8 Tuberculosis control

Fuelled by the concomitant hyper-endemic TB and HIV epidemic, South Africa now has the highest incidence of TB in the world (981 per 100 000) and the third largest burden of TB, after China and India.[1]

During 2011 the most significant change to the tuberculosis control programme was the introduction of a new diagnostic tool the Xpert MTB/RIF (Xpert® MTB/RIF, Cepheid, Sunnyvale, CA, USA), known more simply as the GeneXpert. Prior to the introduction of this technology, smear microscopy had been used routinely for 130 years as the traditional diagnostic test for TB. The GeneXpert is far more sensitive than smear microscopy and also produces much faster results.

GeneXpert can also be used to detect rifampicin resistance, a proxy for MDR-TB, within a few days. Due to its speed and accuracy, the GeneXpert is being rolled out as the first-line diagnostic test. The roll-out of the GeneXpert started in early 2011 and by the end of the year thirteen districts had access to GeneXpert testing. The inevitable teething problems following the introduction of the GeneXpert are being addressed. Currently it is being placed in the laboratories and is not being used at facility level as a point-of-care test.

Four TB indicators are presented, namely PTB two-month smear conversion rate, new smear-positive PTB cure rate and new smear-positive PTB defaulter rate. This is different to the last Barometer when the total number of TB cases was reported. The other three TB indicators record aspects of case management of smear-positive TB (smear conversion, cure rates and defaulter rates). The indicators for smear-positive TB are used as a proxy for all cases of TB.

Indicators for some districts have not been included as district boundary changes have affected the reporting of TB data. Although district level data have been updated it was not, unfortunately, made available in time for this report.

As multidrug-resistant TB (MDR-TB – resistance to at least isoniazid and rifampicin) is a significant problem it is unfortunate that MDR-TB data were not available for inclusion in this report. Annual monitoring of the size of the MDR-TB epidemic and evaluation of the effectiveness of the MDR-TB programme are of the utmost importance.

The total number of TB cases reported in 2011 was 389 974, almost 4% fewer than the 404 929 cases reported in 2010. Possible reasons for the decline in the number of cases reported include issues of data quality and the lack of active case-finding in the community. On the other hand, it has been suggested that the increased rollout of the antiretroviral programme may have contributed to this reduction in numbers of new TB cases. The number of new smear-positive TB cases also declined from 134 621 in 2010 to 129 770 in 2011.

8.1 TB two-month smear conversion rate

In the last eight years the smear conversion rate (SCR) has been reported on annually throughout the country. Over this period the national SCR has increased steadily from 44.6% in 2004 to 71.7% in 2011. Although the Annual Performance Plan's target is 75%, the World Health Organization (WHO) and South African National TB Programme target for SCR remains 85%.

The SCRs across the provinces vary from a high of 81.9% in Gauteng to a low of 59.6% in North West. Although there has been some improvement in the SCR in the North West over the past year, the rate of improvement is too slow and a SCR of less than 60% is no longer acceptable. Of further concern is that the SCR in the Western Cape has decreased over the last year and there has been no improvement in the Northern Cape or Free State.

As can be seen in Figure 1, there is considerable heterogeneity in SCRs at a district level, with three districts in Gauteng having SCRs over 85% – Tshwane (87.6%), Ekurhuleni (85.4%) and West Rand (85%). In contrast there are still three districts with SCRs less than 55% – NM Molema (NW) (52.9%), Sisonke (KZN) 54.0% and Nkangala (MP) (54.2%). It is encouraging to see the steady increase in SCRs in Mpumalanga, Northern Cape and Limpopo districts. There are two districts, however, where the SCR has decreased significantly over the last few years. In Chris Hani (EC) the SCR has decreased from 81.1% in 2009 to 73.0% in 2011. Similarly, in Overberg (WC) the SCR has decreased from 89% in 2009 to 69.3% in 2011. The seven districts at the top of Figure 1 were affected by district boundary changes and district level TB data were not available in time for this report.

