Child health and nutrition

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Section 27 of the Constitution of South Africa provides that everyone has the right to have access to health care services. In addition, section 28(1)(c) gives children "the right to basic nutrition and basic health care services".[1]

Article 14 (1) of the African Charter on the Rights and Welfare of the Child states that "every child shall have the right to enjoy the best attainable state of physical, mental and spiritual health", ", and article 14 (2)(c) states that State Parties shall take measures "to ensure the provision of adequate nutrition...".[2]

Article 24 of the UN Convention on the Rights of a Child says that state parties should recognise "the right of the child to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health". It obliges the state to take measures "to diminish infant and child mortality" and "to combat disease and malnutrition".[3]

Infant, under-five and neonatal mortality

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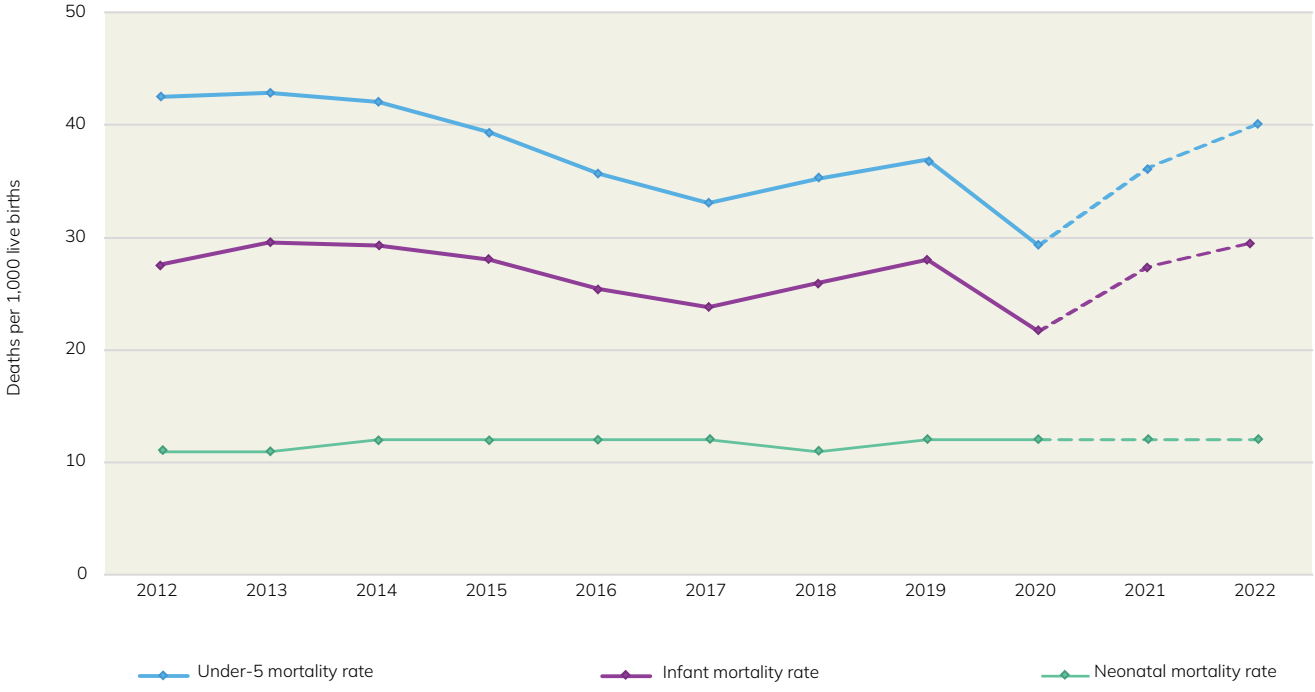
The infant and under-five mortality rates are key indicators of heath and development. They are associated with a broad range of bio-demographic, health and environmental factors which are not only important determinants of child health but are also informative about the health status of the broader population.

