

Levels and trends of morbidity and mortality among children aged under-five years in South Africa, 2006-2010

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Preface


This report presents information on morbidity and mortality for children aged under-five years in South Africa. It highlights levels and trends of morbidity and mortality for children aged under-five years for the period 2006 to 2010, based on data or statistical releases containing health-related information collected or published by Statistics South Africa.

The information used is obtained from the mid-year population estimates; the general household survey data sets; the living conditions survey data set; and the death notification system data sets. The mid-year population estimates are produced every year during the month of July, the general house survey is conducted yearly by Statistics South Africa while the living conditions survey is conducted every five years and the death notification system data is obtained from the death notification forms of the Department of Home Affairs every year.

The data provided in this report is at both national and provincial levels. The report covers the total population of children under-five years where the 2011 methodology is used to project the 2006–2010 population. It also presents infant and child mortality rates, selected health indicators like the health status of children under-five years, disability in children under-five years and medical aid coverage of children under-five years.

The diseases that are presented in this report include; intestinal infectious diseases of which diarrhoea is part, respiratory diseases like influenza and pneumonia, tuberculosis, malnutrition and the Human Immunodeficiency Virus and the Acquired Immuno Deficiency Syndrome (HIV and AIDS).

The information presented in this report is intended to assist programme managers during programme planning, and policy makers during policy planning so that they can make evidence based decisions. The information can further be used by researchers to investigate further the trends and profiles of certain indicators in order to create a clear understanding of the observed levels.



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List of abbreviations/acronyms

ACME	Automated Classification of Medical Entities
AIDS	Acquired Immuno Deficiency Syndrome
CMR	Child Mortality Rate
DHA	Department of Home Affairs
GHS	General Household Survey
HIV	Human Immunodeficiency Virus
ICD	International Classification of Diseases
IMR	Infant Mortality Rate
LCS	Living Conditions Survey
MDG	Millennium Development Goals
MTSF	Mid-term Strategic Framework
NEC	Not Elsewhere Classified
SAS	Statistical Analysis Software
Stats SA	Statistics South Africa
TB	Tuberculosis
U5MR	Under-five Mortality Rate

1. Introduction

1.1 Background

The Government of South Africa revised its Medium-term Strategic Framework (MTSF) for 2009–2014 and adopted an outcome-based approach with a view of improving service delivery and enhancing accountability to the public (Department of Health, 2011). The Government agreed on 12 key outcomes as the key indicators for its programme of action for the period 2010–2014 which include the vision of “A long and healthy life for all South Africans”. The Department of Health identified four outputs against which to be measured and these include increasing life expectancy; decreasing maternal and child mortality rates; combating HIV and AIDS and tuberculosis; and strengthening health systems effectiveness.

It is on this basis that Statistics South Africa prepared this report with the aim of providing information on morbidity and mortality focusing on children aged under-five years in South Africa in order to identify diseases that contribute to child morbidity and mortality in the country. In this way, specific programmes can be set to improve the health status of children, which will decrease mortality and increase life expectancy of the population. The United Nations Children’s Fund (2011: 2) indicated that “child mortality is a key indicator not only of child health and nutrition but also of the implementation of child survival interventions and, more broadly, of social and economic development”. This report will form part of regular publications on health statistics, with the overall aim of providing information that can contribute towards a long and healthy life for all South Africans.

The Government of South Africa signed a global declaration on the eight Millennium Development Goals (MDGs) that need to be reached internationally by 2015. Three of these goals (Goals 4, 5 and 6) are related to health, with Goal 4 aiming at reducing child mortality; Goal 5 aiming at improving maternal health; and Goal 6 aiming at combating HIV/AIDS, malaria and other diseases. The indicators specifically meant for monitoring the improvement of child health include: proportion of one year-old children immunised against measles; incidences of pneumonia and diarrhoea for children under-five years; and infant and under-five mortality rates.

Under-five mortality refers to the number of deaths of children below the age of five years in a population. Under-five mortality rate (U5MR) is the probability of dying before the fifth birthday per 1 000 live births during the same year. The rate may be divided into two age groups (usually infant mortality and child mortality) to reflect the specific ages at death for those that die before reaching their fifth birthday as the risk of death is different for these age categories.

- i. Infant mortality rate (IMR) refers to the number of children under one year (aged 0) who die in a specified year, per 1 000 live births during the same year. Infant mortality rate may also be categorised into neonatal and post-neonatal mortality rates.
 - Neonatal mortality rate is defined as the probability of dying between 0 and 28 days of life in a specified year per 1 000 live births during the same year.
 - Post-neonatal mortality rate refers to the number of deaths that occur after 28 days of birth, but before reaching the first birthday in a specified year, per 1 000 live births during the same year.
- ii. Child Mortality Rate (CMR) refers to the number of deaths occurring between the first birthday but before reaching the fifth birthday (1–4 years), per 1 000 live births.

While under-five deaths can be categorised into different ages, this report concentrates on all child illnesses and deaths for the broad age group of 0–4 years. The report draws on data sources from Statistics South Africa (Stats SA), based on health-related data collected or processed by different divisions within the organisation, from which those aged 0–4 years were selected for this report. Recent trends covering the period 2006–2010 for morbidity and 2006–2009 for mortality are provided.

1.2 Objectives of the report

This report is guided by three main objectives:

- i. To present health information available from Stats SA's household surveys, administrative data and publications, focusing on those aged under-five years;
- ii. To report on morbidity and mortality patterns for diarrhoea, influenza and pneumonia, tuberculosis, HIV/AIDS and malnutrition among children aged under-five years; and
- iii. To outline morbidity and mortality trends for the selected health conditions in children aged under-five years.

1.3 Outline of the report

This report is divided into eleven chapters. The first chapter provides the background and objectives of the report. Chapter two highlights the sources of data and methods used to analyse the data. The third chapter presents the demographic profile of children aged under-five years in South Africa, including population distribution and mortality rate and the fourth chapter provides a description on children's health status, disability and medical aid coverage based on data from the Living Conditions Survey. Chapter five outlines the general patterns of mortality and causes of death based on data from South Africa's civil registration system. Chapters six to ten discuss morbidity and mortality due to diarrhoea, respiratory diseases, malnutrition, tuberculosis and HIV/AIDS. The last chapter deals with the discussions and recommendations on data sources and the results.

2. Data and methods

This chapter provides a description of data sources and methods used to analyse morbidity and mortality data for children aged under-five years in South Africa. The first section highlights Statistics South Africa (Stats SA) data sources that are used to understand morbidity and mortality trends and patterns among children in South Africa; and the second section discusses methods of data analysis used.

2.1 Data sources

Stats SA has a mandate to provide official statistics in South Africa. According to the Statistics Act, 1999 (Act No. 6 of 1999), the purpose of official statistics is to assist organs of state, businesses, other organisations or the public in planning; decision-making or other actions; and monitoring or assessment of policies, decision-making or other actions. The official statistics produced may be sourced from censuses, household surveys and registers.

This report is based entirely on morbidity and mortality data collected or processed by Stats SA for the 2006–2010 reference period, utilising data from household surveys, administrative records and modelled data. The five-year period is selected to provide recent trends in morbidity and mortality, which also takes into consideration the availability of comparable data for a discussion on trends. It is based on data from the following data sources:

Table 2.1: Stats SA data sources of data, 2006–2011

Type of data source	Name of data source	Frequency	Period
Household surveys	General Household Survey	Annually	2006–2010
	Living Conditions Survey	Quinquennially	2008/09
Administrative data	Mortality and Causes of Death	Annually	2006–2009
Modelled data	Mid-year Population Estimates	Annually	2006–2010, based on 2011 projections

While these data sources were not specifically designed to collect information on children’s morbidity and mortality, they provide valuable information that may be used to inform health policies. This report does not go into detail regarding collection instruments, data collection procedures, data processing methodologies and general limitations of the data sources. The information is provided in statistical releases produced from these sources and is available from the Stats SA website (www.statssa.gov.za). This report only highlights the limitations that were relevant for the production of statistics related to children aged under-five years.

2.1.1 General Household Survey

The General Household Survey (GHS) is conducted by Stats SA every year over a three-month period during July, August and September. It follows a multi-stage, stratified random sampling, with approximately 30 000 households visited twice every year. First visits are for publicity to prepare the households for the survey and the second visits are for the actual data collection.

The main purpose of the GHS is to generate national indicators to measure the level of development and performance of various government programmes and projects. In addition to information on education; social grants and social relief; and economic activities, the GHS collects information on health and general well-being for each member of the sampled household, including children. The health variables that are collected through this survey include medical aid coverage and reported diseases or health conditions for the month prior to the survey.

The primary limitation of the GHS is that it is a cross-sectional survey taking place from July to September in a year. This implies that seasonal variations in diseases are not taken into consideration. For example, it will be expected that influenza may be more prevalent during these months whereas diarrhoea may not be. The other limitation is the incomparability of some data elements over the reference period. The GHS questionnaires for 2006 to 2008 were the same but these were extensively revised in 2009. Therefore, some variables for 2006–2008 were not comparable to 2009–2010. In addition, not all the variables of interest were collected over this five-year period.

The other limitation of the GHS was the quality of information on some illnesses. There was a wide variation in year-to-year numbers for specific conditions such that the findings on conditions such as hypertension, diabetes and depression among children aged under-five years had to be excluded from this report.

2.1.2 Living Conditions Survey

The Living Conditions Survey (LCS) was conducted for the first time by Stats SA over a one-year period from September 2008 to August 2009. The main purpose of conducting this survey was to measure the living circumstances of households in South Africa, with special reference to spending patterns of households on different expenditure items. About 25 075 households across the country were visited during the one-year period. The survey used a combination of the diary and recall methods to collect data using four data collection instruments, namely: household questionnaire; weekly diary; summary questionnaire; and survey assessment questionnaire. The LCS is planned to be conducted every five years and the next survey will be undertaken during 2013/14.

The household questionnaire comprises seven modules, including particulars of household members; health; education; employment; migrant workers; welfare; and information on dwellings and services. The health module (module 2) collected information on perceived health, medical aid coverage, specific health conditions, consultations with health workers, and disability.

The main limitation of the LCS is that information is only available for one year; therefore trend analysis from this one source could not be undertaken. Although some questions were the same for the LCS and the GHS, the data collection period is not the same such that the results from these two sources were not comparable. Data collection for LCS was over a twelve-month period; while for GHS it was over a three-month period (July to September).

2.1.3 Mortality and causes of death

Mortality and causes of death publication is an annual statistical release published by Stats SA. This report is based on information on deaths that occurred between 1 January 2006 and 31 December 2009 and were registered at the Department of Home Affairs (DHA) in South Africa. The information on mortality and causes of death is collected using Form BI-1663 (Notice of Death / Stillbirth), which is completed when a death is registered. This form has now been revised and Form DHA-1663 is currently being used. As prescribed in the Births and Deaths Registration Act, 1992 (Act No. 51 of 1992) as amended, a medical practitioner has to certify the occurrence of death and also indicate the causes of death on the death notification form, after which the forms are submitted to the DHA for registration of the death.

Once all processes of registration are completed at the DHA, all death notification forms are collected by Stats SA for data processing, which includes the following processes: pasting of unique identifiers, coding of socio-demographic variables and causes of death, data capturing, derivation of underlying cause of death and analysis of the data. The tenth revision of the International Classification of Diseases and Related Health Problems (ICD-10) is used to classify the causes of death. The underlying causes of death are derived automatically using a software programme called Automated Classification of Medical Entities (ACME 2000.05). This report focuses only on the underlying causes of death, which is defined as the disease, or injury that initiated the sequence of events leading directly to death; or the circumstances of the accident or violence which produced the fatal injury.

The main limitations of the data on mortality from the death notification system in South Africa is incomplete registration of deaths, particularly among children and those living in the rural and remote areas. It is estimated that completeness of death registration for children under-five years is around 87% (Department of Health, 2011). With regard to information on causes of death, there is a high proportion of deaths attributed to symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified among all deaths and for children as well. The proportions for child deaths have been at around 13% each year from 2006 to 2009.

The information on both morbidity and mortality in this report is disaggregated by province and population group but the quality of information on population group for mortality has a limitation on reporting of this variable. About a quarter of the deaths do not have information on population group. The results presented on population group, therefore, excludes about a quarter of all deaths in this age group.

This report is based on 2006–2009 data on mortality and causes of death. The 2009 information is the latest available data on mortality and causes of death as the 2010 data are currently being processed. This also points to another limitation, which is on the timeliness of information from the death notification system. It takes an average of two years from the end of the reference period to publication.

2.1.4 Mid-year population estimates

Stats SA subscribes to the specifications of the Special Data Dissemination Standards of the International Monetary Fund and publishes mid-year population estimates for South Africa every year. The annual release uses the cohort-component methodology to estimate the mid-year population for South Africa. The cohort component technique uses births, deaths and migration to project population growth. The technique projects the population by age groups, sex, population group and province. The methodology for the mid-year population estimates is revised annually based on new information received, which affects assumptions on an annual basis. The 2011 methodology is used to project the 2006–2010 population used in this report.

2.2 Data analysis

The analyses undertaken in this report are descriptive, indicating frequencies; cross-tabulations; percentage distributions; sex ratios; and infant and child mortality rates. Unit records of data available from the surveys and administrative data discussed in the previous section were analysed using SAS Enterprise Guide software and exported to Microsoft Excel for calculation of percentage distributions and drawing of graphs. In some cases, tables were reproduced from published releases and reports. The results are presented in the form of tables and graphs, which show disease and mortality trends nationally and provincially; and by population group.

3. Demographic profile of South African children

This chapter presents the demographic characteristics of children aged under-five years in South Africa based on the mid-year population estimates for the period 2006–2010. It shows the proportion of children aged under-five years by population group and province and trends in Infant Mortality Rate (IMR) and Under-Five Mortality Rate (U5MR).

3.1. Population distribution

This section provides some background on the population distribution of children aged under-five years in South Africa, focusing on changes in the number of children in this age group, as well as its relative contribution to the overall population in the country from 2006 to 2010. It highlights differences by sex, province and population group.

Table 3.1 shows that there were about 5,3 million children in South Africa each year between 2006 and 2010, representing around 11% of the total population each year. On one hand, the number of children aged under-five years appears to be decreasing over time while on the other hand, the total population continues to increase. This is reflected in the gradually decreasing proportion of children under-five years over time.

Table 3.1: Distribution of total population and population aged under-five years by year, South Africa: 2006–2010

Year	Total population	Total population aged under-five years	Proportion aged under-five years
2006	47 769 660	5 390 632	11,3
2007	48 337 174	5 361 520	11,1
2008	48 909 061	5 327 170	10,9
2009	49 474 880	5 288 363	10,7
2010	50 034 236	5 243 206	10,5

Source: Statistics South Africa, Mid-year population estimates, 2011.

3.1.1 Sex

For all the years, there were slightly more male than female children aged under-five years (see Table 3.2). The sex ratio, which measures the number of males per 100 females, was constant at 102 males per 100 females. Both the numbers of male and female children aged under-five years declined over time.

Table 3.2: Distribution of population under-five years by year and sex, 2006–2010

Year	Total number of males aged under-five years	Total number of females aged under-five years	Sex ratio
2006	2 716 854	2 673 778	102
2007	2 701 808	2 659 712	102
2008	2 684 398	2 642 772	102
2009	2 665 145	2 623 218	102
2010	2 643 048	2 600 158	102

Source: Statistics South Africa, Mid-year population estimates, 2011.

3.1.2 Province

The distribution of children aged under-five years in 2006–2010 by province is provided in Table 3.3. In line with the population distribution of South Africa, the largest number of children in absolute numbers was observed in KwaZulu-Natal and Gauteng. Over one million children were found in each of these two provinces each year. The smallest number of children was in Northern Cape, with approximately 100 000 children every year. While the total population was increasing in all provinces in the country, there was a somewhat general decline in the number of children aged under-five years in all provinces, with the exception of Limpopo where the number of children increased consistently.

The percentages shown in Table 3.3 are based on the number of children aged under-five years in each province divided by the total population in the respective province. The highest proportions of children each year were found in KwaZulu-Natal, Limpopo, North West, Eastern Cape and Mpumalanga. The provinces with the lowest proportion of children over the five-year period were Free State and Northern Cape, with Gauteng showing a lower percentage in 2010. The percentage of children aged under-five years decreased in almost all provinces, with the exception of Northern Cape where the proportions remained more or less the same between 2008 and 2010.

3.1.3 Population group

As expected, a great majority of children under-five years in South Africa during 2006–2010 were black Africans, with nearly five million children each year in this population group; followed by the white population group, coloured population group and lastly the Indians/Asians. Children from the Indian/Asian population group are the only ones showing an increase in absolute numbers over time while the number of children under-five years decreased for all other population groups.

Table 3.4 shows that the black African population group had the highest proportion of children under-five years and was the only group with proportions higher than the national average for all the years. Between 11% and 12% of black Africans were children aged under-five years for each year between 2006 and 2009. The coloured population had the next highest proportion of children under-five years, followed by Indians/Asians while the white population group had the lowest proportion. The proportion of children under-five years for the white population group remained at around 6% each year, while there was a clear reduction in the proportions for the black African and the coloured population groups.

Table 3.3: Distribution of population aged under-five years by year and province, 2006–2010

Year	Indicators	Province								
		Western Cape	Eastern Cape	Northern Cape	Free State	KwaZulu-Natal	North West	Gauteng	Mpumalanga	Limpopo
2006	Total population	4 835 443	6 671 532	1 067 634	2 720 936	10 184 947	3 109 923	10 411 718	3 507 671	5 249 846
	Population under-five years	525 226	797 003	108 275	269 912	1 258 314	368 756	1 043 760	389 188	630 198
	% under-five years	10,9	11,9	10,1	9,9	12,4	11,9	10,0	11,1	12,0
2007	Total population	4 927 765	6 706 253	1 073 819	2 728 079	10 314 477	3 138 679	10 599 423	3 538 672	5 310 007
	Population under-five years	526 112	805 373	101 978	261 236	1 261 607	366 619	1 039 073	372 088	627 432
	% under-five years	10,7	12,0	9,5	9,6	12,2	11,7	9,8	10,5	11,8
2008	Total population	5 019 291	6 739 563	1 079 823	2 735 518	10 442 841	3 167 402	10 784 862	3 569 170	5 370 581
	Population under-five years	524 294	799 755	98 496	256 664	1 259 060	362 435	1 034 369	363 269	628 828
	% under-five years	10,4	11,9	9,1	9,4	12,1	11,4	9,6	10,2	11,7
2009	Total population	5 109 811	6 771 185	1 085 567	2 743 166	10 570 166	3 195 993	10 968 290	3 599 148	5 431 554
	Population under-five years	520 365	780 551	97 712	255 917	1 250 920	356 598	1 030 783	362 213	633 305
	% under-five years	10,2	11,5	9,0	9,3	11,8	11,2	9,4	10,1	11,7
2010	Total population	5 199 284	6 801 228	1 091 159	2 751 161	10 695 835	3 224 559	11 149 487	3 628 535	5 492 988
	Population under-five years	514 761	750 207	98 961	257 948	1 237 685	349 468	1 028 064	366 834	639 278
	% under-five years	9,9	11,0	9,1	9,4	11,6	10,8	9,2	10,1	11,6

Source: Statistics South Africa, Mid-year population estimates, 2011.

