) earlier, thus preventing intrauterine and intrapartum transmission of HIV from mother to infant. Improved early ANC booking before 20 weeks in South Africa will help to further reduce the risk of mother-to-child transmission of HIV (MTCT) to below the current rate of 1.2% and will improve the progress towards the new global target of elimination of MTCT.<sup>c</sup>

#### National and provincial overview

In 2016/17, the antenatal 1<sup>st</sup> visit before 20 weeks rate in South Africa was 65.2%. This is 3.2 percentage points above the target of 62% for this year. Table 1 shows the gradual increase of 4 percentage points compared with 2015/16. Figure 1 shows that the provincial antenatal 1<sup>st</sup> visit before 20 weeks rates for 2016/17 ranged from 58.4% in Gauteng (GP) to 71.7% in Mpumalanga (MP). All provinces except Gauteng met the national target of 62%.

**Table 1: Provincial and national averages for antenatal 1<sup>st</sup> visit before 20 weeks rate, 2009/10–2016/17**

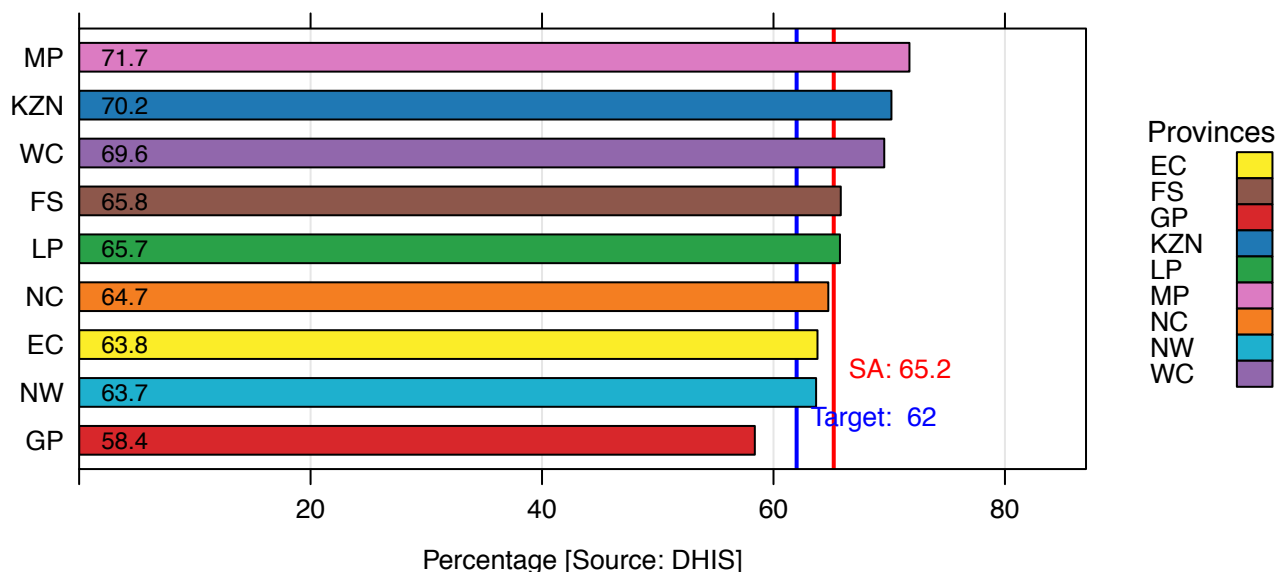
|               | 2009/10<br>% | 2010/11<br>% | 2011/12<br>% | 2012/13<br>% | 2013/14<br>% | 2014/15<br>% | 2015/16<br>% | 2016/17<br>% |
|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Eastern Cape  | 28.9         | 31.7         | 33.6         | 39.6         | 43.3         | 48.8         | 59.7         | 63.8         |
| Free State    | 43.7         | 45.2         | 47.1         | 53.5         | 56.8         | 58.6         | 62.9         | 65.8         |
| Gauteng       | 25.2         | 30.6         | 34.6         | 37.8         | 43.7         | 48.4         | 54.9         | 58.4         |
| KwaZulu-Natal | 34.6         | 36.9         | 41.0         | 46.4         | 56.2         | 57.3         | 64.8         | 70.2         |
| Limpopo       | 42.9         | 41.6         | 41.3         | 42.0         | 45.8         | 50.7         | 60.7         | 65.7         |
| Mpumalanga    | 33.0         | 36.0         | 37.5         | 42.2         | 49.0         | 56.6         | 65.9         | 71.7         |
| Northern Cape | 45.1         | 47.2         | 52.3         | 58.2         | 56.4         | 60.1         | 62.4         | 64.7         |
| North West    | 37.2         | 39.6         | 42.3         | 44.1         | 50.6         | 54.3         | 60.7         | 63.7         |
| Western Cape  | 48.5         | 62.0         | 48.1         | 52.3         | 56.5         | 61.6         | 67.7         | 69.6         |
| SA            | 34.5         | 37.6         | 40.2         | 44.0         | 50.0         | 53.9         | 61.2         | 65.2         |

a National Department of Health. Annual Performance Plan, 2016/17 – 2018/19. National Department of Health. Pretoria. 2016.

b World Health Organization. WHO recommendations on antenatal care for a positive pregnancy experience. Geneva: World Health Organization. 2016. ISBN-13: 978-92-4-154991-2.

c National Department of Health. Last Mile Plan for Elimination of MTCT in South Africa. National Department of Health. Pretoria. 2016.