The infant mortality rate (IMR) is defined as the probability of dying within the first year of life and refers to the number of babies under 12 months who die in a year per 1,000 live births during the same year. Similarly, the under-five mortality rate (U5MR) is defined as the probability of a child dying between birth and their fifth birthday. The U5MR refers to the number of

Figure 3a: Child mortality rates, 2012 – 2022



Sources: 2015-2019 mortality rates from Dorrington RE, Bradshaw D, Laubscher R & Nannan, N (2021) *Rapid Mortality Surveillance Report 2019-2020*. Cape Town: South African Medical Research Council.
2012-2014 and 2021-2022 mortality rates derived from the same Medical Research Council Rapid Mortality Surveillance project published by the UN Inter-agency Group for Child Mortality Estimation and available at https://childmortality.org/all-cause-mortality/data?refArea=ZAF&indicator=MRY0T4. Note that the 2021 and 2022 RMS estimates are preliminary and have not yet been published by the MRC.

children under five years old who die in a year per 1,000 live births in the same year.

This information is ideally obtained from vital registration systems. However, as in many middle- and lower-income countries, the under-reporting of births and deaths renders the South African system inadequate for monitoring purposes. South Africa is therefore reliant on alternative methods, such as survey and census data, to measure child mortality. Despite several surveys which should have provided information to monitor progress, the lack of reliable data since 2000 led to considerable uncertainty around the level of childhood mortality for a prolonged period. However, the second South Africa National Burden of Disease Study has produced national and provincial infant and under-five mortality trends from 1997 up until 2012.[4]

An alternative approach to monitoring age-specific mortality nationally since 2009 is the rapid mortality surveillance system (RMS) based on the deaths recorded on the population register by the Department of Home Affairs.[5] These data have been corrected for known biases. In other words, the trends shown in Figure 3a are based on nationally representative numbers. The RMS reports vital registration data adjusted for under-reporting which allows for the evaluation of annual trends.

Long-term trends show that the IMR peaked in 2003 when it was 54 per 1,000 and decreased to 27 per 1,000 in 2019 with a further decrease to 21 in 2020. During the same period the U5MR decreased from 81 per 1,000 in 2003 to 36 per 1,000 in 2019 and 28 in 2020.[6]

With reference to the substantial drop in infant and under-5 mortality in 2020, the authors of the Rapid Mortality Surveillance Report note that "the lack of seasonal increases in the numbers of registered deaths suggest that the winter increases in respiratory syncytial virus (RSV) and other pneumonias as well as seasonal outbreaks of diarrhoea were absent in 2020."[7] This was possibly due to the effects of lockdown with "unusually low" monthly deaths in April and May 2020, and "no seasonal trend in the following [winter] months".[8] In other words, while the hard lockdown of 2020 was devastating for the economy and society in many ways, an unexpected benefit was that the restrictions on socialising and travel may have protected young children from infectious diseases that contribute to high mortality rates.

Preliminary estimates by the MRC suggest that infant mortality rates rose sharply in 2021 and 2022, with a corresponding increase in under-5 mortality. The estimated IMR for 2022 was 30 deaths per 1,000 live births, while the U5MR reached 40. The reasons for rising child mortality after lockdown are unclear as there have been long delays in the release of Causes of Death data by StatsSA. It is partly due to this delay that the MRC has not formally published its child mortality estimates since 2020, although the estimates have been shared with the United Nations Inter-Agency Group for Child Mortality Estimation and incorporated into the UN models. Generally, the leading causes of under-five mortality (other than neonatal causes) are diarrhoea, pneumonia and other respiratory infections, while malnutrition is often an underlying cause of death in young children.

The neonatal mortality rate (NMR) is the probability of dying within the first 28 days of life per 1,000 live births. The NMR has remained stable, at around 12 deaths per 1,000 live births. Estimates of the NMR were derived from vital registration data (i.e., registered deaths and births without adjustment for incompleteness) up to 2013, and from 2013 onwards the estimates were derived directly from neonatal deaths and live births recorded in the Department of Health's District Health Information System (DHIS). The NMR estimates therefore exclude deaths that occur in private sector health facilities or at home.

The DHIS also records the in-facility neonatal death rate – i.e. the number of infants aged 0-27 days who died during their stay in the facility, per 1,000 live births in public health facilities. The recorded rates were also around 12 in the years leading up to COVID-19 but increased slightly to 13 per 1,000 live births in 2021 and 2022. [9]

Children living in households where there is reported child hunger

This indicator shows the number and proportion of children living in households where children are reported to go hungry 'sometimes', 'often' or 'always' because there isn't enough food.

