4 Delivery

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This chapter covers several aspects of maternal health related to delivery as well as indicators of obstetric and intrapartum care. The following indicators are presented: delivery in facility under 18 years rate, delivery by Caesarean section rate, maternal mortality in facility ratio, stillbirth in facility rate, inpatient early neonatal death rate, and mother postnatal visit within 6 days rate.

The indicators represent what is happening at public health facilities in South Africa, with only a small number of private facilities providing data to be incorporated into the District Health Information Software (DHIS).

In 2014/15, the DHIS recorded 964 901 deliveries (17 506 more than in 2013/14), 238 264 Caesarean sections (7 785 more than in 2013/14), 958 252 live births and 20 214 stillbirths.

The main development of interest in the past year was the launch of the MomConnect[a] project in Tshwane Metro in August 2014. Cell phone technology is used to register all pregnant women who attend both public and private health care. MomConnect provides information and instructions on a healthy pregnancy, delivery, care of the newborn, and care of infants up to one year. It also enables pregnant women to ask questions and to send unsolicited complaints and compliments about health services.

This project is run by the National Department of Health (NDoH). It has many implementing partners including funding from Pepfar, Johnson and Johnson and the Elma Foundation. MTN, Cell C, Telkom and Vodacom have all provided discounted telecommunication rates.

Between the launch and May 2015, 383 354 pregnant women were registered on the system[b] and provided with information. The goal is for all 1.2 million women who become pregnant annually to be registered on MomConnect.

There were 1 553 compliments in the time period; although diverse, they were mainly positive feedback on the MomConnect programme itself, good service and excellent quality of care delivered by individual nurses.

There were 290 complaints. Their nature also varied but the three main issues were: long queues and long waiting times in public health facilities, rude and unfriendly health workers, and drug stock-outs. The NDoH is aware of this and plans are being made to address this.[c]

MomConnect is being evaluated by a consortium formed by the University of Stellenbosch and the University of the Western Cape to assess the impact of the project on pregnancy, childbirth and infant care.

4.1 Delivery in facility under 18 years rate

The delivery in facility under 18 years rate indicator measures the proportion of all deliveries that occur among women younger than 18 years. The numerator is the number of deliveries among women under 18 years of age, while the denominator represents all deliveries that have been recorded at health facilities in South Africa.

This outcome indicator is used as a proxy to track success in the prevention of teenage pregnancies. It also assists in tracking the improvements in maternal health as outlined in Millennium Development Goal (MDG) 5b.

The proportion of under-18 deliveries in facilities in South Africa is on the decline and decreased from 7.8% in 2013/14 to 7.4% in 2014/15. Overall, 71 583 young women under the age of 18 gave birth in South Africa in 2014/15. This is 2 487 less than in 2013/14.

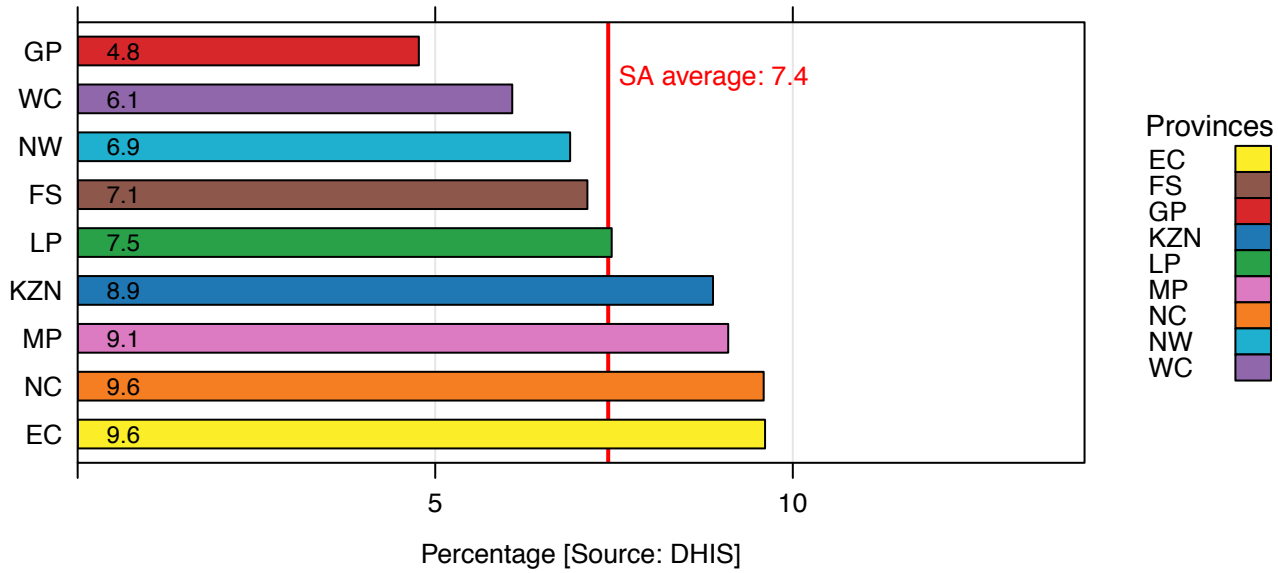
The highest proportions of under-18 deliveries were in the Northern Cape (NC) and Eastern Cape (EC) (Figure 1). Both had rates of 9.6% and in both provinces the rates declined from the 2013/14 value. The lowest rate was once again in Gauteng Province (GP) (4.8%). The rate decreased in all provinces except Mpumalanga (MP) and Free State (FS) where it remained stable at 9.1% and 7.1% respectively. In absolute numbers, the province with the highest number of teenage pregnancies was KwaZulu-Natal (KZN) (18 101), followed by the Eastern Cape (11 179) and Gauteng (10 185), with Northern Cape the lowest (2 164).

a MOMCONNECT. Available from: http://www.rmchsa.org/momconnect/ [accessed 25 August 2015]

b Minister Aaron Motsoaledi: Health Department Budget Vote 2015/16. Available from: http://www.gov.za/speeches/minister-aaron-motsoaledi-health-dept-budget-vote-201516-5-may-2015-0000 [accessed 25 August 2015]

c Newsletter of the HIV, TB AND MNCWH Cluster, 6 May 2015. Available from: http://www.rmchsa.org/wp-content/uploads/2013/05/HIV_TB_MNCH-Newsletter-May-2015.pdf [accessed 25 August 2015]

Figure 1: Delivery in facility under 18 years rate by province, 2014/15



At district level the delivery in facility under 18 years rate ranged from 4.0% in Johannesburg (GP) to 12.8% in Alfred Nzo (EC) (Figure 2 and Map 1). The latter also had the highest rates in 2012/13 and 2013/14. Four of the five districts with the highest delivery rate in facility under 18 years were in the EC in both 2013/14 and 2014/15. The highest absolute numbers of teenage pregnancies were in eThekwini (KZN) (4 629), OR Tambo (EC) (3 846) and Ehlanzeni (MP) (3 837).

Eight of the 11 NHI pilot districts had under-18 delivery rates higher than the national average. The rates varied from 5.0% in Tshwane (GP) to 11.5% in OR Tambo (EC). This pattern was unchanged from 2013/14.

An overview of annual trends for the districts shows that there were downward trends in some provinces, with a fair amount of fluctuation (Figure 3). There was a notable decline of 2.5 percentage points in Johannesburg (GP). In contrast, Xhariep (FS) had the highest increase of 3.3 percentage points.

Metro areas had lower rates than non-metro areas, although overall the highest absolute number of deliveries in facility under 18 years occured in the metros. The poorest districts (socio-economic quintile (SEQ)1) also had the highest rates compared with wealthier districts (SEQ5) (see Figure 4). The gap between SEQ5 and SEQ1 is increasing over time.

Participants at DHB workshops conducted in 2014 suggested that the following factors were contributing to high teenage pregnancy rates:

- Poverty, which makes the child support grant appear attractive as a source of income (although it is only R330 per child per month)[d]
- Low levels of education and high illiteracy rates in the district
- Family planning service not accessible and available at all times
- Youth reluctant to use contraception; this is exacerbated by lack of youth-friendly services, and school health service staff not allowed to provide family planning services at schools
- Peer pressure
- Poor prospects for the future, such as already failing at school

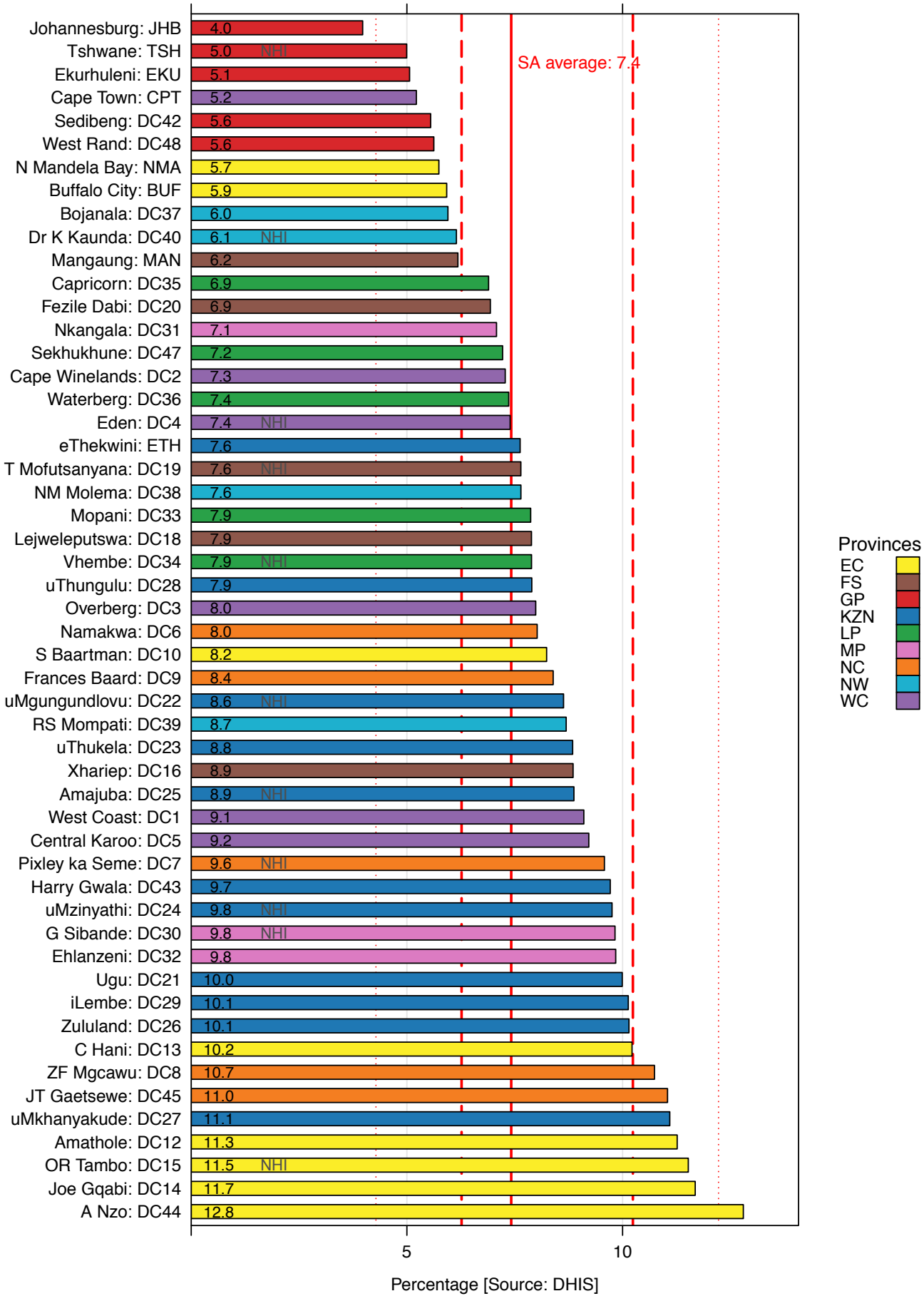
These views contrast with views of the NDoH and United Nations Population Fund (UNFPA) which support the notion that one of the main drivers of teenage pregnancy in sub-Saharan Africa is a lack of family planning and not the support grant.[e]

In conclusion, while the delivery in facility under 18 years rate is decreasing, it remains high, with 1 in 14 deliveries in the country involving young women below the age of 18. Access to family planning, education and incentives are important to further reduce the number of deliveries in women under the age of 18.

d Child support grant. Available from: http://www.gov.za/services/child-care-social-benefits/child-support-grant [accessed 25 August 2015]

e Minister of Health Budget Vote Speech, 23 July 2014. Available from: http://www.pmg.org.za/briefing/20140723-minister-health-budget-vote-speech [accessed 25 August 2015]