Table 3.4: Distribution of population under-five years by year and population group, 2006–2010

Year	Indicators	Population group			
		Black African	Coloured	Indian/Asian	White
2006	Total population	37 608 546	4 288 465	1 194 935	4 667 701
	Population under-five years	4 596 974	424 403	91 263	277 992
	% under-five years	12,2	9,9	7,6	6,0
2007	Total population	38 135 748	4 341 733	1 210 859	4 648 841
	Population under-five years	4 570 761	423 004	92 786	274 969
	% under-five years	12,0	9,7	7,7	5,9
2008	Total population	38 659 466	4 393 565	1 226 816	4 629 213
	Population under-five years	4 538 968	420 790	94 632	272 780
	% under-five years	11,7	9,6	7,7	5,9
2009	Total population	39 179 353	4 443 895	1 242 806	4 608 822
	Population under-five years	4 501 893	418 485	96 596	271 389
	% under-five years	11,5	9,4	7,8	5,9
2010	Total population	39 695 070	4 492 660	1 258 824	4 587 690
	Population under-five years	4 458 763	415 786	98 473	270 184
	% under-five years	11,2	9,3	7,8	5,9

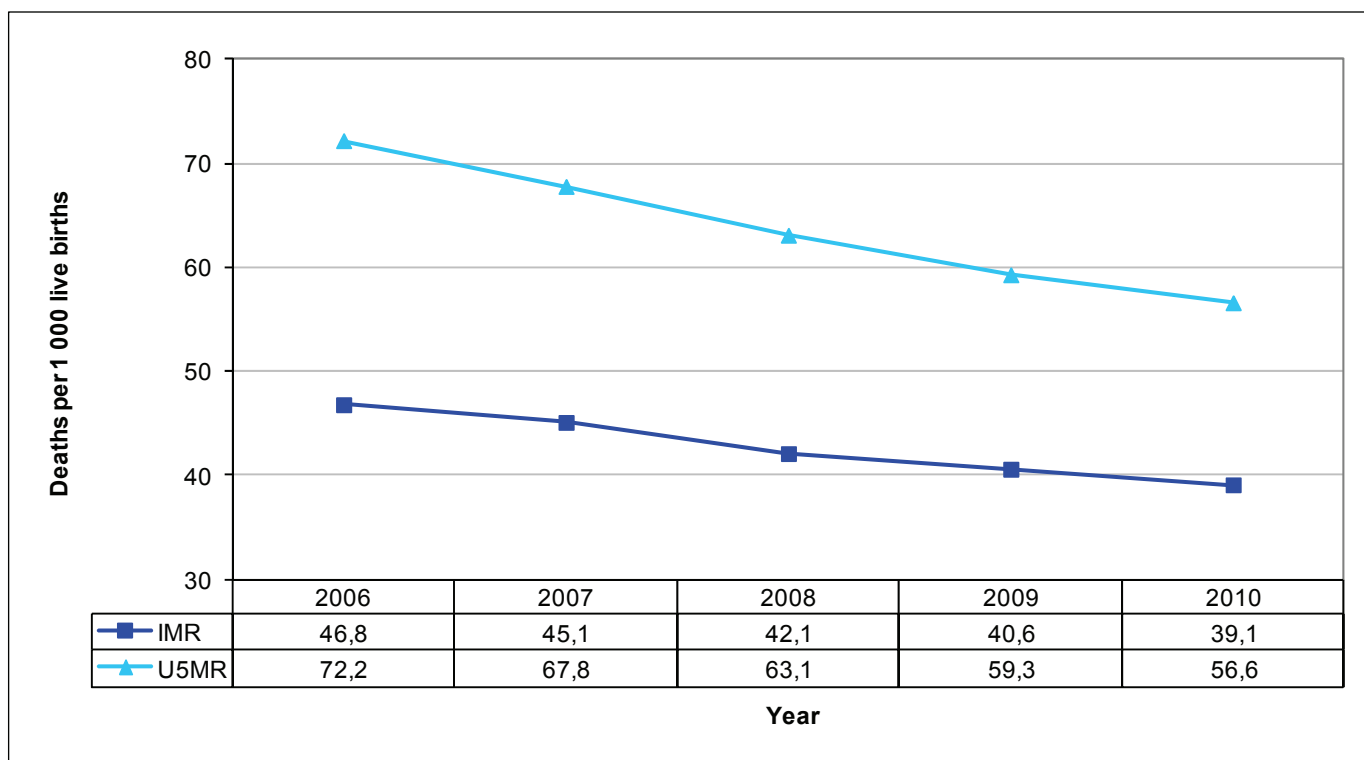
Source: Statistics South Africa, Mid-year population estimates, 2011.

3.2. Mortality rates

When mid-year population estimates are prepared, certain assumptions about life expectancy at birth by sex are made. Statistics South Africa used the United Nations East Asia model life table of age-specific mortality rates for the preparation of the 2011 mid-year population estimates. With the specified mortality pattern, associated estimates of mortality rates are estimated, including infant mortality rate (IMR) and under-five mortality rate (U5MR). The information for 2006–2010 provided in this chapter is based on 2011 projections (see Stats SA, Mid-year population estimates, 2011 for the demographic assumptions made).

Figure 3.1 shows the estimated infant and under-five mortality rates for 2006–2010. IMR was estimated as 46,8 infant deaths per 1 000 live births in 2006 while U5MR was 72,2 child deaths per 1 000 live births. There was a decline in both the IMR and U5MR over time, with IMR and U5MR reaching the levels of 39,1 and 56,6 per 1 000 live births in 2010, respectively. Under-five mortality rate declined relatively faster than the infant mortality rate such that the gap between the two rates narrowed over time.

Figure 3.1: Infant and under-five mortality rates trends in South Africa, 2006–2010



Source: Statistics South Africa, Mid-year population estimates, 2011.

3.3. Summary

This chapter provided background information on the demographic characteristics of the population aged under-five years in South Africa during 2006–2010, as well as mortality indicators for this age group. There were about 5,3 million children aged under-five years, the majority of whom were black Africans and mostly lived in KwaZulu-Natal and Gauteng, which is in line with the population distribution of South Africa. The number of these children generally declined over time. While both infant and under-five mortality rates were high, they both decreased over the five-year period, particularly under-five mortality rate. With this background, it is important to examine some health-related indicators pertaining to children under-five years, based on information from the Living Conditions Survey.

4. Selected health-related indicators

This chapter discusses selected health-related indicators exclusively from the Living Conditions Survey (LCS) undertaken by Statistics South Africa during 2008/09. The LCS is analysed to provide a background on: (i) the general health status of South Africa’s children aged under-five years as perceived by a main member in their households; (ii) disability status of children as reported by the main member; and (iii) medical aid coverage for children as reported by the main member. This background is necessary for the understanding of morbidity and mortality patterns that will be discussed in chapters 5 to 8 of this report. It should be noted that information on health conditions from the LCS is not included in this report but drawn from the General Household Surveys.

The results on these indicators are provided at national level as well as disaggregated by province and population group. The discussion focuses on percentage distributions presented in tables and graphs. Absolute numbers from which these percentages were calculated for province and population group variables are provided in Appendices I and II, respectively.

4.1. Children’s health status

Information on the health status of children presented in this section was collected by asking the main respondent (usually head of household) to describe the health of all children in the household at the time of the survey as either very good, good, fair or poor. Essentially, answers to this question refer to the opinion of the respondent about the health of each child in the household. The results presented in Table 4.1 show that over 90% of children were regarded as mainly having good health (50,5%) or very good health (39,9%). Around 5,6% of the children were regarded as having fair health, with only 1,8% being regarded as having poor health.

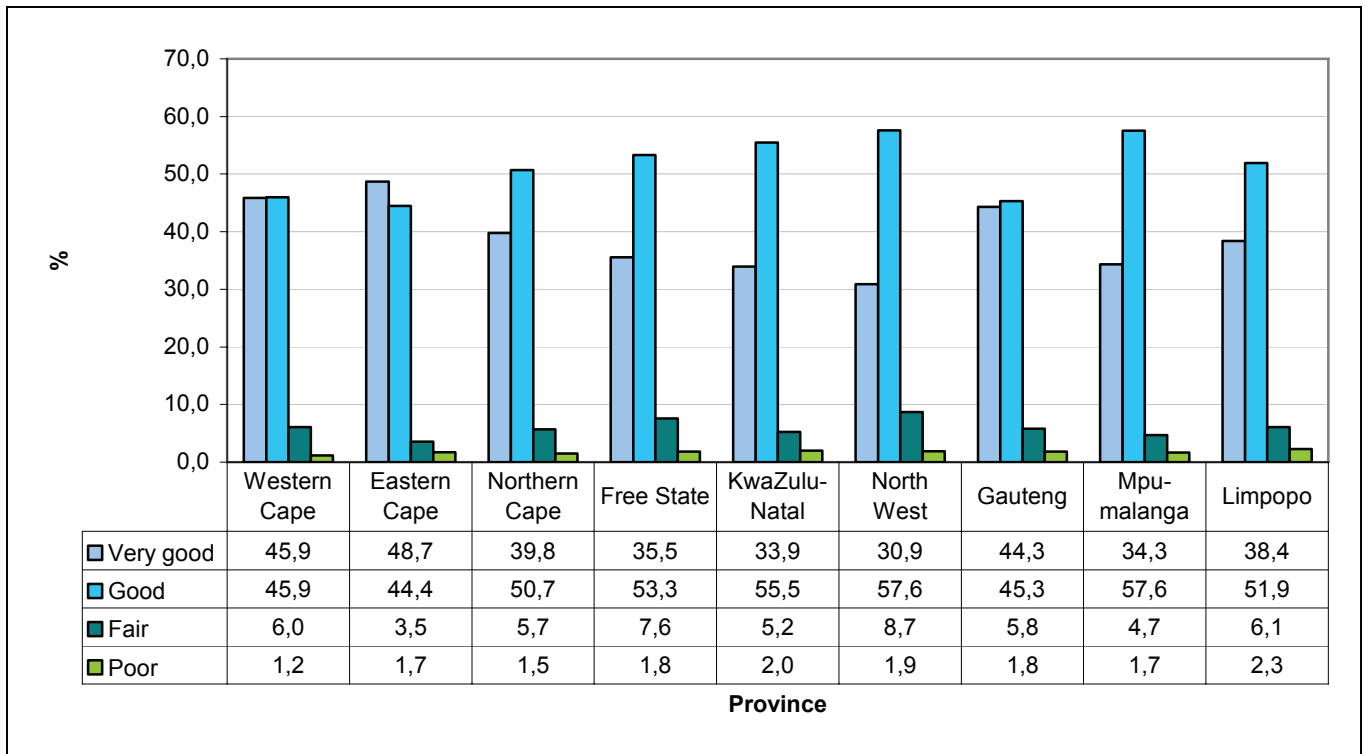
Table 4.1: Distribution of children aged under-five years by health status, 2008/09

Health status	Total number of children aged under-five years	%
Very good	2 037 076	39,9
Good	2 579 001	50,5
Fair	288 048	5,6
Poor	93 065	1,8
Unspecified	106 275	2,1
Total	5 103 466	100,0

Source: Statistics South Africa, Living Conditions Survey, 2008/09 data set.

The disaggregation of children’s health status by province shows that the majority of respondents in all provinces regarded the health of children in their household as either good or very good, although the magnitude differs (see Figure 4.1 and Appendix I). The proportions for those regarding the health of children as very good were higher in Western Cape, Eastern Cape and Gauteng, where over 40% of children in each province were regarded as having very good health. Limpopo and KwaZulu-Natal had higher proportions of children whose health was regarded as poor.

Figure 4.1: Percentage distribution of children under-five years by health status and province, 2008/09

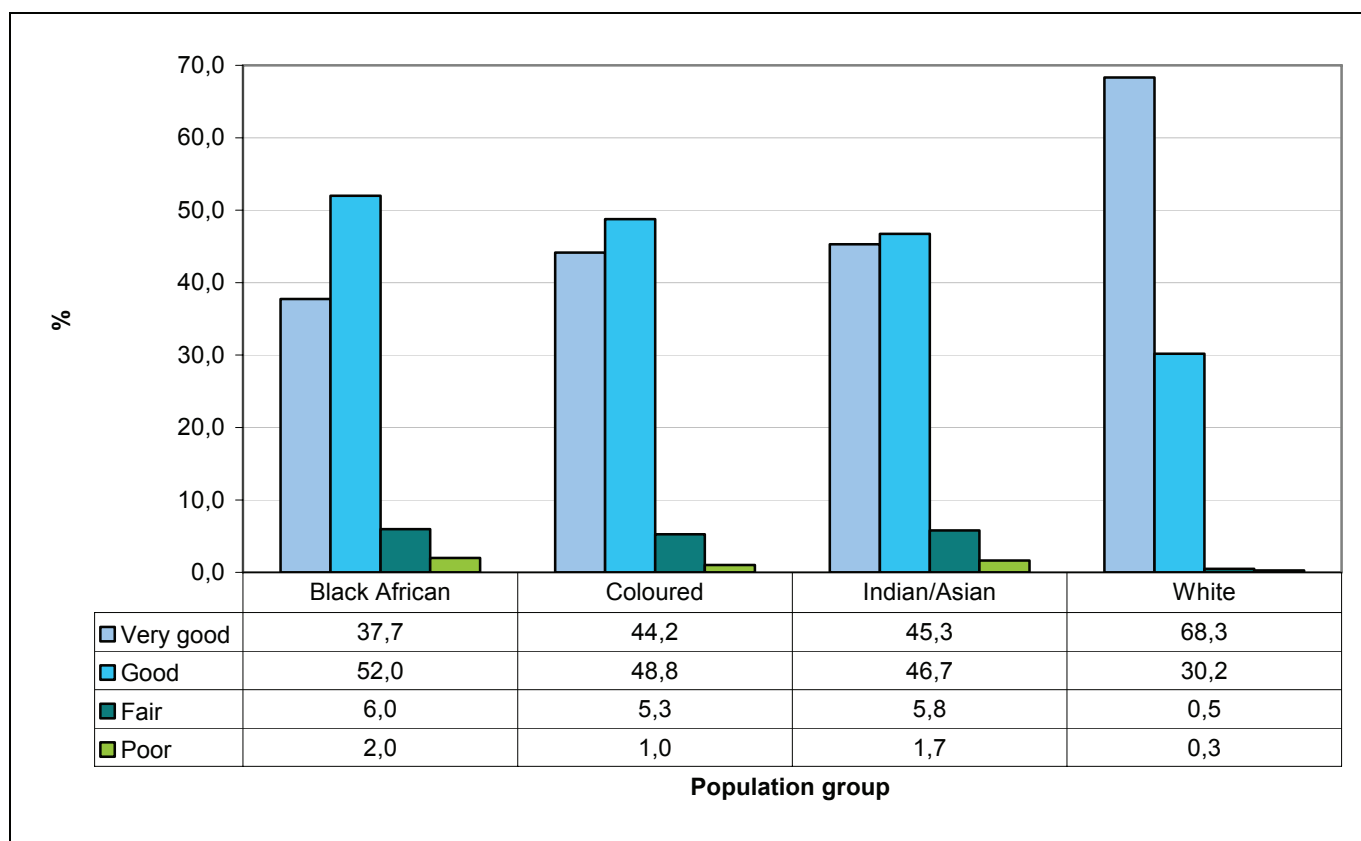


Source: Statistics South Africa, Living Conditions Survey, 2008/09 data set.

The distribution by population group also shows that the majority of respondents in all population groups regarded the health of children in their households as either good or very good (see Figure 4.2 and Appendix II). The highest proportion of those regarding the health status of children as very good was observed among the white population group, with about two-thirds of children being regarded as having very good health. The lowest proportion was for the black African children of whom 37,7% were regarded as having very good health.

Less than 1% of children from the white population group were regarded as in fair (0,5%) or poor (0,3%) health. The proportions of under-five children whose health was regarded as fair or poor were relatively higher for black African, coloured and Indian/Asian population groups, with levels almost the same for these three population groups. Those whose health was regarded as fair were around 5-6% for each population group and those regarded as poor around 1-2% each.

Figure 4.2: Percentage distribution of children under-five years by health status and population group, 2008/09



Source: Statistics South Africa, Living Conditions Survey, 2008/09 data set.

4.2. Disability

This section presents data on disability for children aged under-five years. The survey defined disability as a physical or mental condition that limits a person's movements, senses, or activities and included sight, hearing, and communication, emotional, intellectual, and physical. Respondents were asked whether they were limited in their daily activities (either at home, work, school) or whether they had a long-term physical, sensory, hearing, intellectual or psychological condition that lasted for six months or so. Daily activities included walking, eating and playing for children. Responses for children under-five years were provided by the main respondent in the household.

Table 4.2 shows the distribution of children aged under-five years who were reported as having a disability for all children and by province and population group. Overall, less than 1% of children aged under-five years (0,8%) had a disability, with minimal differences by province and population group. At province level, it is observed that Limpopo had a slightly higher proportion of children with a disability (1,3%) while Eastern Cape had the lowest (0,3%), indicating a difference of just 1% between the highest and the lowest proportion. The Indian/Asian population group had the highest proportion of children under-five years with a disability (1,7%), whereas the white population group had the lowest proportion (0,5%).

Table 4.2: Distribution of children aged under-five years with a disability by province and population group, 2008/09

Variables	Total number of children aged under-five years	Number of children aged under-five years with disability	% of children aged under-five years with disability
Province			
Western Cape	530 855	4 091	0,8
Eastern Cape	719 641	1 838	0,3
Northern Cape	119 458	1 096	0,9
Free State	301 071	2 631	0,9
KwaZulu Natal	1 012 795	5 779	0,6
North West	376 769	2 903	0,8
Gauteng	1 018 353	8 991	0,9
Mpumalanga	395 823	3 013	0,8
Limpopo	628 701	7 979	1,3
South Africa	5 103 466	38 321	0.8

Variables	Total number of children aged under-five years	Number of children aged under-five years with disability	% of children aged under-five years with disability
Population group			
Black African	4 335 912	32 351	0,7
Coloured	418 525	3 098	0,7
Indian/Asian	97 415	1 611	1,7
White	251 614	1 261	0,5
South Africa	5 103 466	38 321	0,8

Source: Statistics South Africa, Living Conditions Survey, 2008/09 data set.

4.3. Medical aid coverage

The LCS included a question on whether each household member was covered by a medical aid or medical benefit scheme or any other private health insurance. For this analysis, only the responses for children aged under-five years were included. The General Household Surveys also included questions on medical aid coverage but this information is not included in this report. The focus on medical aid coverage will only be based on data from the LCS.

Table 4.3 shows that about 10% of children under-five years in South Africa were covered by medical aid in 2008/09. There were wide differences observed by province and by population group. The highest proportion of children aged under-five years covered by medical aid was observed in Western Cape (20,3%) and Gauteng (19,0%). These two provinces were followed by Northern Cape (11,5%) and North West (10,9%), with nearly half the proportions observed in Western Cape and Gauteng. Limpopo had the lowest proportion at 4,7%, which was close to the figures observed in KwaZulu-Natal (5,2%), Eastern Cape (5,5%) and Mpumalanga (5,6%) respectively.