Child hunger is emotive and subjective, and this is likely to undermine the reliability of estimates on the extent and frequency of reported hunger, but it is assumed that variation and reporting error will be reasonably consistent so that it is possible to monitor trends from year to year.

In 2022, 12% of children in South Africa (nearly 2.6 million) lived in households that reported child hunger. Nearly a third of these children (31%) were from KwaZulu-Natal. Reported child hunger rates in 2022 were 18 percentage points lower than they were in 2002 when 30% of children (5.5 million) lived in households that reported child hunger. The largest declines have been in the Eastern Cape, Limpopo, Mpumalanga and KwaZulu-Natal. One of the main contributors to the long-term decline is the expansion of the Child Support Grant which steadily increased its coverage, reaching nearly 13 million children in 2020.[10]

Another possible contributor to declining child hunger is the National School Nutrition Programme (NSNP), which reaches over nine million learners in approximately 20,000 schools.[11] However, the NSNP only operates during term-time and does not include children who are too young to attend school.

Analysis of child hunger rates within provinces shows that child hunger rates in 2022 are highest in the Northern Cape (where 24% of children were in households that reported child hunger) and North West (19%), followed by KwaZulu-Natal (18%) and Western Cape (16%). The Western Cape is also the only province where child hunger rates have not reduced in the past two decades. Given population growth, the estimated number of children reported to be hungry in that province has increased from 275,000 in 2002 to 340,000 in 2022.

The lowest reported hunger rates were in Limpopo (4%). Despite high poverty rates, Limpopo has always reported child hunger rates below the national average, perhaps because of its highly fertile and productive land in rural areas where most

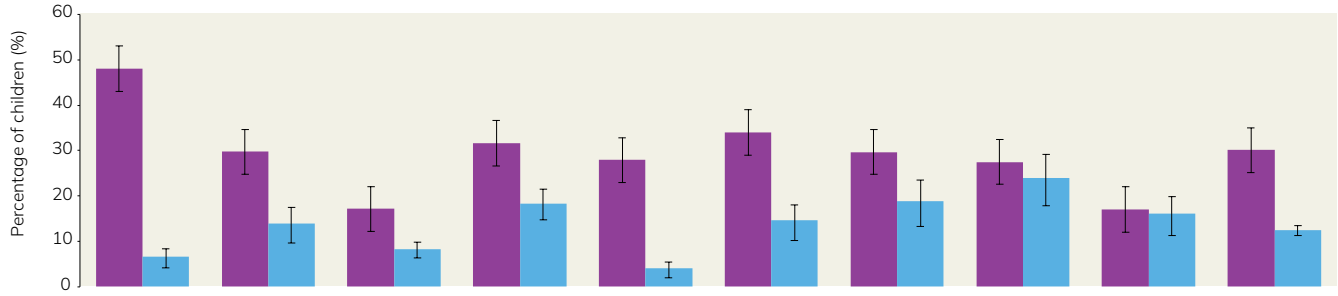
of the population lives. However, there is no clear explanation for the dramatic decline in reported hunger in the Eastern Cape. Over the period 2002 – 2022, reported child hunger rates in that province fell from 48% (higher than any other province) to 7% (the second lowest), despite the fact that the Eastern Cape has the highest poverty rates in the country, with nearly half of children living below the food poverty line.

There are no differences in reported child hunger across gender or age groups. However, as with many other indicators, child hunger is high racialised: 13% of African children and 11% of Coloured children live in households that reported child hunger, compared with less than 4% of Indian and almost no White children. Differences are even more pronounced across income quintiles. While 20% of children living in the poorest 20% of households experienced hunger, less than 1% of children in quintile 5 (the richest 20%) lived in households where child hunger was reported. Of all those who did report child hunger, over half were in the poorest income quintile. For many years, reported hunger rates were higher in the rural former homelands than in urban areas, but the difference has reduced over time and in 2022 there was no significant difference between the area types. Food insecurity is prevalent in both urban and rural areas.

