6. Impact indicators

6.1 Stillbirth rate

The stillbirth rate measures the number of babies born dead out of 1000 total births. The stillbirth rate is a composite measure of a number of factors. These include foetal factors such as congenital abnormalities; maternal factors including their socio-economic and nutritional status and also diseases such as maternal hypertension; and health system factors such as delays in referral of mothers with complications of delivery. In developed countries the stillbirth rate is around 5 per 1000 while in developing countries it is around 30 deaths per 1000 births.\(^{29}\)

Countries badly affected by the HIV epidemic have experienced an increase in the stillbirth rate. The stillbirth rates in this DHB are for public sector facilities only and do not give a full community picture, especially in those places where there are significant numbers of home deliveries. It is difficult to predict the effect of home deliveries on the stillbirth rates and whether the proportion of stillbirths amongst these deliveries is similar to the stillbirth rates in facilities.

District View

Figure 94 shows the variation in stillbirth rates amongst the 53 districts.\(^{30}\)

The average stillbirth rate in South Africa in 2005 was 24.8 per 1000 births. At the low end of the scale Southern district (NW) had an improbably low stillbirth rate of 2 per 1000 births. The lowest four districts were the four North West districts and these data are clearly an underestimation of the true picture. Clearly there is a data systems problem with the stillbirth data in this province! At the top end of the scale Zululand (KZN) had a stillbirth rate of 64.1 per 1000 births.

Map 20: Stillbirth rate in South Africa, 2005/06

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30. There are no hospitals in Metsweding District and also no formal delivery facilities; therefore no births are recorded.
Five of the seven Eastern Cape districts are clustered at the top end of the scale and the highest of these is Nelson Mandela metro with a rate of 56.4 per 1000, which is extraordinarily high for an urbanised area. This is most likely due to data quality problems.

**Figure 94: Stillbirth rate by district, 2005/06**
### Metro View

The average metro stillbirth rate of 23.8 was slightly below the SA average. However, as can be seen from the graph, the Nelson Mandela metro had a stillbirth rate (56.4 per 1000), nearly double that of the next highest in eThekwini (31.1 per 1000). The high rate in Nelson Mandela is almost certainly due to poor data quality and inadequate monitoring by management. The four remaining metros were clustered around stillbirth rates of 20 per 1000.

#### Figure 95: Stillbirth rate by metro district, 2005/06

#### Rural Nodes

The average for the rural nodes was 32.2 per 1000. Five of the rural districts were below the South African average of 24.8 per 1000. The district with the highest stillbirth rate was Zululand with a stillbirth rate of 64.1 per 1000. This data is likely to be of poor quality and should be interpreted with caution. It is a reflection of poor monitoring by management in this district and also at the provincial level. Zululand was followed by O.R. Tambo (44.4 per 1000) and Alfred Nzo (39.5 per 1000). The three districts with the highest stillbirth rate were also those that had the lowest percentage of deliveries taking place in health facilities under the supervision of trained personnel.

#### Figure 96: Stillbirth rate by rural node, 2005/06
**Change in the Stillbirth rate**

In South Africa, there was an overall decrease of 2.3 stillbirths per 1000 births between 2003 (27.1 per 1000) and 2005 (24.8 per 1000). Thirty seven districts showed improvements (declines) in the stillbirth rates. Of those districts that showed an increase in their stillbirth rates the two with the highest increases (Nelson Mandela and Zululand) had data quality issues. Six of the seven districts in the Eastern Cape showed a deterioration (increase) in the stillbirth rate.

**Figure 97:** Change in stillbirth rate by district, 2003/04 - 2005/06
Section A: Indicator Comparisons by District

**Rural Nodes**

On average in the rural nodes there was an increase of 1.9 stillbirths per 1000 births. However, as this average may be inflated by the increase of 28.2 per 1000 stillbirths recorded in Zululand, it should be interpreted with caution. Of some concern was the increase in the stillbirth rates noted in three of the four Eastern Cape districts.

