

HIV and Health - Distance to the nearest clinic

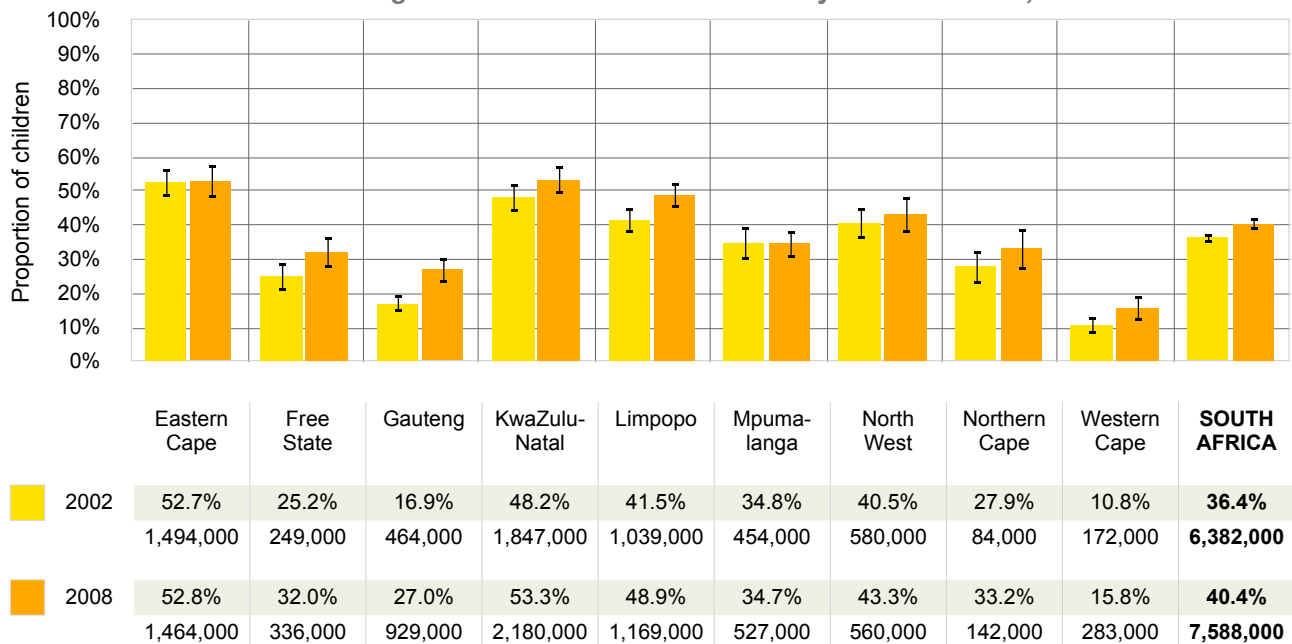
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Definition

This indicator reflects the distance from a child's household to the nearest clinic. Distance is measured through a proxy indicator: length of time travelled to reach the nearest clinic, by whatever form of transport is usually used. The nearest clinic is regarded as "far" if a child would have to travel more than 30 minutes to reach it, irrespective of mode of transport.

Children living far from the nearest clinic facility in South Africa, 2002 & 2008



Source

- Statistics South Africa (2003 - 2009) General Household Survey 2002 - 2008. Pretoria, Cape Town: Statistics South Africa.
- Analysis by Katharine Hall & Double-Hugh Marera, Children's Institute, UCT.

Notes

1. Children are defined as persons aged 0 – 17 years.
2. Population numbers have been rounded off to the nearest thousand.
3. Sample surveys are always subject to error, and the proportions simply reflect the mid-point of a possible range. The confidence intervals (CIs) indicate the reliability of the estimate at the 95% level. This means that, if independent samples were repeatedly taken from the same population, we would expect the proportion to lie between upper and lower bounds of the CI 95% of the time. The wider the CI, the more uncertain the proportion. Where CIs overlap for different sub-populations or time periods we cannot be sure that there is a real difference in the proportion, even if the mid-points differ. CIs are represented in the bar graphs by vertical lines at the top of each bar.

What do the numbers tell us?

The health of children is influenced by many factors, including nutrition, access to clean water, adequate housing, sanitation and a safe environment. Primary health care clinics provide important preventative and curative services, and increased access to clinics could substantially reduce child illness and mortality. The majority of children receive their vaccinations through public sector clinics. Children therefore need access to good and reliable health services in clinics to ensure that they receive this life-saving health intervention.

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.¹ Preventative measures include 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 drugs such as antibiotics and antimalarials.