Children who suffer from hunger are at risk of various forms of malnutrition, including wasting, stunting, overweight and micronutrient deficiencies. The 2016 Demographic and Health Survey recorded the stunting rate among children under 5 years at 27% - a figure that has remained persistently high since the 1990s and indicates high rates of chronic undernutrition. The more recent National Food and Nutrition Security Survey conducted by the Human Sciences Research Council between 2021 and 2023 found similarly high levels of malnutrition, with the under-5 stunting estimate at 29% nationally.[12] This suggests that chronic malnutrition has remained persistently high, and even worsened in the last decade.

It must be recognised that child hunger is a subjective indicator and does not capture other important aspects of food security such as dietary diversity and consumption of nutrient-rich foods, both of which are important for children's healthy growth especially in early childhood. Children living in households that do not report hunger may still not have access to sufficient nutritious food be at risk of malnutrition. In 2022, for example, around 80% of children who lived in households with incomes below the food poverty line were not reported to have suffered hunger. Food poverty is an indicator that households lack the financial resources needed to meet minimum dietary requirements for children and other household members.[13] Other measures of food insecurity also suggest a more serious challenge than the subjective hunger indicator. For example, in 2022, 20% of children lived in households that reported running out of food due to lack of money, while 25% lived in households that had been forced to cut the range of foods they could afford to buy.[14]

Figure 3b: Children living in households with reported child hunger, 2002 & 2022



	EC	FS	GT	KZN	LP	MP	NW	NC	WC	**SA**
2002	48%	30%	17%	32%	28%	34%	30%	27%	17%	30%
	1,407,000	297,000	503,000	1,314,000	675,000	518,000	346,000	109,000	275,000	5,455,000
2022	7%	14%	8%	18%	4%	15%	19%	24%	16%	12%
	165,000	145,000	382,000	798,000	102,000	257,000	280,000	105,000	340,000	2,581,000

Source: Statistics South Africa (2003; 2023*) General Household Survey 2002; General Household Survey 2022.* Pretoria: Stats SA.
Analysis by Katharine Hall and Neo Segoneco, Children's Institute, UCT.

Children living far from their health facility

This indicator reflects the distance from a child's household to the health facility they normally attend. Distance is measured as the length of time travelled to reach the health facility, by whatever form of transport is usually used. The health facility is regarded as 'far' if a child would have to travel more than 30 minutes to reach it, irrespective of mode of transport.

A review of international evidence suggests that universal access to key preventive and treatment interventions could avert up to two-thirds of under-five deaths in developing countries.[15] Preventative measures include the promotion of breast and complementary feeding, micronutrient supplements (vitamin A and zinc), immunisation, and the prevention of mother-to-child transmission of HIV, amongst others. Curative interventions provided through the government's Integrated Management of Childhood Illness strategy include oral rehydration, infant resuscitation and dispensing of medication.

According to the UN Committee on Economic, Social and Cultural Rights, primary health care should be available (in sufficient supply), accessible (easily reached and affordable), acceptable and of good quality.[16] In 1996, primary level care was made free to everyone in South Africa, but the availability and physical accessibility of health care services remain a problem, particularly for people living in remote areas.

Physical inaccessibility poses particular challenges when it comes to health services because the people who need these services are often unwell or injured or need to be carried because they are too young, too old or too weak to walk. Physical inaccessibility can be related to distance, transport options and costs, or road infrastructure. Physical distance and poor roads also make it difficult for mobile clinics and emergency services to reach outlying areas. Within South Africa, the extent to which patients use health care services is influenced by the distance to the health service provider: those who live further from their nearest health facility are less likely to use the facility. This 'distance decay' is found even in the uptake of services that are required for all children, including immunisation and maintaining the Road-to-Health Book.[17]

In 2022, 20% of South Africa's children lived far from the primary health care facility they normally use. Analyses from previous surveys shows that over 90% of children live in households where members attended the health facility closest to their home. The main reasons for attending a more remote health service relate to perceptions of service quality; a preference for private health services (36%), and other specific quality complaints including long waiting times (19%); the unavailability of medication (8%) and rude or uncaring staff (4%). Cost considerations also inform choices, and 12% of households that did not use their nearest facility chose to travel further in order to access cheaper medical care or free government health services.[18] Unfortunately these questions were dropped from the GHS in 2022. In total, over 4 million children travel more than 30 minutes to reach their usual health care service provider. This is a significant improvement since 2002, when 36% (or 6.6 million children) lived far from their nearest health facility. Improvements in the accessibility of health services are probably related both to the roll-out of additional facilities since 2002, and to increased urbanisation and greater population density in the areas around existing health infrastructure. While it is easier to deliver services in areas of greater population density, it may lead to greater pressure on health facilities if their capacity is not increased alongside a growing client population.