Figure 2: Delivery in facility under 18 years rate by district, 2014/15



Map 1: Delivery in facility under 18 years rate by sub-district, 2014/15

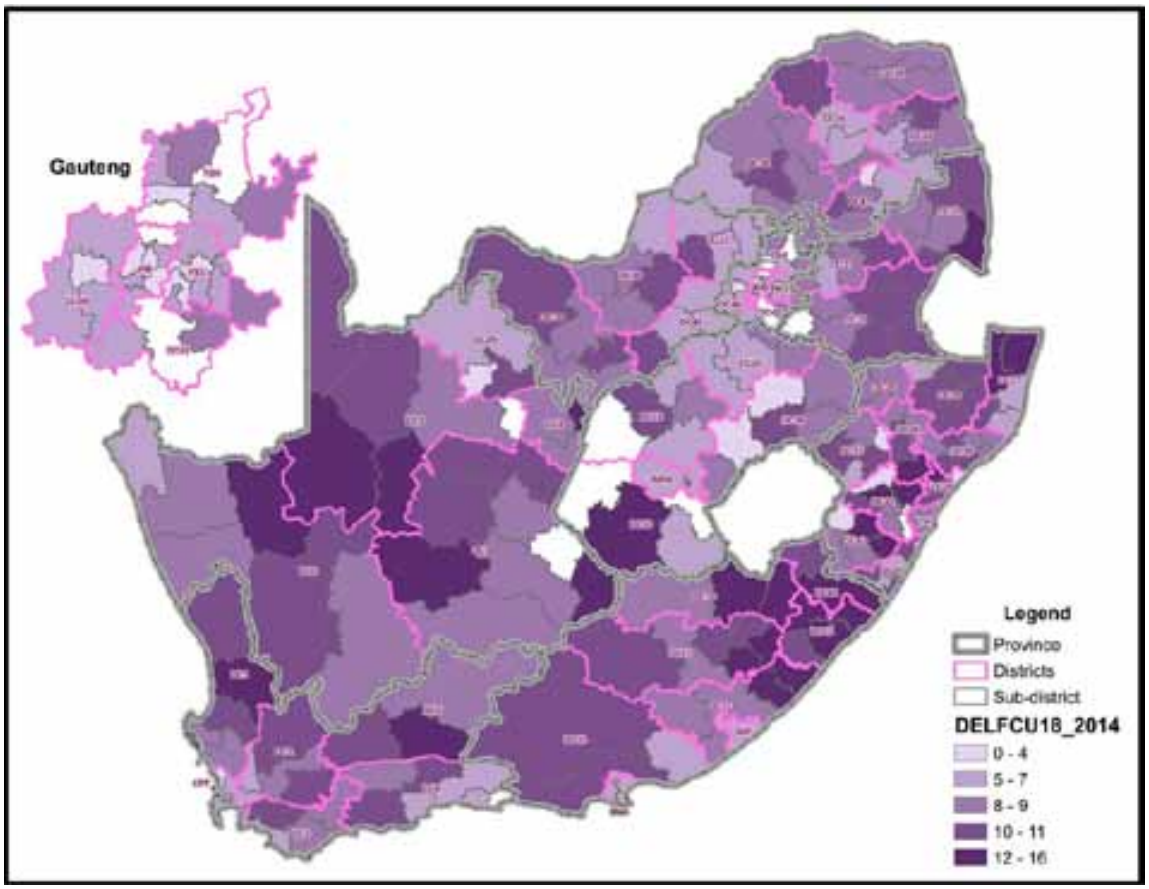


Figure 3: Annual trends: Delivery in facility rate under 18 years

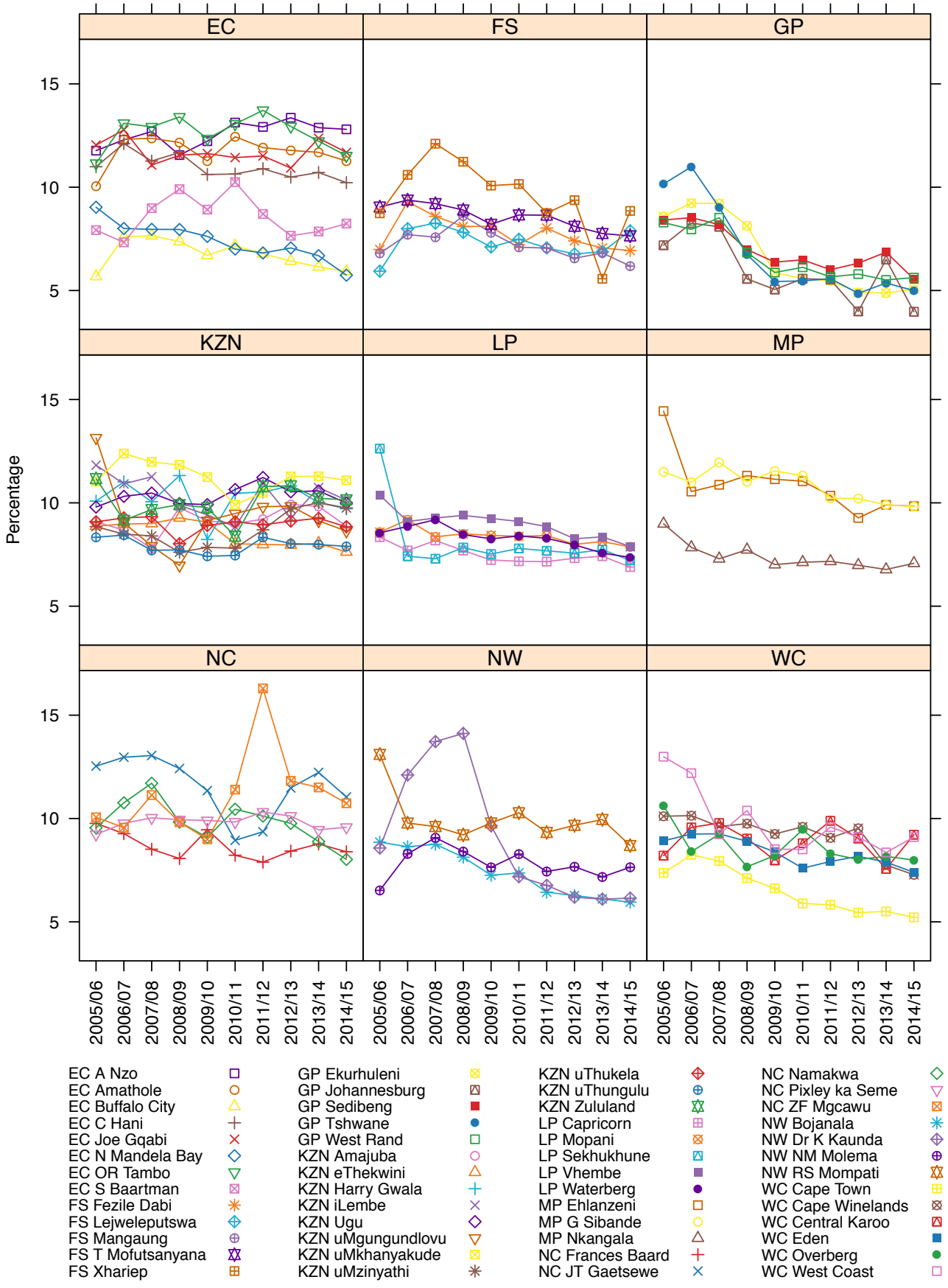
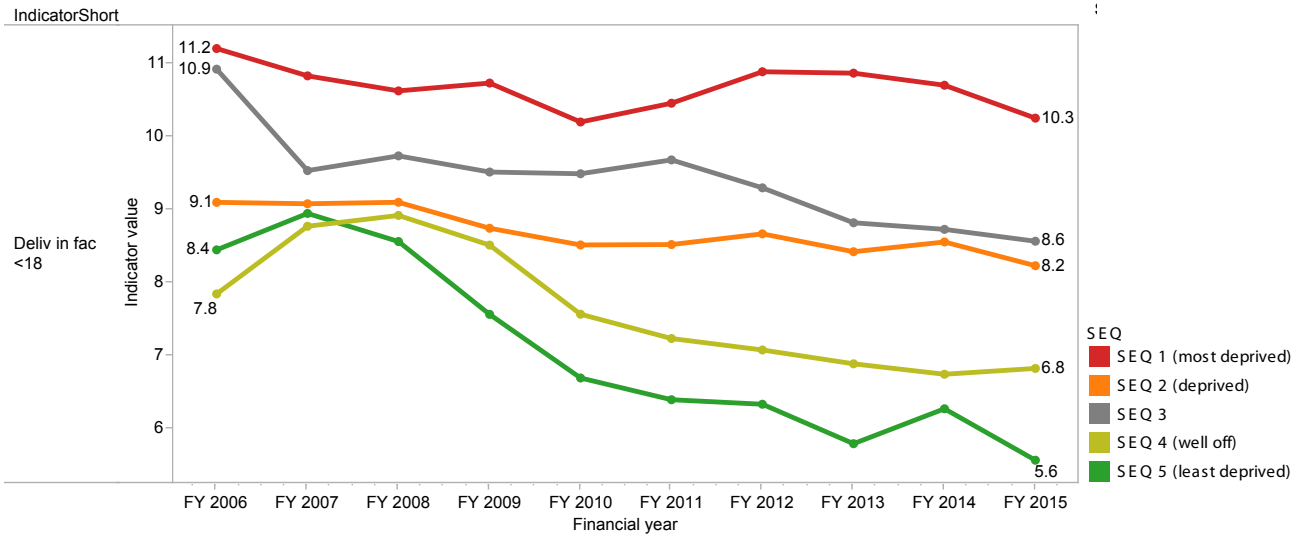


Figure 4: Trends in average district values by SEQ for delivery in facility under 18 years rate



4.2 Delivery by Caesarean section rate (district hospitals)

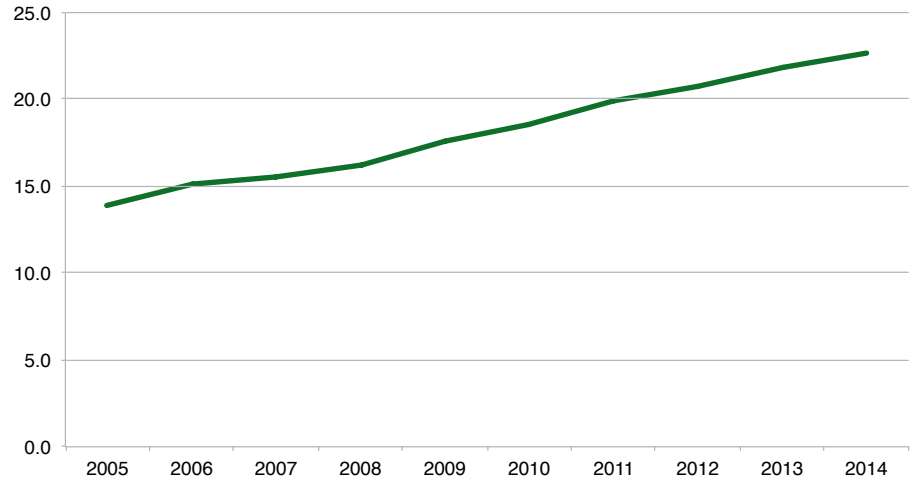
The Caesarean section (C-section) rate is an important indicator of access to essential obstetric care; it measures the proportion of deliveries in hospitals that are done by C-section. The numerator is the number of C-sections conducted in the facility, and the denominator is the number of deliveries that took place in that facility over the same time period. If a woman delivers more than one child on one occasion it is counted as one delivery and two (or more) births, irrespective of the method of delivery. Where one child (or more) is delivered normally (vaginal), and one (or more) by a more complex method (e.g. C-section), the delivery is recorded in terms of the more complex method, i.e. 'Caesarean delivery'.

It is therefore a facility-based and not a population-based indicator. This chapter focuses on C-sections performed at district hospitals.

The C-section rate is high, which is a matter of concern.[f,g] The debate continues as to what a reasonable C-section rate should be in a country. A recent study[h] concluded that once C-section rates reached 10%, with adjustment for the human development index and the gross domestic product, further increases in the rate had no impact on maternal, neonatal, and infant mortality rates.

The overall national C-section rate trends are shown in Figure 5, with a national average of 22.7% in 2014/15.

Figure 5: National delivery by Caesarean section rate trends 2005/06–2014/15 (Percentage)



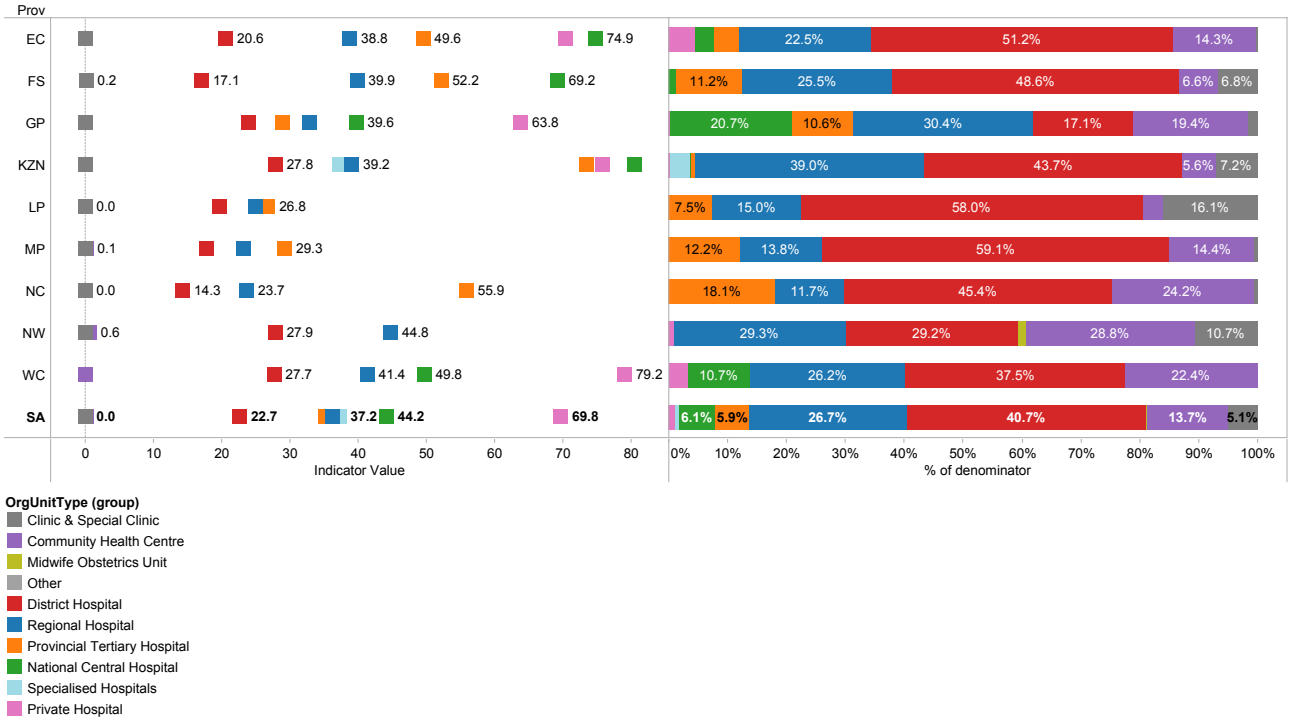
f Caesarean section rates in South Africa 'recklessly high'. 24 September 2014. Available from: http://www.theguardian.com/world/2014/sep/24/caesarean-section-south-africa [accessed 25 August 2015]

g Caesars safer - for doctors. 22 September 2014. Available from: http://www.timeslive.co.za/thetimes/2014/09/22/caesars-safer-for-doctors [accessed 25 August 2015]

h Ye J, Betran AP, Guerrero Vela M, Souza JP, Zhang J. Searching for the optimal rate of medically necessary Caesarean delivery. Birth. 2014;41(3):237-44. Epub 2014/04/11.

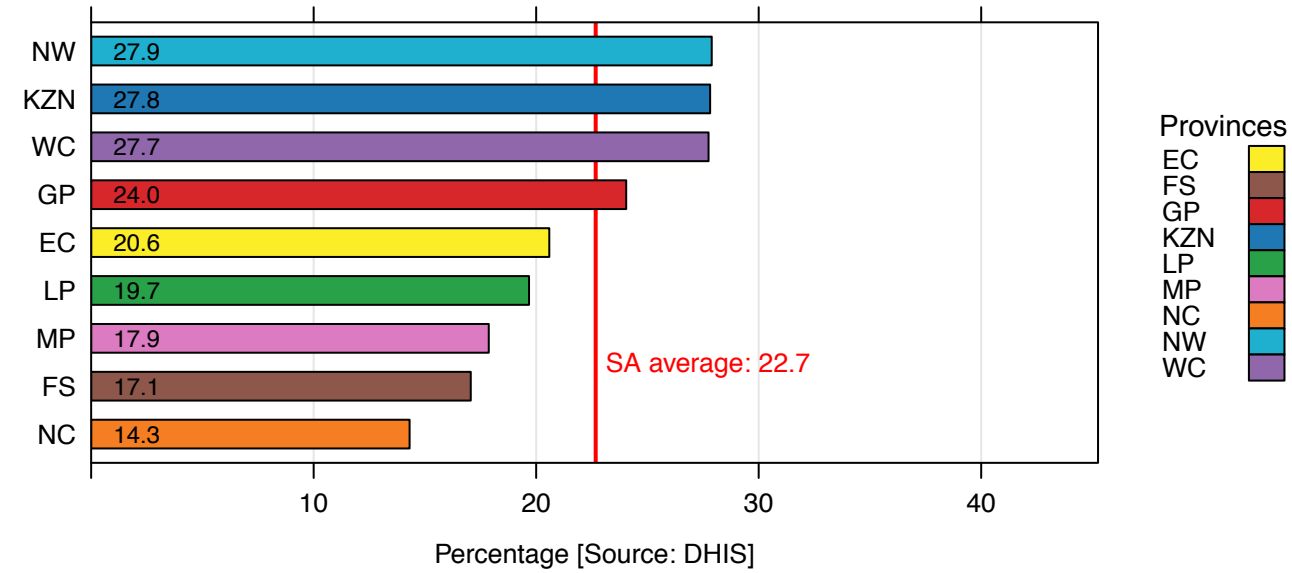
The proportion of births differed considerably at different levels of care, as shown in Figure 6. In some provinces, district hospitals contributed more than half of the births. The proportion of district hospital births ranged from a high of 58.0% in Limpopo (LP) to a low of 17.1% in Gauteng.