Differences by population group show that the majority of children from the white population group were covered by medical aid (65,7%), compared to 30,7% for Indians/Asians; 14,0% for coloured population group and only 6,2% for black African children.

Table 4.3: Distribution of children under-five years with medical aid coverage by province and population group, 2008/09

Variables	Total number of children aged under-five years	Number of children aged under-five years with medical aid coverage	% of children aged under-five years with medical aid coverage
Province			
Western Cape	530 855	107 521	20,3
Eastern Cape	719 641	39 397	5,5
Northern Cape	119 458	13 686	11,5
Free State	301 071	22 774	7,6
KwaZulu Natal	1 012 795	52 295	5,2
North West	376 769	41 254	10,9
Gauteng	1 018 353	193 835	19,0
Mpumalanga	395 823	22 175	5,6
Limpopo	628 701	29 681	4,7
South Africa	5 103 466	522 618	10,2

Variables	Total number of children aged under-five years	Number of children aged under-five years with medical aid coverage	% of children aged under-five years with medical aid coverage
Population group			
Black African	4 335 912	268 787	6,2
Coloured	418 525	58 662	14,0
Indian/Asian	97 415	29 937	30,7
White	251 614	165 232	65,7
South Africa	5 103 466	522 618	10,2

Source: Statistics South Africa, Living Conditions Survey, 2008/09 data set.

4.4. Summary

This chapter discussed health-related issues of children aged under-five years in relation to their health status, disability and medical aid coverage based on data from the LCS (2008/09). Children's health was generally perceived as good or very good, with some variations by province and population group. Disability was not common among children and differences by province and population group were minimal. A high proportion of children were not covered by medical aid, particularly for black Africans as well as for those in Limpopo, KwaZulu-Natal, Eastern Cape and Mpumalanga.

5. General patterns of mortality and causes of death

This chapter outlines the general patterns of mortality and causes of death based on data from the death notification system that is maintained by the Department of Home Affairs (DHA). The death notification forms are processed and published by Statistics South Africa (Stats SA). The chapter highlights the number of deaths for children aged under-five years classified by population group and province of residence of the deceased; and the ten leading underlying natural causes of death. The discussions cover the period 2006–2009. Specific illnesses and diseases will be discussed in subsequent chapters.

5.1. Number of deaths

Information on mortality and causes of death in South Africa is published by Stats SA every year. The results presented in this section focus on the overall number of deaths and the proportion of deaths occurring to children aged under-five years. The percentages are calculated by dividing the number of deaths for children aged under-five years by the total number of deaths in each year. The same method is used for the analysis of population group and province of residence of the deceased.

It should be noted that the information from the death notification system gives an indication of the number of child deaths that have occurred and were registered, but may also reflect the extent of reporting of deaths, particularly for deaths that occur among children. Caution must therefore be exercised when interpreting the results by province and population group as the reporting of child deaths may differ in each category of these variables. That is, a low number of children in a specific province may reflect lower reporting of deaths in that specific province, not necessarily the fact that there were fewer deaths. Completeness of reporting has not been estimated at provincial or population group levels.

Table 5.1 shows that over half a million deaths that occurred each year were registered. There has generally been a decrease in the number of deaths occurring in the country between 2006 and 2009. The number of deaths that occurred between 2006 and 2009 for children aged under-five years decreased by 21,6% from 64 346 in 2006 to 50 471 in 2009. Year from year changes indicate that the decline was greatest between 2008 and 2009 when the number of children’s death decreased by 17,3% from 61 062 to 50 471. The proportion of under-five deaths was approximately 10% between 2006 and 2008 and declined to 8,8% in 2009. These proportions are very similar to the proportion of the population aged under-five years presented in Table 3.1.

Table 5.1: Distribution of deaths occurring in children aged under-five years by year of death, 2006–2009

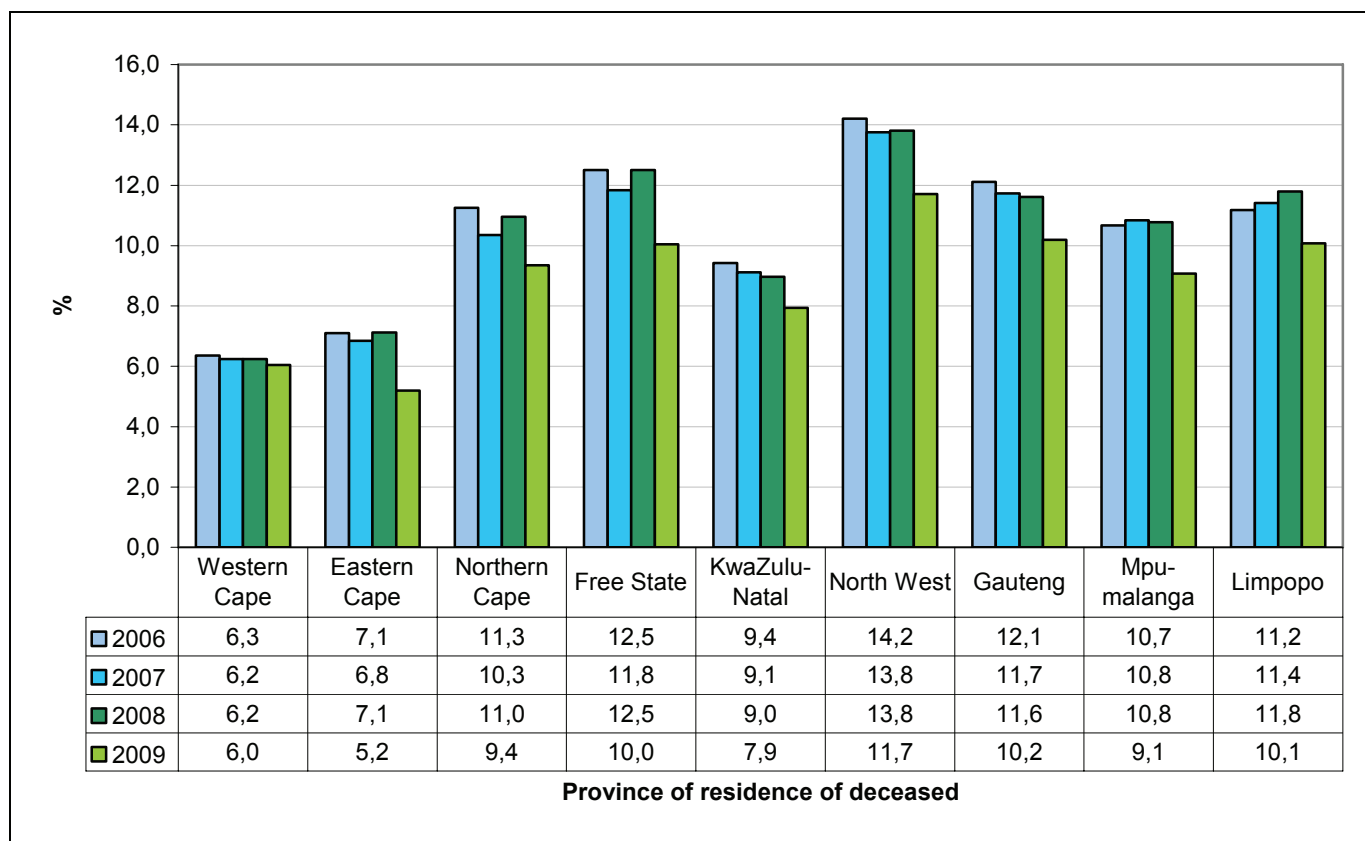
Year of death	Total number of death occurrences	Number of deaths for children aged under-five years	% of children aged under-five deaths
2006	613 040	64 346	10,5
2007	604 100	61 708	10,2
2008	595 152	61 062	10,3
2009	572 673	50 471	8,8

Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

Figure 5.1 presents the percentage distribution of deaths that occurred between 2006 and 2009 by province of residence of the deceased (absolute numbers are provided in Appendix III). Both Western Cape and Eastern Cape showed the lowest proportion of child deaths relative to all deaths in each of these provinces. The proportions of child deaths in these provinces, as well as those in KwaZulu-Natal, were less than 10% of the total number of deaths in each of these provinces. Conversely, North West had the highest proportion of child deaths in comparison to the total number of deaths in the province.

There was a consistent notable decrease in the proportion of child deaths for the deceased who were residing in KwaZulu-Natal and Gauteng. On the contrary, Limpopo showed an increase in the proportion of child deaths relative to all deaths in the province between 2006 and 2008, but a decrease between 2008 and 2009. By 2009, at least 10% of deaths in the Free State, North West, Gauteng and Limpopo occurred among children aged under-five years.

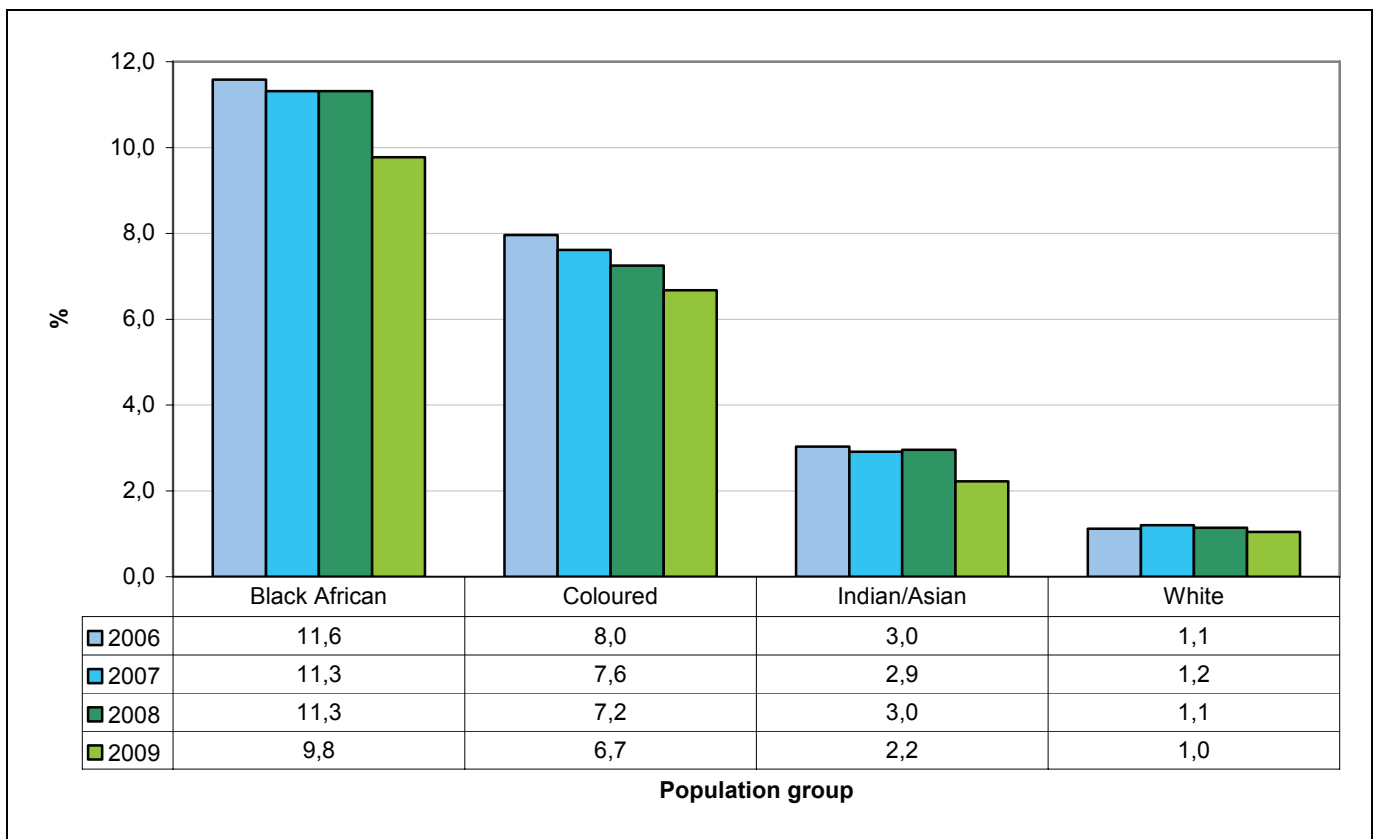
Figure 5.1: Percentage distribution of deaths occurring among children under-five years by province of residence of deceased, 2006–2009



Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

The proportions of deaths occurring at ages under-five years in each population group for the period 2006–2009 are presented in Figure 5.2 (absolute numbers provided in Appendix IV). The proportion of child deaths was highest for black Africans for all the years, followed by the coloured population group, Indians/Asians and the white population group. Around 10% to 12% of deaths among the black Africans occurred to children aged under-five years while for the coloured population group it was around 7% to 8% for the four years. Both these population groups showed a notable consistent decrease in the proportion of child deaths. Only about 1% of the deaths from the white population group occurred among children aged under-five years.

Figure 5.2: Percentage distribution of deaths occurring among children under-five years by population group, 2006–2009



Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

5.2. Underlying causes of death

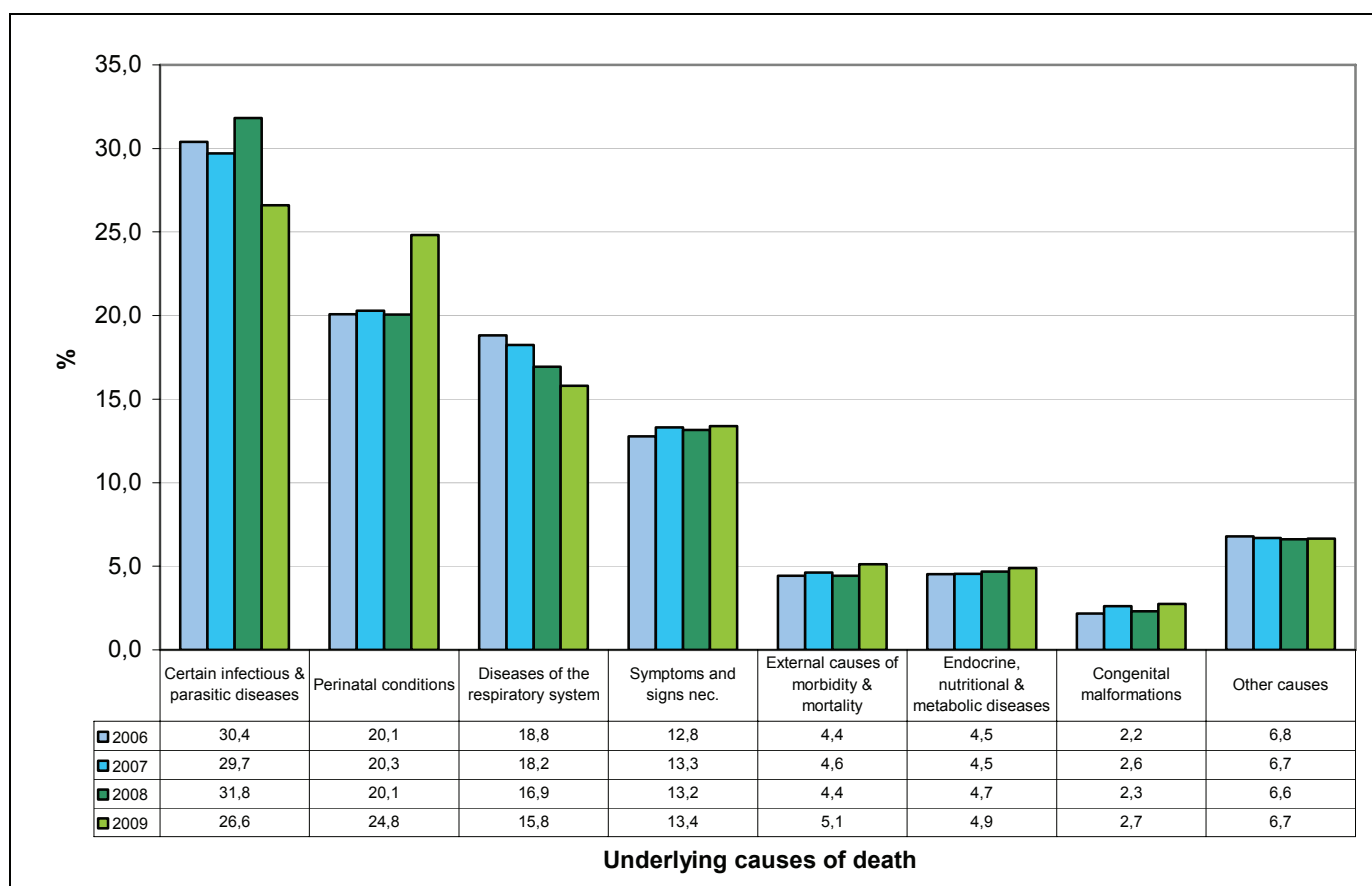
Information on causes of death is available on the death notification form, which is completed when a death is registered. This information is completed by medical practitioners who certify the occurrence of death as well as indicate the causes of death. The underlying causes of death are presented in this section to give an indication of the causes of death that led to the chain of events leading to death, which are important from a public health point of view. The discussion includes a description of main and broad groups of causes of death.

5.2.1 Main groups

Figure 5.3 shows seven main groups of the underlying cause of death for children aged under-five years and the other groups are combined as other causes (absolute numbers provided in Appendix V). For all the years, children under-five years mostly died from certain infectious and parasitic diseases (e.g. diarrhoea), followed by perinatal conditions (e.g. respiratory and cardiovascular disorders specific to the perinatal period) and diseases of the respiratory system (e.g. acute lower respiratory infections). Over two-thirds of child deaths were due to these three main groups of causes of death during 2006–2009. A high percentage (over 10%) of deaths was attributed to symptoms and signs not elsewhere classified (NEC), which is an indication of poor reporting of causes of death.

On one hand, the proportion of child deaths due to certain infectious and parasitic diseases was more or less constant between 2006 and 2008 but declined in 2009. On the other hand, the proportion of deaths due to perinatal conditions was constant between 2006 and 2008 but increased in 2009. There was a consistent decline in the proportion of deaths due to diseases of the respiratory system. The proportion of deaths due to non-natural causes (external causes of morbidity and mortality) and endocrine, nutritional and metabolic diseases (e.g. malnutrition) was at around 5% for each main group.

Figure 5.3: Percentage distribution of deaths for children aged under-five years by main groups of causes of death and year of death, 2006–2009



Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

Some differences were also observed by province of residence of the deceased and population group over time (see Appendices VI and VII, respectively). The proportion of deaths due to certain infectious and parasitic diseases was the highest in all provinces for most years, with the exception of Western Cape. In Western Cape, most child deaths resulted from perinatal conditions.

There were relatively higher proportions of deaths due to external causes of morbidity and mortality (around 7%–11% of the deaths each year) and congenital malformations (around 6–7% of the deaths each year) in Western Cape. The proportion of deaths due to external causes of morbidity and mortality were highest in Western Cape between 2006 and 2008 while for 2009 the highest proportion was observed in Eastern Cape. Diseases of the respiratory system were also relatively common among child deaths occurring in Free State, North West, Mpumalanga and Limpopo whereby each year this cause contributed around 20% of the deaths occurring in each of these provinces.