Figure 1: Antenatal 1<sup>st</sup> visit before 20 weeks rate by province, 2016/17

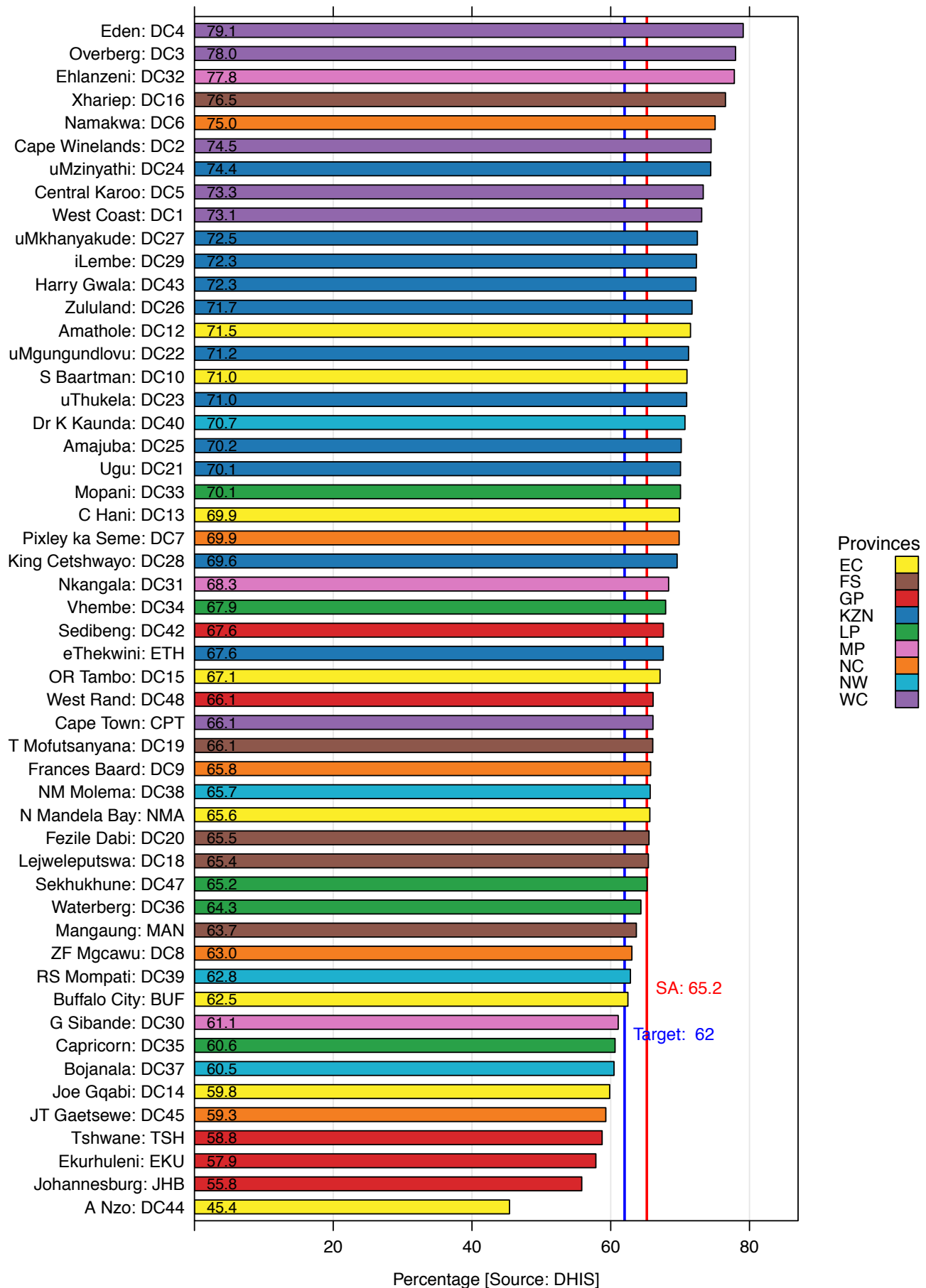


**District overview**

At district level, the antenatal 1<sup>st</sup> visit before 20 weeks rate ranged widely, from 45.4% in Alfred Nzo (Eastern Cape (EC)) to 79.1% in Eden (Western Cape (WC)). It is encouraging that 82.7% of districts (43 out of 52) achieved the national target (Figure 2).

In 2016/17, antenatal 1<sup>st</sup> visit before 20 weeks rate increased in all districts except Overberg (WC), which had a decline of 0.7 percentage points from the previous year. Only one district increased the rate by more than 10 percentage points, namely Amajuba (KwaZulu-Natal (KZN)) (11.7 percentage points) followed by uThukela (KZN) with 9.7 percentage points.

Figure 2: Antenatal 1<sup>st</sup> visit before 20 weeks rate by district, 2016/17



Map 1 shows the geographical distribution of antenatal 1<sup>st</sup> visit before 20 weeks rate by district and sub-district for 2016/17.

