Child health

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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]

The infant and under-five mortality rate

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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 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, like 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] The RMS data have been recommended by the Health Data Advisory and Co-ordinating Committee because corrections have been made for known biases. In other words, the indicators shown in Table 3a are nationally representative. The RMS reports vital registration data adjusted for under-reporting which allows for the evaluation of annual trends. They suggest the IMR peaked in 2003 when it was 53 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 decrease 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]

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 are derived directly 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 District Health Information System. The South African Demographic and Health Survey (SADHS) also reports

Table 3a: Child mortality indicators, rapid mortality surveillance, 2012 – 2020

INDICATOR	2015	2016	2017	2018	2019	2020
Under-five mortality rate per 1,000 live births	39	36	33	35	36	28
Infant mortality rate per 1,000 live births	28	26	23	26	27	21
Neonatal mortality	12	12	12	11	12	12

Source: Dorrington RE, Bradshaw D, Laubscher R & Nannan, N (2021) *Rapid Mortality Surveillance Report 2019-2020*. Cape Town: South African Medical Research Council.

child mortality rates. After a long gap (since 2003), the SADHS was conducted again in 2016. For the period 2012 – 2016, the RMS estimated a slightly higher overall under-five mortality rate than the SADHS – 42 versus 39 per 1,000 live births. However, the SADHS infant mortality rate (IMR) for recent years is much higher than the IMR from the RMS (35 versus 27 per 1,000 live births for the period 2012 – 2016). The SADHS estimates are likely to be too high because its neonatal mortality rate is too high.

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.

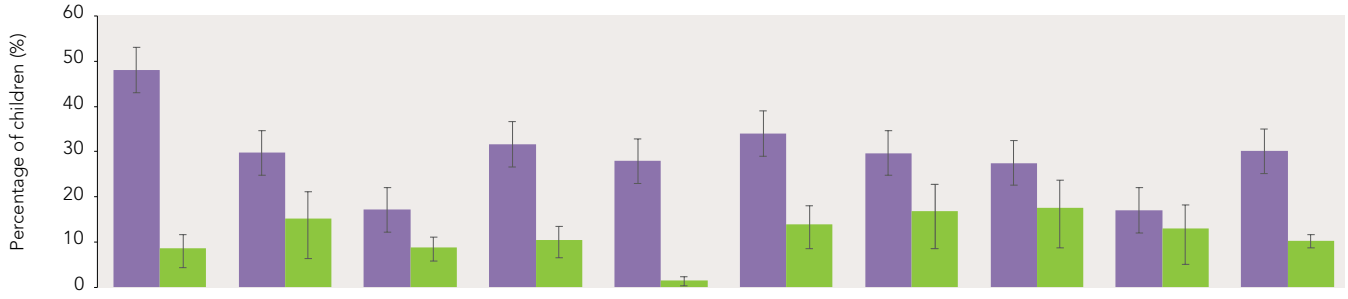
Child hunger is emotive and subjective, and this is likely to undermine the reliability of estimates on the extent and frequency of reported hunger, but it is assumed that variation and reporting error will be reasonably consistent so that it is possible to monitor trends from year to year.

In 2020, 10% of children in South Africa (nearly 2.1 million) lived in households that reported child hunger. More than a fifth of these children (22%) were from KwaZulu-Natal, while 19% were from Gauteng. Child hunger rates in 2020 were 20 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, KwaZulu-Natal and Limpopo. One of the main contributors to this decline is the expansion of the Child Support Grant which has steadily increased its coverage, reaching nearly 13 million children in 2020.[9] Another is the National School Nutrition Programme (NSNP), which by 2019 reached over 9 million learners in approximately 20,000 schools.[10] However, the NSNP only operates during term-time and does not include children who are too young to attend school. When schools were closed at the beginning of lockdown in March 2020, the NSNP ceased to operate altogether until the matter was taken to court by civil society organisations in July and the Gauteng High Court ordered the Department of Basic Education to resume the NSNP even if learners were not attending school due to the COVID-19 pandemic.[11]

Analysis of child hunger rates within provinces shows that child hunger rates in 2020 are highest in the Northern Cape and North West (in each of these provinces, 17% of children were in households that reported child hunger), followed by the Free State (15%) and Mpumalanga (14%). The lowest reported hunger rates were in Limpopo (2%). 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 – 2019, reported child hunger rates in that province fell from 48% (higher than any other province) to 5% (the second lowest), despite the fact that the Eastern Cape has the highest poverty rates in the country, with 44% of children living below the food poverty line. There was a small but statistically significant increase in reported child hunger in the Eastern Cape from 5% in 2019 to 9% in 2020.