**Figure 98:** Change in stillbirth rate in the rural nodes, 2003/04 - 2005/05

![Chart showing change in stillbirth rate in the rural nodes, 2003/04 - 2005/05](chart.png)
6.2 Perinatal mortality rate (PNMR)

The perinatal mortality rate is the number of perinatal deaths per 1000 live births.\(^{31}\) The perinatal period starts as the beginning of foetal viability (28 weeks gestation or 1000g) and ends at the end of the 7th day after delivery. Perinatal deaths are the sum of stillbirths plus early neonatal deaths. The PNMR is the most sensitive indicator of obstetric care. For developed countries the rate for babies over 1000g is usually less than 6/1000 births, whereas for developing countries PNMR ranges from 30-200.\(^{32}\)

Because the PNMR incorporates the stillbirths, to a very large extent the PNMR indicators will follow a similar trend to the stillbirth rate indicators.

**District View**

In Figure 99, it can be seen that the SA average PNMR for 2005 was 34 deaths per 1000 births. There was a wide variation between districts with data quality problems at both extremes. At the top end, with exceptionally high (and unrealistic figures) is Nelson Mandela metro with a PNMR rate of 91 per 1000. Also in the top seven districts are five districts from the EC and two from KZN (including the 2nd highest, Zululand with a PNMR of 69 per 1000). At the low end with equally unrealistic figures are the four North West districts with PNMRs of less than 5 per 1000.

Most of the other districts appear to have more reliable data. The Western Cape districts are clustered around the low end with PNMR rates between 20 and 30 per 1000. The Free State and Mpumalanga districts are clustered around the top end with PNMR rates around 40 per 1000.

Map 21: Perinatal mortality rate in South Africa, 2005/06

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31 The WHO indicates in the definition that it is per 1000 live births, but many other sources including US and Canada use total births. The DHS uses total births and the MRC’s Saving Babies: A perinatal care survey of South Africa 2000, also uses total births.

Figure 99: Perinatal mortality rate by district, 2005/06
**Metro View**

The average PNMR rate for the metro districts is the same as the SA average of 34.5 per 1000. This average has been distorted by the Nelson Mandela rate of 91, the highest in the country and clearly due to unreliable data quality. The remaining five metros range from Cape Town at 24 per 1000 to eThekwini at 39 per 1000.

**Figure 100: Perinatal mortality rate by metro district, 2005/06**

![Perinatal mortality rate by metro district, 2005/06](image)

**Rural Nodes**

There was a higher rate of perinatal mortality in the rural development nodes (44.7) compared to the South African average of 34.5 per 1000 births. The four rural node districts, three of which are from the Eastern Cape, with the highest PNMRs, are the same districts with the highest stillbirth rates.

**Figure 101: Perinatal mortality rate by rural node, 2005/06**

![Perinatal mortality rate by rural node, 2005/06](image)
Change in perinatal mortality rate

As can be seen in Figure 102 there was a decrease in the PNMR in South Africa from 37 per 1000 in 2003 to 34.5 per 1000 in 2005. Thirty five districts showed an improvement in the PNMRs with 17 having increased PNMRs. Clearly Nelson Mandela’s data is inaccurate and has the effect of artificially decreasing the average improvement.

All the Eastern Cape districts, with the exception of Chris Hani, showed increased PNMRs.

Figure 102: Change in perinatal mortality rate by district, 2003/04 - 2005/06
Rural Nodes

A similar trend to that noted for stillbirths was found for perinatal mortality. Although 8 of the 13 rural nodes improved on the PNMRs and showed decreased rates the five districts which increased and worsened their rates had such large increases that overall in the rural nodes there was an increase in the PNMR. These increases were in three of the Eastern Cape districts, (Alfred Nzo, O.R. Tambo and Ukhahlamba). An increase was also recorded in Bohlabela in Limpopo and in Zululand in KwaZulu-Natal. The increases in the Eastern Cape districts and in Zululand were of such a magnitude so as to question the reliability of the data.

Figure 103: Change in perinatal mortality rate in the rural nodes, 2003/04 - 2005/06