**Map 1: Antenatal 1<sup>st</sup> visit before 20 weeks rate by sub-district, 2016/17**

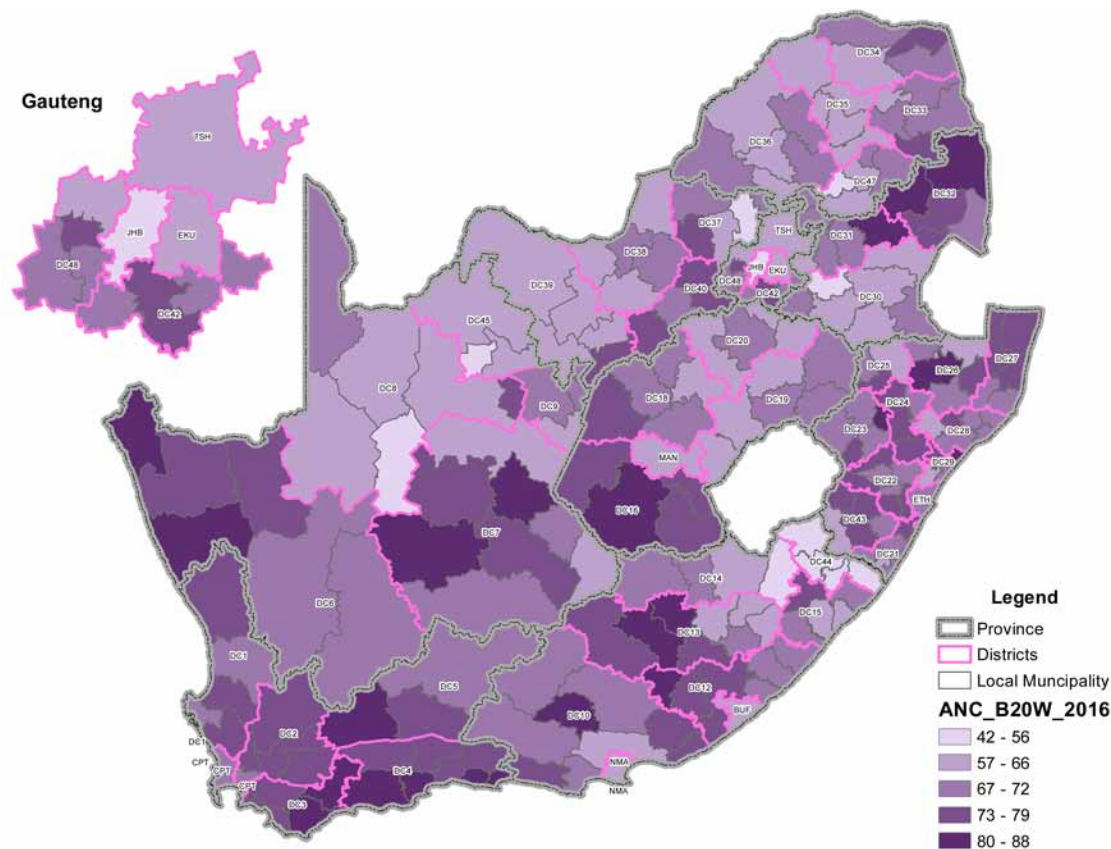
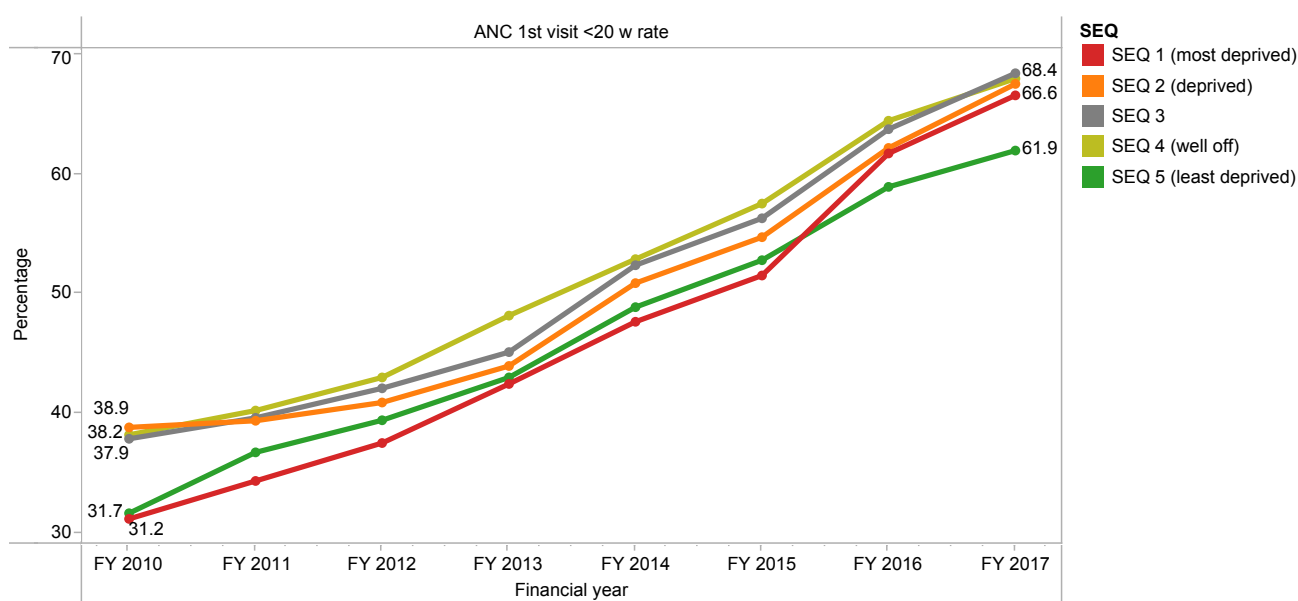


Figure 3 shows a steady increase in antenatal 1<sup>st</sup> visit before 20 weeks rate for all socio-economic quintiles (SEQs) between 2009/10 and 2016/17. The rates in 2016/17 ranged from 61.9% (SEQ5) to 68.4% (SEQ1). Up until 2014/15 SEQ1 (most deprived) consistently had the lowest coverage, however, since 2015/16 SEQ5 had the lowest coverage.

**Figure 3: Trends in average district values by socio-economic quintile for Antenatal 1<sup>st</sup> visit before 20 weeks rate, 2009/10-2016/17**



### Key Findings

- ◆ In 2016/17, South Africa exceeded the national target for antenatal 1<sup>st</sup> visit before 20 weeks rate for the second year in a row. The majority of provinces and districts met the national target.
- ◆ These improvements could be attributed to focused interventions by the NDoH to improve early ANC booking rates through:
  - Implementation of the 90-90-90 strategies<sup>d</sup>
  - The announcement of the Last Mile Plan<sup>c</sup>
  - The launch of ward-based community outreach teams in 2011
  - Implementation of the 2015 PMTCT National Consolidated Guidelines
  - Annual PMTCT stock-take workshops.

### Recommendations

- ◆ Variations in district performance continue to exist within the same province. This implies that some districts have the potential to improve more than others; it also indicates the need to address important health system barriers preventing women from accessing ANC and PMTCT services early.

## 5.2 Antenatal client initiated on ART rate

The antenatal client initiated on ART rate measures antenatal clients on ART as a proportion of the total number of antenatal clients who are HIV positive and not previously on ART. The numerator is the number of ANC clients initiated on ART, and the denominator is the total number of ANC clients eligible for ART. The national policy changed numerous times between 2008 and 2015 resulting in changes in eligibility criteria for ART initiation, hence changes in estimates for this indicator over this time period.