Figure 6: Caesarean section rate by level of care, 2014/15



The national C-section rate increased from 21.8% in 2013/14 to 22.7% in 2014/15. There was a large variation in the C-section rate among provinces. The highest rate was in the North West (NW) (27.9%) and the lowest in the Northern Cape (14.3%) (Figure 7). The C-section rate in district hospitals increased in seven of the provinces in 2014/15, with the highest increase being in the North West (4.7 percentage points). KwaZulu-Natal and the Western Cape (WC) had very similar rates, at 27.8% and 27.7% respectively, and had the second- and third-highest rates among the provinces. Slight declines were noted in the Free State and Mpumalanga, with decreases of 0.5 and 0.2 percentage points respectively.

Figure 7: Delivery by Caesarean section rate (district hospitals) by province, 2014/15



The C-section rate in district hospitals was highest in Nelson Mandela Bay (EC) at 41.1% (Figure 8 and Map 2). This district has had the highest C-section rate in the country for the fourth consecutive year (around 41%). However, only one district hospital in this district (Uitenhage Hospital) also does C-sections on cases referred by the surrounding districts. ZF Mgcawu (NC) again reported no C-sections at district hospitals, as has been the case since 2007/08. Xhariep (FS) reported no C-sections in 2012/13, a rate of 2.0% in 2013/14, and no C-sections again in 2014/15. There were only 915 deliveries in Xhariep in the past year as all complicated cases are referred to other districts.

In the NHI districts, the highest rate was in uMgungundlovu (KZN) (31.7%), and the lowest rate in Thabo Mofutsanyane (FS) (8.7%). This is the same positioning as in 2013/14, although the C-section rate increased by 0.6 percentage points in uMgungundlovu and decreased by 2.0 percentage points in Thabo Mofutsanyane.

The highest increases were in NM Molema (NW), with a 10.4 percentage point increase to a C-section rate of 34.9%, followed by Amajuba (KZN) with a 6.0 percentage point increase and Bojanala with a 4.0 percentage point increase. The greatest declines this year were noted in eThekwini (KZN) (4.2 percentage points), Namakwa (NC) (3.3 percentage points) and Sekhukhune (LP) (2.2 percentage points) (Figure 9).

The C-section rate was higher in district hospitals in metro areas than non-metro areas. The rate remained highest in the wealthiest districts (SEQ5) (Figure 10).

The 10 hospitals with the highest C-section rates are listed in Table 1. The new Zola Jabulani Hospital in Johannesburg has the highest rate. Many of these C-sections were previously done at Chris Hani Baragwanath Hospital.

Table 1: Facilities with the highest reported Caesarean section rates, 2014/15

	Province	District	C-sections (N)	Deliveries (N)	C-section rate (%)
Zola Jabulani Hospital	GP	Johannesburg	941	1 973	47.7
General de la Rey Hospital	NW	NM Molema	974	2 091	46.6
Khayelitsha Hospital*	WC	Cape Town	1 814	4 005	45.3
Wentworth Hospital*	KZN	eThekwini	1 183	2 650	44.6
Mitchells Plain Hospital	WC	Cape Town	1 151	2 595	44.4
Humansdorp Hospital*	EC	Sarah Baartman	774	1 784	43.4
Murchison Hospital*	KZN	Ugu	1 357	3 143	43.2
Dr JS Moroka Hospital*	FS	Mangaung	487	1 182	41.2
Uitenhage Hospital*	EC	Nelson Mandela Bay	1 230	2 990	41.1
Madzikane Ka Zulu Memorial Hospital	EC	Alfred Nzo	887	2 426	36.6

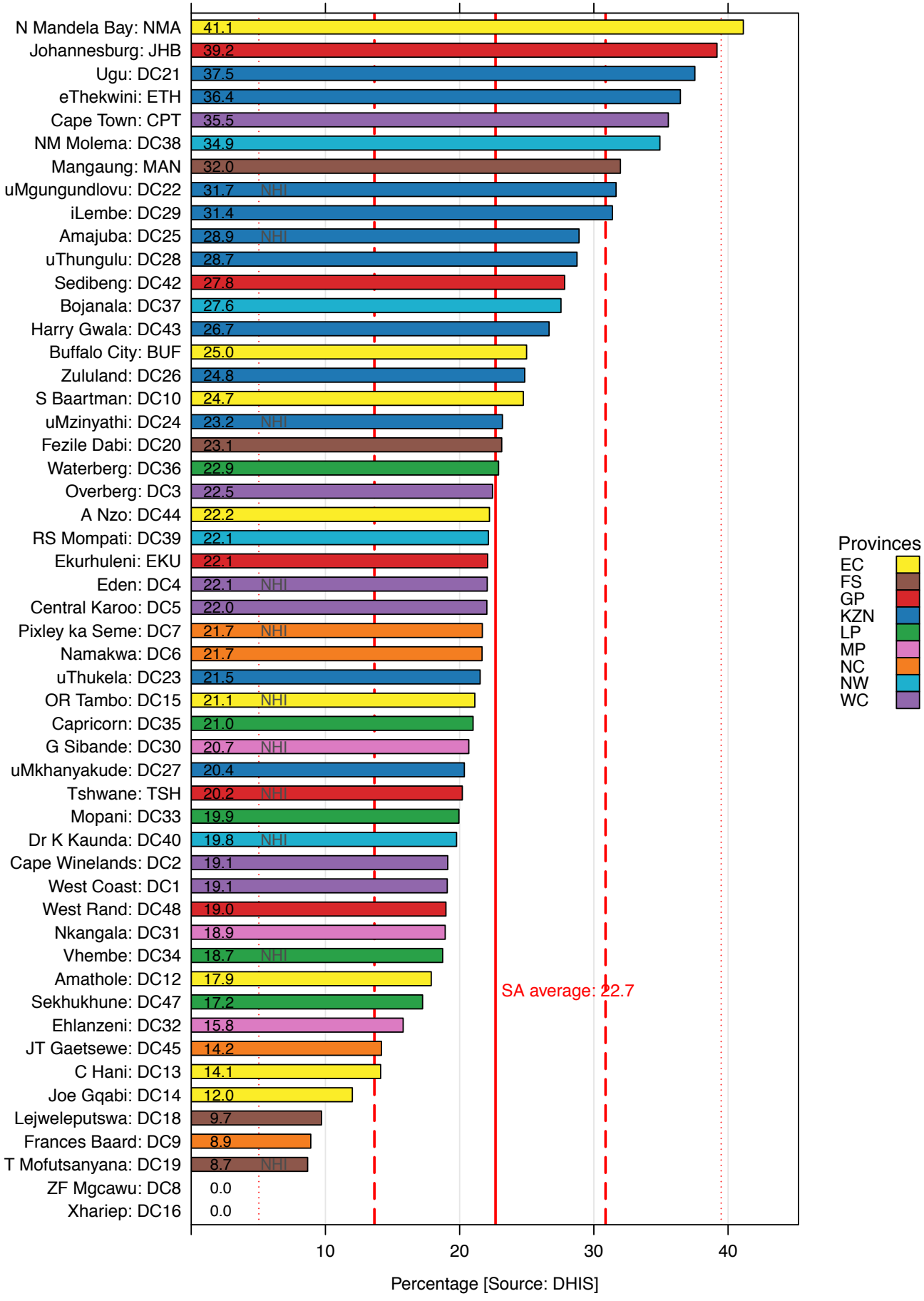
*Also in the top 10 in 2013/14.

Participants at DHB workshops in 2014 suggested the following reasons for the high C-section rates:

- Women take herbal concoctions to induce labour, which often results in foetal distress
- Many high-risk women from neighbouring countries come to South Africa to deliver, and require C-sections
- Women requiring C-sections are referred to regional hospitals due to a shortage of (skilled) doctors at district hospitals
- Some hospitals are training institutions and it was felt that the threshold for surgery was low in order to allow medical interns to 'practice' performing C-sections

Good maternal and foetal outcomes are expected with high C-section rates but this is not always the case in South Africa.

Figure 8: Delivery by Caesarean section rate (district hospitals) by district, 2014/15



Map 2: Delivery by Caesarean section rate (district hospitals) by district, 2014/15

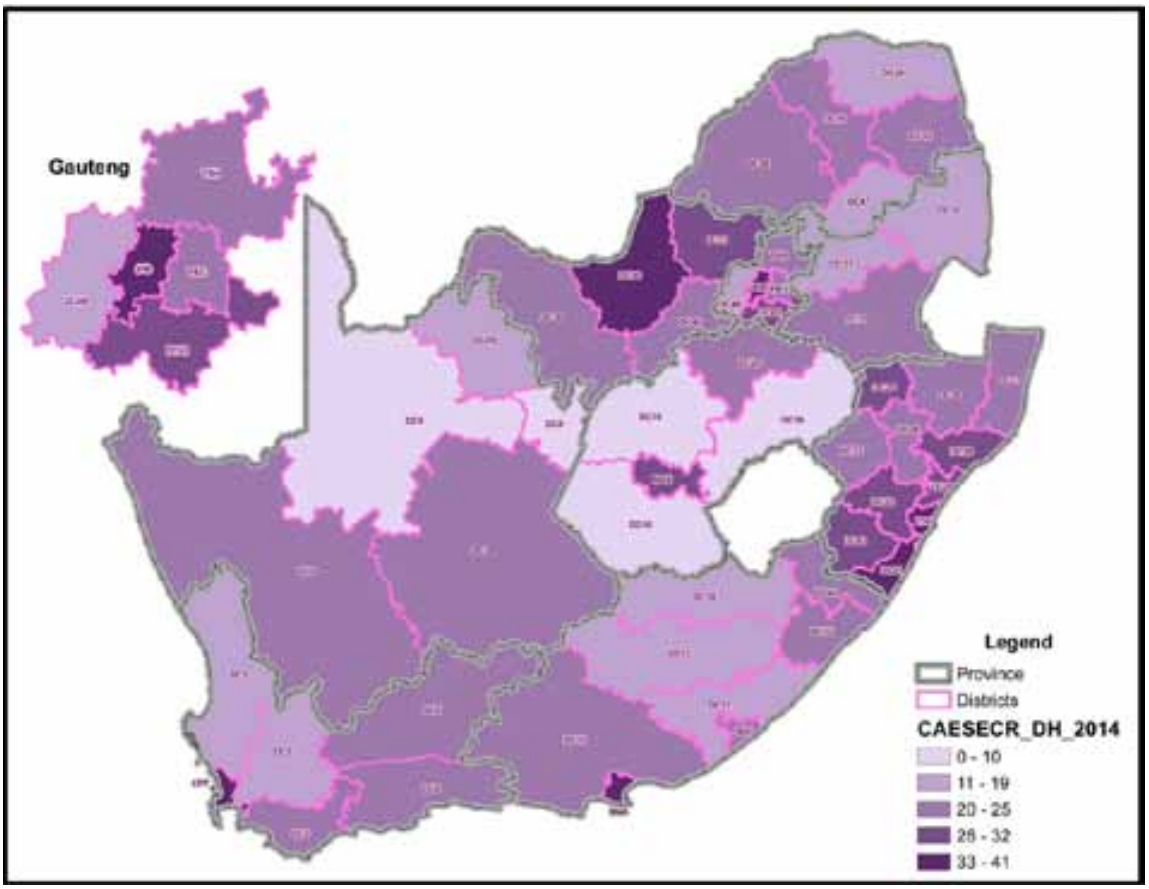


Figure 9: Annual trends: Delivery by Caesarean section rate (district hospitals)

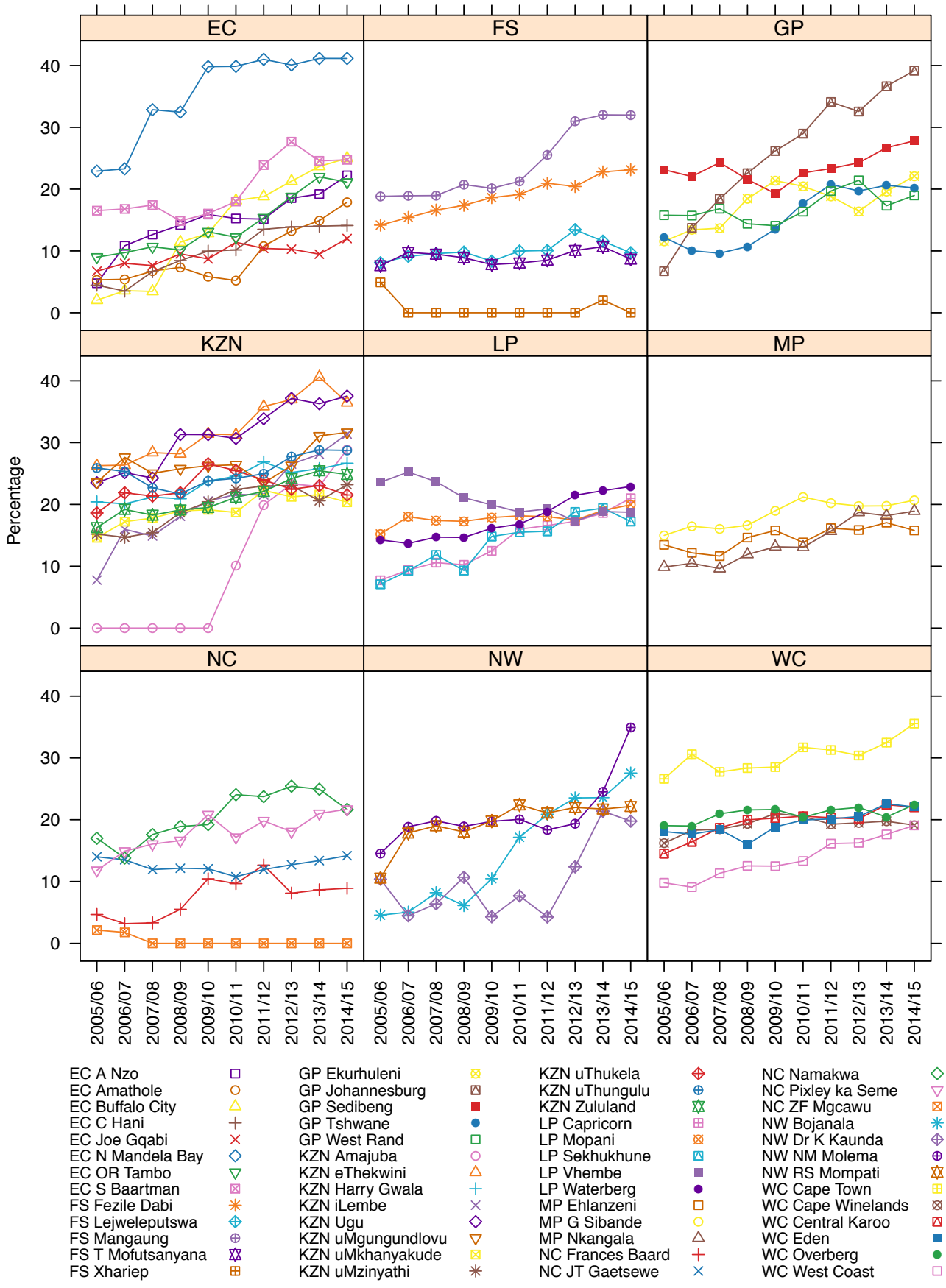
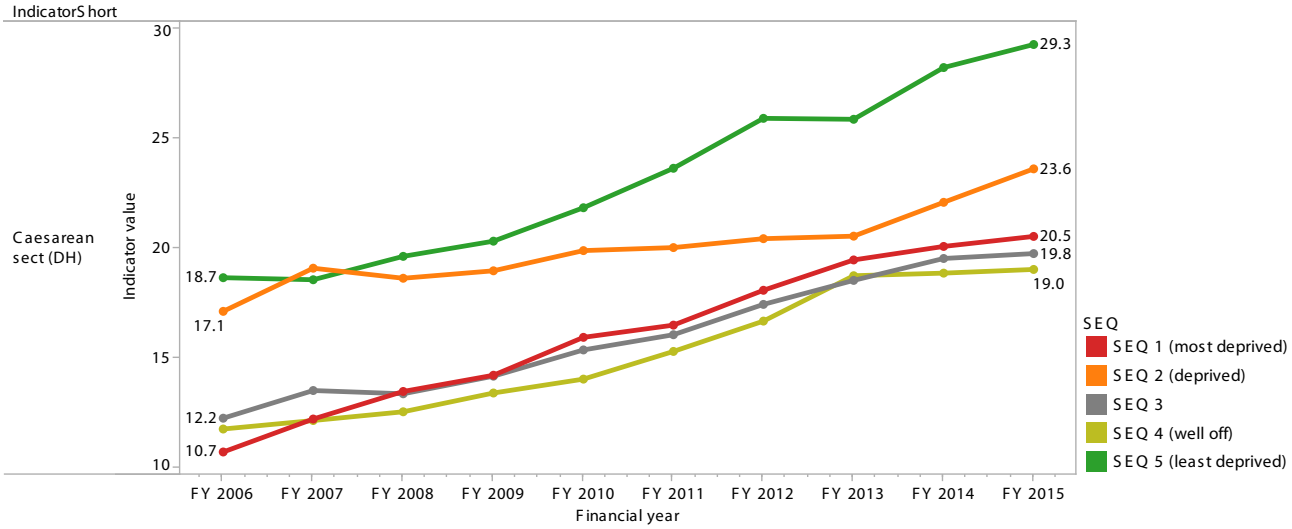