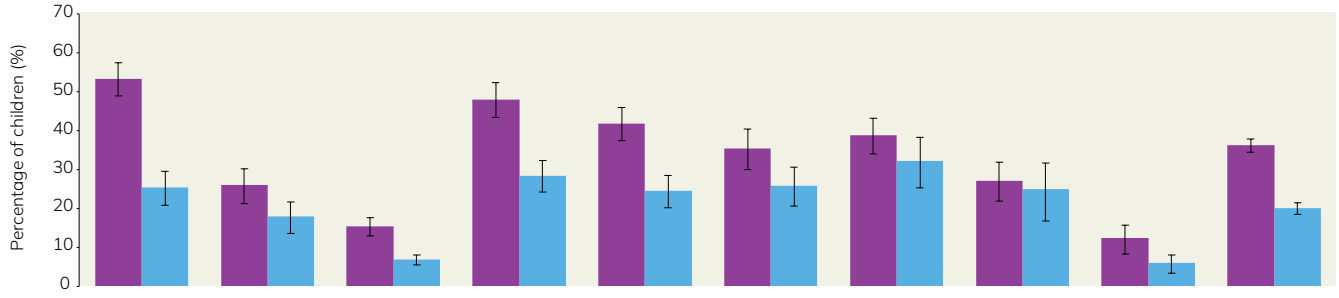
It is encouraging that the greatest improvements in health facility accessibility have been made in provinces which performed worst in 2002: the Eastern Cape (where the share of children with poor access to health facilities dropped from 53% in 2002 to 25% in 2022), KwaZulu-Natal (down from 48% to 28%), and Limpopo (from 42% to 25%). Provinces with the highest rates of access are the largely metropolitan provinces of the Western Cape and Gauteng, where only 6–7% of children live more than 30 minutes from their usual health care service.

Over twenty percent of African children travel far to reach their usual health care facility, compared with between 6 and 10% of Coloured, Indian and White children. Racial inequalities are amplified by access to transport: if in need of medical attention, 94% of White children would be transported to their health facility in a private car, compared with only 13% of African children. Only 3% of the poorest children (quintile 1) travel to their health facility in a private car, while 58% walk.

Poor children bear the greatest burden of disease, due to undernutrition and poorer living conditions and access to services (water and sanitation). Yet health facilities are least accessible to the poor. More than a quarter of children (28%) in the poorest 20% of households travel far to access health care, compared with 7% of children in the richest quintile.

There are no significant differences in patterns of access to health facilities when comparing children of different sex and age groups.

Figure 3c: Children living far from their health facility, by province, 2002 & 2022



	EC	FS	GT	KZN	LP	MP	NW	NC	WC	**SA**
2002	53%	26%	15%	48%	42%	35%	39%	27%	12%	36%
	1,559,000	259,000	453,000	1,988,000	1,010,000	538,000	451,000	108,000	199,000	6,568,000
2022	25%	18%	7%	28%	25%	26%	32%	25%	6%	20%
	644,000	186,000	317,000	1,239,000	617,000	458,000	477,000	110,000	129,000	4,174,000

Source: Statistics South Africa (2003; 2023) *General Household Survey 2002; General Household Survey 2022*. Pretoria: Stats SA.
Analysis by Katharine Hall and Neo Segoneco, Children's Institute, UCT.

Immunisation coverage of children

This indicator shows 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 primary course of immunisation in the first year includes BCG, OPV 1,2 & 3, DTP-Hib 1,2 & 3, HepB 1,2 & 3, and 1st measles vaccination (usually at 9 months).

Immunisation is one of the most effective preventative health care interventions to prevent serious illnesses and death in young children. It entails giving injections or drops to young children that protect them against potentially life-threatening illnesses such as tuberculosis, polio, hepatitis and measles. South Africa has an up-to-date immunisation programme, in keeping with world standards. The Expanded Programme on Immunisation (EPI) in South Africa was last updated in 2015.