The 2014/15 move to option B+<sup>e</sup> and the introduction of 90-90-90<sup>b</sup> in 2016 have ensured a high coverage of ART to pregnant women accessing ANC services. Option B+ provides for life-long maternal triple antiretroviral therapy (combination ART) regardless of maternal CD4 count and WHO staging. Provision of ART to HIV-positive ANC clients reduces the chance of PMTCT of HIV during pregnancy, intra- and postpartum and while breastfeeding. The other goals of ART treatment are to suppress the patient's viral load to an undetectable level and to improve immunological status, with the CD4 cell count rising and remaining above the baseline. The 90-90-90 strategy further emphasises these goals by focusing on initiation rates, retention in care and viral load suppression rates.

According to the latest South African ART guidelines,<sup>f</sup> all HIV-positive pregnant women should receive ART with appropriate counselling during their first ANC visit regardless of gestational age, CD4 count and/or WHO staging.

### National and provincial overview

In 2016/17, the ANC client initiated on ART rate in South Africa was 95.1% and 0.1 percentage points above the national target of 95% for this year (Table 2). Three provinces (Eastern Cape, KwaZulu-Natal and Mpumalanga) had a slight decline in ANC client initiated on ART rate from 2015/16 to 2016/17. The provinces with the largest percentage improvement from 2015/16 to 2016/17 are Free State (FS) (8.5% increase), North West (NW) (10.4% increase) and Western Cape (17.2% increase).

d 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) [Assessed 15 August 2017].

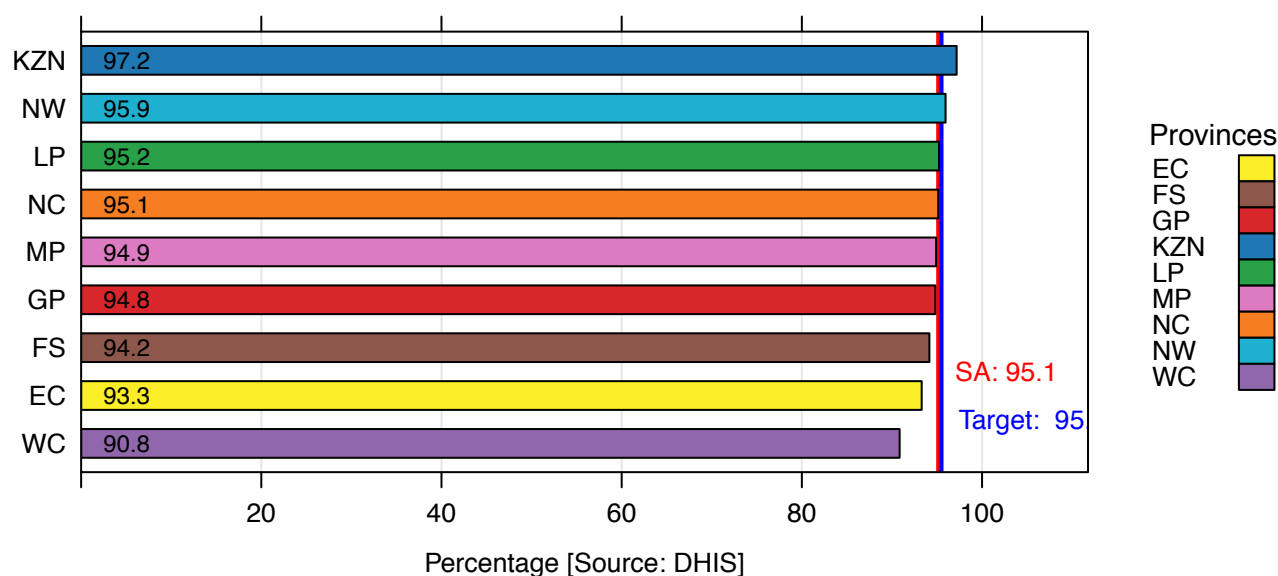
e Interagency Task Team on the Prevention and Treatment of HIV Infection in Pregnant Women, Mothers and Children. Option B+ countries and PMTCT regimen. 2015.

f 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. National Department of Health. Pretoria. April 2015.

**Table 2: Provincial and national averages for antenatal client initiated on ART rate, 2013/14-2016/17**

|               | 2013/14<br>% | 2014/15<br>% | 2015/16<br>% | 2016/17<br>% |
|---------------|--------------|--------------|--------------|--------------|
| Eastern Cape  | 79.0         | 91.7         | 93.9         | 93.3         |
| Free State    | 80.8         | 88.7         | 86.8         | 94.2         |
| Gauteng       | 63.1         | 87.4         | 92.4         | 94.8         |
| KwaZulu-Natal | 85.4         | 95.2         | 97.6         | 97.2         |
| Limpopo       | 78.6         | 92.9         | 92.8         | 95.2         |
| Mpumalanga    | 74.2         | 92.9         | 95.6         | 94.9         |
| Northern Cape | 80.3         | 89.8         | 92.2         | 95.1         |
| North West    | 79.2         | 90.2         | 86.9         | 95.9         |
| Western Cape  | 68.5         | 82.8         | 77.5         | 90.8         |
| SA            | 76.3         | 91.2         | 93.0         | 95.1         |

Figure 4 shows that the provincial antenatal client initiated on ART rates for 2016/17 ranged from 90.8% in the Western Cape to 97.2% in KwaZulu-Natal. Only four provinces reached the nation target (95%) during 2016/17, namely KwaZulu-Natal, North West, Limpopo (LP) and Northern Cape (NC).