There are no differences in reported child hunger across gender or age groups. However, there are significant differences across race: 11% of African children and 9% of Coloured children live in households that reported child hunger, compared to less than 1% of Indian and White children. Differences are even more pronounced across income quintiles. While 19% of children living in the poorest 20% of households experienced hunger, only 4% 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. While reported children hunger rates are slightly higher in the rural former homelands (11%) than in urban areas (10% of children), the difference is not great. Food insecurity is prevalent in both urban and rural areas.

Figure 3a: Children living in households with reported child hunger, 2002 & 2020



	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
2020	9%	15%	9%	11%	2%	14%	17%	17%	13%	10%
	221,000	160,000	389,000	453,000	38,000	241,000	241,000	77,000	271,000	2,089,000

Source: Statistics South Africa (2003; 2021) *General Household Survey 2002; General Household Survey 2020*. Pretoria: Stats SA.
Analysis by Katharine Hall, Children's Institute, UCT.

The NIDS-CRAM study recorded increased rates of reported child hunger during 2020, almost certainly due to rising poverty and unemployment during lockdown.[12] Although the overall child hunger rates in the General Household Survey (GHS) did not increase significantly, there were slight increases in reported child hunger in the two poorest income quintiles between 2019 and 2020. In the poorest income quintile, child hunger rates increased from 17.6% in 2019 to 18.7% in 2020, while the reported child hunger rate in quintile 2 increased from 8.4% to 9.8%.

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. 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 may live in households that do not report hunger but may still not have access to sufficient nutritious food and are therefore at risk of malnutrition. In 2019, for example, approximately 30% of children who lived in households that did not report child hunger were classified as living below the food poverty line, an indicator that their households lacked the financial resources needed to meet minimum dietary requirements for children and other household members.[13]

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.

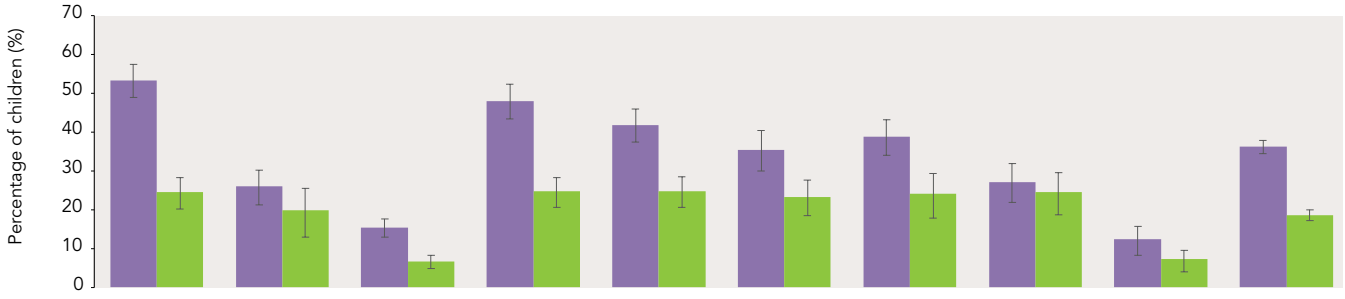
A review of international evidence suggests that universal access to key preventive and treatment interventions could avert up to two-thirds of under-five deaths in developing countries.[14] Preventative measures include the promotion of breast and complementary feeding, micronutrient supplements (vitamin 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 the 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.[15] 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.[16]

The GHS 2020 did not ask questions about the distance or mode of travel to health facilities. In 2019, a fifth (19%) of South Africa's children lived far from the primary health care facility they normally use. Most children (93.5%) lived in

Figure 3b: Children living far from their health facility, by province, 2002 & 2019



	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
2019	25%	20%	7%	25%	25%	23%	24%	25%	7%	19%
	628,000	202,000	290,000	1,037,000	598,000	392,000	342,000	105,000	145,000	3,739,000

Source: Statistics South Africa (2003; 2020) *General Household Survey 2002; General Household Survey 2019*. Pretoria: Stats SA.
Analysis by Katharine Hall, Children's Institute, UCT.

households where members attended the health facility closest to their home. Within the poorest 20% of households, only 3% do not use their nearest facility. The main reasons for attending a 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.[17]

In total, 3.7 million children would 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.

It is encouraging that the greatest improvements in access 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 2019), KwaZulu-Natal (down from 48% to 25%), Limpopo (from 42% to 25%) and North West (from 39% to 24%). Provinces with the highest rates of access are the largely metropolitan provinces of the Western Cape and Gauteng, where only 7% of children live more than 30 minutes from their usual health care service.