The revised EPI schedule for public health facilities providing services to children in the first year of life includes immunisation at birth, and then at 6 weeks, 10 weeks, 14 weeks and 9 months.[19] Thus, by the time of their first birthday, all babies should have visited a health facility at least four times after birth for immunisation services, and these immunisations should be recorded in the child's Road-to-Health Book.

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

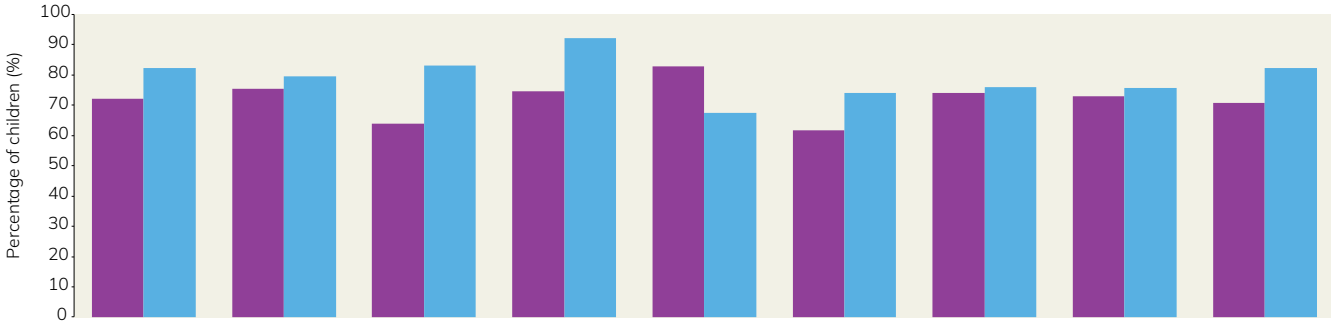
Immunisation rates are tracked in the District Health Information System and are calculated as the number of children who have received complete immunisation divided by the child population within that district. The percentages obtained in this way may be influenced by population movement in health seeking behaviour – for example, if children from one district or province are taken to a health facility in a neighbouring district or province.

The immunisation rates are also affected by national (and district-level) estimates of population size.

The 2015 immunisation rate, as reported in the 2016 District Health Barometer, reflected high levels of immunisation for infants under a year, at 89.2%,[20] but the population model for the country had under-estimated the number of children. Statistics South Africa subsequently revised its population model and released a new series of mid-year population estimates[21] and the 2015 immunisation rate was revised downwards to 79.5%. The 2016 rate dropped to 71% after retrospective adjustment to the revised population estimates. The lower immunisation rate for that year was attributed to a global shortage of Hexavalent vaccine.[19] In 2017 the immunisation rate picked up to 77%, increasing further to 82% in 2018 and 83.5% in 2019. In 2020, the immunisation rate dropped to 79.5% nationally as a result of lockdown, and as low as 61% in Limpopo. These fluctuations illustrate how the immunisation programme, which generally has high levels of compliance, is highly sensitive to disruptions in vaccine supply (as in 2016) or service delivery (as in 2020).

Immunisation rates improved again to 85.5% in 2021, dropping back slightly to 82.2% in 2022. This increase in the year following the hard lockdown, followed by a slight decline the next year, occurred across all provinces and might have been the result of a catch-up in delayed infant immunisations. When comparing the baseline immunisation rates in 2015 with those in 2022, the overall rates are quite similar despite some volatility in the intervening years.[i] The average rate for the country was slightly higher in 2022 (82%) than in 2015 (79%).

Figure 3d: Immunisation coverage of babies younger than one year, by province, 2015 & 2022



	EC	FS	GT	KZN	LP	MP	NW	NC	WC	**SA**
2002	72%	75%	64%	75%	83%	63%	62%	74%	73%	71%
2022	82%	80%	83%	92%	68%	89%	74%	76%	76%	82%

Source: Health Systems Trust (2024) "District Health Barometer" data file (derived from Department of Health's District Health Information System – DHIS). Available at www.hst.org.za.

i The immunisation rates in the District Health Barometer have not been adjusted to the revised population model before 2015, and so it is not possible to determine historical trends in immunisation uptake before 2015.