Figure 10: Trends in average district values by SEQ for delivery by Caesarean section rate



4.3 Maternal mortality in facility ratio

The World Health Organization (WHO) definition of a maternal death is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes. The maternal mortality ratio (MMR) is the number of maternal deaths per 100 000 live births.[i]

The MMR can be calculated in various ways. The population-based MMR is estimated from the vital registration system and includes all registered maternal deaths regardless of the place of death.[i] The facility-based MMR (as required for the National Indicator Data Set measures maternal deaths occurring in health facilities, primarily in the public sector, and can be calculated from two sources in South Africa, namely the DHIS and the National Committee on Confidential Enquiries into Maternal Deaths (NCCEMD). DHIS data are available monthly, whereas the NCCEMD is published only every two to three years, with a time-lag. The DHIS information is available more timeously and is disaggregated to facility level.

Maternal mortality is a relatively rare event, therefore year-on-year fluctuations, especially in districts with low numbers of live births, must be treated with caution until there is a much longer time series of data available.

The Sustainable Development Goals (SDGs) will have been launched in September 2015.[c] One of the sub-goals is likely to be to reduce the global MMR to less than 70 per 100 000 live births by 2030.

Results from the 2011–2013 Saving Mothers Report of the NCCEMD were released in 2014.[j,k] Findings show that the MMR is decreasing, which is encouraging. The reason for the decline is mainly related to a decrease in the number of deaths from non-pregnancy-related infections, including HIV-related deaths. The number of maternal deaths with HIV as the underlying cause is expected to decrease further with more HIV-positive pregnant women on antiretroviral treatment. However, there was an increase in the number of deaths due to bleeding during C-sections, and deaths due to medical and surgical conditions. The risk of dying from a C-section is 2.8 times higher than the risk with a normal delivery. However, it was also found that more mothers died following C-sections in provinces where there was a low overall C-section rate. Basic building blocks such as knowledgeable and skilled health care professionals, appropriately resourced health facilities, and rapid emergency transport services are essential to achieve reductions in the MMR.

In 2014/15, there was a marginal decrease in the national institutional MMR (iMMR) from 133.3 to 132.5 deaths per 100 000 live births. The iMMR is now lower than it was in 2012/13 but remains higher than the national target of 100 per 100 000.

There were 1 270 maternal deaths from 958 252 live births. Provincially, the iMMR recorded in the DHIS for 2014/15 ranged from 54 per 100 000 live births in the Western Cape to 254 per 100 000 live births in the Northern Cape (Figure 11).

Three provinces showed increases in the number of maternal deaths: Gauteng (10% increase), Free State (50% increase), and the Northern Cape (100% increase). The increase in the Northern Cape was from 26 deaths among 21 860 live births to 57 deaths among 22 435 live births. This was largely due to 28 deaths reported in February 2015 at Harry Surtie Hospital in

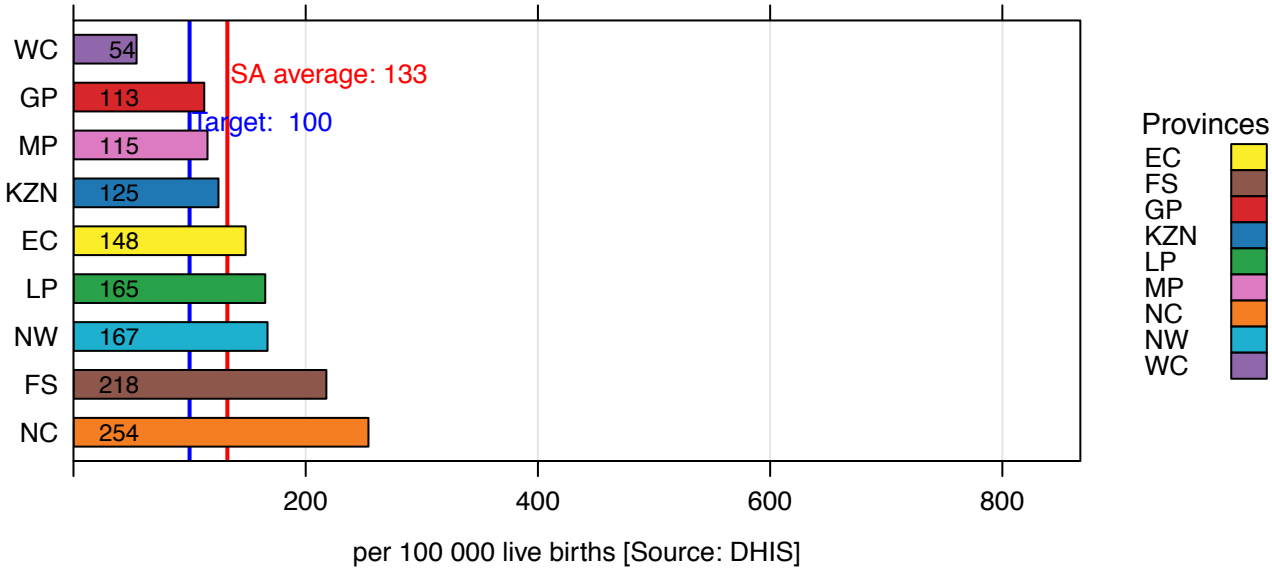
i Health statistics and information systems. http://www.who.int/healthinfo/statistics/indmaternalmortality/en/ [accessed 25 August 2015]

j National Department of Health. Saving Mothers 2011-2013: The Sixth Report of the National Committee for Confidential Enquiries into Maternal Deaths in South Africa. Pretoria: NDoH; 2014.

k Gebhardt GS, Fawcus S, Moodley J, Farina Z. Maternal death and caesarean section in South Africa: Results from the 2011-2013 Saving Mothers Report of the National Committee for Confidential Enquiries into Maternal Deaths. S Afr Med J. 2015;105(4):287-91.

Upington (ZF Mgcawu district). This was most likely a data error and had this not been so the iMMR for the Northern Cape would have been around 129 deaths per 100 000 live births. The iMMR for the district would also have been approximately 119 deaths per 100 000 live births instead of 788, assuming that there were no maternal deaths in February. In this district there were 33 deaths in 2014/15 compared with three in 2013/14. The remaining provinces all showed iMMR decreases, with the most significant decrease occurring in Mpumalanga (from 149.1 per 100 000 in 2013/14 to 115.4 per 100 000 in 2014/15).

Figure 11: Maternal mortality in facility ratio by province, 2014/15



The iMMR recorded in the DHIS by district (Figure 12 and Map 3) ranged from 0 deaths per 100 000 live births in the Overberg (WC) to 788 deaths per 100 000 live births in ZF Mgcawu (NC). The Central Karoo (WC) was second highest at 371, and Capricorn (LP) (which was highest for three years) was third highest with 313 deaths per 100 000 live births.

Five of the 11 the NHI districts had iMMRs above the national average, with Dr Kenneth Kaunda (NW) having the highest iMMR of the NHI sites and the fourth highest iMMR in the country (232 per 100 000). This is lower than in 2013/14. Gert Sibande (MP) had the lowest iMMR of the NHI sites and the third lowest in the country.

Absolute numbers of maternal deaths were highest in Ekurhuleni (GP) (Table 2). The top five districts remained unchanged from 2013/14.

Table 2: Highest absolute number of maternal deaths (district level)

District	Maternal deaths (N)	Live births (N)	Maternal mortality in facility ratio (per 100 000)
Ekurhuleni (GP)	106	62 610	169
Capricorn (LP)	87	27 837	313
OR Tambo (EC)	66	33 252	198
eThekwini (KZN)	60	59 918	100
Johannesburg (GP)	60	66 405	90

The iMMR was slightly higher for the non-metro districts than for metropolitan districts. The iMMR was lowest in the districts in the highest socio-economic quintile (SEQ 5) (Figure 13).

Participants at workshops conducted in 2014 suggested the following reasons for the high numbers of maternal deaths:

- Increase in number of HIV and AIDS maternal cases
- Shortage of ambulances and no standby obstetric ambulance
- Use of traditional medicine by pregnant women
- Alcohol abuse by pregnant women
- Shortage of doctors and therefore an inability to attend to all problem maternity cases
- Late referrals

- Late identification of complications
- Unskilled medical staff
- Complicated home deliveries and delays in these women arriving at hospitals
- Complications of septic abortions