Health care should be available (in sufficient supply), accessible (easily reached) affordable and of good quality² – principles to which South Africa has committed itself. From 1996, primary level care through the public service was made free to everyone in South Africa, thereby ensuring that care at the first level of access (at community or district level) should be affordable. However, the availability and physical accessibility of health care services remain a problem, particularly for people living in areas that are far from services and government institutions.

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. Physical inaccessibility and other parameters of access require urgent attention if the majority of children in South Africa are to gain meaningful access to primary level health care.

In South Africa, four in every 10 children live far from their nearest primary health care facility. That means 7.6 million children need to travel more than 30 minutes to reach the nearest clinic. Nationally, there has been little improvement in access to clinic services between 2002 and 2008. The situation has worsened across the country as a whole, and significantly in Gauteng, where the proportion of children without easy access to a clinic has increased by 10 percentage points (from 17% to 27%) over the seven-year period. This may be related to in-migration of children, and a backlog in health infrastructure to provide services to an expanding population. While table xx suggests undesirable shifts in other provinces such as the Free State, Limpopo and the Northern and Western Cape, these cannot be regarded as significant at present.

There is considerable variation between provinces. While around 50% of children in the Eastern Cape, KwaZulu-Natal and Limpopo do not have a clinic within 30 minutes travel of their home, this proportion is much lower for other provinces, and lowest in the largely metropolitan provinces of Gauteng (27%) and the Western Cape (16%).

There are also significant differences between population groups. A total of 44% of African children would have to travel far to the nearest clinic compared with only 16% – 19% of Coloured, Indian and White children.

Technical notes

The General Household Survey asks: "How long in minutes does it take or would it take, from here to reach the nearest clinic using the usual means of transport?"

Where respondents indicate that children would have to travel more than 30 minutes to the nearest clinic, the distance to clinic was categorised as "far". Where children would spend 30 minutes or less travelling to the nearest clinic, the distance was categorised as "not far".

For purposes of measuring and monitoring persistent racial inequality, population groups are defined as 'African', 'Coloured', 'Indian', and 'White'.

Strengths and limitations of the data

The data are derived from the *General Household Survey*³, a multi-purpose annual survey conducted by the national statistical agency, Statistics South Africa, to collect information on a range of topics from households in the country's nine provinces. The survey uses a sample of 30,000 households. These are drawn from Census enumeration areas using multi-stage stratified sampling and probability proportional to size principles. The resulting estimates should be representative of all households in South Africa.

The GHS sample consists of households and does not cover other collective institutionalised living-quarters such as boarding schools, orphanages, students' hostels, old age homes, hospitals, prisons, military barracks and workers' hostels. These exclusions should not have a noticeable impact on the findings in respect of children.

Changes in sample frame and stratification

The current master sample was used for the first time in 2004, meaning that, for longitudinal analysis, 2002 and 2003 may not be easily comparable with later years as they are based on a different sampling frame. From 2006, the sample was stratified first by province and then by district council. Prior to 2006, the sample was stratified by province and then by urban and rural area. The change in stratification could affect the interpretation of results generated by these surveys when they are compared over time.

Provincial boundary changes

Provincial boundary changes occurred between 2002 and 2007, and slightly affect the provincial populations. Comparisons on provincial level should therefore be treated with some caution. The sample and reporting are based on the old provincial boundaries as defined in 2001 and do not represent the new boundaries as defined in December 2005.

Weights

Person and household weights are provided by Statistics South Africa and are applied in Children Count – Abantwana Babalulekile analyses to give estimates at the provincial and national levels. Survey data are prone to sampling and reporting error. Some of the errors are difficult to estimate, while others can be identified. One way of checking for errors is by comparing the survey results with trusted estimates from elsewhere. Such a comparison can give an estimate of the robustness of the survey estimates. For this project, GHS data were compared with estimates from the Statistics South Africa's mid-year estimates, as well as the Actuarial Society of South Africa's ASSA2003 AIDS and Demographic model.

Analyses of the seven surveys from 2002 to 2008 suggest that over- and under-estimation may have occurred in the weighting process:

- When comparing the weighted 2002 data with the ASSA2003 AIDS and Demographic model estimates, it seems that the number of children aged 0 – 9 years was under-estimated in the GHS, while the number of children aged 10 – 19 was over-estimated. The pattern is consistent for both sexes. The number of very young males aged 0 – 4 years appears to be under-estimated by 15%. Girls in this age group have been under-estimated by 15.8%. Males in the 10 – 14-year age group appear to be over-estimated by 5.7%.
- Similarly in 2003, there was considerable under-estimation of the youngest age group (0 – 9 years) and over-estimation of the older age group (10 – 19 years). The pattern is consistent for both sexes. The results also show that the over-estimation of males (9%) in the 10 – 19-year age group is more than double the over-estimation for females in this age range (3.8%).
- In the 2004 results, it seems that the number of children aged 7 – 12 years was over-estimated by 6%, as well as the number of persons aged 13 – 22 years. The number of very young children appeared to have been under-estimated. The patterns of over- and under-estimation appear to differ across population groups. For example, the number of White children appears to be over-estimated by 14%, while the number of Coloured persons within the 13 – 22-year age group appears to be 9% too low.