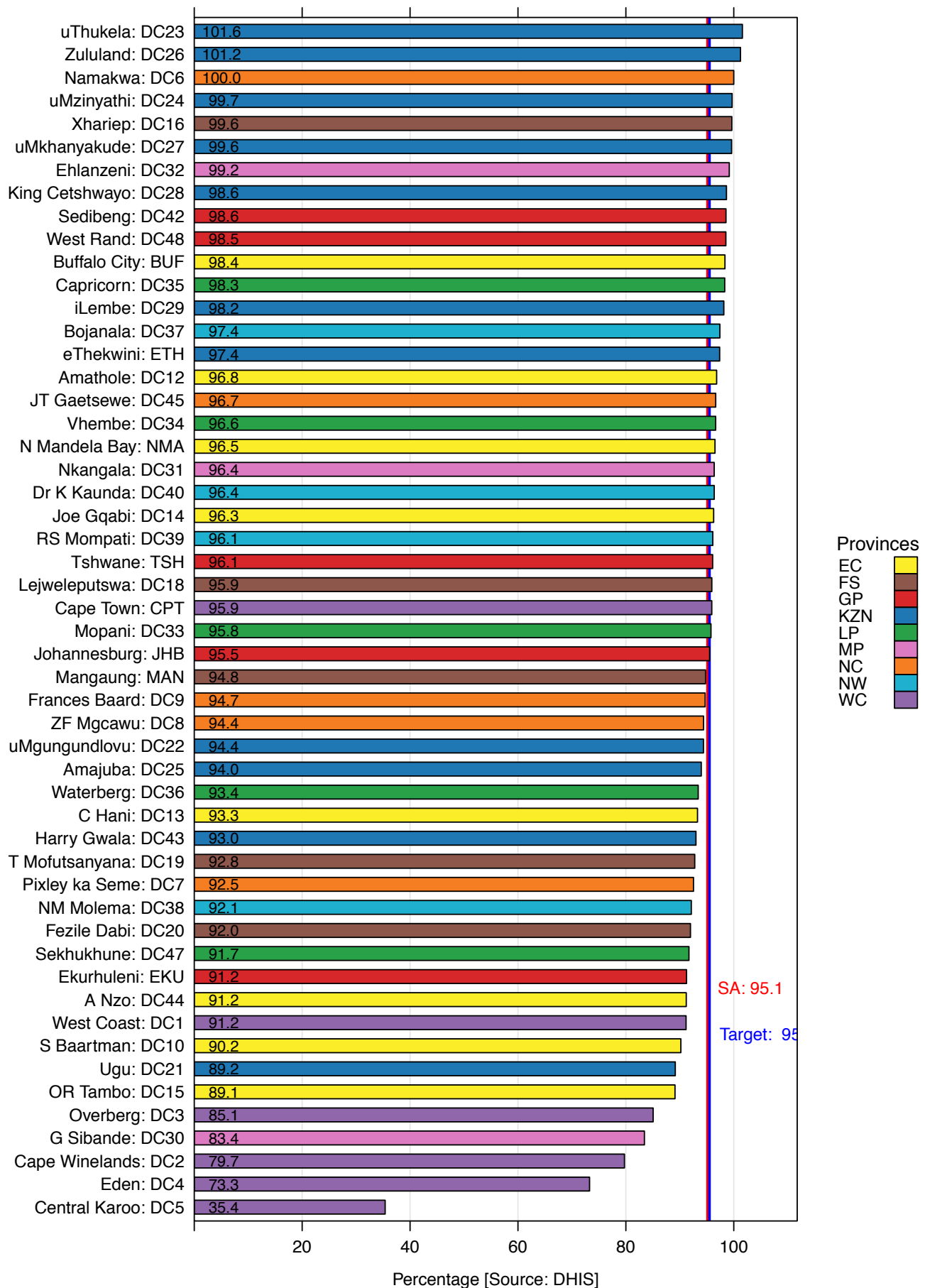
**Figure 4: Antenatal client initiated on ART rate by province, 2016/17**

### District overview

At district level, the antenatal client initiated on ART rate ranged widely, from 35.4% in Central Karoo (WC) to 101.6% in uThukela (KZN) (Figure 5). The rates above 100% could be the result of underestimation of the denominator, or could have resulted from client migration between sub-districts, districts and provinces. It was noted that only 53.8% of districts (28 out of 52) achieved the national target (Figure 6).

In 2016/17, antenatal client initiated on ART rate decreased from 2015/16 in 16 districts, Central Karoo (WC), Ugu (KZN), Gert Sibande (MP) and West Rand (GP) declined by more than 5 percentage points (10.9, 9.1, 6.2 and 5.4 points respectively) (Figure 7). Three districts increased coverage by more than 10 percentage points, namely NM Molema (NW) (17.3), Cape Town (WC) (16.6) and Fezile Dabi (FS) (15.6).

Figure 5: Antenatal client initiated on ART rate by district, 2016/17





Map 2 shows the geographical distribution of antenatal client initiated on ART rate by district and sub-district.