Map 3: Maternal mortality in facility ratio by sub-district, 2014/15

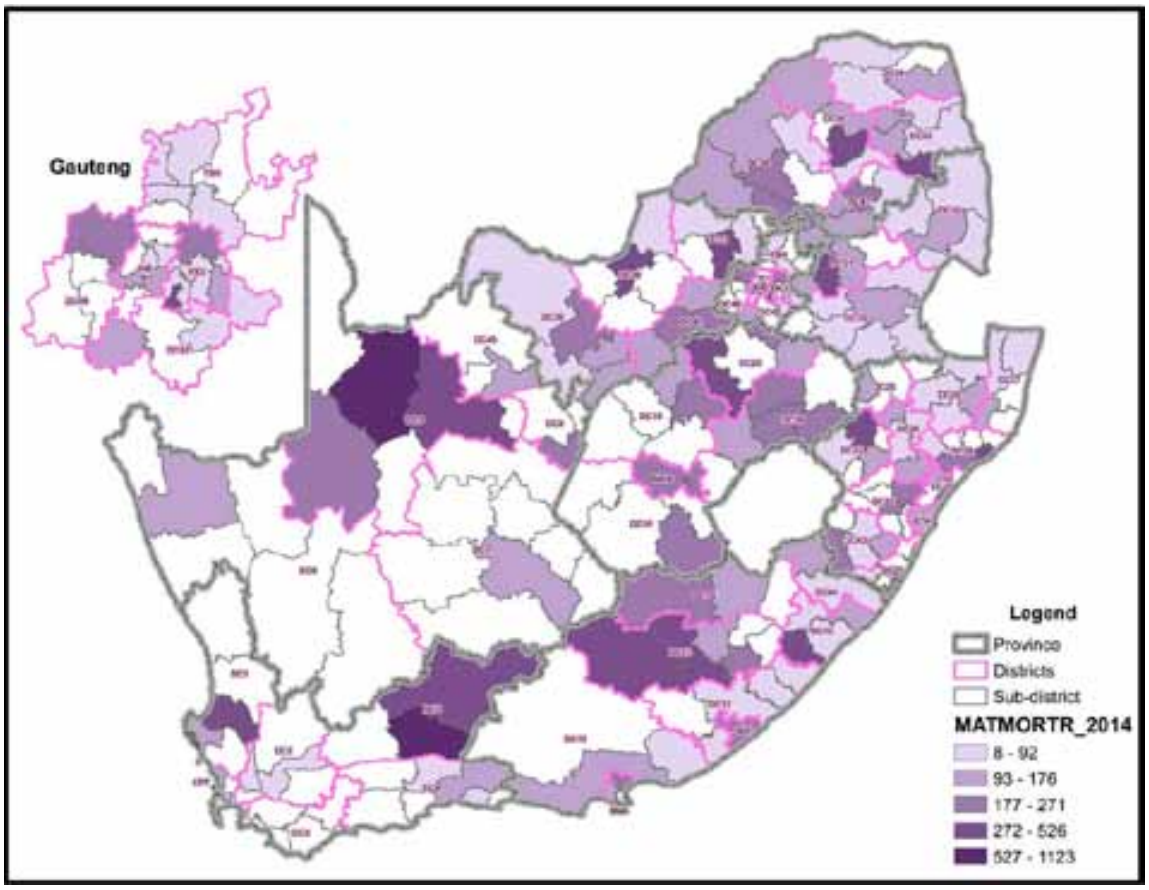


Figure 12: Maternal mortality in facility ratio by district, 2014/15

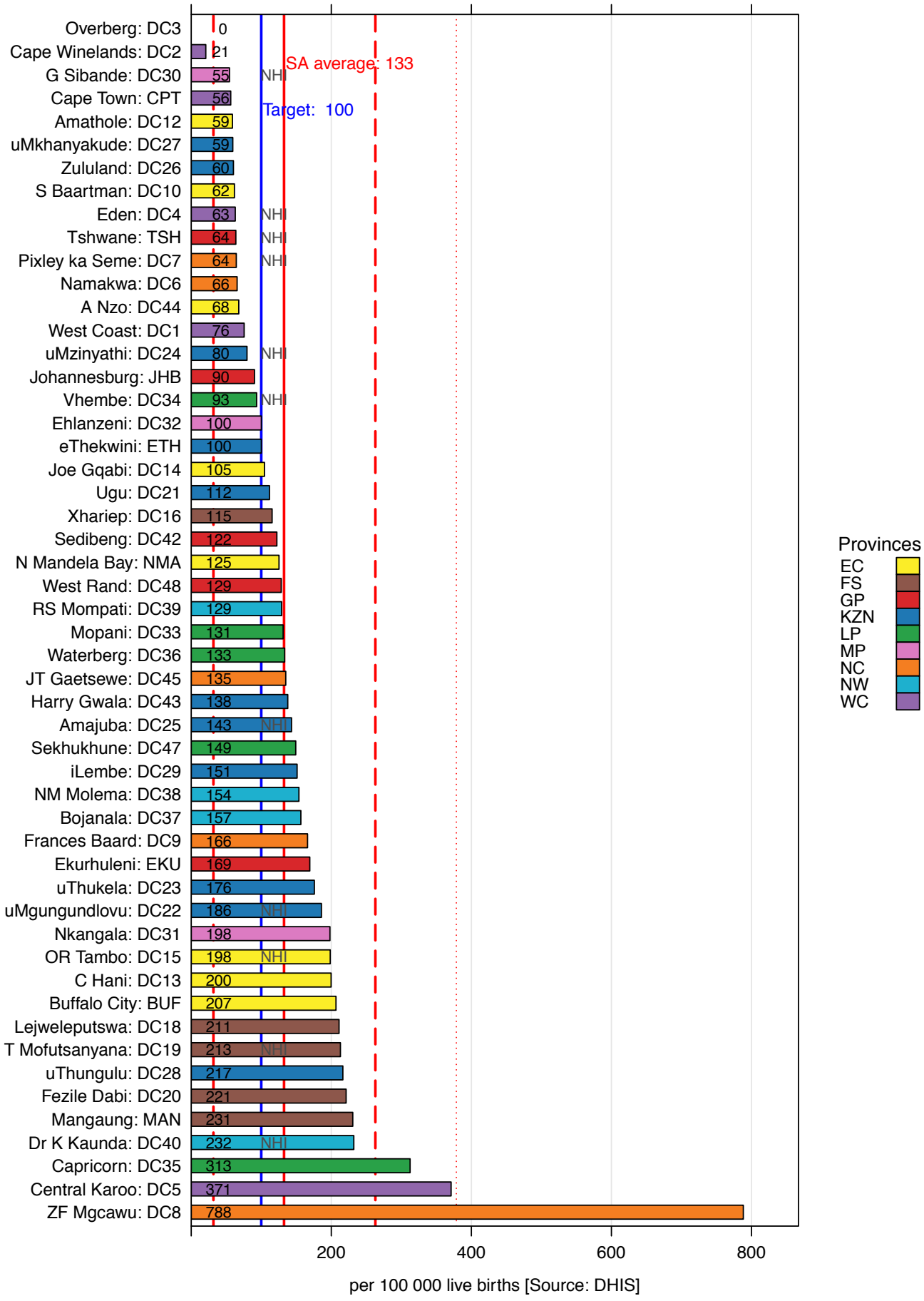
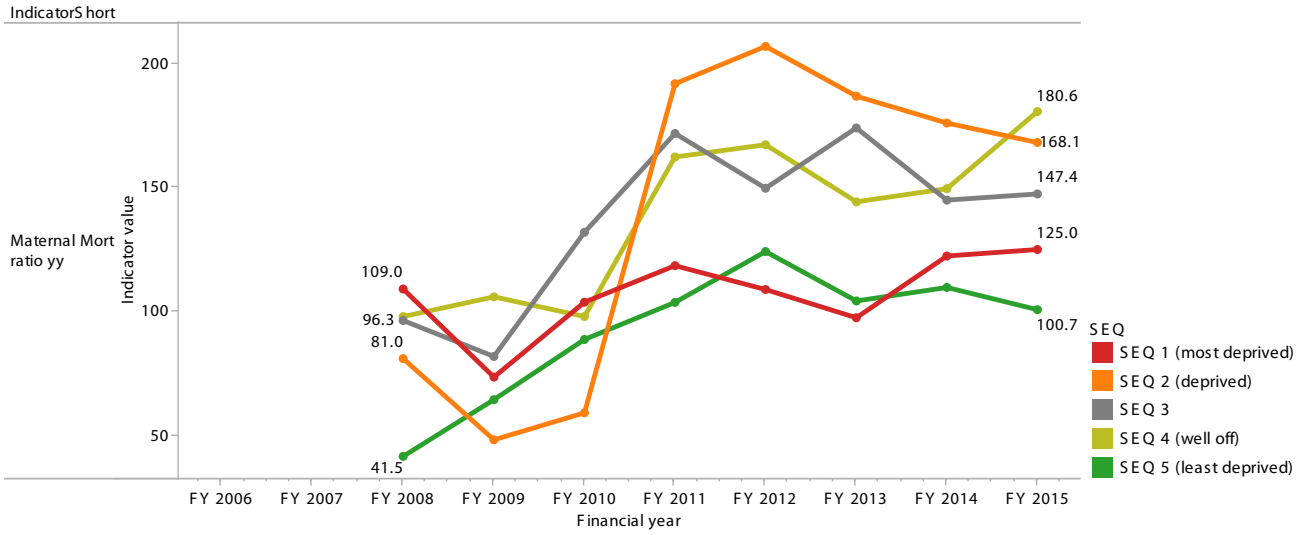


Figure 13: Trends in average district values by SEQ for maternal mortality in facility ratio



4.4 Stillbirth in facility rate

The stillbirth rate is a good indicator of care during the third trimester and intrapartum period. It is therefore one of the key indicators for maternal, newborn, child and women's health (MNCWH) as it is a reflection of foetal, maternal and health system factors.

The stillbirth rate measures the number of babies born dead per 1 000 total births. Only stillbirths that occur in health facilities are reported here, the majority being public health sector facilities along with a limited number of private hospitals and mobile clinics. Deaths outside of these services, such as in the community, are not taken into account.

A stillborn foetus may have been dead (in utero) for some time (macerated) or have died not long before delivery (fresh). The indicator does not differentiate between fresh and macerated stillbirths. Stillbirths should only be counted when the foetus is at 26 or more weeks gestational age and/or weighs 500g or more.

A recent study[l] evaluated the impact and cost-effectiveness of 13 interventions known to prevent stillbirths and maternal and newborn mortality. It was calculated that a 30% reduction in the stillbirth rate could be achieved through implementing these interventions: syphilis detection and treatment, hypertensive disease case management, diabetes case management, provision of magnesium sulphate, management of pre-eclampsia, foetal growth-restriction detection and management, labour and delivery management (essential care, basic emergency obstetric care and comprehensive emergency obstetric care), and induction of labour for pregnancies lasting 41 weeks and more.

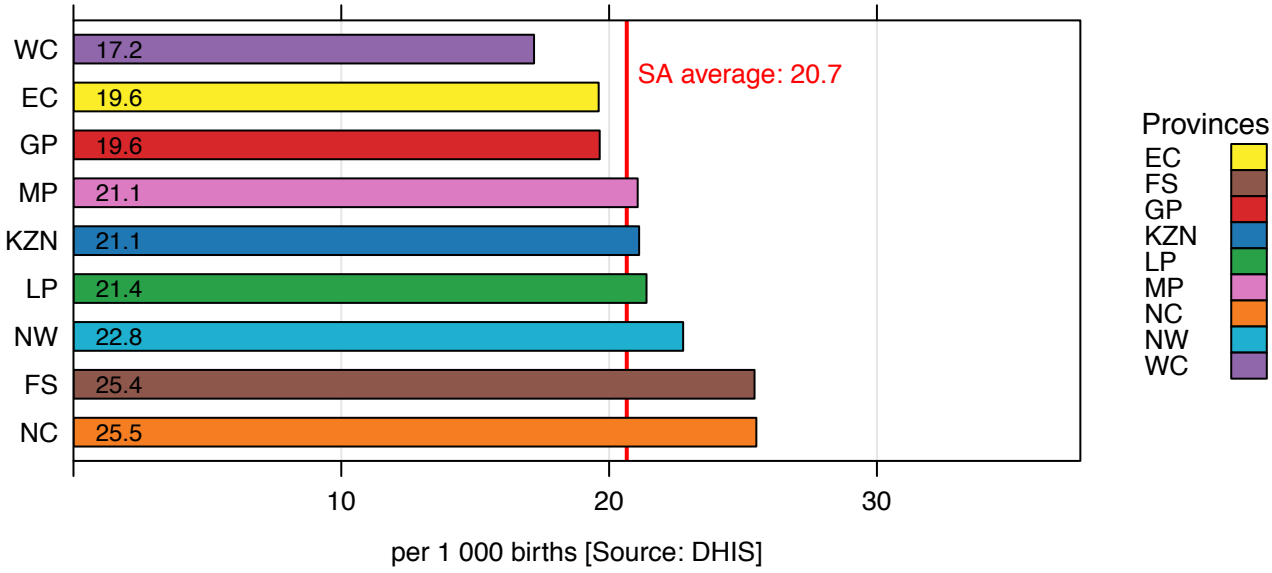
From a maternal point of view, and based on a study done in Mpumalanga,[m] hypertension and obstetric haemorrhage were more likely in women with stillbirths ($p = <0.01$ for both conditions). It is therefore imperative to examine the mother properly to avoid unnecessary postpartum complications.

The national stillbirth rate was 20.7 deaths per 1 000 total births, a decrease from the 2013/14 rate of 21.5, and the lowest rate since 2007/08. The rate was the lowest in the Westen Cape at 17.2 and highest in the Northern Cape at 25.5 per 1 000 births (Figure 14). The rate decreased in all provinces with the exception of Limpopo, which had a slight increase from 21.1 to 21.4 deaths per 1 000 total births over the past year.

l Allanson ER, Pattinson RC. Quality-of-care audits and perinatal mortality in South Africa. Bull World Health Organ. 2015;93(6):424-8. Epub 2015/08/05.

m Michalow J, Chola L, McGee S, Tugendhaft A, Pattinson R, Kerber K, et al. Triple return on investment: the cost and impact of 13 interventions that could prevent stillbirths and save the lives of mothers and babies in South Africa. BMC Pregnancy Childbirth. 2015;15:39. Epub 2015/04/17.

Figure 14: Stillbirth in facility rate by province, 2014/15



At district level there was a 3.5-fold difference between the best- and the worst-performing districts, with Overberg (WC) the lowest at 9.7 per 1 000 births and Namakwa (NC) the highest at 34.2 (Figure 15 and Map 4). There was a 67.8% increase in the stillbirth rate in Namakwa (NC) (from 20.4 to 34.2 per 1 000 births), with 34 stillbirths and 1 669 total births in 2013/14 and 54 stillbirths and 1 580 total births in 2014/15. There was also a 35.6% increase in the West Coast (WC) and 13.3% increase in uThukela (KZN). The largest deceases were noted in Amajuba (KZN) (47.6% decrease), Zululand (KZN) (27.6% decrease) and Amathole (EC) (21.1% decrease). The rate was highest in uMgungundlovu (KZN) in 2013/14 at 32.4, but it decreased to 27.9 per 1 000 births in 2014/15. Among the NHI districts, the best-performing district was Amajuba (KZN) at 14.6 per 1 000 births, with uMgungundlovu (KZN) 1.8-fold higher than Amajuba at 27.9 per 1 000 births.

Many districts still showed fluctuating trends (Figure 16). Paradoxically, the stillbirth rate was lowest in the poorest districts (SEQ1), followed by SEQ5, and highest in SEQ4 (Figure 17). The rate was also similar in metro and non-metro areas, although the range was wider and included lower values in the non-metro areas.

Participants at DHB workshops in 2014 suggested the following reasons for high stillbirth rates:

Patient-related factors:

- Some women attend illegal abortion clinics where late abortions are allowed; when complications arise, they are referred to hospital where their babies are delivered as stillbirths
- Alcohol abuse during pregnancy
- HIV-positive pregnancies
- No or poor antenatal attendance

Administrative factors:

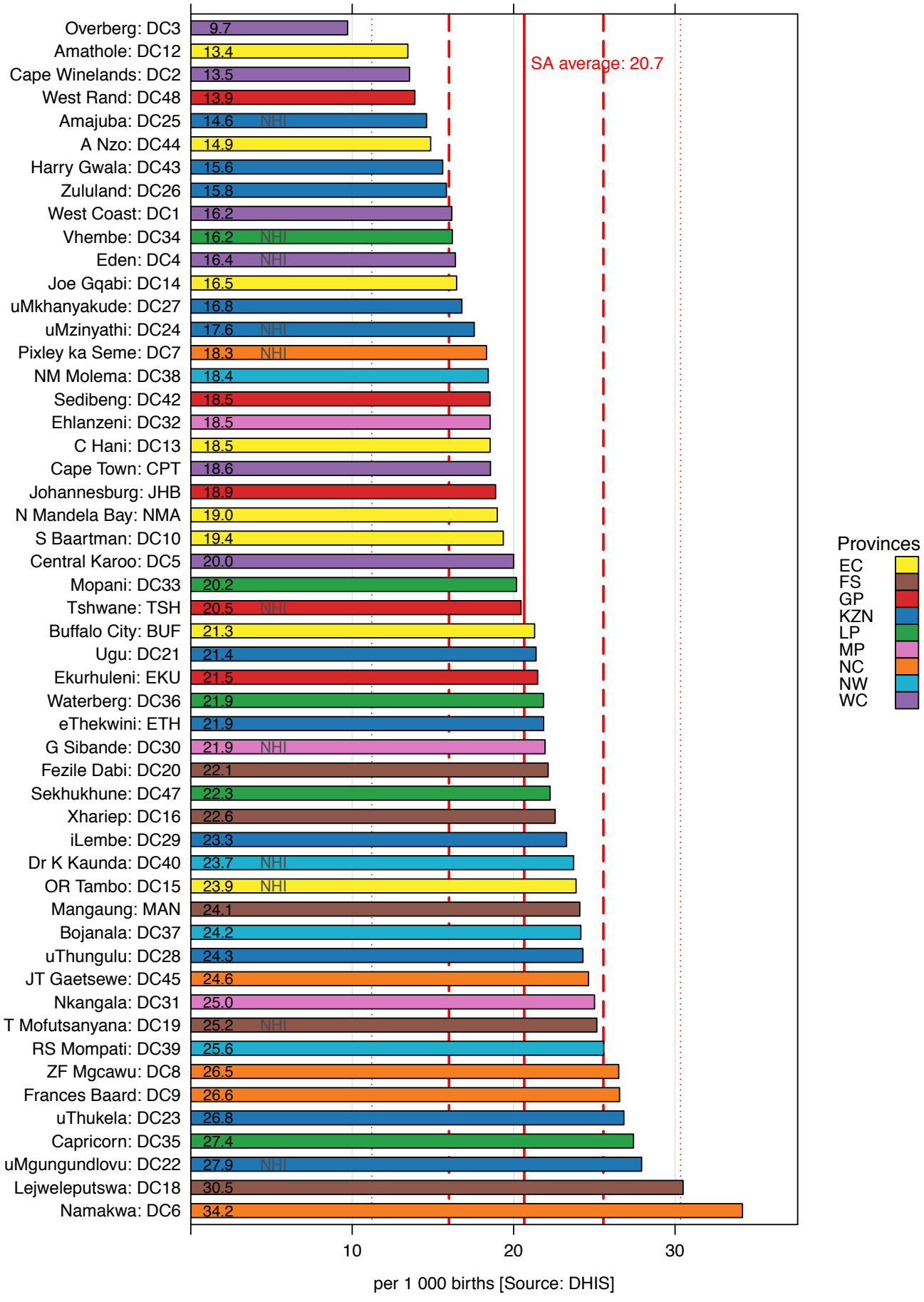
- Transport problems resulting in delayed arrival at the facility or referral hospital

Professional factors:

- Delayed response to poor foetal condition
- Late referrals
- Unskilled medical staff
- Poor antenatal care (not identifying risk factors) and poor quality of care in the labour ward
- Communication problems between staff and patients

Although the stillbirth rate is slowly declining, it is still higher than desired and higher than in many comparable countries. On-going efforts to improve antenatal and intrapartum care are required; if the interventions mentioned previously are implemented, this should further decrease the stillbirth rate.