Figure 1: Smear conversion rate at 2 months (new Sm+) by district, 2011

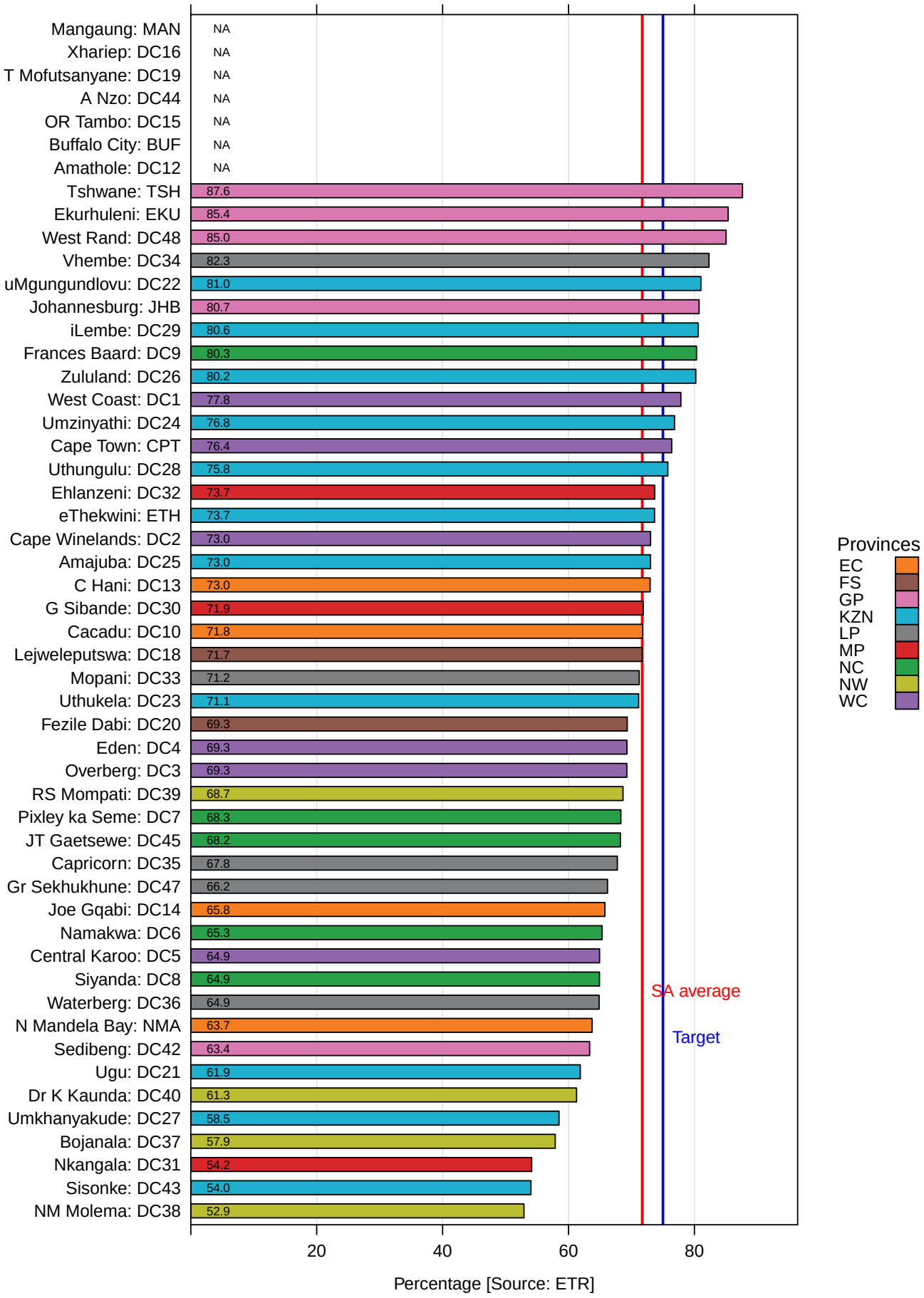
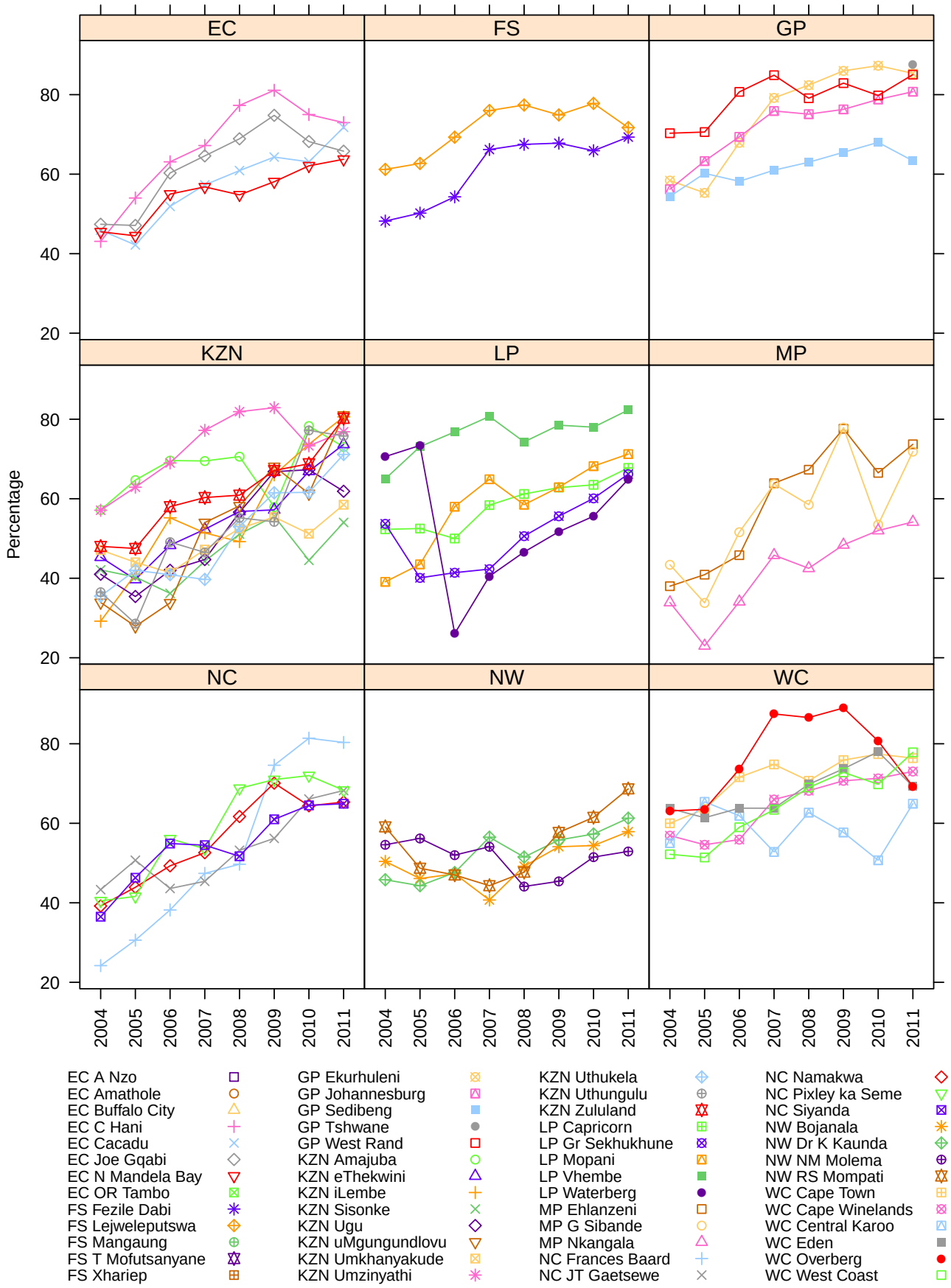