- In 2005, the GHS weights seem to have produced an over-estimate of the number of males within each five-year age group. The extent of the overestimation is particularly severe for the 10 – 14-year age group. In contrast, the weights produce an under-estimate of the number of girls – the error seems greatest in respect of the younger age groups. These patterns result in male-to-female ratios of 1.06, 1.13, 1.10 and 1.09 respectively for the four age groups covering children (ie 0 – 4, 5 – 9, 10 – 14 and 15 – 19 years).
- The 2006 weighting process yielded the same results as in 2005. The one exception is that the under-estimation of females is greatest in the 5 – 9 and 15 – 19-year age groups. This results in male-to-female ratios of 1.03, 1.10, 1.11 and 1.12 respectively for the four age groups covering children.
- The 2007 weighting process produced an over-estimation for boys and an under-estimation for girls. The under-estimation of females is in the range of 3 – 5% while the over-estimation is in the range of 1 – 7%. This results in male-to-female ratios of 1.07, 1.06, 1.08 and 1.08 respectively for the four age groups covering children.
- Overall, assuming the ASSA2003 Aids and Demographic model to be the 'gold standard', it appears that the GHS2008 over-estimates both male and female populations under the age of 19 years, except for 0 – 4-year-old females. The extent of over-estimation for boys is in the range 0 – 7%. It is particularly severe for boys aged 10 – 14 years. Over-estimation is in the range of 2 – 5% for girls aged five years and above. For girls aged 0 – 4 years, the ASSA2003 model suggests that these may have been underestimated by about 1%. The GHS2008 suggests a sex ratio of 1.03 for children aged 0 – 4 years, which is higher than that of the ASSA model and Statistics South Africa's mid-year estimates.

The apparent discrepancies in the seven years of data may slightly affect the accuracy of the *Children Count – Abantwana Babalulekile* estimates. Since 2005 the male and female patterns vary in respect of a particular characteristic, which means that the total estimate for this characteristic will be somewhat slanted toward the male pattern. A similar slanting will occur where the pattern for 10 – 14-year-olds, for example, differs from that of other age groups. Furthermore, there are likely to be different patterns across population groups.

Disaggregation

Statistics South Africa suggests caution when attempting to interpret data generated at low level disaggregation. The population estimates are benchmarked at the national level in terms of age, sex and population group while at provincial level, benchmarking is by population group only. This could mean that estimates derived from any further disaggregation of the provincial data below the population group may not be robust enough.

Reporting error

Error may be present due to the methodology used, ie the questionnaire is administered to only one respondent in the household who is expected to provide information about all other members of the household. Not all respondents will have accurate information about all children in the household. In instances where the respondent did not or could not provide an answer, this was recorded as "unspecified" (no response) or "don't know" (the respondent stated that they didn't know the answer).

Related Links

International Conference on Primary Health Care (1978) Declaration of Alma-Ata. International Conference on Primary Health Care, Alma-Ata, USSR, 6 – 12 September 1978. www.who.int/hpr/NPH/docs/declaration_almaata.pdf

References

¹ Jones G, Steketee RW, Black RE, Bhutta ZA, Morris SS & Bellagio Child Survival Study Group (2003) *How many deaths can we prevent this year?* Lancet, 2003: 362: 65-71.

Available: [www.thelancet.com/journals/lancet/article/PIIS0140-6736\(03\)13811-1/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(03)13811-1/fulltext)

² United Nations Economic and Social Council (2000) *International Covenant on Economic, Social and Cultural Rights, Article 12: The Right to the Highest Attainable Standard of Health: General comment No. 14*. Geneva: Committee on Economic, Social and Cultural Rights. Available: [www.unhcr.ch/tbs/doc.nsf/\(symbol\)/E.C.12.2000.4.En?OpenDocument](http://www.unhcr.ch/tbs/doc.nsf/(symbol)/E.C.12.2000.4.En?OpenDocument)

³ Statistics South Africa (2003-2009). *General Household Survey 2002-2008 Metadata*. Cape Town, Pretoria: Statistics South Africa.

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