

Access to prevention of mother-to-child transmission (PMTCT) programmes: HIV testing

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Women remain one of the most important vulnerable groups.... In view of the high prevalence and incidence of HIV amongst women, it is critical that their strong involvement in and benefiting from the HIV and AIDS response becomes a priority [p33]. HIV is transmitted to approximately one third of babies of HIV-positive mothers if there is no medical intervention. Use of antiretroviral drugs, obstetric practices including caesarean delivery, and safe infant feeding practices can reduce transmission to very low levels [p29].

Indicator

Proportion of pregnant women who are tested for HIV.

Definition

This indicator is the proportion of women attending public antenatal clinics who are tested for HIV as part of the prevention of mother-to-child transmission (PMTCT) programme.

Percent of booked women attending public antenatal clinics who receive HIV testing, by province and by year

Province	2001/2	2002/3	2003	2004	2005/6	2006/7	2007/8
Eastern Cape	1.7%	6.7%				75.3%	88.3%
Free State	4.6%	15.8%	31.1%	33.7%	40.4%	66.9%	80.1%
Gauteng		20.0%	17.6%	39.0%	47.4%	60.6%	73.3%
KwaZulu-Natal	7.2%	13.6%			43.8%	58.5%	70.7%
Limpopo	1.0%	8.4%	26.0%	37.6%	46.5%	77.5%	90.1%
Mpumalanga	0.6%	0.0%	10.9%	12.9%	31.4%	58.2%	74.6%
Northern Cape	5.0%	4.6%	18.2%	16.4%	59.1%	81.5%	88.5%
North West	2.2%	30.7%		34.7%	47.9%	74.3%	85.6%
Western Cape		43.9%				93.7%	95.7%
South Africa	6.9%	15.6%	25.3%	37.3%	49.1%	69.2%	81.0%

Commentary

The majority of HIV-positive children in South Africa are infected in-utero, during labour and delivery, or as a result of breast-feeding. The PMTCT programme is a comprehensive health service intervention that aims to limit these forms of HIV transmission from mother to child. In contrast to the life-long provision of antiretroviral treatment for children, the intervention is limited to women's pregnancy and breast-feeding period, is less expensive and can result in massive reductions in HIV transmission if effectively implemented. As such, it is arguably the most critical HIV intervention for children.

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The roll-out of PMTCT has expanded dramatically in recent years, with the proportion of pregnant women receiving HIV tests increasing from approximately 7% in 2001/02 to 81% in 2007/08.

In 2001, the Department of Health introduced two pilot PMTCT sites in each province, although there were many additional sites already providing PMTCT in the Western Cape and Gauteng provinces at this time.¹ Following legal action by the Treatment Action Campaign in 2001 and 2002, the department was ordered by the Constitutional Court to make PMTCT services available to all pregnant women² and, since that time, access to PMTCT has improved steadily in all provinces.

Access to PMTCT however remains very variable between provinces. The Western Cape, which began its PMTCT programme in 1999, had a two to three year head start and achieved a take-up rate of nearly 43.9% in 2002/03 compared to a national average of 15.6% for the same period. Over the next five years, PMTCT roll-out improved in all provinces, with the Western Cape continuing to provide the highest levels of PMTCT coverage.

The proportion of pregnant women who receive an HIV test is a measure of three factors: First, the proportion of antenatal clinics that provide PMTCT services; second, the proportion of women who are offered HIV testing at PMTCT facilities; and third, the proportion of women who agree to be tested for HIV. Although it is often assumed that PMTCT facilities would offer HIV testing to all pregnant women, recent qualitative evidence suggests that a significant proportion of women attending PMTCT services are not offered testing due to shortages of counsellors, testing supplies and relevant forms.³ Early experience suggested that 25 – 50% of women would refuse the offer of an HIV test⁴, but other evidence suggests that less than 10% of women decline the offer to be tested if there is individual counselling and if lay counsellors have been recruited.⁵