Figure 2: Annual trends: Smear conversion rate at 2 months (new Sm+)



8.2 New smear-positive TB cure rate

The cure rate for new smear-positive TB patients increased marginally from 71.1% in 2009 to 73.1% in 2010. This improvement is encouraging, but falls far short of the WHO target of 85%. Continued and rapid improvement in TB and HIV services is necessary to halt the TB and HIV epidemics in South Africa. Seven of the provinces reported cure rates over 70%, with the Western Cape reporting a cure rate of 81.7%. Given the extent of the TB burden in KwaZulu-Natal, the improvement in cure rate from 66.3% in 2009 to 71.3% in 2010 is very encouraging. The slow improvement in the Eastern Cape and North West are disappointing as these two provinces are now the only provinces with cure rates below 70%.

Cure rates vary considerably across the country (Figure 3). Two districts have achieved the WHO target of 85% – Eden (WC) and Ekurhuleni (GP), while Umzinyathi (KZN) narrowly missed achieving the WHO target. There are, however, a number of districts that are not performing well, two of which have cure rates less than 60% – Sedibeng (GP) had a cure rate of 50.8% and Umkhanyakude (KZN) a cure rate of 58.2%. Sedibeng (GP) and Central Karoo (WC) are also of concern as their cure rates have decreased significantly in the last year (Figure 4). In Sedibeng the cure rate fell from 77.9% in 2009 to 50.8% in 2010. In Central Karoo (WC) the cure rate was over 80% in 2008 and 2009, but fell to 70.2% in 2010. Improved TB management is imperative in these two districts. Although the 10 districts with the lowest cure rates are showing some improvement, these districts all have cure rates which fall far short of the national rate. The good performance in other districts has shown that it is possible to improve cure rates and strive towards more effective services with more successful treatment outcomes.