Figure 15: Stillbirth in facility rate by district, 2014/15



Map 4: Stillbirth in facility rate by sub-district, 2014/15

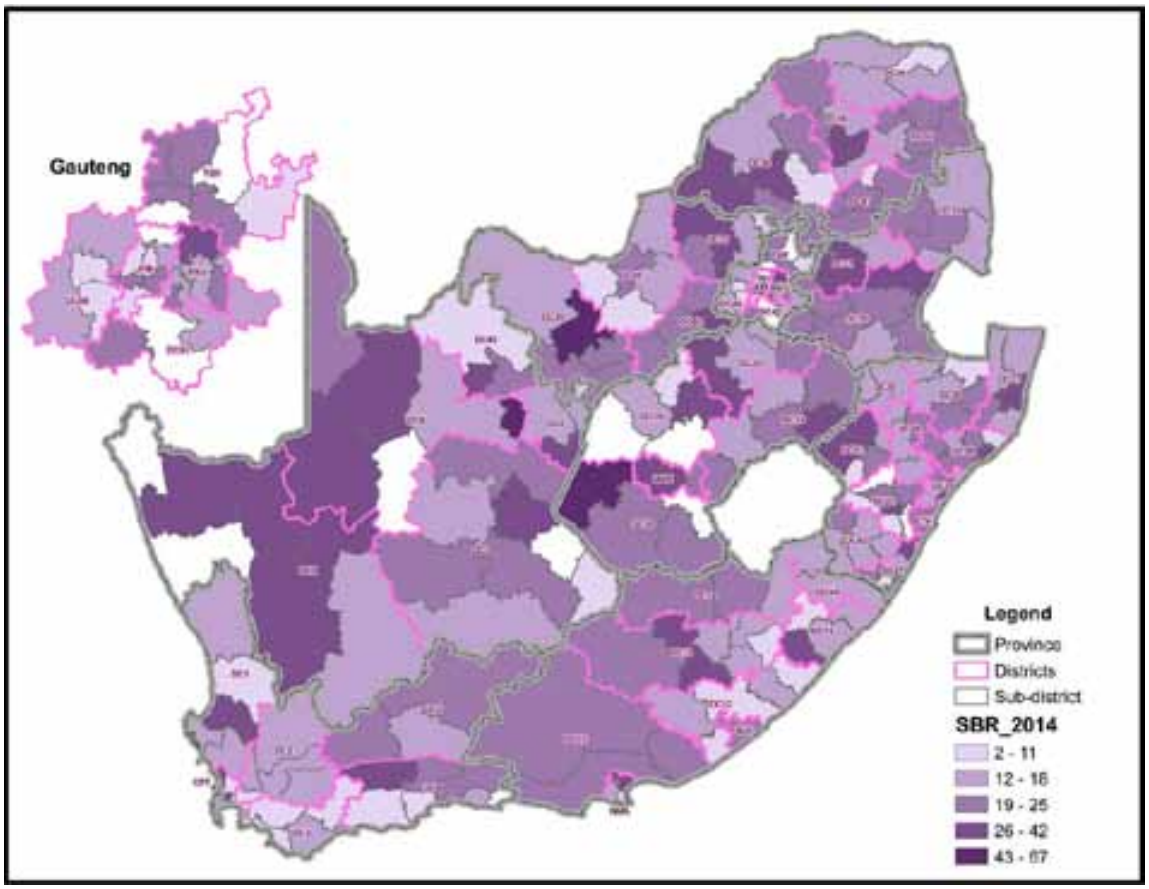


Figure 16: Stillbirth in facility rate: Annual trends

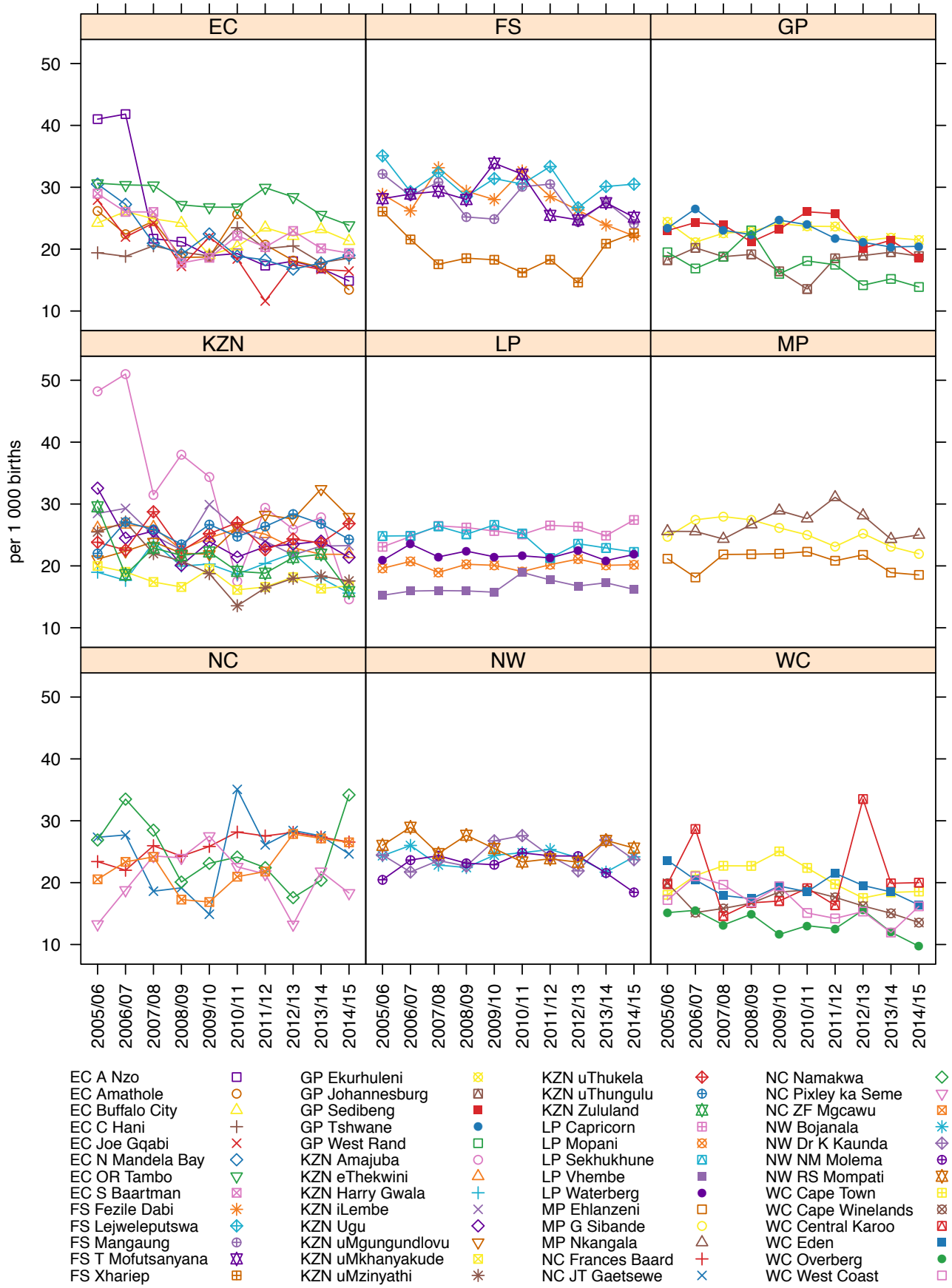
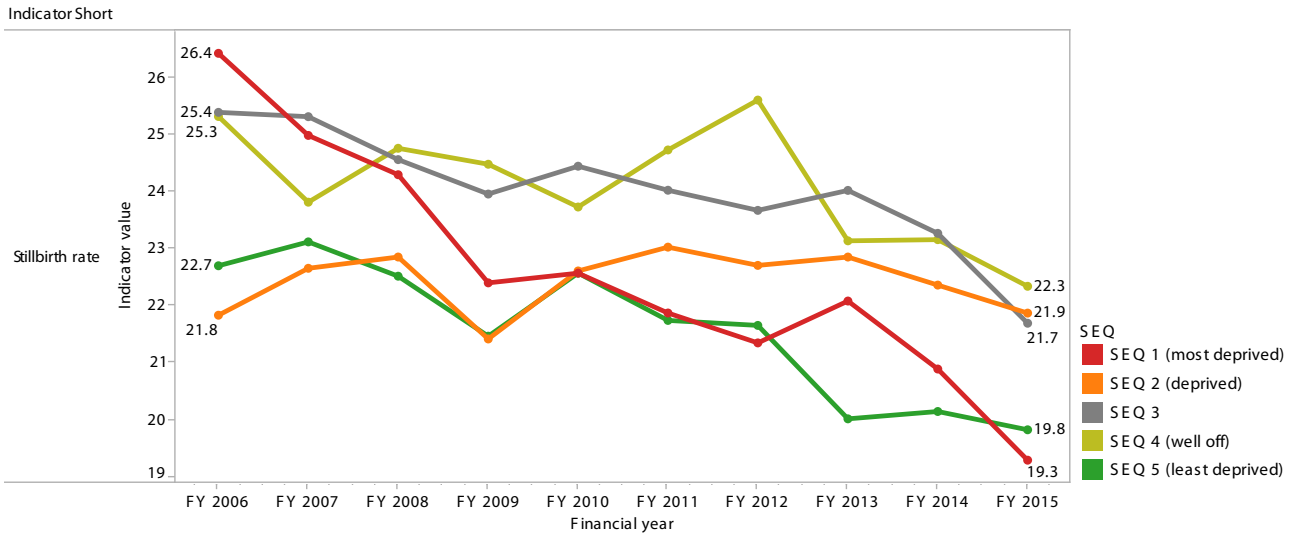


Figure 17: Trends in average district values by SEQ for stillbirth in facility rate



4.5 Inpatient early neonatal death rate

The inpatient early neonatal death rate (ENDR) or inpatient death 0–7 days measures the number of deaths among live-born babies that occur within seven completed days after birth per 1 000 live births. It only includes neonatal deaths when the foetus is at 26 or more weeks gestational age and/or weighs 500 g or more. The deaths reported in this chapter occurred predominantly in public health facilities but include a limited number of private hospitals. Deaths that occurred at home are not included.

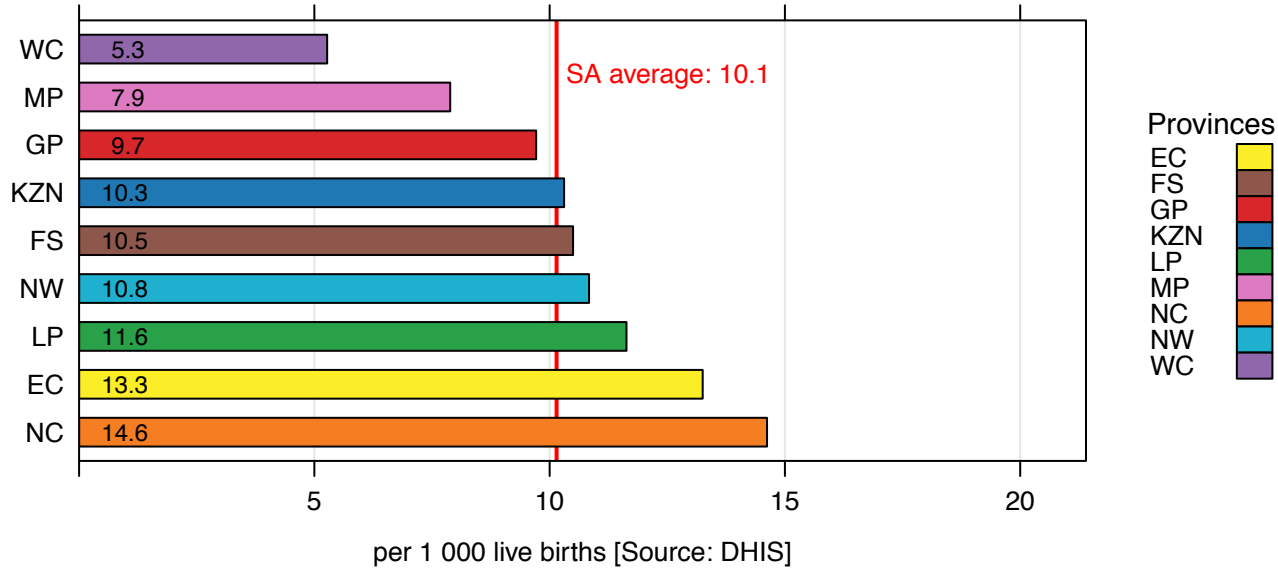
The inpatient early neonatal mortality rate provides an indication of the quality of antenatal, intrapartum and postnatal care. It is also a significant contributor to the under-5 mortality rate (MDG 4A: Reduce the under-5 mortality rate by two-thirds between 1990 and 2015). It is therefore a key indicator to address in order for South Africa to meet its targets.

A recent South African study[m] found that facilities with "increasing perinatal mortality were more likely to identify the following contributing factors: patient delay in seeking help when a baby was ill (odds ratio, OR: 4.67; 95% confidence interval, CI: 1.99-10.97); lack of use of antenatal steroids (OR: 9.57; 95% CI: 2.97-30.81); lack of nursing personnel (OR: 2.67; 95% CI: 1.34-5.33); foetal distress not detected antepartum when the foetus is monitored (OR: 2.92; 95% CI: 1.47-5.8) and poor progress in labour with incorrect interpretation of the partogram (OR: 2.77; 95% CI: 1.43-5.34)".

The 2014/15 national inpatient early neonatal death rate was 10.1 per 1 000 live births. This rate has been unchanged at around 10 per 1 000 since 2010/11.

Provincially, the rate was lowest in the Western Cape at 5.3 and highest in the Northern Cape at 14.6 per 1 000 live births (Figure 18). The rate declined in the Eastern Cape from 14.1 in 2013/14 to 13.3 per 1 000 in 2014/15 (5.7% decrease). Decreases were also seen in the Free State, Limpopo, Mpumalanga and KwaZulu-Natal. Increases were seen in the other provinces, with the greatest increase in the Northern Cape (14.5%), followed closely by the North West (14.0%). There appears to be some year-on-year fluctuation, with only the Eastern Cape and Mpumalanga showing consistent decreases over the past three years and Limpopo remaining fairly stable.

Figure 18: Inpatient early neonatal death rate by province, 2014/15



Nelson Mandela Bay (EC) still had the highest inpatient early neonatal death rate at 19.5 deaths per 1 000 live births (Figure 19 and Map 5), although this districts' stillbirth rate is below average. This may indicate poor intrapartum and postnatal care. However, it also had the highest C-section rate in the country (at the only district hospital in the district). The lowest inpatient early neonatal death rate was in the West Coast (WC) at 4.3 per 1 000 live births. Among the NHI districts, Eden (WC) was the best-performing district with a rate of 7.0, and OR Tambo (EC) the worst performing district with a rate of 13.7 per 1 000 live births.