**Map 2: Antenatal client initiated on ART rate by sub-district, 2016/17**

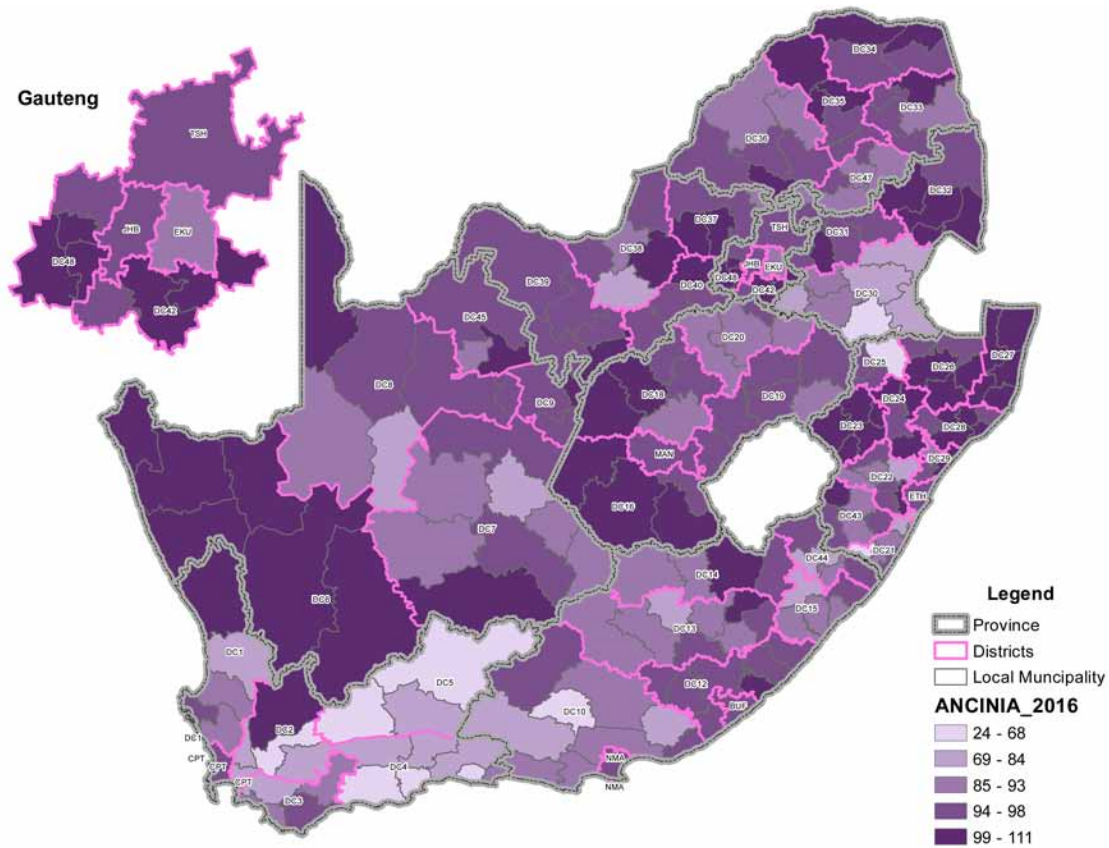
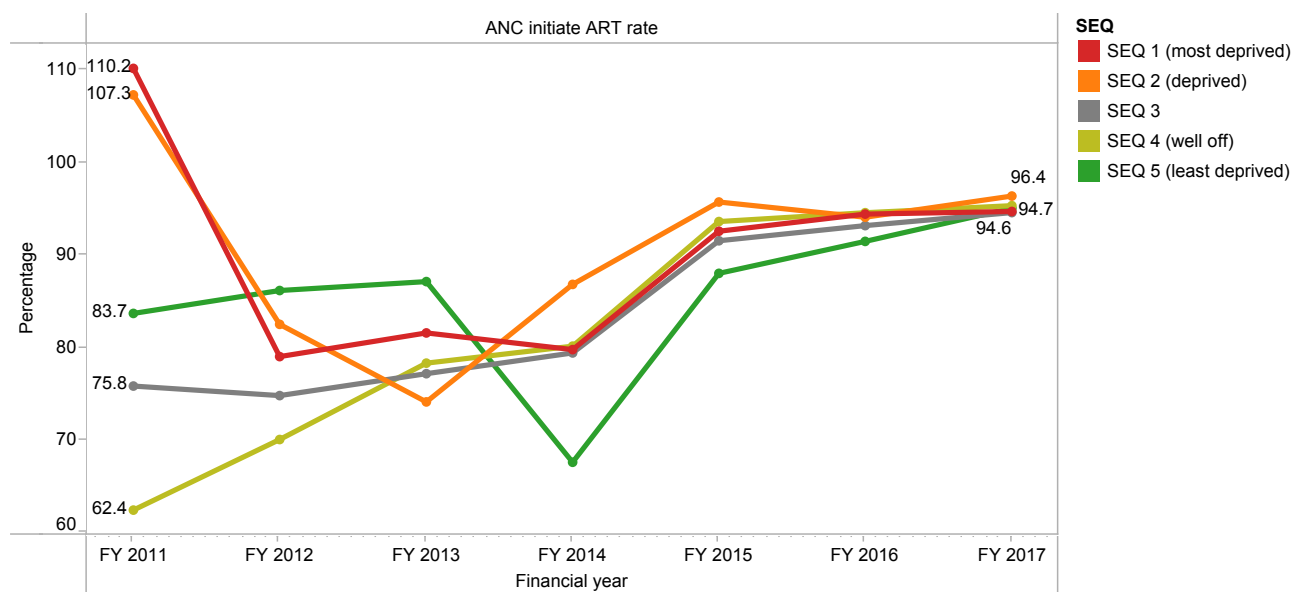


Figure 6 illustrates that the antenatal client initiated on ART rate for all SEQs in 2016/17 is stabilising around the 95.1% mark, with rates ranging from 94.6% (SEQ3) to 96.4% (SEQ2).

**Figure 6: Trends in average district values by socio-economic quintile for antenatal client initiated on ART rate, 2009/10–2016/17**





### Key Findings

- ◆ The national target for antenatal client initiated on ART rate of 95% for 2016/17 was achieved nationally.
- ◆ Only four provinces and 28 districts reached the national target.
- ◆ It is encouraging to note that there is no notable difference in the uptake of ART across the socio-economic quintiles, which can be interpreted as an achievement in the provision of equitable care.

### Recommendations

- ◆ Districts that have consistently performed below the target require further investigation with regards to data quality.

## 5.3 Infant PCR test positive around 10 weeks rate

In June 2015, South Africa introduced routine HIV polymerase chain reaction (PCR) testing at birth for all HIV-exposed neonates, and repeat testing at 10 weeks of age for infants who tested HIV negative at birth. Infants who test HIV PCR positive are recommended to have a second HIV PCR test to confirm their status.

The data elements are 'infant PCR test around 10 weeks' (denominator) and 'infant PCR test positive around 10 weeks' (numerator) and were included in the NIDS (National Indicator Data Set) from April 2016. The 10 weeks testing data elements and indicators were introduced as a replacement for the 6 weeks testing data elements and indicators. These programmatic changes have resulted in new challenges to accurately capture testing within defined age ranges and to de-duplicate repeat tests performed for individual patients. As South Africa has yet to implement a unique health identification system, DHIS and National Health Laboratory Services (NHLS) data are currently unable to accurately determine testing coverage and mother-to-child transmission rates at 10 weeks of age within the early infant diagnosis (EID) programme.