Underlying the overall increase between 2015 and 2022 are some quite contrasting patterns across provinces. Immunisation rates over the period increased substantially in KwaZulu-Natal and, to a lesser extent, in the Eastern Cape, Free State and Mpumalanga. At the same time, immunisation rates dropped in Limpopo, the Northern and Western Cape and Gauteng.

The highest immunisation rates for 2022 were in KwaZulu-Natal (92%) and Mpumalanga (89%), while the lowest rates were in Limpopo (68%), North West (74%), and the Northern and Western Cape (both 76%).

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 the most vulnerable who have not been immunised in that community will be protected – including young children and those with low immunity.

Even though immunisation is freely available, and the goal is for it to be universal, it is voluntary and there is growing evidence that some parents choose not to immunise their children. A "worldwide increase in vaccine hesitancy and refusal" has been described as a threat to the public health achievements in controlling and preventing infectious diseases.[22] At a country level, vaccine sentiment and voluntary compliance is inversely correlated with socio-economic status (i.e. compliance is lower in wealthy countries than in poorer ones).[22]

The completion rates for 'basic immunisation' in the South African Demographic and Health Survey of 2016 were substantially lower than those recorded in the District Health Information System for the same year (at 61%, compared with 77%). The reason for this discrepancy is not clear, but it is important to note that compliance was highest in the poorest wealth quintile (66%) while the richest quintile was lower, at 60%.[23] This suggests an inverse correlation between socio-economic status and immunisation in South Africa.

HIV prevalence in pregnant women

The HIV status of pregnant women is vitally important for children, and HIV continues to be a contributor to both maternal and child mortality. An inquiry into reported maternal deaths between 2012 and 2013 found that of the 87% of women who died and whose HIV status was known, 65% were HIV-positive.[24] This number dropped subsequently, to 40.5% in 2021, although HIV status was not known for another 12% of mothers who died.[25] HIV-negative deaths outnumbered HIV-positive deaths – a switch from what was found in the pre-lockdown years of 2017-19.

Of all children who died in hospital between 2012 and 2013, only 35% were known to be HIV-negative. Twenty-two percent were HIV-exposed, and a further 18% were HIV infected. The HIV status of the remaining 14% of children was not known.[26] Subsequent data on the causes of death in children suggest that HIV-related deaths among children continued to be under-recorded on death notifications, as the rates were very low considering the extent of the epidemic.[27] Delays in the release of "causes of death" data by Statistics South Africa have meant that these data have not been analysed since 2016.

The HIV prevalence amongst pregnant women is the proportion of pregnant women (aged 15 – 49 years) who are HIV positive. The majority of children who are HIV positive have been infected through mother-to-child transmission. Therefore the prevalence of HIV amongst infants and young children is largely influenced by the HIV prevalence of pregnant women and interventions to prevent mother-to-child transmission (PMTCT).

The PMTCT programme had a notoriously slow start in South Africa, with only an estimated 7% of pregnant women receiving HIV counselling and testing in 2001/02. Following legal action by the Treatment Action Campaign, the Department of Health was ordered to make PMTCT services available to all pregnant women, and testing rates increased rapidly in subsequent years. Since 2009 HIV testing has been almost universal.[28] An evaluation of the PMTCT programme showed that transmission rates had declined to as low as 2.6% by 2013.[29] Data on paediatric prevalence from the District Health Information System show further and substantial declines in paediatric infections suggesting ongoing effectiveness of the PMTCT programme. The percentage of eligible infants (those known to be exposed to HIV) who tested positive in a PCR test at around 10 weeks after birth dropped from 1.3% in 2016 to 0.4% in 2022.[30]

HIV prevalence in pregnant women is measured in the National HIV and Syphilis Prevalence Survey which targets pregnant women aged 15 – 49 years who attend a public health facility. The most recent publicly available estimate, for 2022, is a prevalence rate of 27.5%. HIV prevalence rates increased rapidly from 1% in 1990 when the first antenatal prevalence survey was conducted, to 25% by 2000 and 30% in 2005. The prevalence rate remained at around this level until 2019, after which it dropped slightly.[31]

Results are reported in five-year age bands. For many years, HIV-prevalence rates were consistently highest amongst women in their 30s (reaching a prevalence rate of 43% in 2013) followed by those in their late 20s & 40s. Since 2014, prevalence rates among women under 35 years have declined, while those among older women have increased. In 2022, the highest HIV prevalence rates among ante-natal attendees were in the 40 – 44-year age group.