There are also significant differences between population groups. Twenty percent of African children and 11% of Coloured children travel far to reach their usual health care facility, compared with 6% and 4% of Indian and White children respectively. Racial inequalities are amplified by access to transport: if in need of medical attention, 95% of White children would be transported to their health facility in a private car, compared with only 12% of African children. Only 3% of the poorest children (quintile 1) travel to their health facility in a private car, while 61% 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 (26%) in the poorest 20% of households travel far to access health care, compared with 10% 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.

Teenage pregnancy

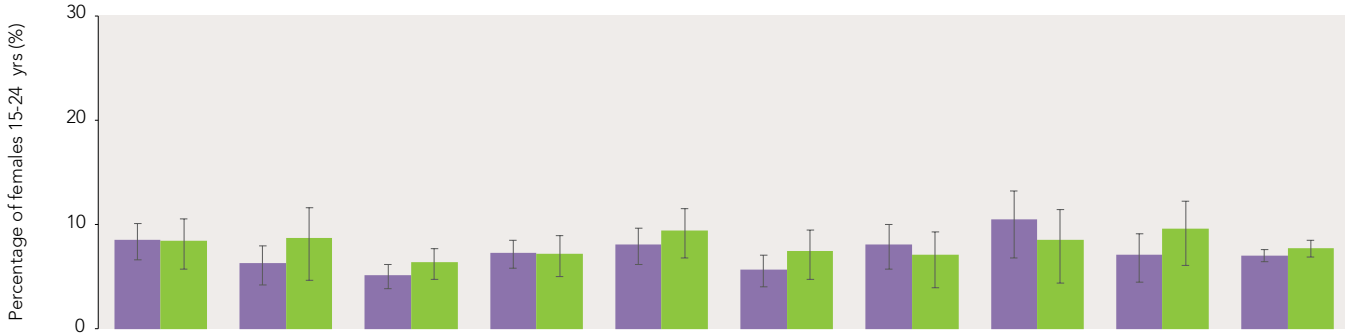
This indicator shows the number and proportion of young women aged 15 – 24 who are reported to have given birth to a live child in the past year.

Teenage pregnancy rates are difficult to calculate directly because it is hard to determine how many pregnancies end in miscarriage, still-birth or abortion: these are not necessarily known to the respondent, or accurately reported. In the absence of reliable data on pregnancy, researchers tend to rely on childbearing data (i.e., the percentage of women in an age group who have given birth to a live child).

Despite widespread assumptions that teen pregnancy in South Africa is an escalating problem, the available data suggest that the percentage of teenage mothers is not increasing. A number of studies have suggested a levelling off and even a decrease in fertility rates among teenagers in South Africa.[18-20] Teenage fertility rates declined after the 1996 census from 78 births per 1,000 women aged 15 – 19 years, to 65 births per 1,000 adolescents in 2001. The adolescent birth rate recorded in the 2011 population census suggested an increase to 72 per 1,000, and the 2016 SA Demographic and Health Survey recorded a similar (slightly lower) rate of 71. These patterns (the decline, increase and stability over the past two decades) are not exclusive to adolescents but follow the overall fertility trends for the country.[21]

Statistics South Africa regularly reports the number of 'recorded live births', using vital statistics data. The pattern over the past

Figure 3c: Annual childbearing rates among young women aged 15 – 24 years, by province, 2009 & 2019



	EC	FS	GT	KZN	LP	MP	NW	NC	WC	SA
2009	8,5%	6,3%	5,2%	7,3%	8,1%	5,7%	8,1%	10,5%	7,2%	7,1%
	58, 000	17, 000	50, 000	77, 000	50, 000	23, 000	24, 000	11, 000	34, 000	346, 000
2019	8,5%	8,8%	6,4%	7,2%	9,4%	7,4%	7,1%	8,5%	9,6%	7,8%
	44, 000	21, 000	73, 000	73, 000	48, 000	31, 000	23, 000	8, 000	50, 000	371, 000

Source: Statistics South Africa (2010; 2020) *General Household Survey 2009; General Household Survey 2019*. Pretoria: Stats SA.
Analysis by Katharine Hall, Children's Institute, UCT.