Figure 3: TB cure rate (new Sm+) by district, 2010

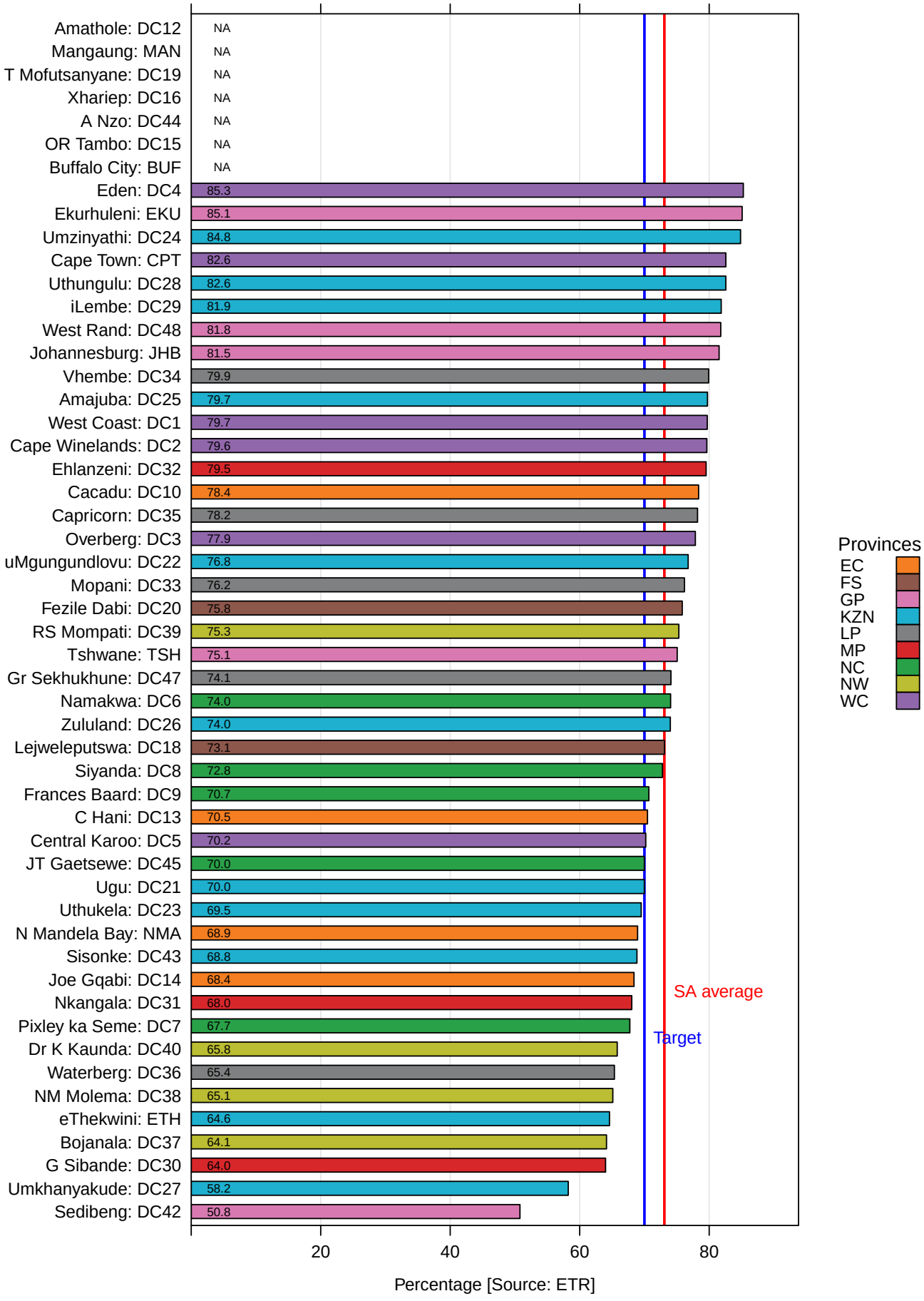
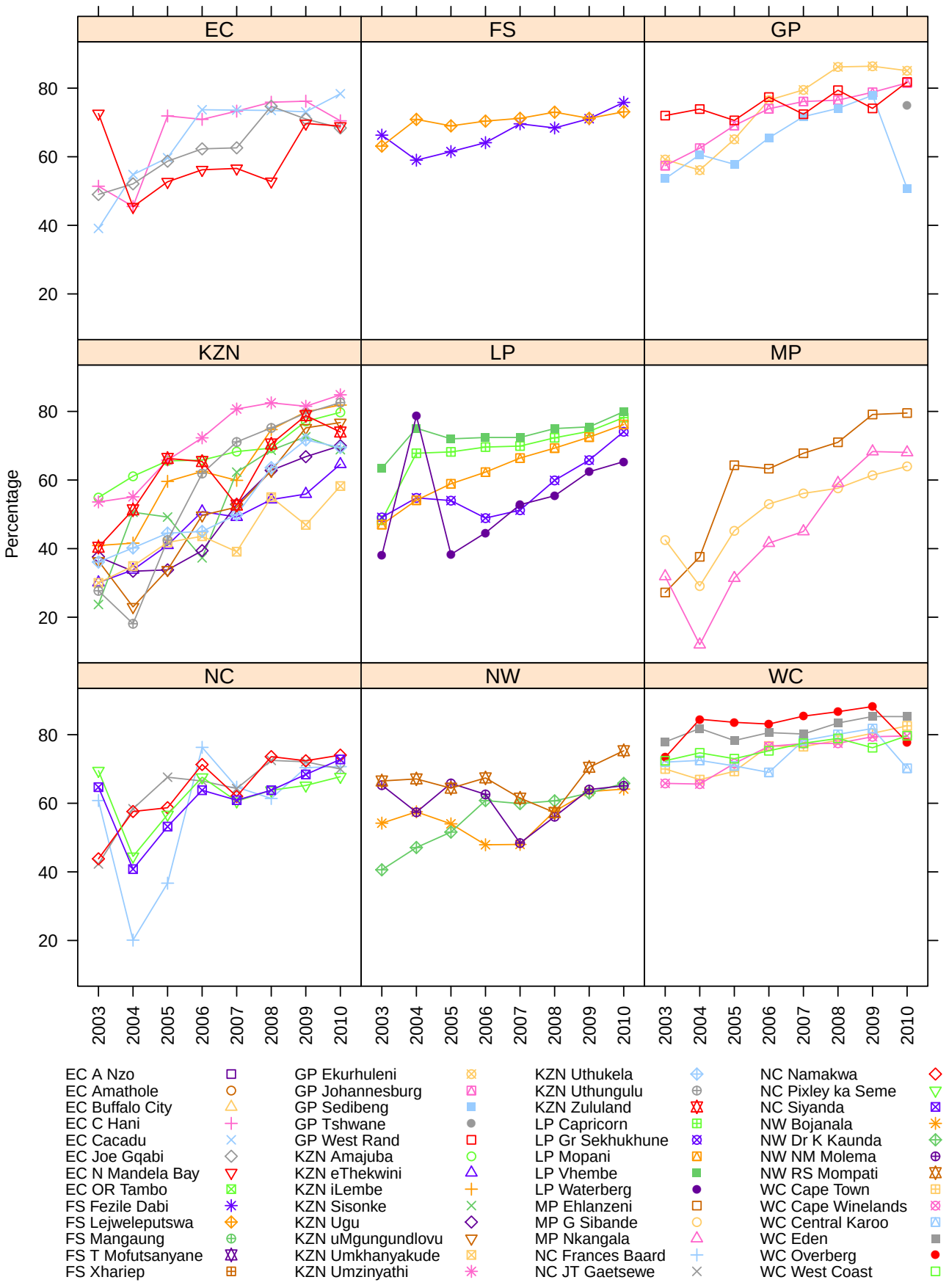