With regard to population group, certain infectious and parasitic diseases were most common among black African children, contributing to between 28% and 35% of deaths occurring in this population group each year. The second and third leading most common main groups of death were diseases of the respiratory system and perinatal conditions.

Among deaths occurring to children from the coloured, Indian/Asian and white population groups, the most common main group of causes of death were perinatal conditions, which affected over 30% of deaths each year for each of these population groups. Deaths due to congenital malformations were mostly common among deaths occurring to children from the Indian/Asian and white population groups. These accounted for around 10% to 15% of deaths occurring to children in these population groups.

5.2.2 Broad group

Information on broad groups of causes of death is presented by highlighting the ten leading underlying causes of death for each year during 2006–2009 (see Figure 5.4 and Appendix VIII). These broad groups exclude deaths attributed to symptoms and signs not elsewhere classified and non-natural causes of deaths. The non-natural causes of death were excluded due to changes in coding methodology for non-natural causes effected during the coding of 2007 deaths (Stats SA, 2009).

It is observed that the leading cause of death for all the years for children under-five years was intestinal infectious diseases (99,5% due to diarrhoea); followed by influenza and pneumonia; respiratory and cardiovascular disorders specific to the perinatal period; and malnutrition. All these causes contributed to over half of deaths occurring to children aged under-five years. Tuberculosis was the sixth leading cause of death among children aged under-five years, contributing around 3% of deaths in this age group.

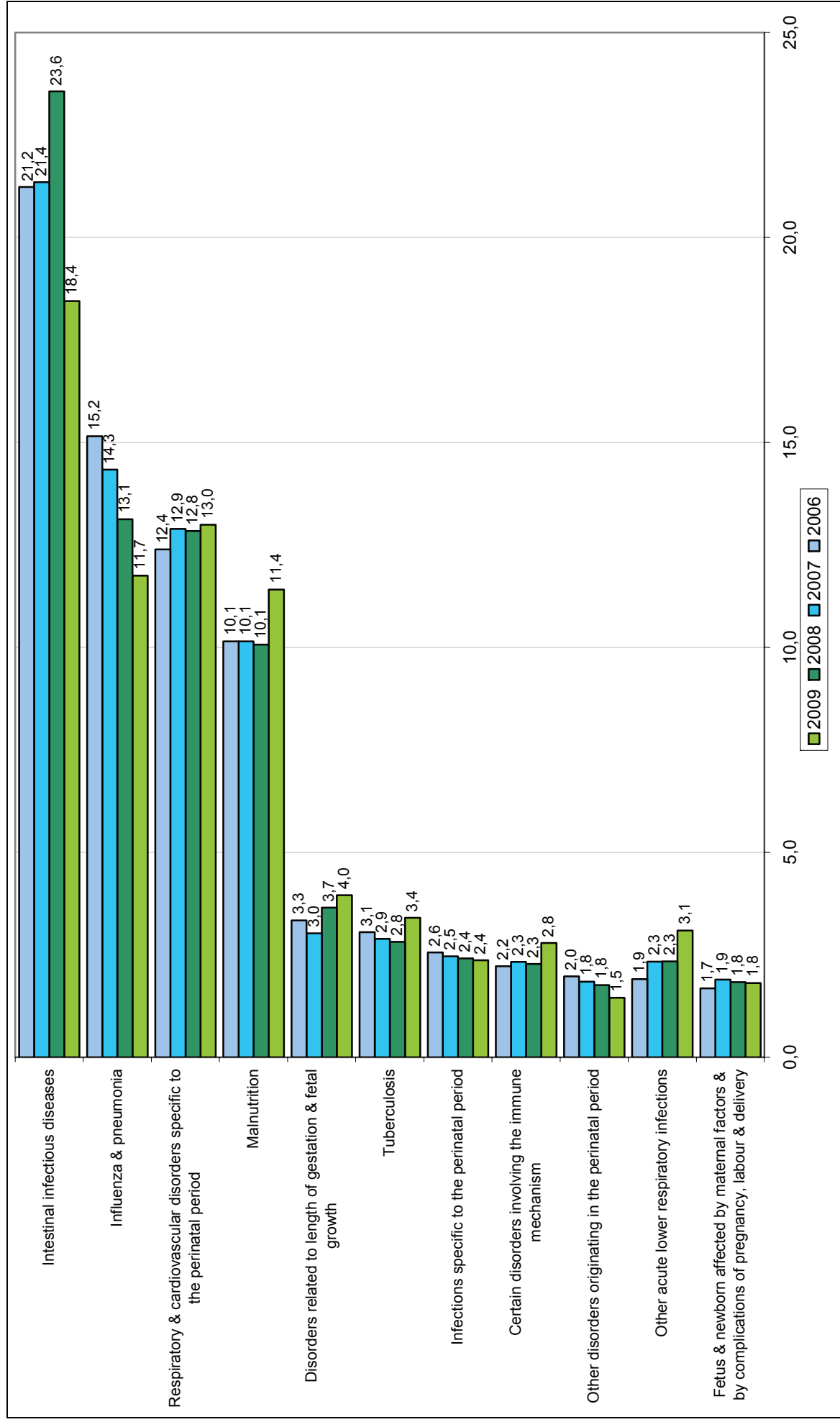
While there was a consistent decrease in the proportion of deaths due to influenza and pneumonia between 2006 and 2009, the proportion of deaths due to respiratory and cardiovascular disorders specific to the perinatal period increased moderately. For deaths due to intestinal infectious diseases, an apparent decrease was observed between 2008 and 2009, yet for malnutrition the proportion increased between 2008 and 2009, following a constant proportion of around 10% between 2006 and 2008. There were no considerable differences over time for the other causes of death.

Differences in the distribution of deaths among children were also observed over time by province of residence of the deceased and population group. However, due to the small number of deaths occurring for each broad group of causes of death to children under-five years each year for specific provinces (e.g. Northern Cape) and specific population groups (e.g. white and Indian/Asian population groups), detailed information on the leading causes of death by province and population group is not provided.

5.3. Summary

There has been a decrease in the number of deaths for children under-five years. A higher proportion of children's deaths was observed for those in North West and among the black African population group. The most common main group of deaths for these children were certain infectious and parasitic diseases, largely deaths due to intestinal infectious diseases.

Figure 5.4: Leading underlying natural causes of death for children under-five years, 2006–2009



Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

6. Diarrhoea

This chapter focuses on diarrhoea, which has been identified as the leading cause of death among children aged under-five years. The information presented will include data from the General Household Surveys (2006–2010) for the measurement of illnesses associated with diarrhoea; as well as data from the death notification system (2006–2009), concentrating on deaths due to “diarrhoea and gastroenteritis of presumed infectious origin” (ICD code A09).

6.1. Illnesses due to diarrhoea

The General Household Survey (GHS) questionnaires include a question on whether during the past month any member of the household suffered from any illness or injury; and if yes, further questions on what sort of illnesses or injuries each individual suffered from. The main respondent answered on behalf of children aged under-five years. This question was asked each year between 2006 and 2010. Around 12–20% of children aged under-five years each year were reported to have been ill or injured during the month before the survey. The percentages were 14,2% in 2006; 12,3% in 2007; 15,2% in 2008; 19,7% in 2009; and 13,1% in 2010.

For those who indicated that they were ill or injured, a list of conditions was provided for them to indicate if they suffered from any of those in the month before the survey. The list included flu or acute respiratory tract infection, diarrhoea, TB or severe cough with blood, depression or mental illness, diabetes and others.

Table 6.1 shows the distribution of children aged under-five years that had diarrhoea a month before the survey. The percentages are calculated by dividing the number of children aged under-five years with diarrhoea by the total number of children aged under-five years. It is observed that diarrhoea was not common among children aged under-five years during the reference months. The percentage of children that had diarrhoea a month before the survey fluctuated between 1% and 2% during the period 2006–2009. The highest percentage of children aged under-five years with diarrhoea was recorded in 2008 (1,9%) and the lowest in 2009 (1,1%).

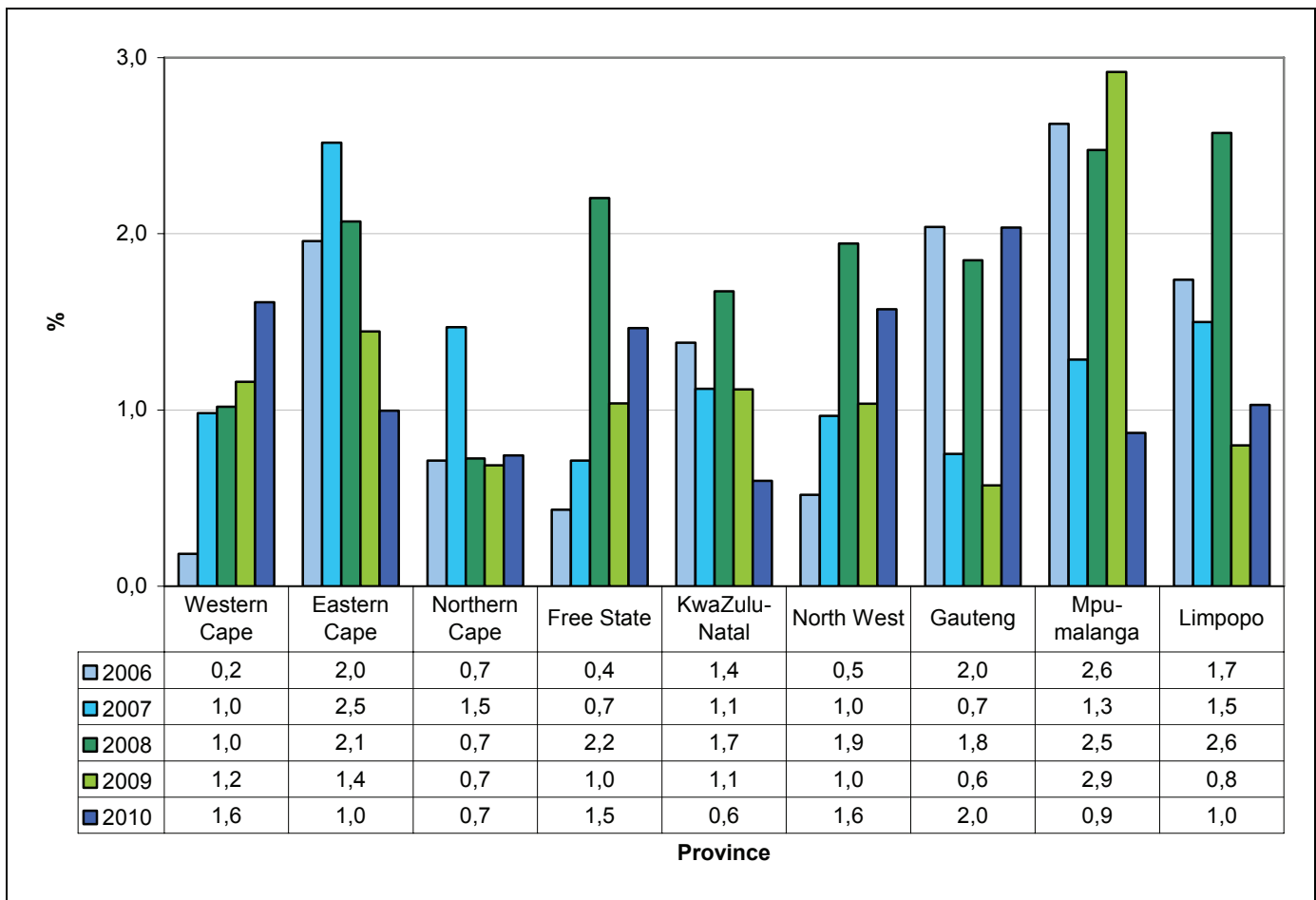
Table 6.1: Distribution of children aged under-five years with diarrhoea, 2006–2010

Year	Total number of children aged under-five years	Number of children aged under-five years with diarrhoea	% of children aged under-five years with diarrhoea
2006	5 199 192	77 300	1,5
2007	5 157 761	65 357	1,3
2008	5 112 434	96 689	1,9
2009	5 063 500	57 731	1,1
2010	5 021 399	62 012	1,2

Source: Statistics South Africa, General Household Surveys, 2006–2010 data sets.

Differences by province also show an inconsistent pattern over time in the proportion of children aged under-five years with diarrhoea a month before the survey (see Figure 6.1 and Appendix IX). The exception was Western Cape, where there was a consistent increase in the proportion of children aged under-five years who had diarrhoea. The province with the highest percentage of diarrhoeal cases was Mpumalanga in 2006 (2,6%); Eastern Cape in 2007 (2,5%); Limpopo in 2008 (2,6%); Mpumalanga in 2009 (2,9%); and Gauteng in 2010 (2,0%). Conversely, the provinces with the lowest proportions of children with diarrhoea each year were Western Cape in 2006 (0,2%); Free State and Gauteng in 2007 (each 0,7%); Northern Cape in 2008 (0,7%); Gauteng in 2009 (0,6%); and KwaZulu-Natal in 2010 (0,6%).

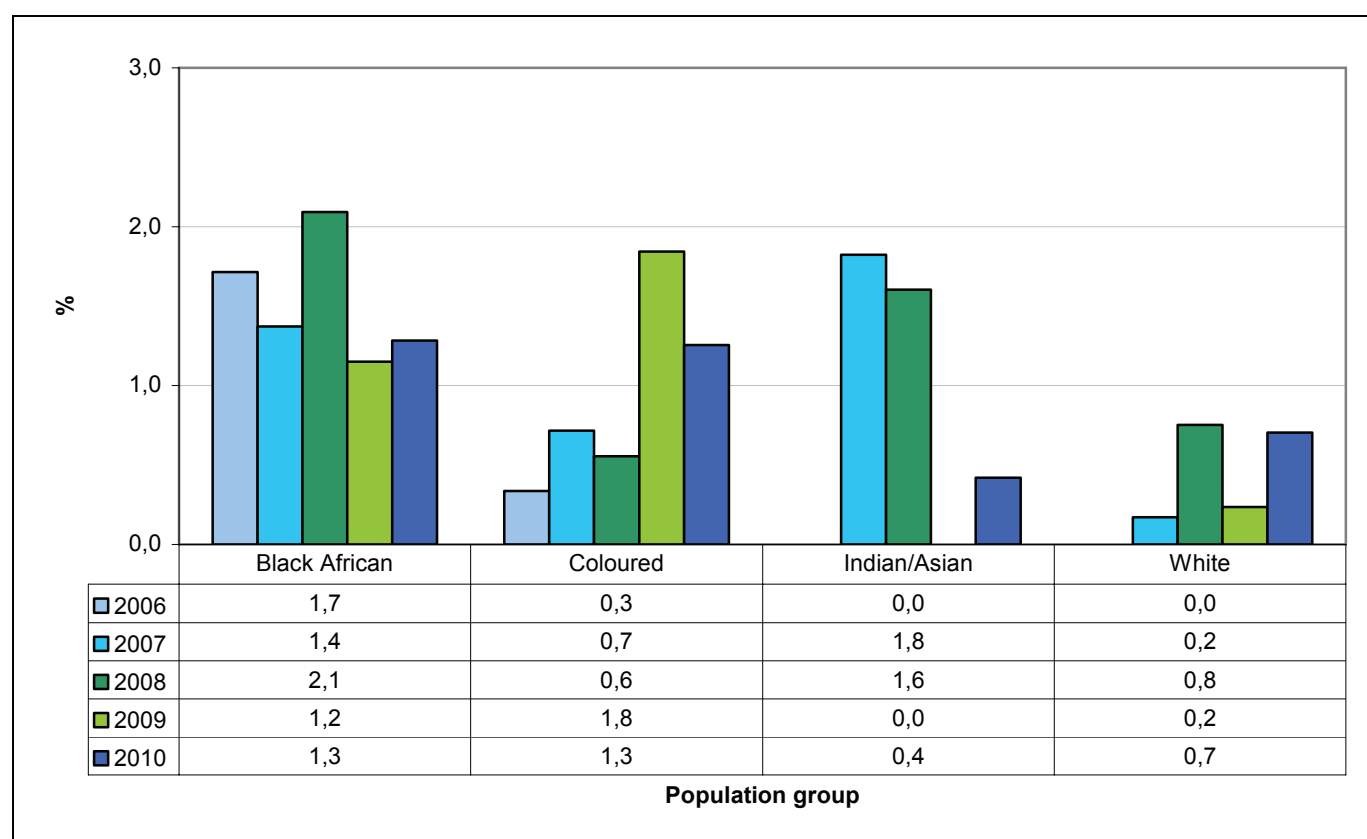
Figure 6.1: Percentage distribution of diarrhoea cases in children under-five years by province, 2006–2010



Source: Statistics South Africa, General Household Surveys, 2006–2010 data sets.

With regard to population group, the results presented in Figure 6.2 still show an inconsistent pattern (see Appendix X for absolute numbers). While the proportion of children under-five years with diarrhoea were highest for black Africans for most years, Indian/Asian children had the highest proportion of children with diarrhoea in 2007 (1,8%) and those from the coloured population group had the highest in 2009 (1,8%). There were no Indian/Asian children who were reported to have had diarrhoea a month before the survey in 2006 and 2009, yet the children in this population group had the highest proportion of diarrhoea in 2007. These findings may reflect the quality of data on childhood illnesses collected from household surveys. Children from the white population group generally had the lowest proportions of diarrhoea cases.

Figure 6.2: Percentage distribution of diarrhoea cases in children under-five years by population group, 2006–2010



Source: Statistics South Africa, General Household Surveys, 2006–2010 data sets.

6.2. Deaths due to diarrhoea

About 99,5% of deaths due to intestinal infectious diseases were due to diarrhoea and gastroenteritis of presumed infectious origin. As such, only deaths specifically due to diarrhoea and gastroenteritis of presumed infectious origin are included in this section, based on data from the South African death notification system for the period 2006–2009. The results are presented for both province of residence of the deceased and population group. The percentages are calculated by dividing the number of deaths due to diarrhoea and gastroenteritis of presumed infectious origin in each category of the variables of interest by the total number of deaths in each category for each year. Absolute numbers from which the proportions were calculated are provided in Appendices XI and XII for province and population group, respectively.

Table 6.2 shows that the number of deaths among children aged under-five years due to diarrhoea decreased between 2006 and 2007, increased between 2007 and 2008 and decreased again in 2009. The proportion of deaths due to this cause, which takes into consideration the total number of deaths, were nearly constant in 2006

and 2007, increased in 2008 and decreased noticeably in 2009. By 2009, 18,4% of all deaths occurring to children aged under-five years were due to diarrhoea.