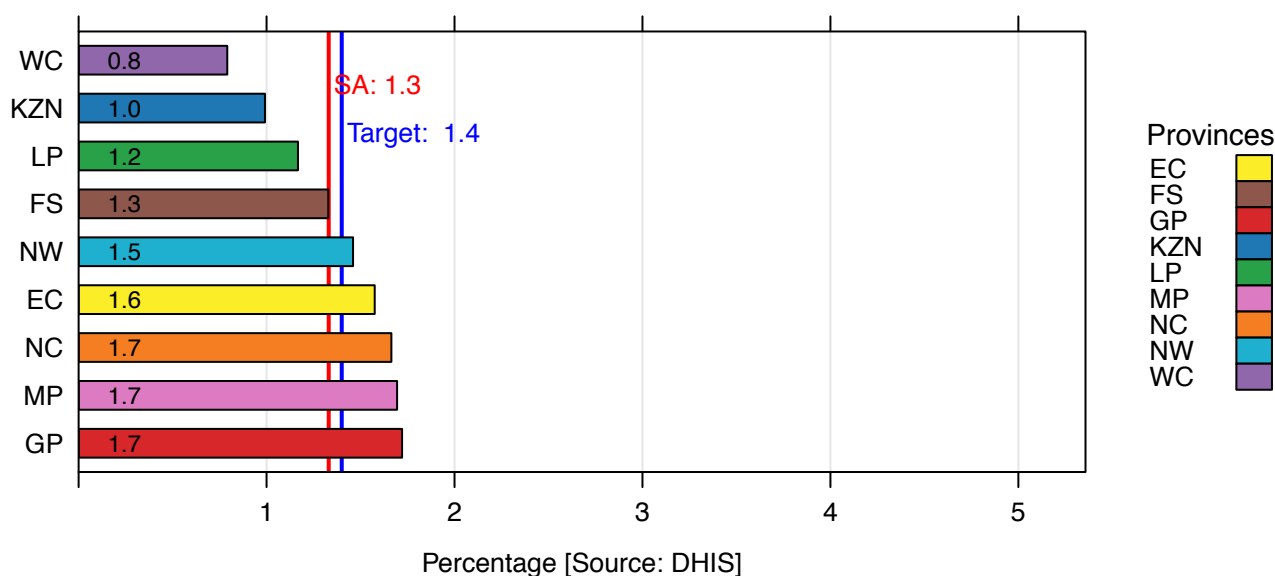
The infant PCR test positive around 10 weeks rate measures infants tested PCR positive for follow-up test as a proportion of infants PCR tested around 10 weeks.

Although the DHIS indicator 'HIV PCR positivity at around 10 weeks of age' excludes confirmatory positive results from infants who have already screened HIV positive at a particular facility, confirmatory results of infants who engage testing services at other facilities may be included. Similarly, confirmatory positive results of infants who have tested HIV-PCR positive prior to 6 weeks of age may be counted. Hence, the current inability to accurately de-duplicate positive results may also account for the positivity rate at around 10 weeks of age likely being an over estimation of intra-partum/ early postnatal transmission rates.

### National and provincial overview

In 2016/17, the infant PCR test positive around 10 weeks rate in South Africa was 1.3% and below the national target of 1.4% (Figure 7). Five of the nine provinces have infant PCR positivity rates (at around 10 weeks) higher than the national target, namely Gauteng (1.7%), Mpumalanga (1.7%), Northern Cape (1.7%), Eastern Cape (1.6%) and North West (1.5%). Western Cape has the lowest PCR positivity rate at 10 weeks with 0.8%.