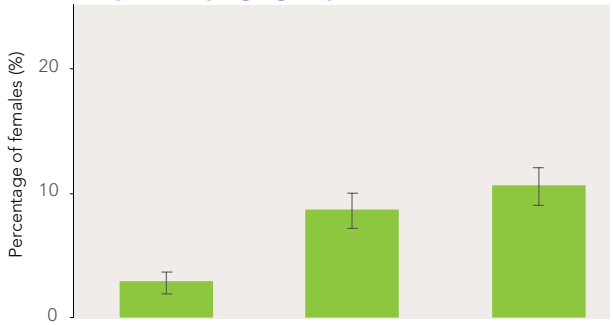
decade (from 2011) has been a decrease in adolescent births, this decrease being reflected in both the rate of current year birth registrations and late birth registrations. In 2020, out of over a million births registered, 112,127 births were registered to the mothers of adolescents aged 19 or younger.[22] Of these, just over 94,000 were registrations of babies born in the past year, while just under 18,000 were late birth registrations. This was the second lowest number of births registered to adolescent mothers since the current birth registration record system was developed in 1998, with the exception of 2014 when the number was slightly lower. It is possible that the closure of Home Affairs offices during the lockdown of 2020 caused a drop in the number of registered births to child and adolescent mothers, but this will only be known once late registration of births in 2021 and 2022 has been completed and those numbers are published.

Department of Health data between 2004 and 2017 showed a consistent decline in the share of teenagers aged 15 – 19 who attended antenatal clinics and participated in the national HIV sero-prevalence survey.[23] A further decline was recorded in 2019, both in real numbers and as a percentage of the total sample (teens aged 15 – 19 represented 13.1% of participants in the 2019 ante-natal survey, down from 17.5% in 2013). All of these data sources suggest that pregnancy and fertility rates among teenagers did not increase in the two decades leading up to 2020.

Fertility rates are, of course, an indicator of possible exposure to HIV. HIV prevalence rates are higher among women in their late twenties and thirties, and lower among teenagers, and the prevalence rate in the 15 – 24 age group has decreased over the past 10 years. However, prevalence rates are still worryingly high: of the young pregnant women surveyed in antenatal clinics in 2019, 10.3% of those aged 15 – 19 and 19.4% of those aged 20 – 24 were HIV positive.[24] For many years the majority of deaths in young mothers were caused by HIV.[25] Much of the overall decline in maternal deaths since 2011 is attributed to implementation of policies to manage and prevent HIV,[26] but it is still important that safe sexual behaviour is encouraged and practised.

Studies have found that early childbearing – particularly by teenagers and young women who have not completed school – has a significant impact on the education outcomes of both the mother and child, and is also associated with poorer child health and nutritional outcomes.[19, 25, 27] For this reason, it is important to delay childbearing, and to ensure that teenagers who do become pregnant are appropriately supported. This includes ensuring that young mothers can complete their education, and that they have access to parenting support programmes and health services. Although pregnancy is a major cause of school drop-out, some research has also suggested that teenage girls who are already falling behind at school are more likely to become pregnant than those who are progressing through school at the expected rate.[28] So efforts to provide educational support for girls who are not coping at school may also help to reduce teenage pregnancies.

Figure 3d: Childbearing rates among young women aged 15 – 24 years, by age group, 2019



Live births in the past 12 months	15-17 yrs	18-20 yrs	21-24 yrs
	2,9%	8,7%	10,6%
	41 000	120 000	211 000

Source: Statistics South Africa (2020) *General Household Survey 2019*. Pretoria: Stats SA.

Analysis by Katharine Hall, Children's Institute, UCT.

Poverty alleviation is important for both the mother and child, but take-up of the Child Support Grant (CSG) among teenage mothers is low compared with older mothers.[20, 29, 30] This suggests that greater effort should be made to assist young mothers to obtain identity documents for themselves and birth certificates for their babies so that they can apply for CSGs. Ideally, home affairs and social security services should form part of a comprehensive maternal support service at all maternity facilities.

Since 2009 the nationally representative GHS conducted by Statistics South Africa has included questions on pregnancy and fertility. The pregnancy question asks the household respondent: "Has any female household member [between 12 – 50 years] been pregnant during the past 12 months?" For those reported to have been pregnant, a follow-up question asks about the current status of the pregnancy. This indicator calculates the number and percentage of young women who have given birth in the past year.

According to the GHS, the national childbearing rate for young women aged 15 – 24 was 7.8% in 2019 (the question was not asked in 2020). This is equivalent to 371,000 births to young women in this age group, out of over 1.1 million births per year. There has been no significant change in this rate since 2009 when the question was first asked in the survey.

As would be expected, childbearing rates increase with age. Only 3% of girls aged 15 – 17 were reported to have given birth in the previous 12 months (representing 41,000 teenagers in this age group). Childbearing rates rose to 9% among 18 – 20-year-olds (120,000 when weighted), and 11% in the 21 – 24 age group (211,000). These rates have also been fairly stable over the past decade, and in the teen group (under 18) the childbearing rate has never risen above 3.2% (its peak in 2013).