In terms of annual trends (Figure 20), the biggest decreases were seen in Thabo Mofutsanyane (FS) (38.3% decrease) and uMgungundlovu (KZN) (31.0% decrease). The greatest increases were in Central Karoo (WC) (129.8% increase), John Taolo Gaetsewe (NC) (95.2% increase) and Sarah Baartman (EC) (70.5% increase).

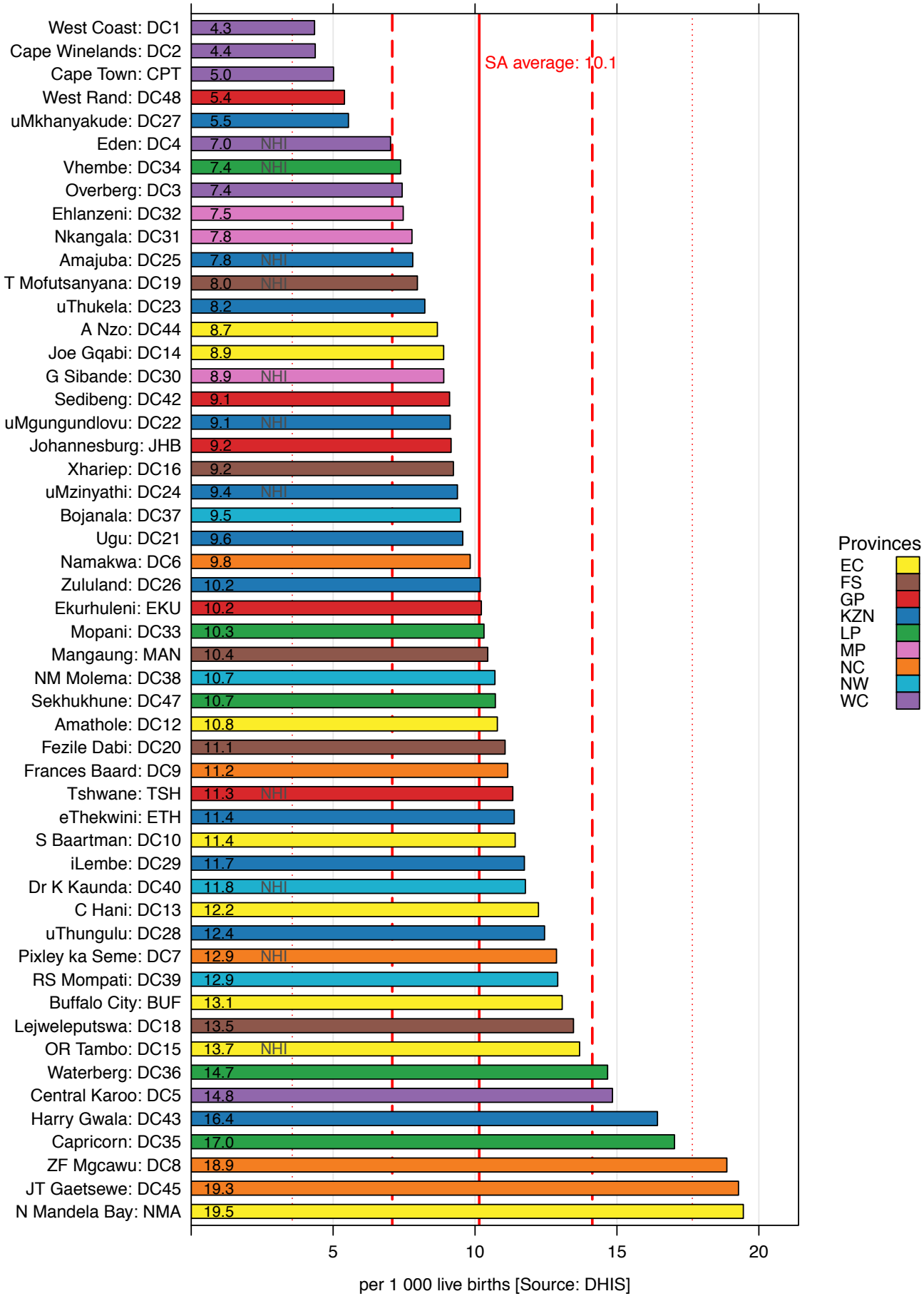
The rate was similar across the various socio-economic quintiles (Figure 21) and similar between metro and non-metro districts.

The early neonatal death rate remains very high in certain hospitals and districts. This may be due to inadequate care provided at the facility or may be indicative of poor service delivery at lower levels of care within that district. It may also be indicative of broader issues, such as delays in referral to facilities able to provide care to neonates.

Participants at DHB workshops in 2014 suggested the following reasons for the high early neonatal death rate:

- Foetal distress and other complications as a result of traditional medication used by mothers to induce labour (herbal intoxication)
- Survival of intended abortions
- Specialised care (both skills and equipment) for sick and premature babies not available at district hospitals, and referrals to regional hospitals not being done for various reasons
- Delays in seeking medical care, especially in rural areas where women deliver at home or where the primary caregivers (such as grandmothers) do not have the knowledge to identify problems timeously
- Failure of the prevention of mother-to-child transmission (PMTCT) programme, with a higher percentage of deaths in HIV-exposed babies where the mother was not put on antiretroviral therapy during her pregnancy
- Poor health education offered to pregnant women (although this is being addressed through the MomConnect programme)

Figure 19: Inpatient early neonatal death rate by district, 2014/15



Map 5: Inpatient early neonatal death rate by sub-district, 2014/15

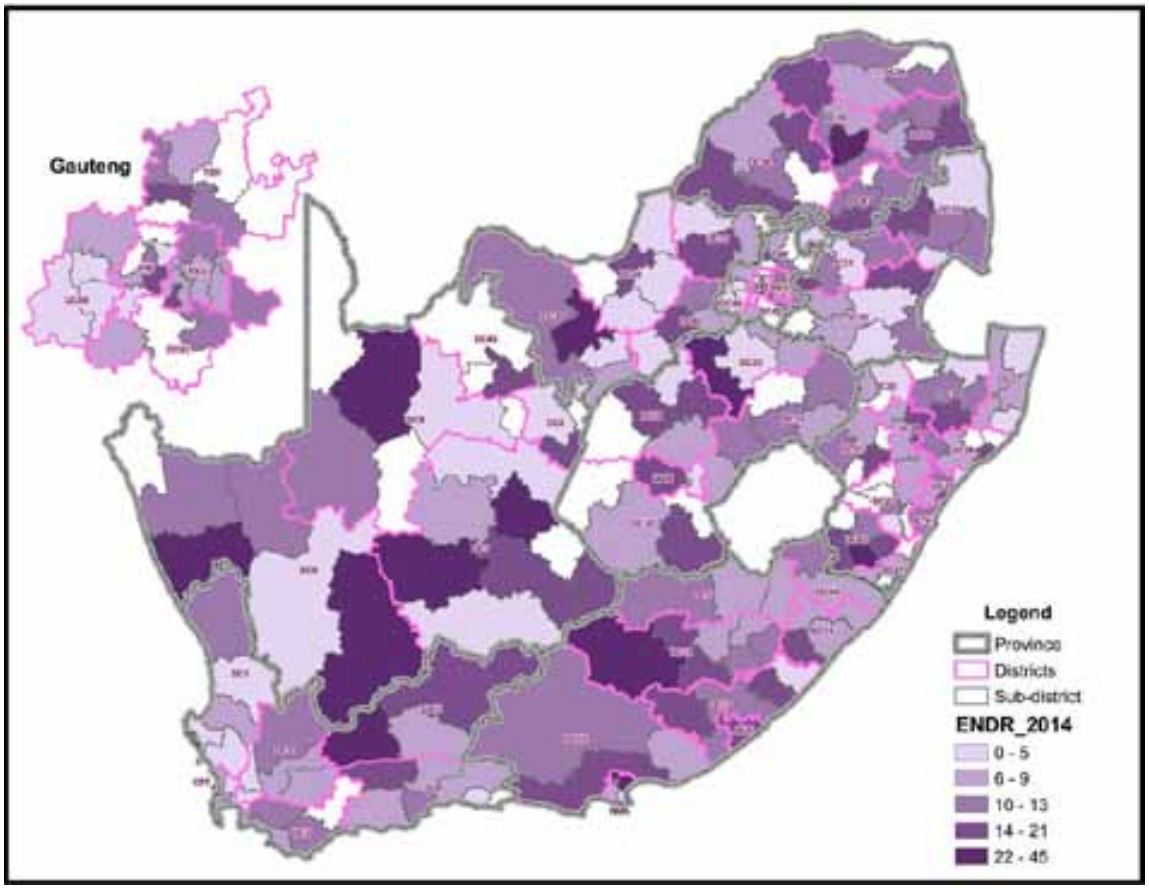


Figure 20: Annual trends: Inpatient early neonatal death rate

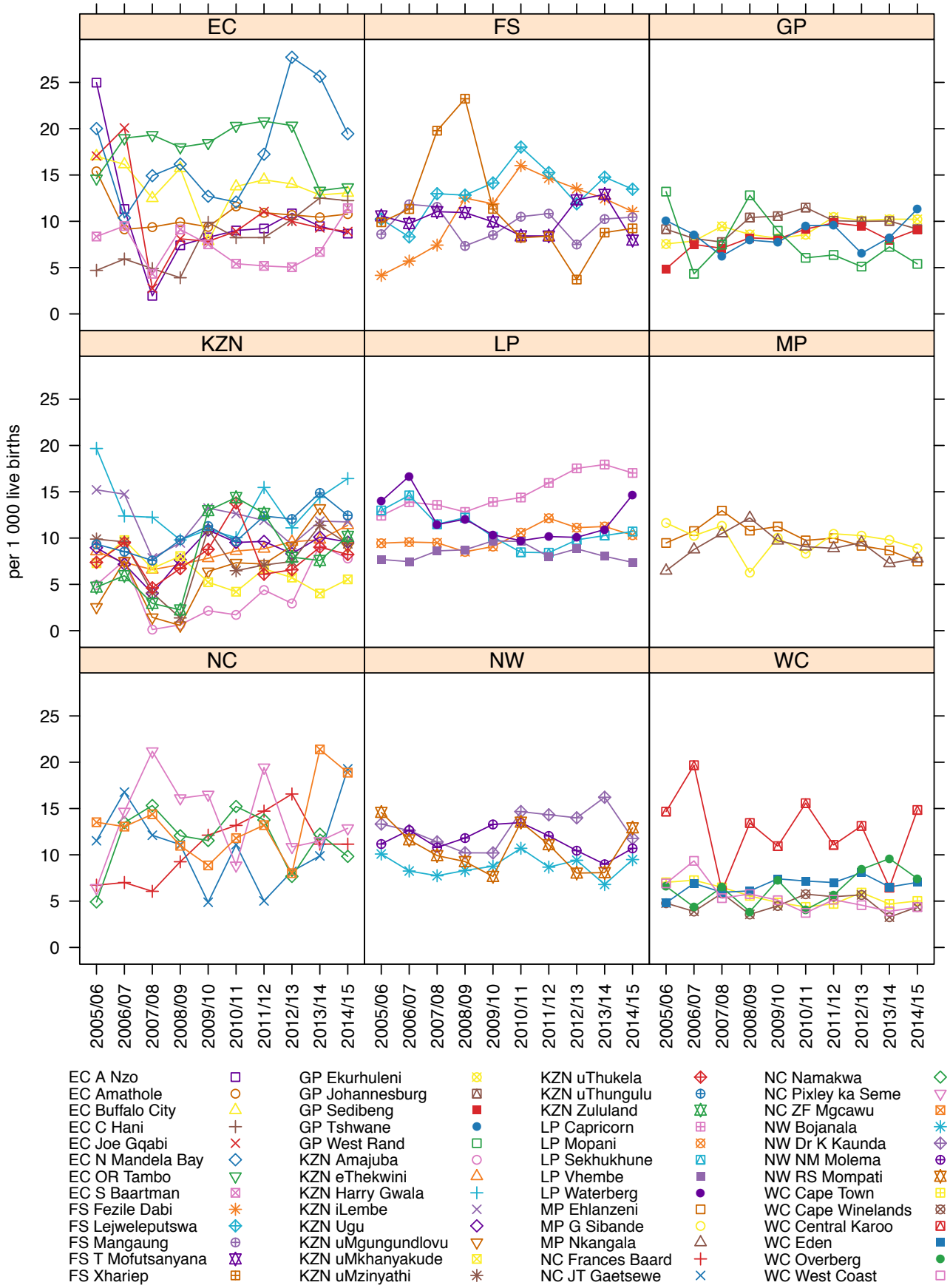
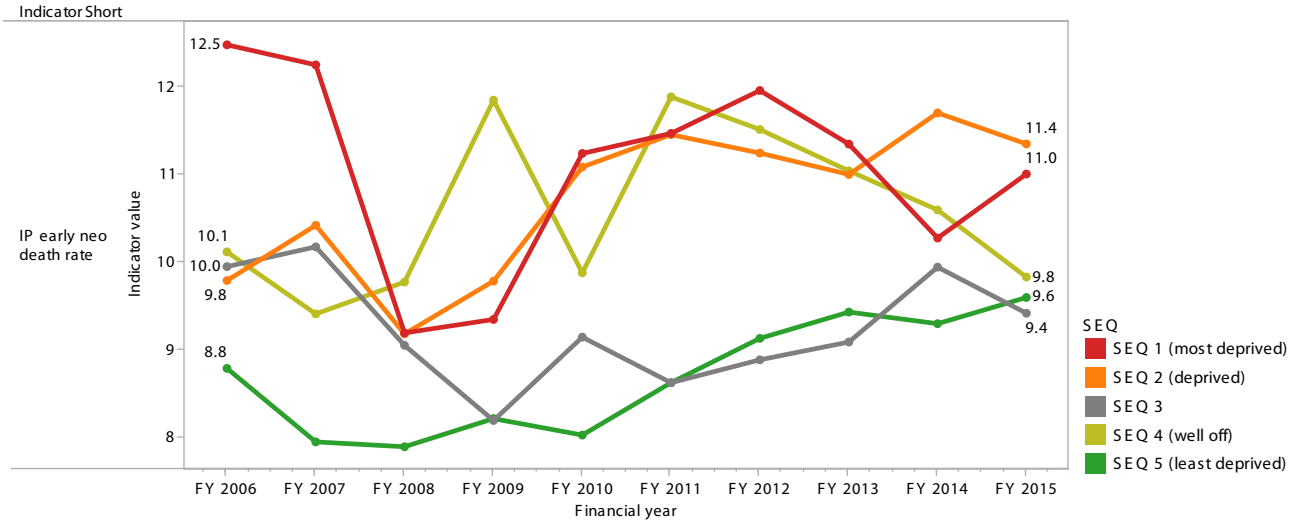


Figure 21: Trends in average district values by SEQ for inpatient early neonatal death rate



4.6 Mother postnatal visit within 6 days rate

The mother postnatal visit within 6 days rate indicator monitors access to postnatal care. The numerator for this indicator is the number of postnatal visits by a mother within 6 days of delivery, either at a primary health care (PHC) facility or a postnatal home visit by facility staff. The purpose of the visit is for a postnatal check-up. Only the first visit after delivery should be counted. The denominator is the number of deliveries in facility. Deliveries include deliveries at hospitals and at PHC facilities.