HIV testing is only the first step in the PMTCT process, and ideally several further indicators should be evaluated when monitoring the success of a PMTCT programme. However, these other indicators are difficult to measure reliably. For example, an important indicator for measuring PMTCT coverage is the proportion of women who receive PMTCT prophylaxis. The District Health Barometer reports on one element of the antiretroviral component of PMTCT, namely the proportion of women testing HIV positive who receive nevirapine during labour. This was estimated to be 76% in 2007/08.⁶ This could be an under-estimate if women do not disclose to labour ward staff that they have received nevirapine, but it could also be an over-estimate if there is double counting of self-administered nevirapine and nevirapine administered in the labour ward. The District Health Barometer data suggest highly erratic trends in the provision of nevirapine to pregnant women and their babies, which is probably a reflection of changes in record-keeping practices rather than real changes in quality of service. In more well-resourced facilities and research settings, the proportion of women testing positive who receive nevirapine is generally estimated to be between 65% and 85%.⁷

The PMTCT indicator that is ultimately of greatest interest is the proportion of infants born to HIV-positive mothers who acquire HIV. This too is difficult to measure, as a high proportion of HIV-positive mothers do not return to have their infants tested. In South African settings where formula feeding is practised by most HIV-positive mothers, around 10% of children born to mothers receiving nevirapine tested positive for HIV at age 6 – 8 weeks.⁸ Transmission rates are higher when women breastfeed their babies – with approximately 15% of children testing positive at 6 – 8 weeks, and 20 – 25% testing positive at 6 months.⁹

Technical notes

To estimate the proportion of pregnant women receiving counselling and HIV testing in 2001/02, the average monthly number of HIV tests at each pilot site was multiplied by the number of months that the site was operational between mid-2001 and mid-2002¹⁰, and the total number tested in each province was then divided by the estimated number of births to women attending public antenatal clinics in each province (obtained from the ASSA2003 AIDS and Demographic model). The calculation was not performed for the Western Cape and Gauteng because these provinces were known to be providing PMTCT to significant numbers of women outside of the pilot sites.

To estimate the proportion of pregnant women receiving counselling and HIV testing in 2002/03, the proportion of sampled sites that were offering PMTCT services in the July 2002 survey of public health facilities¹¹ was multiplied by the proportion of women attending PMTCT services who were offered (and accepted) HIV testing in the March – May 2003 survey of primary health care facilities¹². Since both surveys were based on samples of health facilities, there is substantial scope for “sampling variation” around these estimates.

The 2004 District Health Barometer data relate to the calendar year from 1 January to 31 December¹³. However, the 2005/06 and 2006/07¹⁴ District Health Barometer data relate to the Department of Health financial year, which runs from 1 April to 31 March.

For the purpose of calculating the national averages, the provincial estimates are weighted by the ASSA2003 estimates of the numbers of births to women attending public antenatal clinics in each province.

Strengths and limitations of the data

A number of different data sources have been used for different years, and differences between data sets might therefore account for some of the changes observed from one year to the next. For example, the estimate for 2002/03 is based on a sample of public health facilities, whereas the District Health Barometer is based on data collected from all public health facilities. The estimates for 2002/03 are therefore subject to greater uncertainty, and should be treated with caution.

When examining the District Health Barometer data, it is clear that certain health districts have not reported adequately in certain periods. This is evident in proportions that exceed 100% and in cells that have been left blank. The 2004 District Health Barometer data for

KwaZulu-Natal also suggest implausibly high levels of PMTCT roll-out, and it appears that this is due to data being obtained from a different source from that used in other provinces. Estimates from provinces that experienced data problems have been omitted from the table above, but attempts were made to correct these problems for the purpose of estimating the national averages.

It is important to note that, in all of these calculations, the denominator is the number of pregnant women who make booking visits at public antenatal clinics. A small proportion of women who deliver at public health facilities (about 5 – 10%) do not make prior booking visits, and would thus not receive HIV testing and counselling prior to delivery. There are also a substantial proportion of pregnant women (about 18%) who attend private antenatal services. Although it appears that these women have reasonably good access to PMTCT services¹⁵, little research has been published. The prevalence of HIV in women attending private antenatal services is much lower than that in public antenatal services¹⁶, and the vast majority of pregnant HIV-positive women therefore seek antenatal care in the public health sector.

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