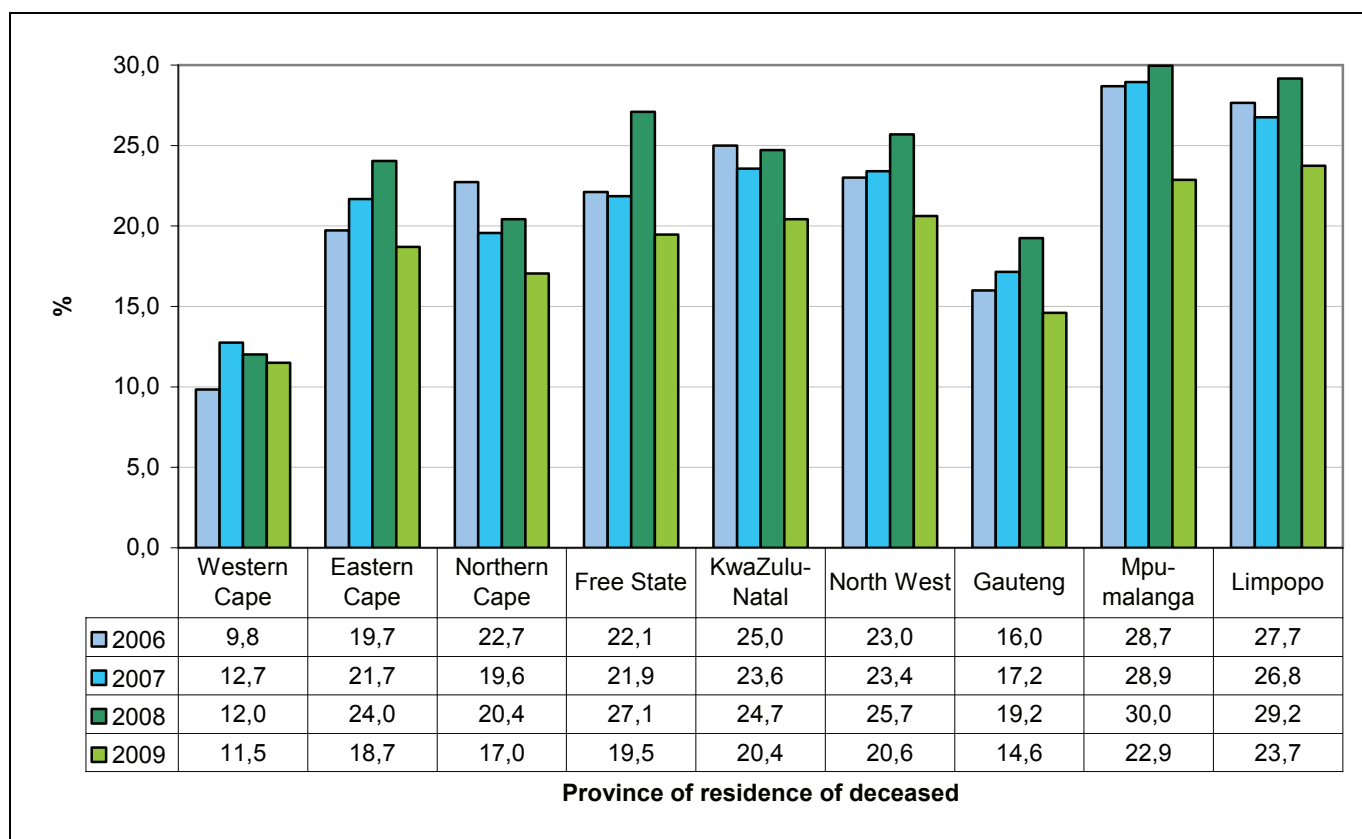
Table 6.2: Distribution of child deaths under-five years due to diarrhoea and gastroenteritis of presumed infectious origin, 2006–2009

Year	Total number of under-five deaths	Number of under-five deaths due to diarrhoea and gastroenteritis	% of under-five deaths due to diarrhoea and gastroenteritis
2006	64 346	13 589	21,1
2007	61 708	13 108	21,2
2008	61 062	14 332	23,5
2009	50 471	9 275	18,4

Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

The proportions of deaths for children under-five years due to diarrhoea by province of residence of the deceased presented in Figure 6.3 were by and large lowest in Western Cape and Gauteng throughout the four-year period and highest in Mpumalanga and Limpopo (see Appendix XI for absolute numbers). In both Western Cape and Gauteng, the proportions of deaths due to diarrhoea occurring in children aged under-five years were less than 20% for all years; whereas for Mpumalanga and Limpopo the proportions were over 22% for all years. In most provinces, the highest proportion of child deaths due to diarrhoea was observed in 2008. There was a decline in the proportion of child deaths due to diarrhoea between 2008 and 2009 in all provinces.

Figure 6.3: Percentage of children under-five years that died from diarrhoea and gastroenteritis of presumed infectious origin by province of residence of deceased and year of death, 2006–2009

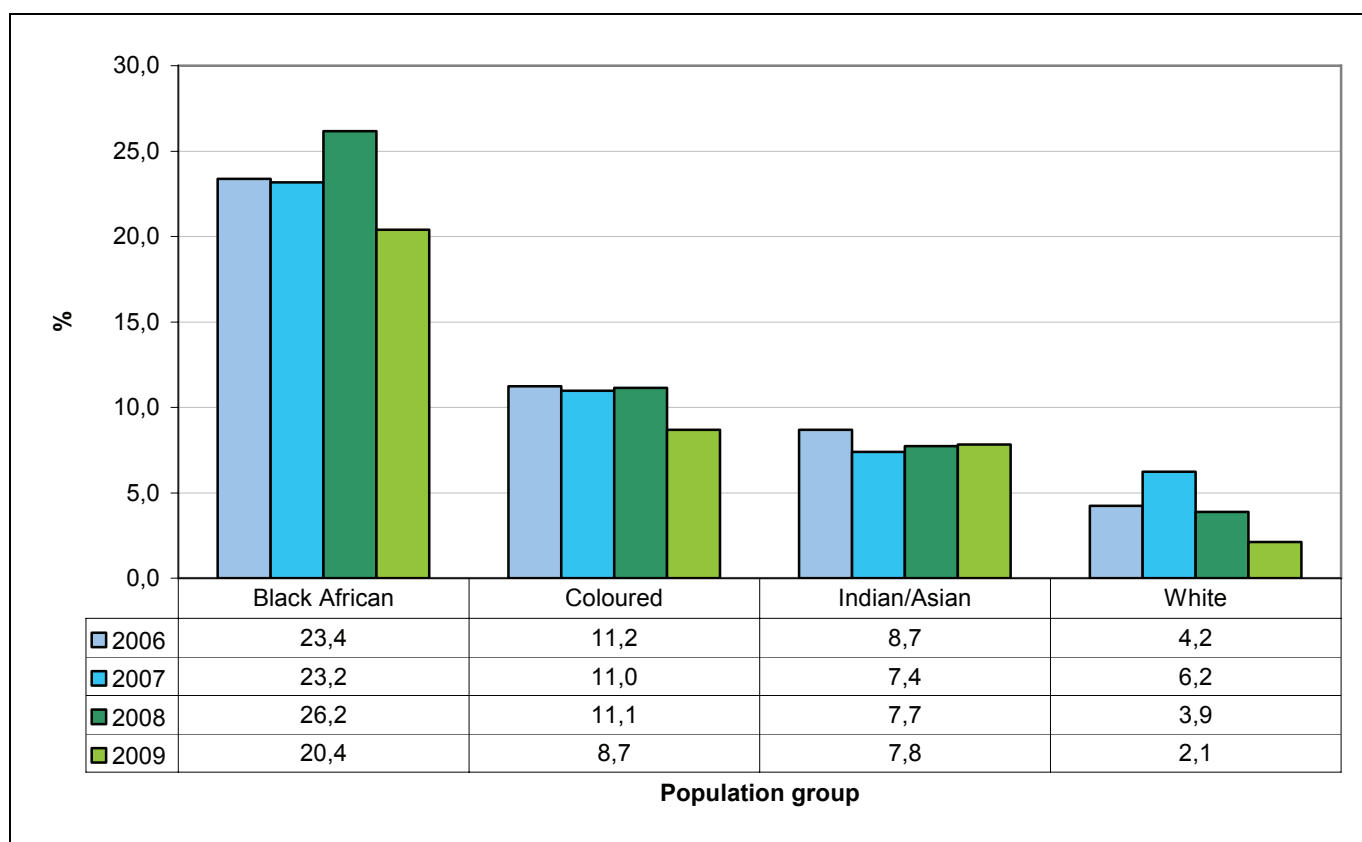


Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

There were obvious differences among population groups where the black African children aged under-five years had the highest proportion of deaths due to diarrhoea for all the years; followed by the coloured population group and Indians/Asians (see Figure 6.4 and XII). Over 20% of deaths occurring to children under-five years for black Africans were due to diarrhoea, with as much as 26,2% in 2008. The lowest proportion of deaths due to diarrhoea for children aged under-five years was observed for the white population group.

For the coloured population group, the proportions of children dying from diarrhoea were roughly constant at around 11% between 2006 and 2008, decreasing to 8,7% in 2009. Between 7% and 8% of deaths occurring to Indian/Asian children were due to diarrhoea. For the white population group, the highest proportion of child deaths due to diarrhoea was observed in 2007 (6,2%) and the lowest in 2009 (2,1%).

Figure 6.4: Percentage of children under-five years that died from diarrhoea and gastroenteritis of presumed infectious origin by population group and year of death, 2006–2009



Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

6.3. Summary

Both the data from the GHS and the death notification system show increased proportions of children having diarrhoea or dying from diarrhoea between 2007 and 2008 and a decrease between 2008 and 2009. Although the pattern of diarrhoea illnesses observed from the GHS was not consistent by province and population group, information from the death notification system showed that deaths due to diarrhoea were most common in Mpumalanga and Limpopo and among black African children.

7. Respiratory diseases

Two broad groups of causes of death related to the respiratory system were among the leading underlying causes of death during 2006–2009, each accounting for at least 10% of child deaths under-five years of age. These were influenza and pneumonia (J09-J18) and respiratory and cardiovascular disorders specific to the perinatal period (P20-P29). The International Classification of Diseases and Related Health Problems, 10th Revision (ICD-10) combines influenza and pneumonia under one broad group.

This section discusses morbidity relating to influenza (flu) or acute respiratory tract infections based on data from the General Household Surveys (GHSs) for the period 2006–2010. For mortality, it highlights deaths due to influenza and pneumonia and those due to respiratory and cardiovascular disorders specific to the perinatal period obtained from the death notification system for deaths that occurred from 2006 to 2009.

7.1. Illnesses due to flu or acute respiratory tract infections

Influenza is a viral infection affecting the respiratory system while pneumonia is a serious complication of influenza and is caused by agents such as viruses, bacteria and fungi. This section presents results from the General Household Surveys (2006–2010) on flu or acute respiratory tract infections affecting children under-five years.

Information on illnesses due to flu or acute respiratory tract infections collected from the General Household Surveys (GHSs) was based on the question on whether household members who had suffered from illnesses or injuries in the month before the survey had flu or acute respiratory tract infections.

Table 7.1 indicates that the proportion of children aged under-five years with flu or acute respiratory tract infections was also relatively higher for all the years, as compared to the results observed for diarrhoea. This was mainly because the survey months for GHS were July to September and the reference period of the question was a month before the survey. These are the winter months in the country when flu or acute respiratory tract infections are more prevalent. The highest proportion of children aged under-five years with flu or acute respiratory tract infections was observed in 2009 (15,7%) and the lowest in 2007 (9,4%).

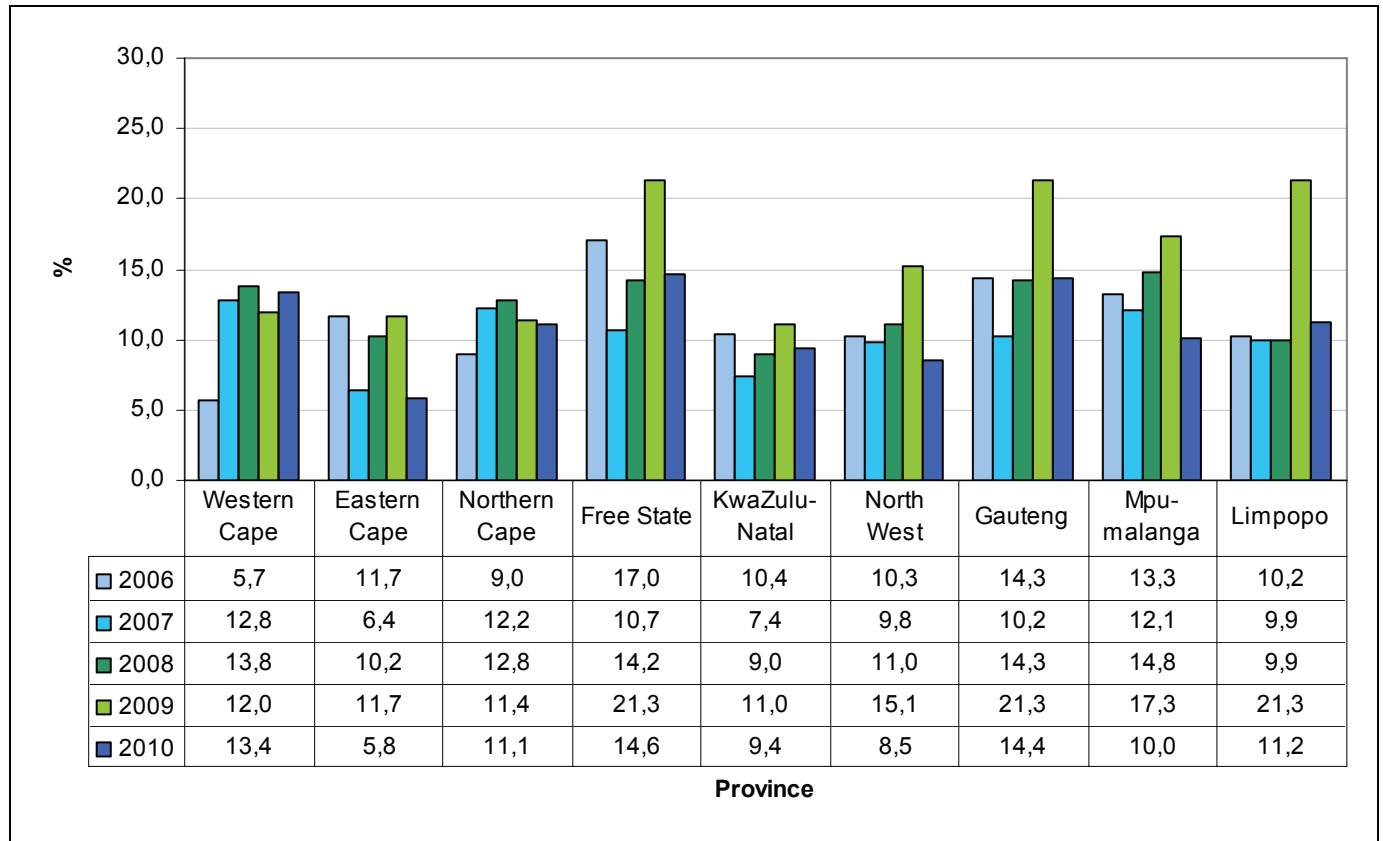
Table 7.1: Distribution of children aged under-five years with flu or acute respiratory tract infections, 2006–2010

Year	Total number of children aged under-five years	Number of children with flu or acute respiratory tract infections	% of children with flu or acute respiratory tract infections
2006	5 199 192	596 151	11,5
2007	5 157 761	487 385	9,4
2008	5 112 434	602 385	11,8
2009	5 063 500	796 029	15,7
2010	5 021 399	543 613	10,8

Source: Statistics South Africa, General Household Surveys, 2006–2010 data sets.

Figures 7.1 and 7.2 show that there were no major differences on the proportion of children aged under-five years with flu or acute respiratory tract infections over time by province and population group, respectively (see Appendices XIII and XIV for absolute numbers). Western Cape had the lowest proportion of children aged under-five years having flu or acute respiratory tract infections.

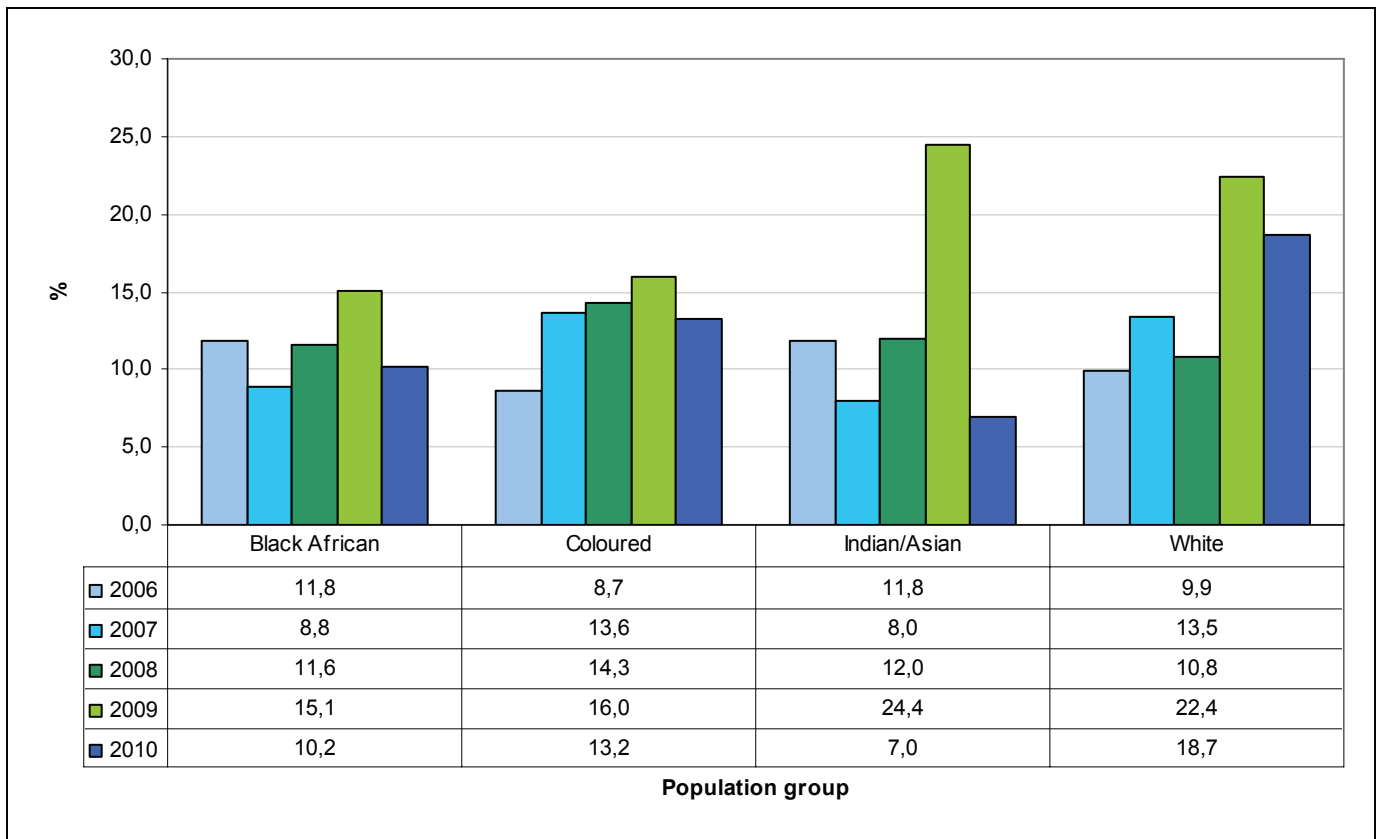
Figure 7.1: Percentage distribution of flu or acute respiratory tract infections cases in children under-five years by province, 2006–2010



Source: Statistics South Africa, General Household Surveys, 2006–2010 data sets.