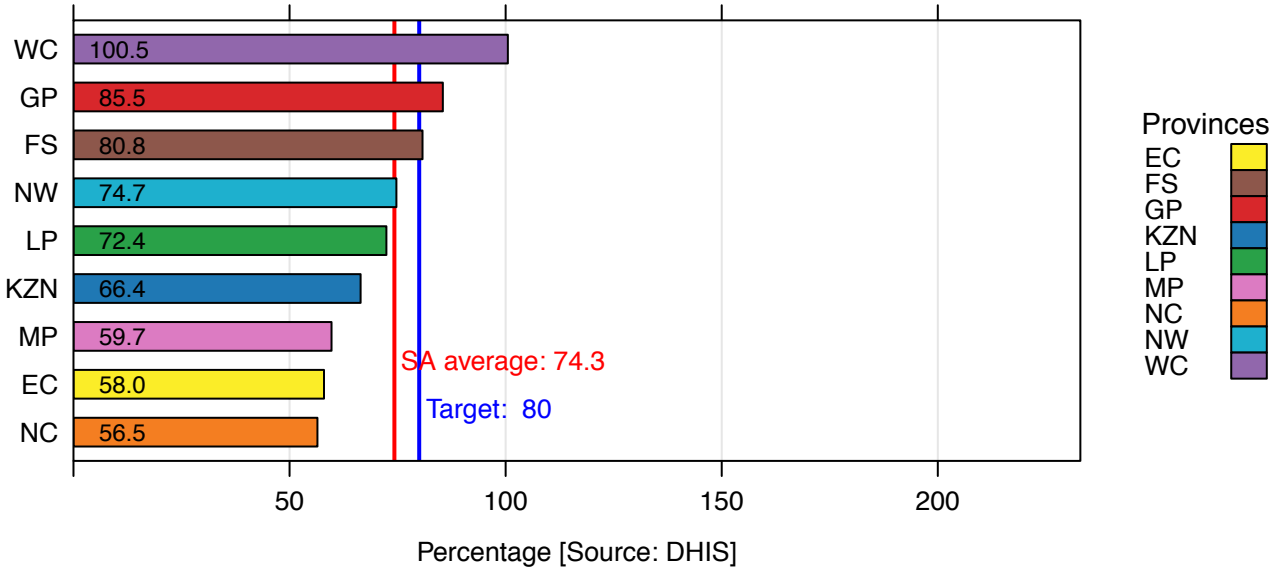
The rate would be 100% if every women delivering at the facility was seen within 6 days of delivery. The majority of hospitals (public and private) report deliveries but no postnatal visits.

This indicator is being reported on in the DHB for the first time this year. It was introduced in South Africa in 2009/10, and the data trend shows an increase from 5.6% in 2009/10 to 73.0% in 2013/14 and 74.3% in 2014/15. However, this is lower than the national target of 80.0%.

Provincially, the rate was highest in the Westen Cape (100.5%) and lowest in the Northern Cape (56.5%) (Figure 22).

It is of concern that the Northern Cape was the worst-performing district for most of the delivery indicators in 2014/15. Although the delivery by C-section rate was the lowest in the country, the values for maternal mortality in facility ratio, stillbirth in facility rate and inpatient early neonatal death rate were the highest in the country, and mother postnatal visit within 6 days rate was the lowest. The delivery in facility under 18 years rate was the second highest in the country.

Figure 22: Mother postnatal visit within 6 days rate by province, 2014/15



The lowest rates were reported in the Central Karoo (19.5%) and West Coast (36.8%), both in the Western Cape (Figure 23 and Map 6). Xhariep had the highest rates over the past few years, far exceeding 100% since 2011/12 (Figure 24). In 2014/15 there were 915 deliveries but 1 958 postnatal visits in Xhariep. The reason for this is that all complicated cases are referred to other districts and no C-sections were done in the district.

Rates in the NHI districts were highly variable, with Thabo Mofutsanyane (FS) the highest at 89.6% and Eden (WC) lowest at 40.4%. The mother postnatal visit within 6 days rate was paradoxically lowest in the poorest district (SEQ1), followed by SEQ4, and highest in SEQ5 (Figure 25).

Map 6: Mother postnatal visit within 6 days rate by sub-district, 2014/15

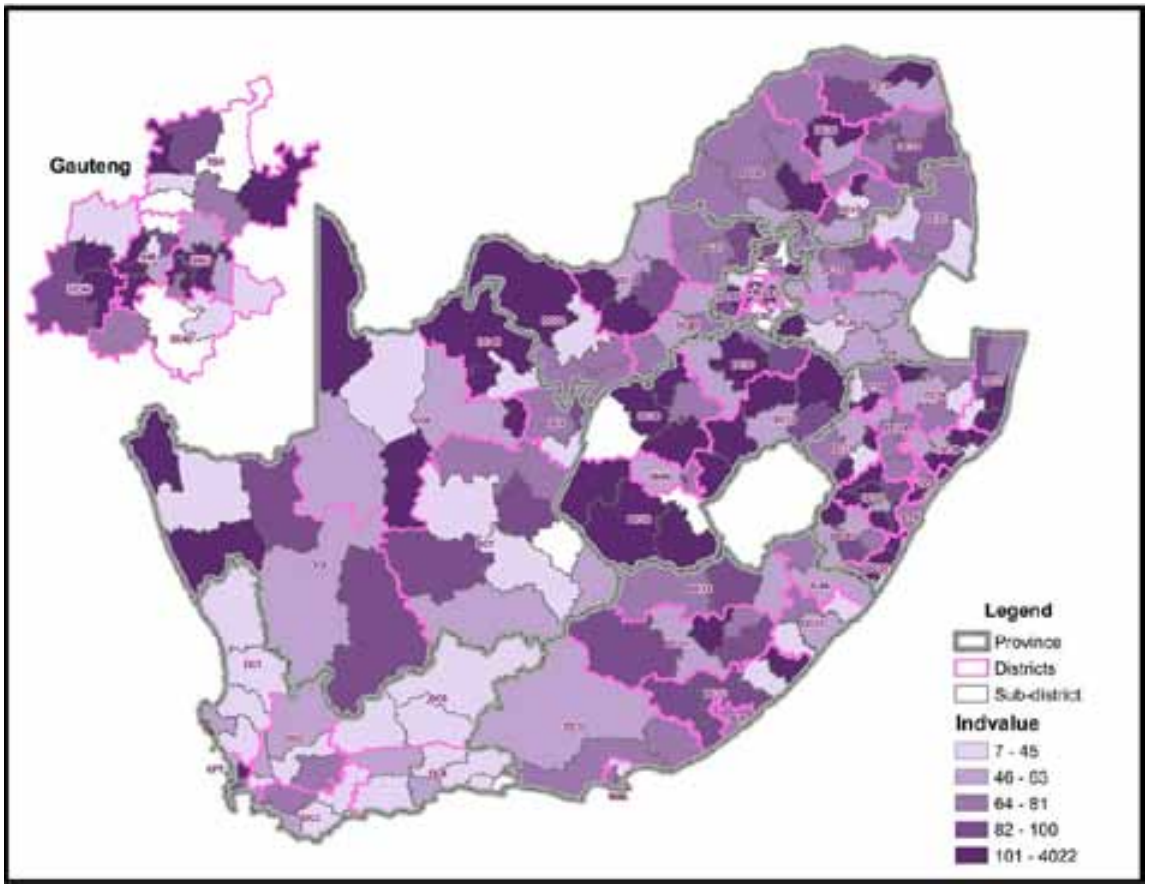


Figure 23: Mother postnatal visit within 6 days rate by district, 2014/15

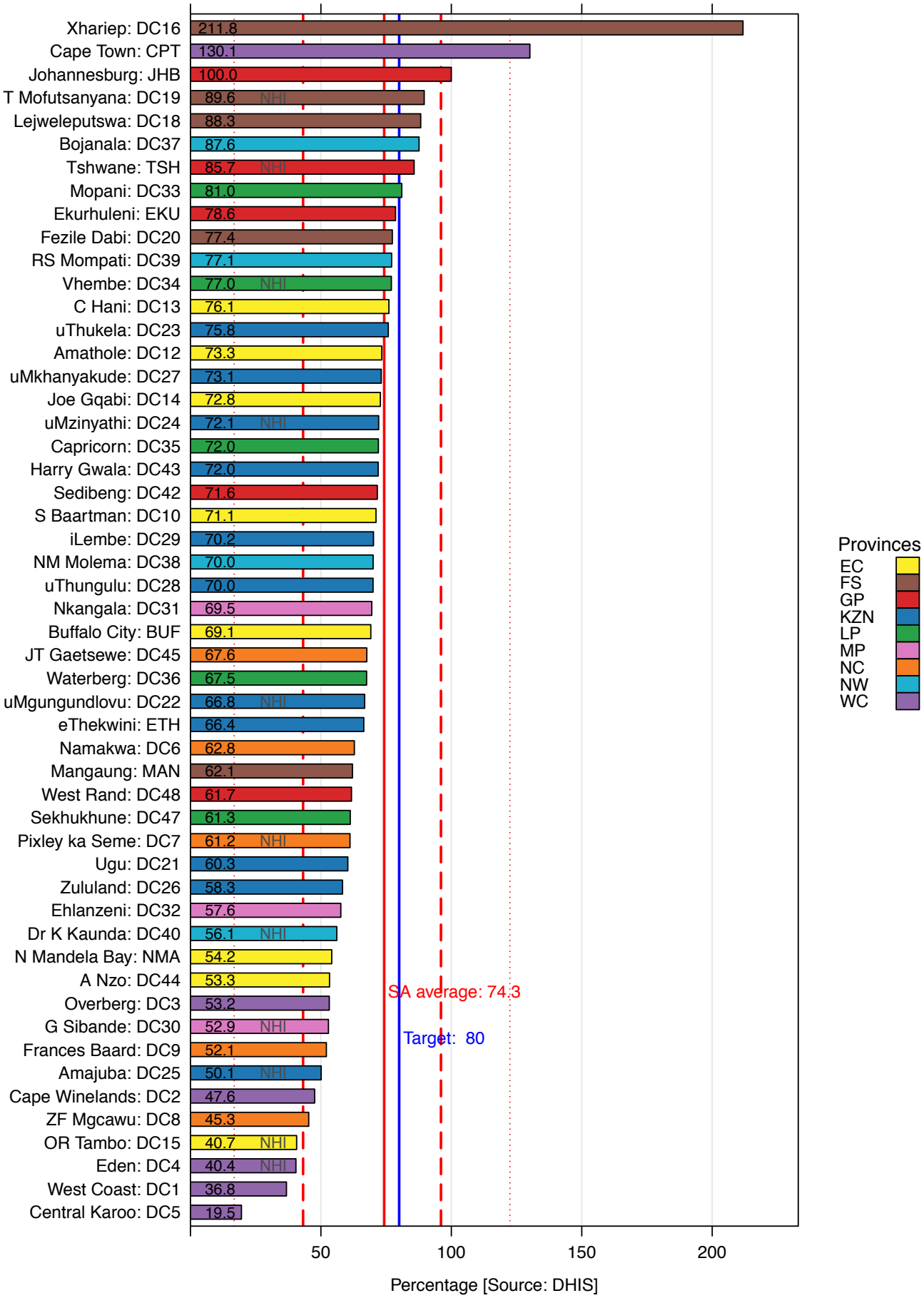


Figure 24: Annual trends: Mother postnatal visit within 6 days rate

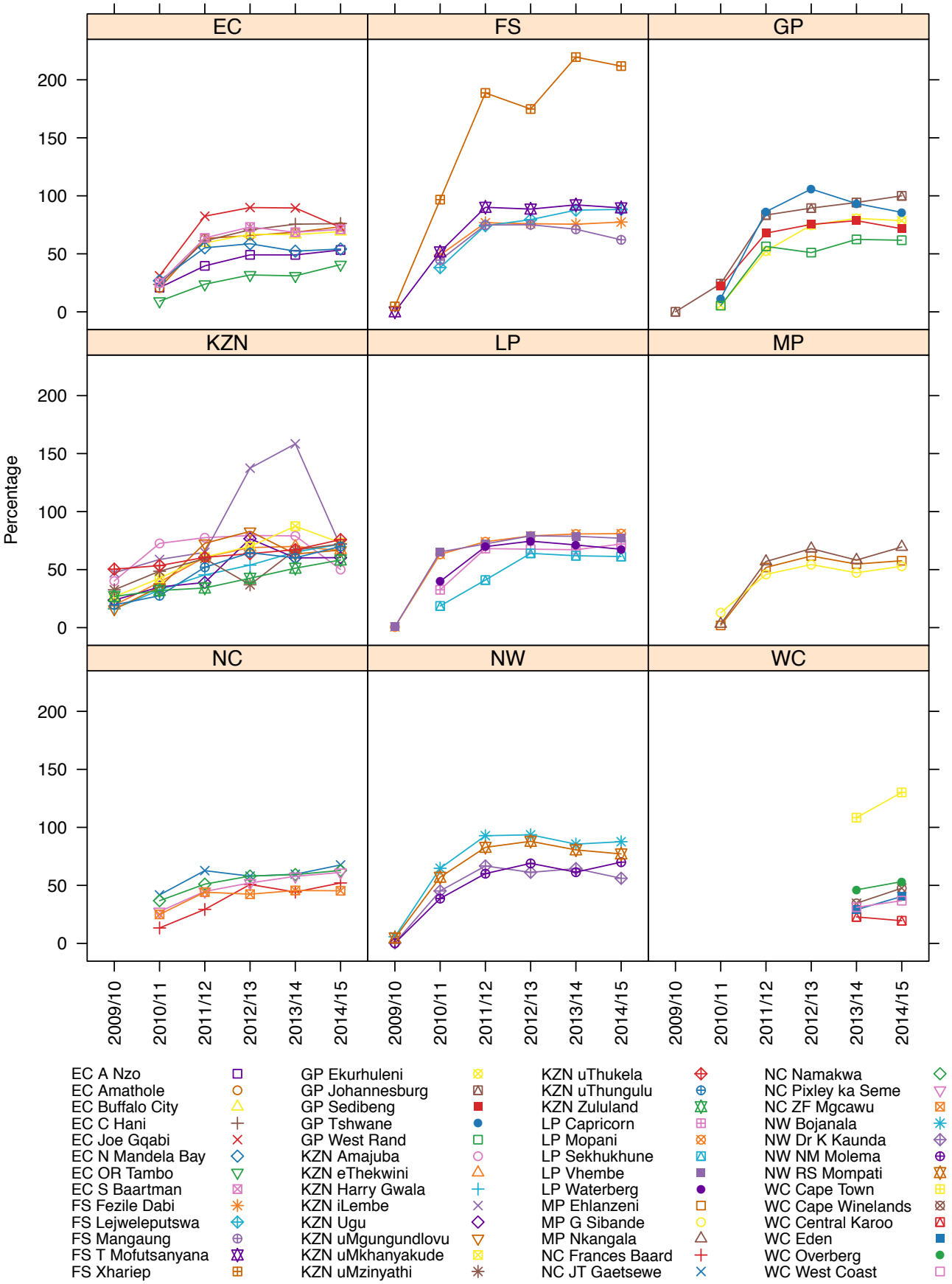


Figure 25: Trends in average district values by SEQ for mother postnatal visit within 6 days rate