

HIV and Health - Immunisation coverage of children

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Date: Updated July 2010

Definition

This indicator refers to the percentage of children younger than one year who are fully immunised.

Full immunisation refers to children having received all the required doses of vaccines given in the first year of life. The vaccines most recently added to the immunisation schedule are not yet considered when working out immunisation coverage. However, the most crucial vaccines that prevent serious childhood infections in young children are taken into account.

The proportion of children under 1 year who have been fully immunised

PROVINCE	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09
Eastern Cape	68.9	67.9	73.4	75.7	78.9	84.3
Free State	74.8	78.9	86.8	88.1	86.6	90.4
Gauteng	79.2	78.6	88.9	91.1	91.6	101.5
KwaZulu-Natal	76.9	77.0	82.6	84.5	82.1	85.3
Limpopo	74.9	74.4	79.5	84.9	78.6	84.3
Mpumalanga	73.9	79.2	83.4	81.4	78.5	72.4
North West	71.1	70.6	78.2	73.5	77.9	88.7
Northern Cape	83.2	87.5	92.9	96.2	82.6	93.2
Western Cape	91.2	90.0	91.6	101.8	100.5	103.9
South Africa	76.4	76.8	82.9	85.4	84.2	89.5

Source Department of Health (2009) District Health Information System database. In: Day C, Barron P, Monticelli F & Sello E (eds) (2010) District Health Barometer 2008/09. Durban: Health Systems Trust.

- Notes**
1. The immunisation rate is the percentage of all children in the target area under one year who complete their primary course of immunisation during the month (annualised). A primary course includes BCG, OPV 1, 2 & 3, DTP-Hib 1, 2 & 3, HepB 1, 2 & 3, and 1st measles.
 2. The numerator is the children fully immunised under 1 year while the denominator is the target population under 1 year.
 3. Reporting periods run from mid-year to mid-year.

What do the numbers tell us?

This indicator shows the percentage of children under one year who are fully immunised. 'Full immunisation' refers to children having received all the required doses of vaccines given in the first year of life.

Immunisation is one of the most effective preventative health care interventions to prevent serious illnesses and death in young children. It involves giving injections or drops to young children that protect them against potentially life-threatening illnesses such as tuberculosis, polio, hepatitis and measles. Immunisation has a significant impact on morbidity and mortality rates and has a critical role in efforts to achieve Millennium Development Goal 4 to reduce child mortality rates by two-thirds by 2015, compared to the 1990 baseline. Effective immunisation requires high levels of coverage to achieve a certain level of immunity within the broader community. This is known as 'herd immunity' and it means that, if immunisation coverage has reached a high enough level, even children who have not been immunised in that community will also be protected.

Immunisation coverage serves as a good indicator of the extent to which young children utilise and access primary health care services. Immunisation coverage is also a proxy for the extent to which children access other preventative services, as the immunisation schedule provides the 'hook' for scheduling many other preventative child health interventions. Examples of these are the vitamin A supplementation programme, developmental screening, and prophylaxis for babies born to HIV-positive mothers.

South Africa has an up-to-date immunisation programme, in keeping with world standards. Three new vaccines were added to the schedule in the past year to improve the Expanded Programme for Immunisation. These are not yet included in calculating the immunisation compliance rate.

The 2008/09 District Health Information System statistics demonstrate good national immunisation coverage of 89.5% and an overall increase in coverage of 13 percentage points in the five years since 2003/04. The provincial coverage rates range from 72% in Mpumalanga to over 100% coverage in Gauteng and the Western Cape. Immunisation coverage rates have fluctuated in many of the provinces, with no plausible explanation.

The challenge of national and provincial aggregates is that they may mask differences between districts and hide areas with low coverage. District coverage is available in the latest District Health Barometer for 2008/091, where 30 of the 52 districts show coverage below the national average. Although coverage for all districts is above 60%, coverage for individual districts demonstrates a wide range – from 61% to 124%. This highlights two issues: significant inter-district inequities in service access for young children, and poor quality data (as immunisation coverage exceeds 100% in some districts).

Clearly, great improvements have been made in the provision of immunisation to children. But inequities still persist, and coverage is the least in areas where poverty and health needs are greatest.

Technical notes

This indicator is derived from its numerator, that is, the number of children under the age of one year who are fully immunised, and its denominator, that is, the total child population under the age of one year.

Strengths and limitations of the data

The best available routine information on immunisation coverage is from the District Health Information System (DHIS) of the Department of Health, as reported by the Health Systems Trust in the District Health Barometer. Immunisation coverage is derived from clinic records and reflects the proportion of all children under one year old in a target area who complete a primary course of immunisation. Notes on data quality in the Barometer suggest some errors in the data from specific health facilities and districts. Some of these data issues are resolved, for instance by removing outliers. Problems with missing denominators seem to have been resolved in 2008.

This indicator is also very sensitive to the denominator, which is the total population of children under the age of one. Inaccuracies in the denominator may result in over- or under-estimation of immunisation coverage. A factor that may contribute to the inaccuracy of the denominator data is the high population mobility, where influx of children into an area is not added to the total under-one child population, and which may result in immunisation coverage rates of over 100%.

A further difficulty is that very different estimates are provided by different data sources. A five-yearly survey, the South African Demographic and Health Survey, done in 1998 and 2003, provided national average estimates of 55 and 64% respectively, much lower than the national average provided by the DHIS.

Despite these challenges, the availability and accuracy of immunisation data seem to have improved over time and the rates provided by the District Health Barometer give reasonable estimates of immunisation coverage for purposes of monitoring child health service performance.

References and related links

¹ Department of Health (2009) District Health Information System database. In: Day C, Barron P, Monticelli F & Sello E (eds) (2010) District Health Barometer 2008/09. Durban: Health Systems Trust.

RELATED LINKS

South African HealthInfo™ network
Medical Research Council
(www.sahealthinfo.org/sahealthinfo.htm)

Health Systems Trust
(www.hst.org.za)

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