With regard to population group, Indian/Asian children were reported to have had a relatively higher proportion of illnesses due to flu or acute respiratory tract infections in 2009 as compared to other population groups. During this year, 24,4% of Indian/Asian children under-five years had flu or acute respiratory tract infections.

Figure 7.2: Percentage distribution of flu or acute respiratory tract infections cases in children under-five years by population group, 2006–2010



Source: Statistics South Africa, General Household Surveys, 2006–2010 data sets.

7.2. Deaths due to influenza and pneumonia

Table 7.2 presents individual causes of death due to influenza and pneumonia for children aged under-five years for the period 2006–2009 based on data from the death notification system. The majority (97-98%) of deaths in the broad group of influenza and pneumonia were due to pneumonia, organism unspecified (J18). In total, the number of deaths due to influenza and pneumonia decreased every year, with the greatest decline of 26,0% observed between 2008 and 2009.

The percentage distribution of deaths due to influenza and pneumonia is shown in Table 7.3. There was a consistent decrease in the proportion of under-five deaths due to influenza and pneumonia from 15,2% of all under-five deaths in 2006 to 11,7% in 2009.

Table 7.2: Number of child deaths under-five years due to influenza and pneumonia by individual causes and year of death, 2006–2009

Underlying individual causes of death (J09-J18)	Year of death			
	2006	2007	2008	2009
Influenza due to identified avian influenza virus (J09)	0	0	0	0
Influenza due to identified influenza virus (J10)	3	2	0	1
Influenza, virus not identified (J11)	134	136	160	136
Viral pneumonia, not elsewhere classified (J12)	18	14	16	8
Pneumonia due to Streptococcus pneumoniae (J13)	2	2	1	1
Pneumonia due to Haemophilus influenzae (J14)	1	0	0	3
Bacterial pneumonia, not elsewhere classified (J15)	38	41	31	23
Pneumonia due to other infectious organisms, not elsewhere classified (J16)	2	0	0	0
Pneumonia, organism unspecified (J18)	9 552	8 652	7 808	5 758
Influenza and pneumonia	9 750	8 847	8 016	5 930

Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

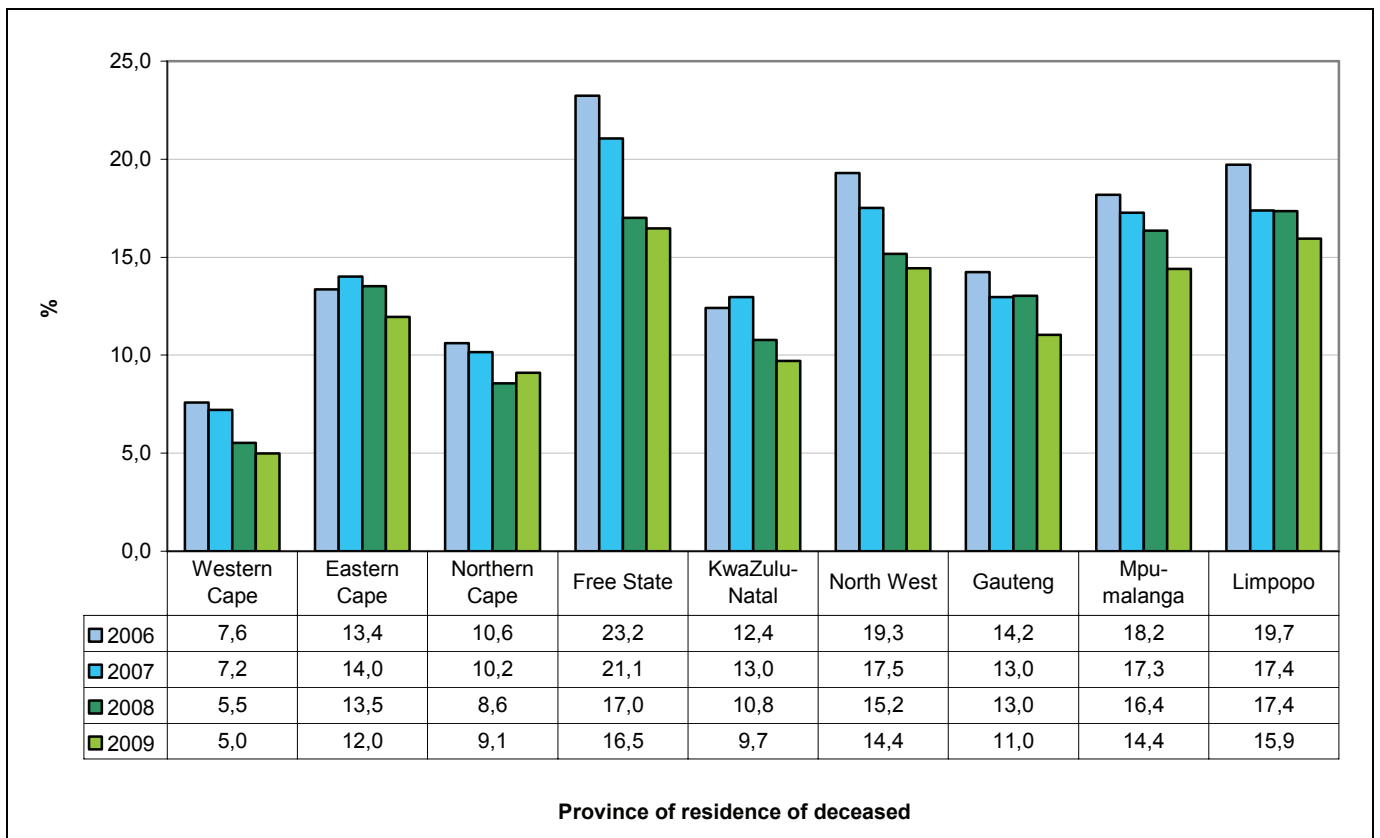
Table 7.3: Distribution of child deaths under-five years due to influenza and pneumonia, 2006–2009

Year	Total number of under-five deaths	Number of under-five deaths due to influenza and pneumonia	% of child deaths due to influenza and pneumonia
2006	64 346	9 750	15,2
2007	61 708	8 847	14,3
2008	61 062	8 016	13,1
2009	50 471	5 930	11,7

Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

Wide differences by both province of residence of the deceased and population group were observed for under-five children who died from influenza and pneumonia. However, almost all categories of these two variables indicate a consistent decrease in the proportion of deaths due to these causes in the recent past. Western Cape had the lowest proportion of deaths of children under-five years where the underlying causes of death were influenza and pneumonia; followed by Northern Cape (see Figure 7.3 and Appendix XV). The proportions in Western Cape each year were between 5% and 8% while they were between 9% and 11% for Northern Cape. Free State and Limpopo had the highest proportion of children deaths resulting from influenza and pneumonia. North West and Mpumalanga also showed relatively higher proportions of deaths due to these causes.

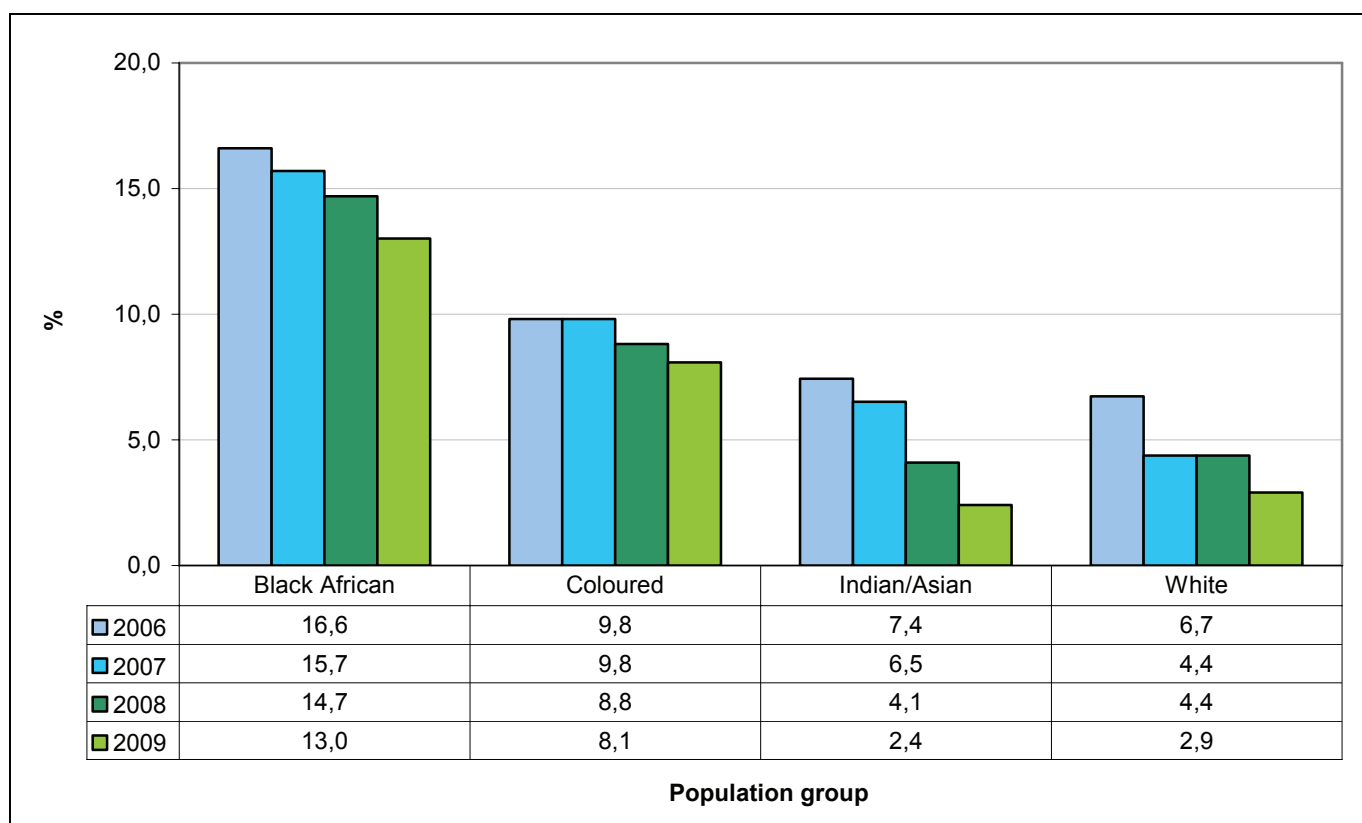
Figure 7.3: Percentage of children under-five years that died from influenza and pneumonia by province of residence of deceased and year of death, 2006–2009



Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

Population group differences show that black African children aged under-five years had higher proportions of deaths due to influenza and pneumonia as the underlying cause of death (see Figure 7.4 and Appendix XVI). While the proportions were decreasing consistently over time, the black African population group was the only population group throughout the four years with proportions higher than the national averages of children under-five years dying from influenza and pneumonia provided in Table 7.3. The black African population group was followed by the coloured population group, with differences per year ranging from about 5 to 7 percentage points. Children from the white and Indian/Asian population groups had the lowest proportions of children under-five years dying from influenza and pneumonia.

Figure 7.4: Percentage of children under-five years that died from influenza and pneumonia by population group and year of death, 2006–2009



Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

7.3. Deaths due to respiratory and cardiovascular disorders specific to the perinatal period

Respiratory and cardiovascular disorders specific to the perinatal period covers diseases affecting both the respiratory and the circulatory systems which are grouped together for conditions originating in the perinatal period. These diseases were third leading causes of death for children aged under-five years.

Individual causes for these are provided in Table 7.4, which shows the number of deaths occurring to children aged under-five years by specific causes and year of death. Most of the under-five deaths due to respiratory and cardiovascular disorders specific to the perinatal period were due to respiratory distress of newborn; followed by deaths due to birth asphyxia; congenital pneumonia; cardiovascular disorders originating in the perinatal period; and neonatal aspiration syndromes. Each of these individual causes contributed around 10% or more of deaths due to respiratory and cardiovascular disorders specific to the perinatal period.

Overall, the number of deaths due to respiratory and cardiovascular disorders specific to the perinatal period decreased every year from 2006 to 2009 (see Table 7.5). The proportion of deaths due to these causes remained at around 10,1% between 2006 and 2008 after which it increased to 11,4% in 2009.

Table 7.4: Number of child deaths under-five years due to respiratory and cardiovascular disorders specific to the perinatal period by individual causes and year of death, 2006–2009

Underlying individual causes of death (P20-P29)	Year of death			
	2006	2007	2008	2009
Intrauterine hypoxia (P20)	111	88	93	186
Birth asphyxia (P21)	1 499	1 438	1 513	1 363
Respiratory distress of newborn (P22)	1 607	1 545	1 513	1 374
Congenital pneumonia (P23)	1 058	1 110	976	828
Neonatal aspiration syndromes (P24)	695	561	593	549
Interstitial emphysema and related conditions originating in the perinatal period (P25)	46	40	49	43
Pulmonary haemorrhage originating in the perinatal period (P26)	145	161	153	154
Chronic respiratory disease originating in the perinatal period (P27)	16	11	15	15
Other respiratory conditions originating in the perinatal period (P28)	600	659	550	504
Cardiovascular disorders originating in the perinatal period (P29)	750	648	693	743
Deaths due to respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	6 527	6 261	6 148	5 759

Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

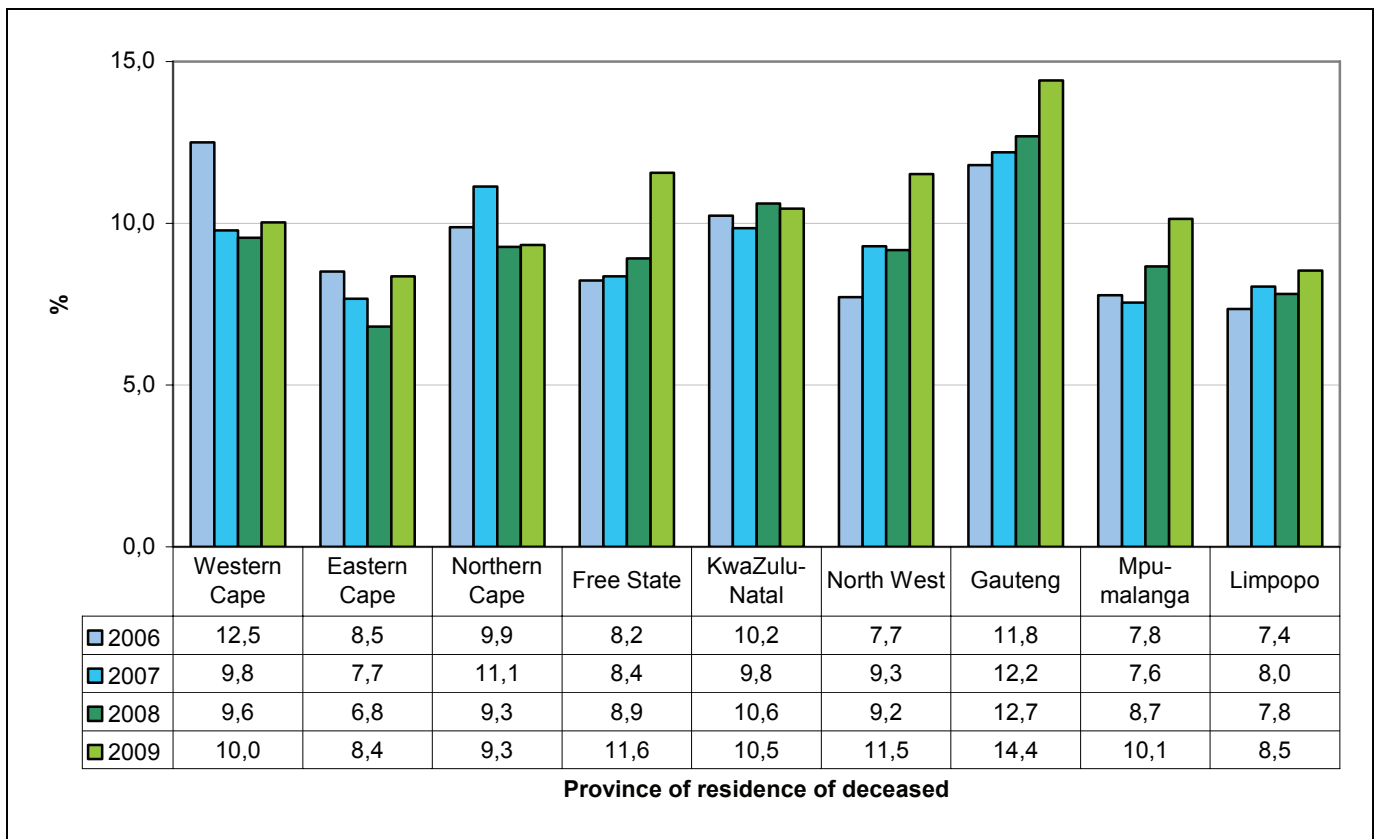
Table 7.5: Distribution of child deaths under-five years due to respiratory and cardiovascular disorders specific to the perinatal period, 2006–2009

Year	Total number of under-five deaths	Number of under-five deaths due to respiratory and cardiovascular disorders specific to the perinatal period	% of under-five deaths due to respiratory and cardiovascular disorders specific to the perinatal period
2006	64 346	6 527	10,1
2007	61 708	6 261	10,1
2008	61 062	6 148	10,1
2009	50 471	5 759	11,4

Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

Figure 7.5 indicates that the proportion of deaths occurring to children aged under-five years due to respiratory and cardiovascular disorders specific to the perinatal period were relatively higher in Gauteng and were increasing over time in this province (absolute numbers are shown in Appendix XVII). In 2009, around 14,4% of deaths occurring to children under-five years of age in Gauteng were due to respiratory and cardiovascular disorders specific to the perinatal period. In addition, the proportions in Western Cape, Free State, KwaZulu-Natal and Mpumalanga were 10% or more during the same year. Eastern Cape and Limpopo had comparatively lower proportions of children aged under-five years who died due to respiratory and cardiovascular disorders specific to the perinatal period. Five provinces (Free State, North West, Gauteng, Mpumalanga and Limpopo) generally showed a consistent increase in the proportions of children dying from respiratory and cardiovascular disorders specific to the perinatal period.