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.

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.[31] 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 booklet.

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.

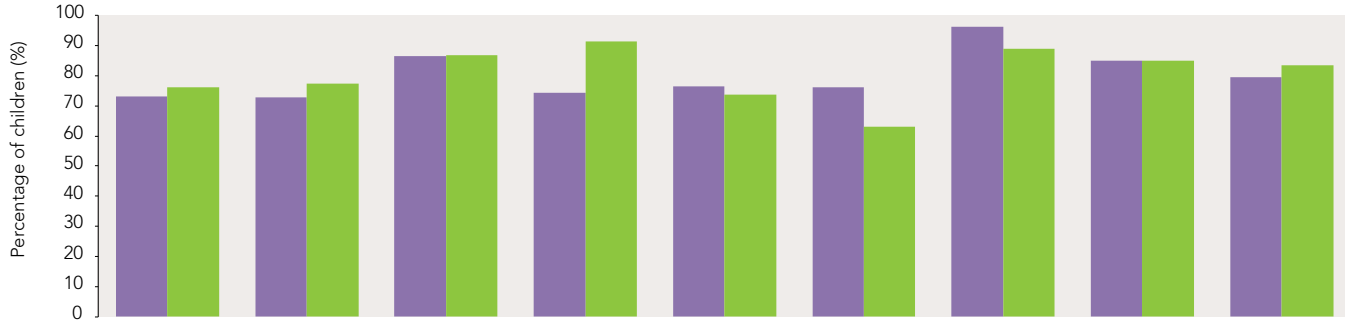
Immunisation rates are tracked in the District Health Information System and are calculated as the number of children who have received complete immunisation divided by the child population within that district. The percentages obtained in this way will be influenced by population movement in health seeking behaviour – for example, if children from one district are taken to a health facility in a neighbouring district. This has sometimes resulted in some districts, and even provinces, reporting immunisation rates of over 100%. The immunisation rates are also affected by national (and district-level) estimates of population size.

The 2015/16 immunisation rate, as reported in the 2016/17 District Health Barometer, reflected high levels of immunisation for infants under a year, at 89.2%.[32] Since then, Statistics South Africa revised its model to derive the mid-year population estimates, and it was found that the number of children in the country had previously been underestimated.[33] The 2015/16 immunisation rate was revised downwards to 79.5%. The 2016 rate had dropped even before the new population estimates were released and, after retrospective adjustment to the revised population estimates, the rate for that year was calculated at 71%. The lower immunisation rate for that year was attributed to a global shortage of Hexavalent vaccine.[31] In 2017/18 the immunisation rate was estimated at 77%, increasing to 82% in 2018/19 and 83.5% in 2019/20. The immunisation rates in the District Health Barometer have not been adjusted retrospectively before 2015, and so it is not possible to determine long-term trends in immunisation uptake.

The highest immunisation rates for 2019/20 were in Mpumalanga (97%), KwaZulu-Natal (91%) and the Northern Cape (89%). North West had the lowest immunisation rate (63%) with the rate having fallen from 76% in 2015. Other provinces with immunisation rates below the national average were the Free State (77%), Eastern Cape (76%) and Limpopo (74%).

The challenge of national and provincial aggregates is that they can mask differences between districts and hide areas with low coverage. The District Health Barometer provides detail on immunisation at district level and shows substantial inter-district inequities in service access for young children – ranging from coverage rates in the low 60 percentages in three out of the four districts in North West, to over 100% in three districts (Ehlanzeni in Mpumalanga, John Taolo Gaetsewe in the Northern Cape and iLembe in KwaZulu-Natal).[34] Low coverage rates are concentrated mainly in poor districts, where health needs may be greatest.

Figure 3e: Immunisation coverage of babies younger than one year, by province, 2015 & 2019



	EC	FS	GT	KZN	LP	MP	NW	NC	WC	**SA**
2015	73%	73%	87%	74%	76%	86%	76%	96%	85%	79%
2019	76%	77%	87%	91%	74%	97%	63%	89%	85%	84%

Source: Health Systems Trust (2020) "District Health Barometer" data file (derived from Department of Health's District Health Information System – DHIS). Available at www.hst.org.za.

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.[35] 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).[35]

The completion rates for 'basic immunisation' (BCG, three doses of STaP-IPV-Hib, and one dose of measles vaccine) 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%.[36] This suggests an inverse correlation between socio-economic status and immunisation in South Africa, a highly unequal country.

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