Figure 4: Annual trends: TB cure rate (new Sm+)



8.3 New smear positive TB defaulter rate

The new smear-positive PTB defaulter rate was first included in the 2010/11 edition of the District Health Barometer.

The target for defaulter rate is less than 6%. Although there is an improvement in the national defaulter rate from 7.1% in 2009 to 6.8% in 2010, this was contributed to by only four provinces – Gauteng, KwaZulu-Natal, Limpopo and Western Cape. The other five provinces have either shown no change or an increase in the defaulter rate.

At a district level the defaulter rates vary considerably across the country from a high of 12.2% in Central Karoo (WC) to a low of 1.5% in Umzinyathi (KZN) (Figure 5). It is encouraging that there are five districts with defaulter rates of less than 4% and there has been a sharp decline in the defaulter rates in Waterberg and Greater Sekhukhune (both LP). Of concern, however, is the situation in the three districts with the highest defaulter rates in the country. Firstly, the high defaulter rate in Central Karoo is surprising as not only were the treatment outcomes in Central Karoo amongst the best in the country a few years ago but the district has comparatively fewer TB patients (in 2010 there were only 228 patients with smear-positive TB). It is thus likely that this poor performance is due to data quality issues. Secondly, since the burden of TB in eThekwini (KZN) and Nelson Mandela Bay (EC) metros is very high, the implication of a high defaulter rate is that many patients are not being successfully treated and are at risk of developing MDR-TB. Over the last year a sharp rise in defaulter rates is noted in Chris Hani (EC), Nkangala (MP), Namakwa and Frances Baard (both NC) and Overberg (WC) (Figure 6). The TB services in all these districts require urgent attention and immediate action.