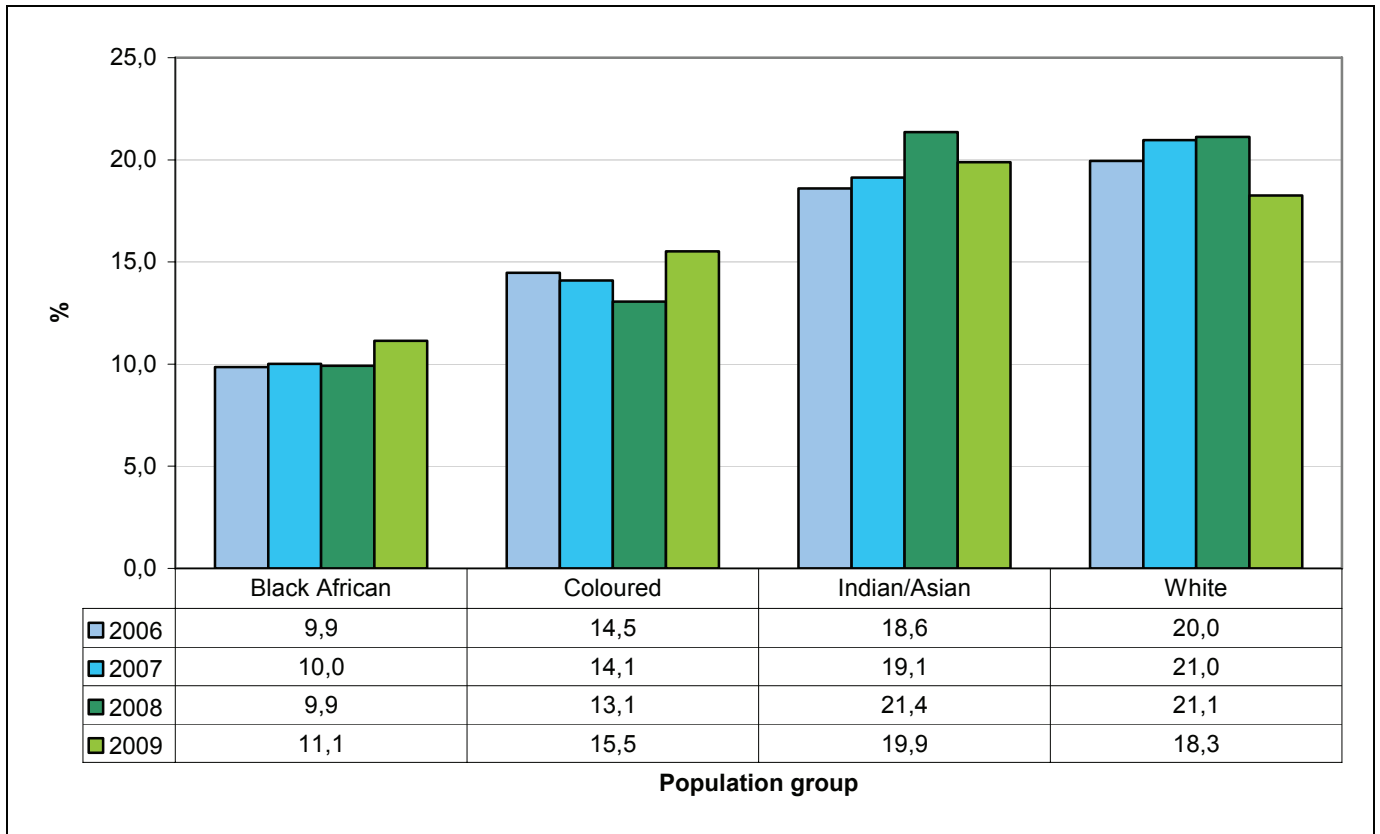
Figure 7.5: Percentage of children under-five years who died from respiratory and cardiovascular disorders specific to the perinatal period by province of residence of deceased and year of death, 2006–2009



Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

Differences by population group indicate that the highest proportion of children aged under-five years that died from respiratory and cardiovascular disorders specific to the perinatal period were from the white population group, followed by those from the Indian/Asian population group (see Figure 7.6 and Appendix VXIII). For both these population groups, the proportions of children dying from these causes were around 18-21% each year. Furthermore, there was an increase in the proportions in these population groups from 2006 to 2008, after which there was a decline. The lowest proportions were observed for the black African population group, with proportions almost constant at 10% between 2006 and 2008 after which there was a slight increase in 2009.

Figure 7.6: Percentage of children under-five years that died from respiratory and cardiovascular disorders specific to the perinatal period by population group and year of death, 2006–2009



Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

7.4. Summary

This chapter discussed illnesses due to flu or acute respiratory tract infections among children aged under-five years based on data from the GHS. It also discussed deaths occurring to children in the same age group where the underlying cause of death was influenza and pneumonia. There was no consistent pattern in the number of children aged under-five years who suffered from flu or acute respiratory tract infections over time at national, provincial and population group levels. However, the pattern of deaths due to influenza and pneumonia indicated a decline in the proportion of child deaths resulting from this cause and also differences by province of residence of the deceased and population group. Children from Free State and Limpopo as well as those from the black African population group showed relatively higher proportions of children who died due to influenza and pneumonia.

The pattern of deaths due to respiratory and cardiovascular disorders specific to the perinatal period indicates a somewhat opposite of the observation made with influenza and pneumonia. The proportions were lower for Limpopo and for the black African population group.

8. Malnutrition

Malnutrition was the fourth leading cause of death among children aged under-five years, contributing to around 10% of deaths each year between 2006 and 2009 for this age group. This chapter provides information at household level based on questions on hunger from the General Household Surveys (2006-2010) as well as information on deaths due to malnutrition obtained from the death notification system for deaths that occurred between 2006 and 2009.

8.1. Hunger

The General Household Survey (GHS) asked a question on whether in the past 12 months any child 17 years or younger in the household went hungry because there was not enough food. No anthropometric measurements were done to measure wasting or stunting variables but only questions on the availability of food were asked. For purposes of this report, only households with children younger than five years were included for further analysis.

The main limitation of the question on whether there was any child aged 17 years or younger who went hungry because there was not enough food was not asked for each individual child in the household, but was asked for any child in the households. Although the selection of households was for those where there was a child aged under-five years, it does not necessarily mean that the child aged under-five years was the one affected. This question is used to give an indication of hunger in households with children aged under-five years going hungry, although the term ‘enough’ may be very subjective. Another limitation is that the GHS asked the question on hunger in 2006, 2007, 2008 and 2010 but not in 2009. Therefore, the results on hunger are not available for 2009.

Table 8.1 shows that generally around 30 000 households with children under-five years indicated that children aged 17 years or younger in their households went hungry because there was not enough food, representing around 1% of households with children aged under-five years. However, the number was much higher in 2008 (45 284) – representing 1,2%, which may point to inconsistencies in data collection.

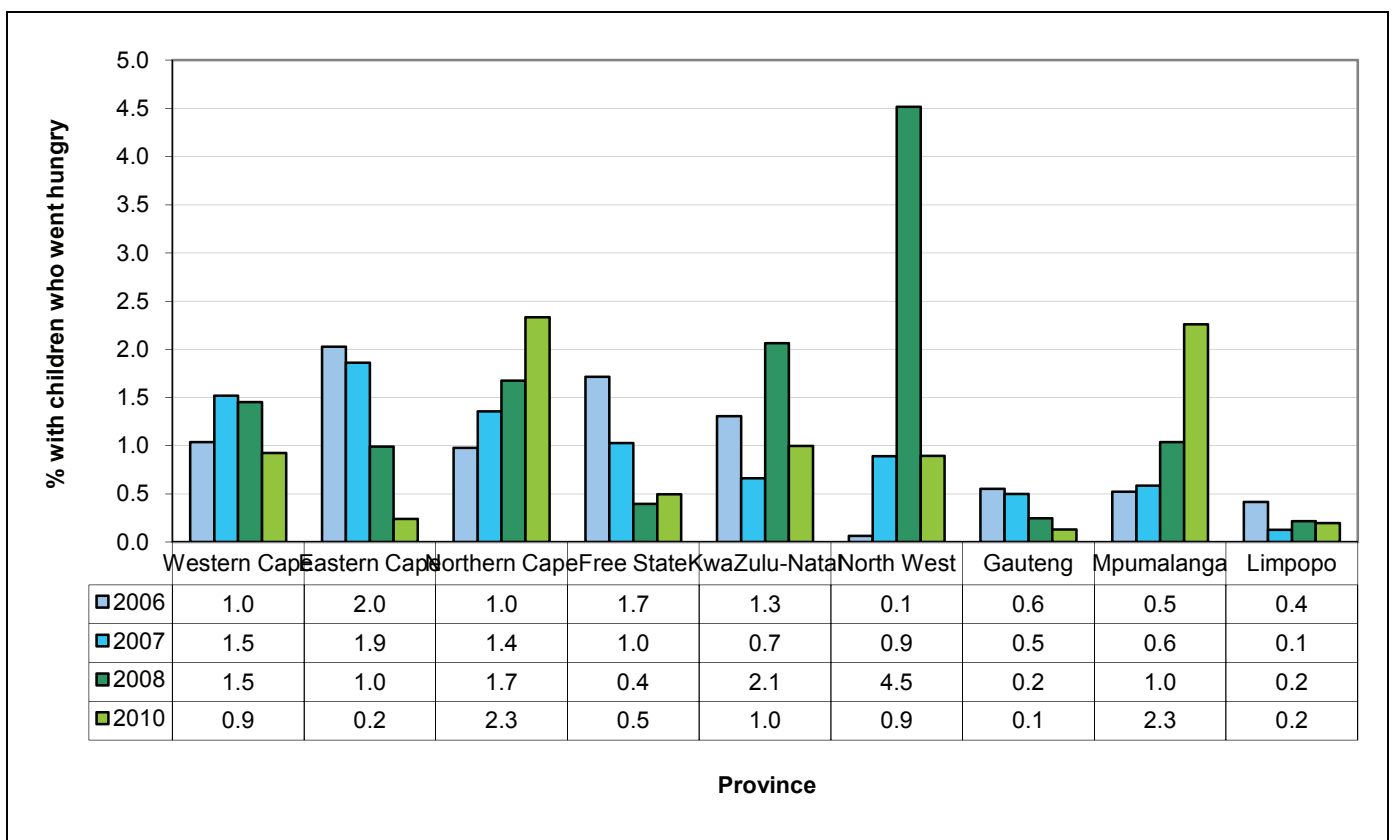
Table 8.1: Distribution of households with children aged under-five years where children aged 17 years or younger went hungry because there was not enough food, 2006–2010

Year	Number of household with children under-five years	Number of household with children who went hungry because there was not enough food	% of households with children who went hungry because there was not enough food
2006	3 065 489	29 984	1,0
2007	3 292 295	28 496	0,9
2008	3 690 299	45 284	1,2
2010	4 007 069	27 829	0,7

Source: Statistics South Africa, General Household Surveys, 2006–2010 data sets.

The distributions of households with children aged under-five years where children aged 17 years or younger went hungry because there was not enough food, disaggregated by province and population group are shown in Figures 8.1 and 8.2, respectively (absolute numbers are provided in Appendices XIX and XX). Limpopo and Gauteng appeared to be the provinces with lower proportions of selected households with children aged 17 years or younger who went hungry because there was not enough food over the four-year period. North West had the lowest level in 2006 but the highest in 2008. The 2008 level for North West was much higher than any level observed in all other provinces during the four years. Other provinces with a higher proportion of households with children going hungry because there was not enough food were Eastern Cape in 2006 and 2007 and Mpumalanga and Northern Cape in 2010. Provinces showing a consistent increase in the proportions of households with children going hungry because there was not enough food were Northern Cape and Mpumalanga whereas a consistent decrease was observed in Eastern Cape and Gauteng.

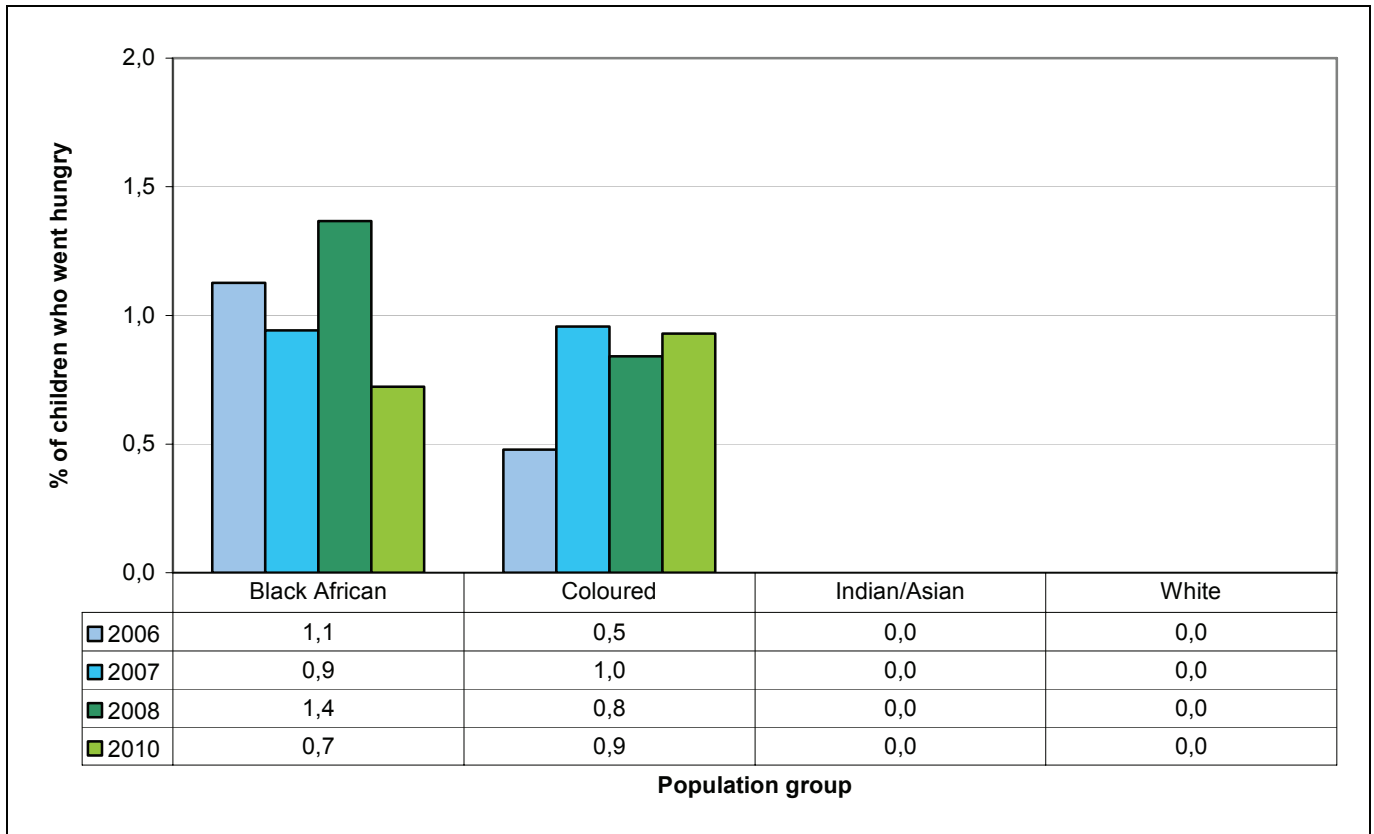
Figure 8. 1: Percentage of households with children aged under-five years where children aged 17 years or younger went hungry because there was not enough food by province, 2006–2010



Source: Statistics South Africa, General Household Surveys, 2006–2010 data sets.

For population group, the households with children aged under-five years from Indian/Asian and white population groups did not have any children aged 17 years or older who went hungry because there was not enough food for the four-year period. While black African households had higher proportions of children who went hungry in 2006 and 2008, the proportions were higher for coloured households in 2007 and 2010.

Figure 8.2: Percentage of households with children aged under-five years where children aged 17 years or younger went hungry because there was not enough food by population group, 2006–2010



Source: Statistics South Africa, General Household Surveys, 2006–2010 data sets.

8.2. Deaths due to malnutrition

Deaths due to malnutrition are categorised into seven individual causes as presented in Table 8.2. Excluding unspecified protein-energy malnutrition, kwashiorkor was the most common form of malnutrition responsible for deaths occurring to children aged under-five years during 2006–2009. Overall, the number of deaths due to malnutrition fluctuated over time but was roughly around 2 000 per year. The fluctuating number of deaths over time was also observed for deaths due to kwashiorkor and those due to unspecified protein-energy malnutrition. While the number of deaths due to marasmic kwashiorkor and unspecified severe protein-energy malnutrition consistently increased over time, it reduced for nutritional marasmus during 2006–2009 and for protein-energy malnutrition of moderate and mild degree during 2007–2009.

Table 8.2: Number of child deaths under-five years due to malnutrition by individual causes and year of death, 2006–2009

Underlying individual causes of death (E40-E46)	Year of death			
	2006	2007	2008	2009
Kwashiorkor (E40)	724	592	709	659
Nutritional marasmus (E41)	237	198	196	181
Marasmic kwashiorkor (E42)	155	136	182	182
Unspecified severe protein-energy malnutrition (E43)	190	178	284	310
Protein-energy malnutrition of moderate and mild degree (E44)	159	165	146	109
Retarded development following protein-energy malnutrition (E45)	0	0	1	2
Unspecified protein-energy malnutrition (E46)	684	599	711	552
Malnutrition (E40-E46)	2 149	1 868	2 229	1 995

Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

Table 8.3 shows the proportion of all deaths due to malnutrition for children aged under-five years as a proportion of all deaths occurring in this age group during 2006–2009. It is observed that every year around 3–4% of under-five child deaths were due to malnutrition. There was a slight increase in the proportion of deaths due to malnutrition between 2007 and 2009, from 3,0% in 2007 to 4,0% in 2009.