**Figure 7: Infant PCR test positive around 10 weeks rate by province, 2016/17**

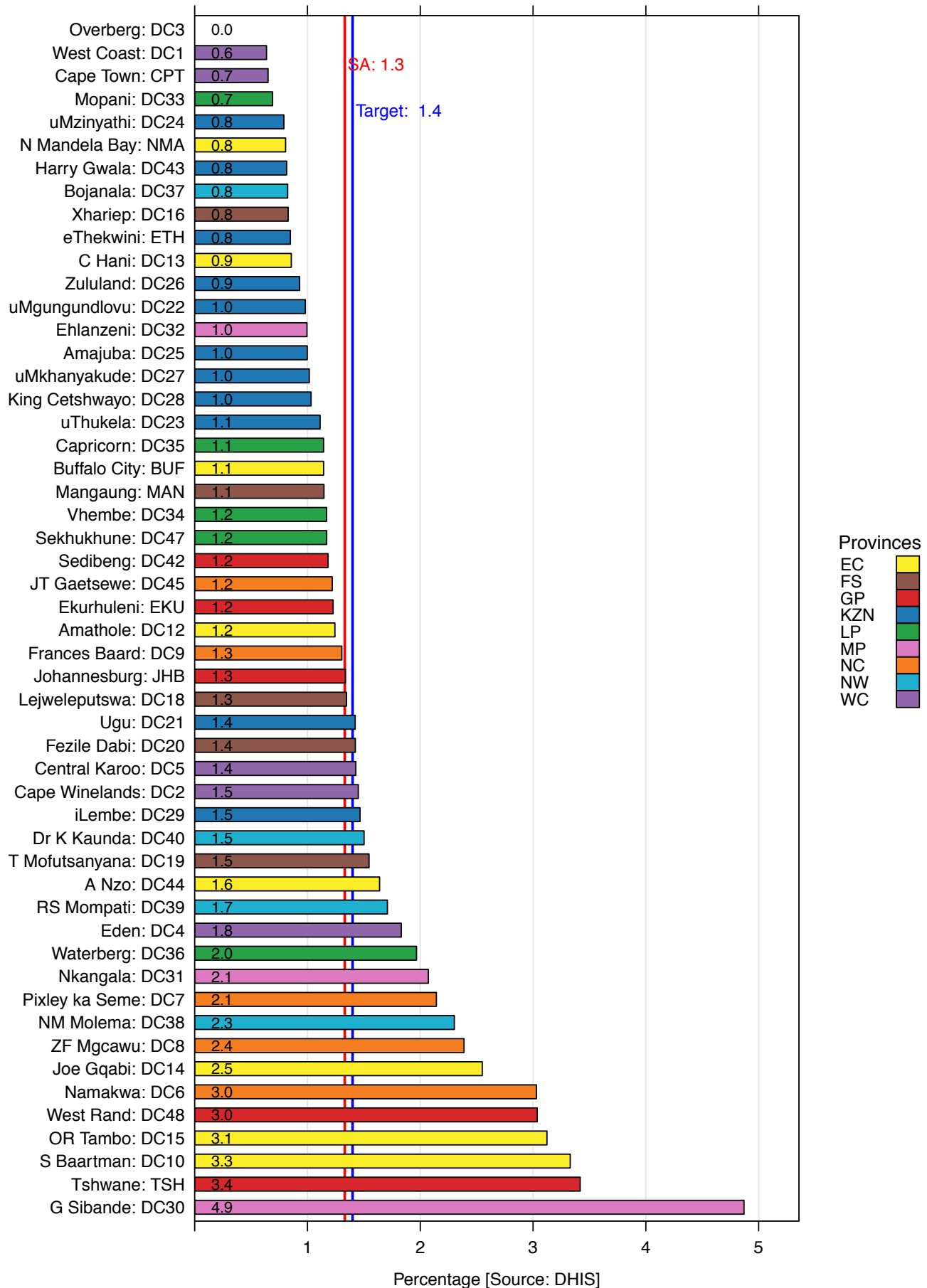


**District overview**

At district level, the infant PCR test positive around 10 weeks rate ranged widely, from 4.0% in Gert Sibande (MP) to zero per cent in Overberg (WC). It is encouraging that 63.5% of districts (33 out of 52) achieved the national target (Figure 8).

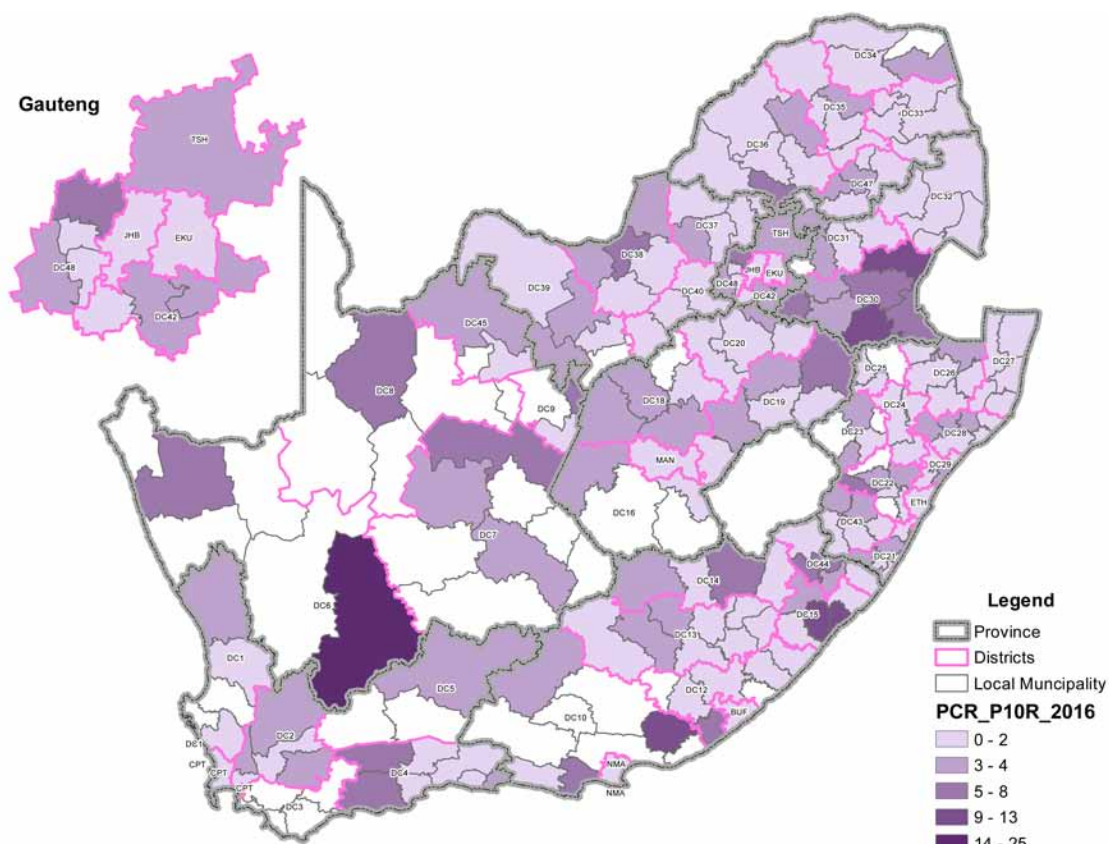
Due to the EID programme being in transition between 2015/16 and the introduction of new data elements and indicators from 2016/17, the trends for infant PCR test positive around 10 weeks rate will only be determined in the next financial year (2017/18). Data collected to date suggests some challenges with the uptake of the 10 weeks testing which definitely has an influence on the positivity rate. Gert Sibande (MP) clearly has challenges that urgently need to be addressed. Rural districts (specifically Northern Cape districts) with low patient numbers tend to show fluctuating high and low positivity rates and should be considered within the context of actual number of infants tested and those that test positive.

Figure 8: Infant PCR test positive around 10 weeks rate by district, 2016/17



Map 3 shows the geographical distribution of infant PCR test positive around 10 weeks rate by district and sub-district.

**Map 3: Infant PCR test positive around 10 weeks rate by sub-district, 2016/17**



### Key Findings

- ◆ The new guidelines recommend confirmatory testing through a second HIV PCR, instead of a baseline HIV viral load for infants who test positive. These programmatic changes have resulted in new challenges such as ensuring tests are accurately captured within the appropriate age ranges.
- ◆ The uptake of PCR tests around 10 weeks is still low and this needs to be improved especially in districts that show high positivity rates.

### Recommendations

- ◆ The impact of the revised EID programme on ART uptake and infant mortality should be researched to inform further programme improvements.
- ◆ Implementation of the Last Mile plan<sup>c</sup> with specific focus on closing the gaps.
- ◆ Integration and collaboration between the NHLS, DHIS and TIER.Net is needed in order to get more accurate positivity rates.
- ◆ Reaching elimination becomes more challenging as treatment targets are approached. South Africa needs to explore cohort monitoring of the mother infant pair from ANC to ensure the infant remains HIV negative.
- ◆ Integration of maternal and child health services is important to ensure a continuum of care.