Figure 5: TB defaulter rate (new Sm+) by district, 2010

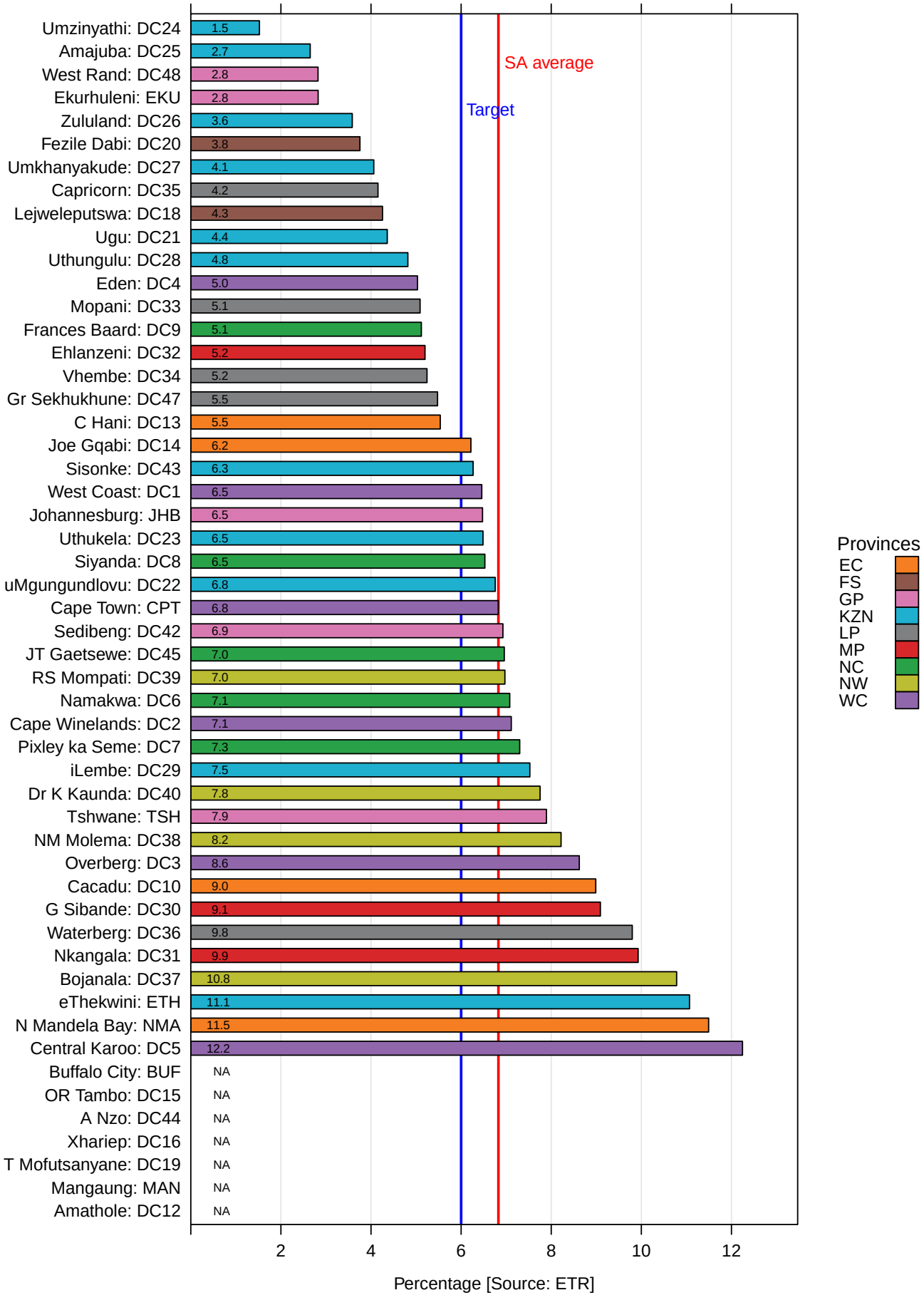
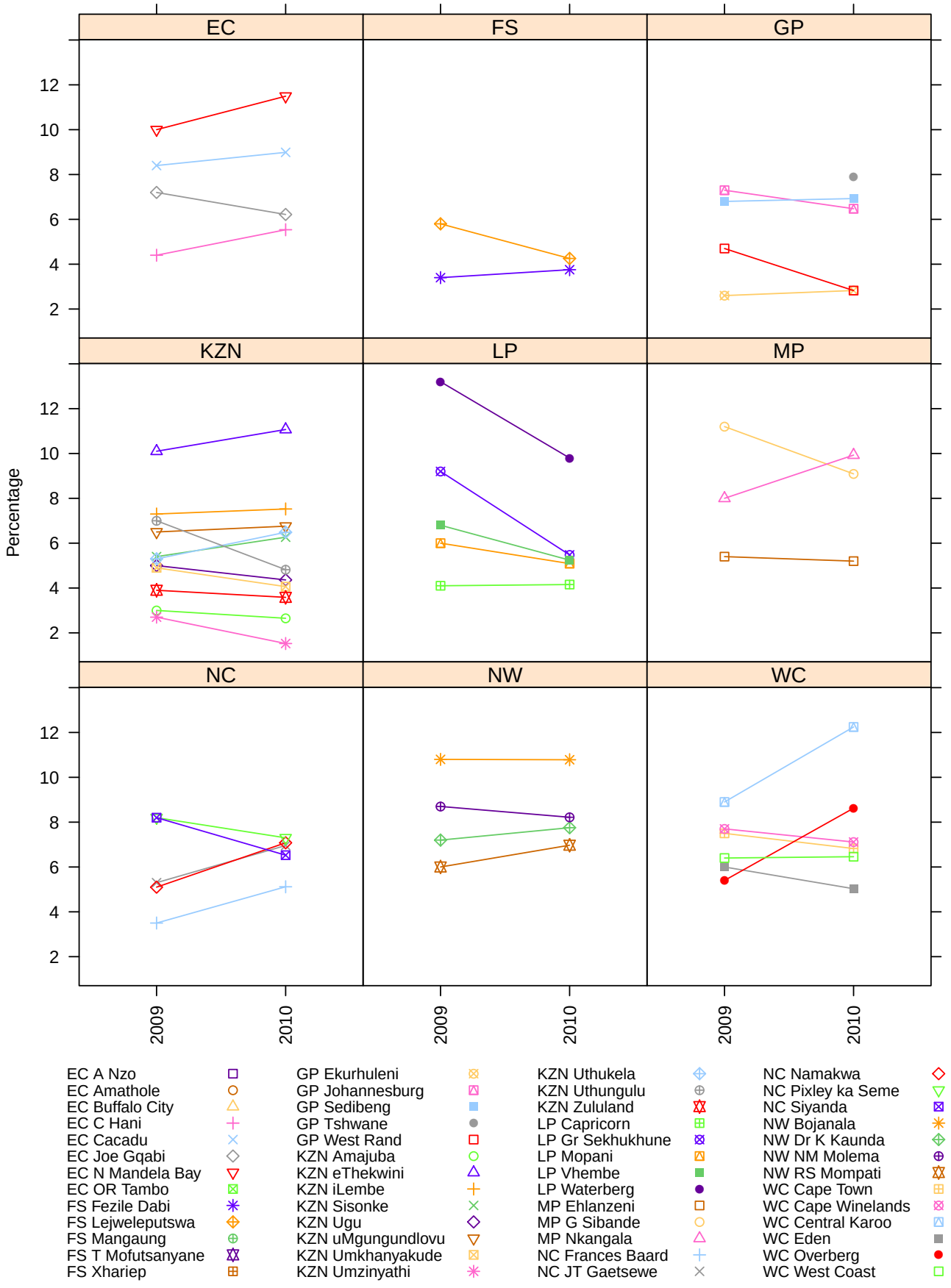


Figure 6: Annual trends: TB defaulter rate (new Sm+)



References

1 World Health Organization. Global Tuberculosis Control. WHO Report 2011 WHO/HTM/TB/2011.16; 2011.