HIV prevalence rates have remained comparatively low amongst youth (15 – 24 years) and have continued to decline steadily. In 2022, the prevalence rate among 20 – 24-year-old pregnant women was 16.4% (down from 24.2% in 2012), while prevalence among 15 – 19-year-olds was 7.6% (down from 12.7% a decade earlier).

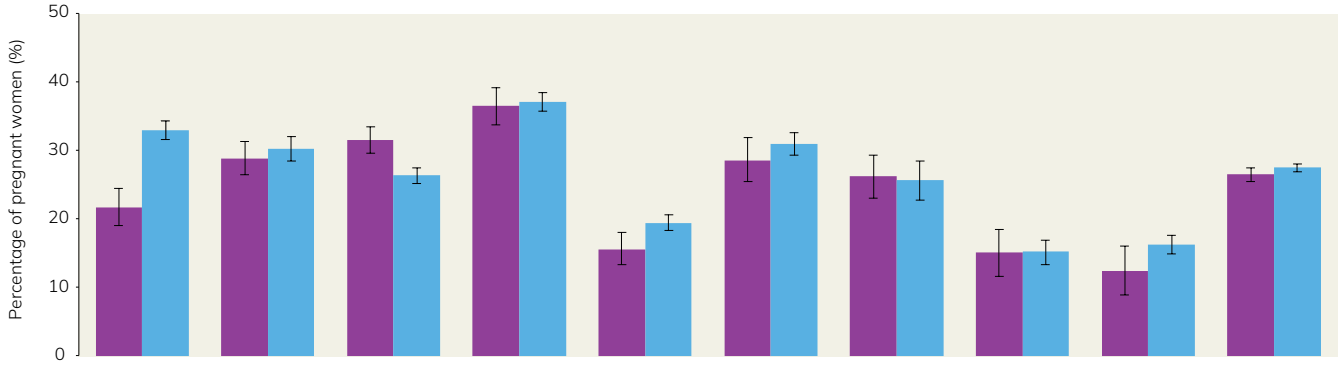
There are substantial provincial differences in HIV prevalence. KwaZulu-Natal has consistently had the highest antenatal HIV rates, with prevalence in excess of 36% since 2000 and over 40% between 2013 and 2019. In contrast, the Western Cape has had relatively low prevalence, although the rate increased by ten percentage points to 19% over the 14-

year period after 2000 before dropping back to 16% in 2022. Other provinces with relatively low HIV prevalence are the Northern Cape and Limpopo, with HIV-prevalence levels at 15% and 19% respectively in 2022.

These inter-provincial differences are partly a reflection of differences in HIV prevalence between different racial and cultural groups. For example, male circumcision is believed to be a major factor explaining inter-regional differences in HIV prevalence within Africa.[32, 33] Other factors such as differences in urbanisation, migration, socio-economic status and access to HIV-prevention and treatment services could also explain some of the differences in HIV prevalence between provinces.

Although HIV testing is almost universal in public health facilities, the antenatal prevalence survey does not include pregnant women who attend private health facilities, or women who deliver at public health facilities without having made a booking visit. Women with higher socio-economic status (proxied by post-secondary levels of education) and those seeking antenatal care in the private health sector have historically had a relatively low prevalence of HIV.[34] Thus the surveys, which are conducted only in public health facilities, are likely to over-estimate HIV prevalence in pregnant women generally.

Figure 3e: HIV prevalence in pregnant women attending public antenatal clinics, by province, 2002 & 2022



	EC	FS	GT	KZN	LP	MP	NW	NC	WC	**SA**
2002	21,7%	28,8%	31,6%	36,5%	15,6%	28,6%	26,2%	15,1%	12,4%	26,5%
2022	32,9%	30,3%	26,4%	37,1%	19,4%	30,9%	25,7%	15,2%	16,3%	27,5%

Source: National Department of Health: Antenatal HIV Sentinel Surveys 2002 and 2022. Pretoria: DOH.

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