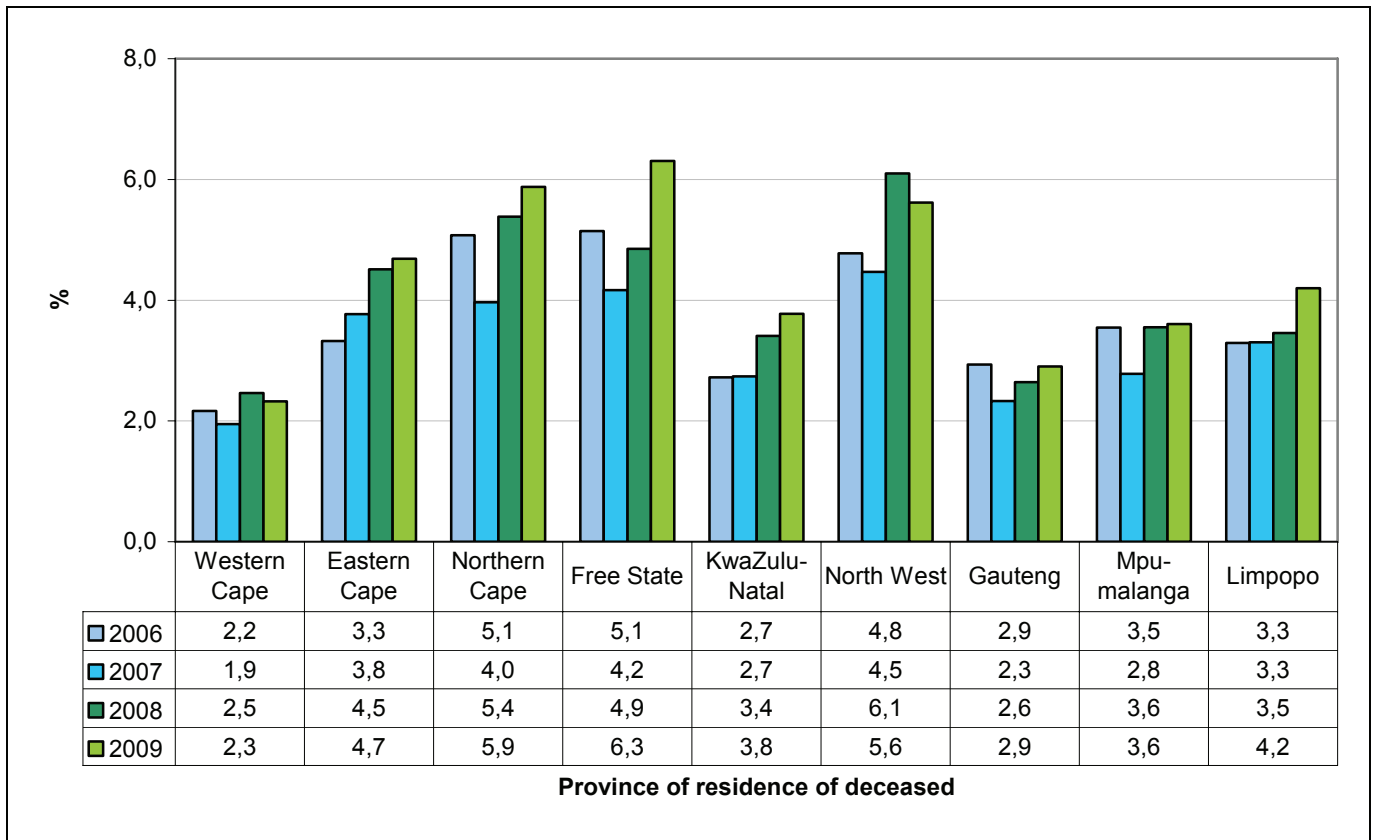
Table 8.3: Distribution of child deaths under-five years due to malnutrition by year of death, 2006–2009

Year	Total number of child deaths under-five years	Number of under-five deaths due to malnutrition	% of under-five deaths due to malnutrition
2006	64 346	2 149	3,3
2007	61 708	1 868	3,0
2008	61 062	2 229	3,7
2009	50 471	1 995	4,0

Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

Provincial differences in the proportion of deaths for children aged under-five years due to malnutrition provided in Figure 8.3 (see Appendix XXI for absolute numbers) indicate that Northern Cape, Free State and North West were affected more than other provinces. In these provinces, the proportions of deaths due to malnutrition were around 4–6% every year. Proportions were lowest in Western Cape at around 2–2,5% each year. They were also lower in Gauteng and KwaZulu-Natal. Proportions of deaths due to malnutrition increased year by year in Eastern Cape, KwaZulu-Natal and Limpopo and fluctuated for the other provinces.

Figure 8.3: Percentage of children under-five years who died from malnutrition by province of residence of deceased and year of death, 2006–2009

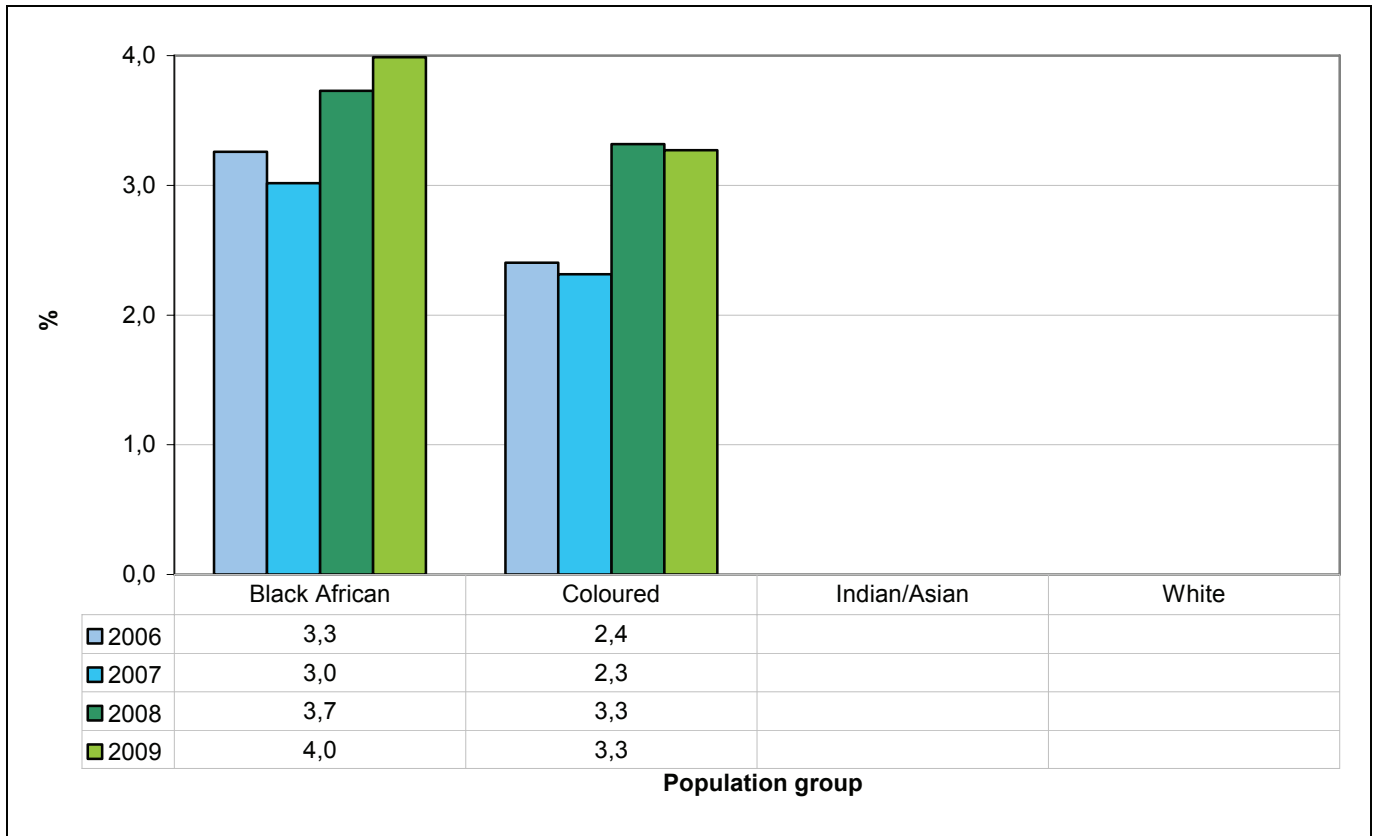


Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

With regard to population group, the analysis covers only the black African and coloured population group (Figure 8.4 and Appendix XXII). For the Indian/Asian and white population groups, there was insufficient data for a meaningful statistical analysis. Over the four year period (2006–2009), a total of 14 and 12 deaths due to malnutrition among children aged under-five years were recorded for Indian/Asian and white population groups, respectively.

The proportion of deaths due to malnutrition was higher for the black African children as compared to those from the coloured population group throughout the four-year period. Both population groups show a slight decrease in the proportion of deaths due to malnutrition between 2006 and 2007, after which the proportions increased for both groups. In 2009, 4,0% and 3,3% of child deaths were due to malnutrition among deaths occurring to black African and coloured children aged under-five years respectively.

Figure 8.4: Percentage of children under-five years who died from malnutrition by population group and year of death, 2006–2009*



*Results for Indian/Asian and white population groups were excluded due to very few cases (less than 10 each year) of child deaths due to malnutrition

Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

8.3. Summary

Around 1% of households with children aged under-five years had children aged 17 years or younger who went hungry in the 12 months before the survey because there was not enough food in the household. The proportions were higher in Eastern Cape, North West, Mpumalanga and Northern Cape for specific years. There were no households from the Indian/Asian and white population groups where children 17 years or younger went hungry. Similarly, there were very few child deaths in these population groups due to malnutrition. Malnutrition deaths were more prevalent in Northern Cape, Free State and North West and less prevalent in Western Cape.

9. Tuberculosis

Tuberculosis (TB) was the sixth leading cause of death among children aged under-five years in South Africa, accounting for about 2–3% of deaths among children in this age group between 2006 and 2009. This chapter provides information on illnesses due to TB based on data from the General Household Survey and deaths due to TB obtained from the death notification system.

9.1. Illnesses due to tuberculosis or severe cough with blood

The General Household Surveys (GHSs) undertaken in 2006–2010 enquired about illnesses due to TB or severe cough with blood in the month before the survey. This section only focuses on the responses provided for children aged under-five years (see Table 9.1). Illnesses due to TB were not common, with less than 0,5% of TB cases in children aged under-five years for all the years during the reporting period. The proportions were 0,4% in 2008 and 2009 and approximately 0,2% each year for the remaining years.

The results of illnesses due to TB or severe cough with blood by province and population group seemed unreliable based on the erratic pattern observed over time and within categories of each of these variables. As a result, they have been excluded from this report.

Table 9.1: Distribution of children aged under-five years with TB or severe cough with blood, 2006–2010

Year	Total number of children aged under-five years	Number of children with TB or severe cough with blood	% of children with TB or severe cough with blood
2006	5 199 192	12 111	0,2
2007	5 157 761	9 623	0,2
2008	5 112 434	21 453	0,4
2009	5 063 500	21 183	0,4
2010	5 021 399	8 125	0,2

Source: Statistics South Africa, General Household Surveys, 2006–2010 data set.

9.2. Deaths due to tuberculosis

The distribution of deaths occurring to children aged under-five years due to tuberculosis is presented in Table 9.2. The absolute numbers of children under-five years who died from TB decreased consistently over time, with the greatest decrease of 19,0% observed between 2008 and 2009. The proportions, which take into consideration all child deaths occurring in 2006–2009, were generally constant at around 2,4–2,6% each year.

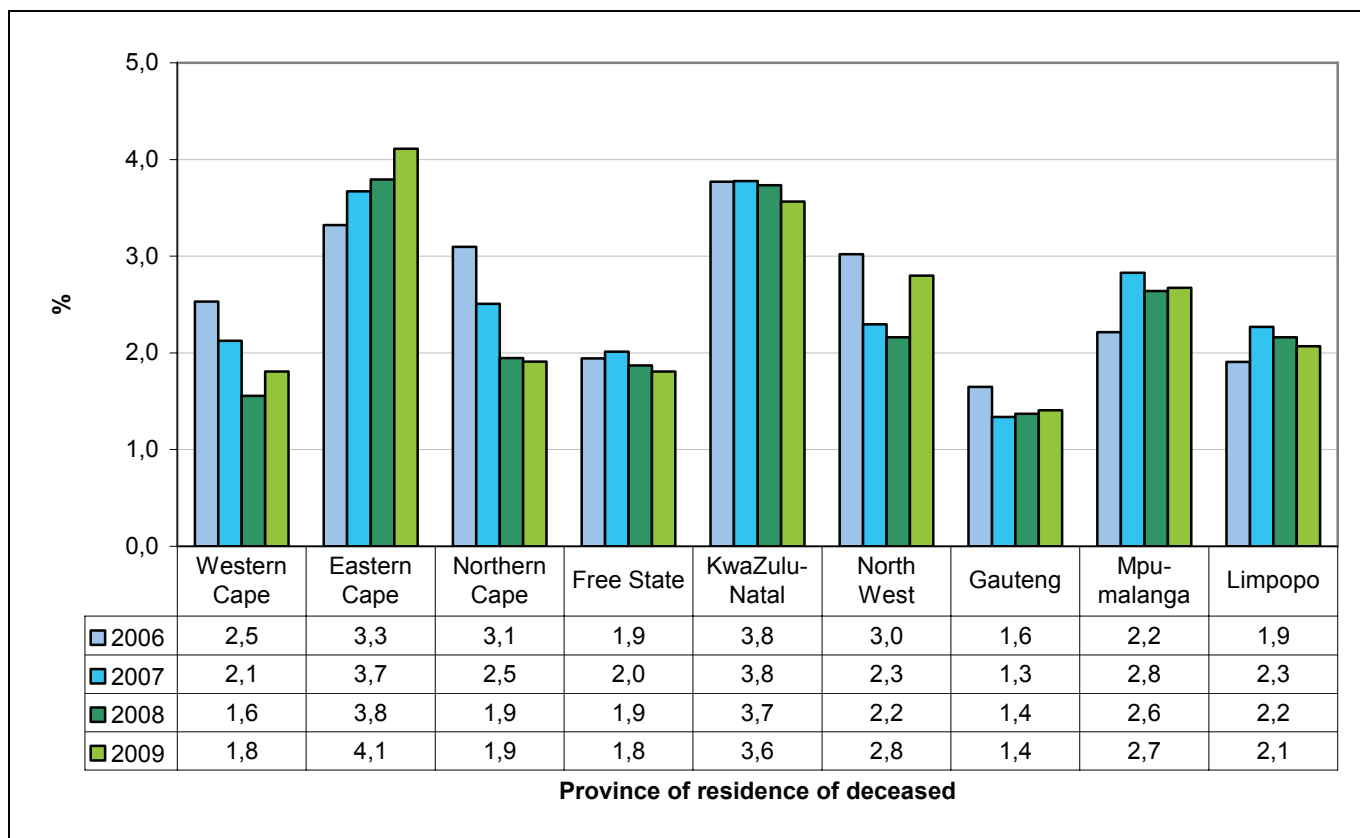
Table 9.2: Distribution of child deaths under-five years due to tuberculosis, 2006–2009

Year	Total number of under-five deaths	Number of under-five deaths due to tuberculosis	% of under-five deaths due to tuberculosis
2006	64 346	1 648	2,6
2007	61 708	1 519	2,5
2008	61 062	1 475	2,4
2009	50 471	1 195	2,4

Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

The proportion of under-five deaths due to tuberculosis was lowest in Gauteng (less than 2% each year) for all the years from 2006 to 2009 (see Figure 9.1 and Appendix XXIII). Free State and Western Cape also showed relatively lower proportions of under-five children dying from tuberculosis. Conversely, KwaZulu-Natal and Eastern Cape had the highest proportions of child deaths due to tuberculosis, all in excess of 3% each year for each province. Furthermore, the proportions of tuberculosis deaths among children increased every year for children residing in Eastern Cape.

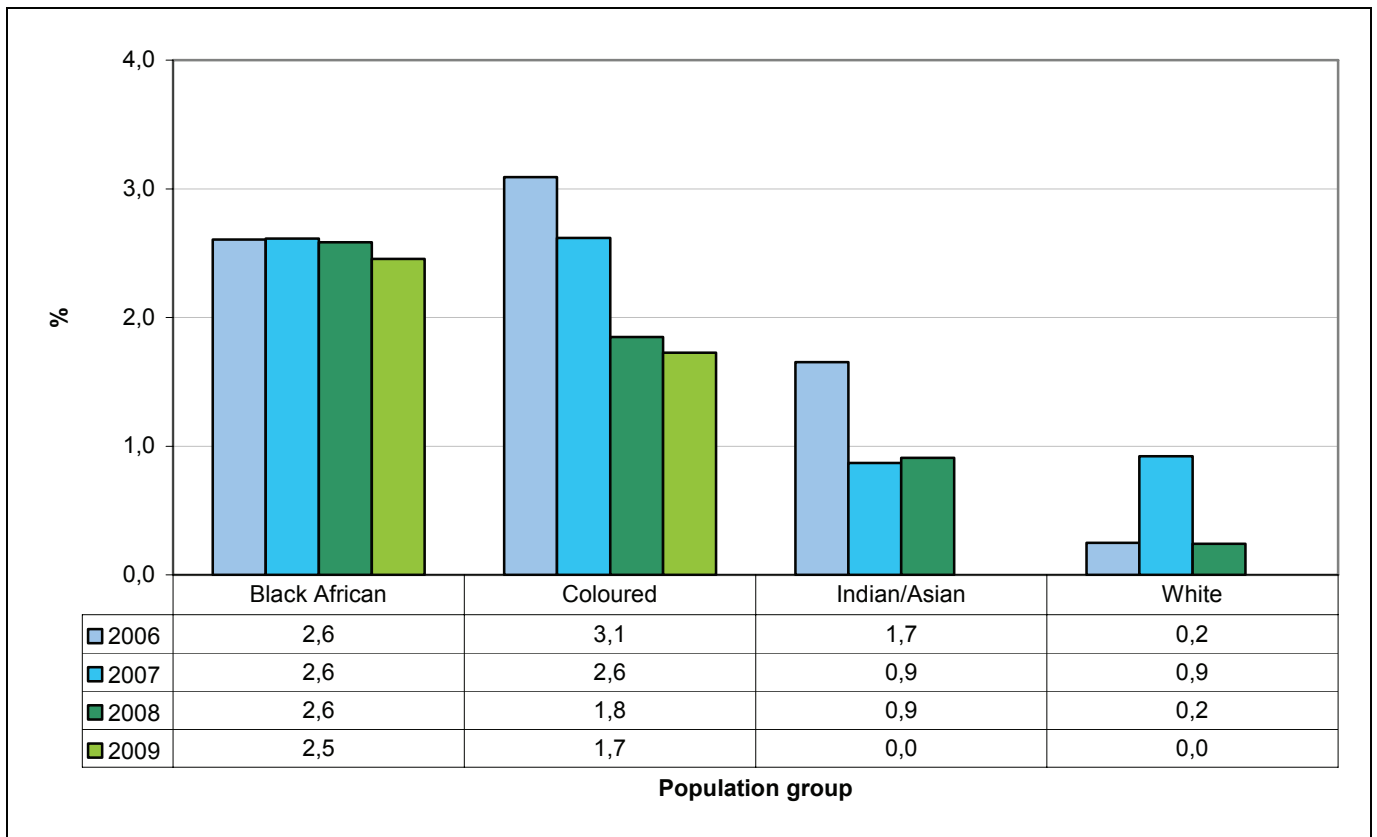
Figure 9.1: Percentage of children under-five years that died from tuberculosis by province of residence of deceased and year of death, 2006–2009



Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

With regard to differences by population group, Figure 9.2 and Appendix XXIV show that in 2006, the highest proportion of child deaths due to tuberculosis was among the coloured population group but those from the black African population group were highest in 2008 and 2009. While the proportion of children dying from tuberculosis remained more or less constant at around 2,6% for black African children, there was a consistent decrease for children from the coloured population group. The proportions of children dying from tuberculosis were lowest among the white and Indian/Asian population groups.

Figure 9.2: Percentage of children under-five years that died from tuberculosis by population group and year of death, 2006–2009



Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

9.3. Summary

Tuberculosis accounted for less than 3% of childhood illnesses recorded during 2006–2009. Due to concerns about the quality of tuberculosis morbidity data, no disaggregation was made by province and population group. Deaths due to tuberculosis among children aged under-five years accounted for about 2,4–2,6% of deaths each year and were higher in KwaZulu-Natal and Eastern Cape as well as among black African children.

10. HIV and AIDS

This chapter reports on HIV and AIDS based health on conditions reported from the General Household Surveys (2006–2010) as well as the number of deaths where the underlying cause of death was HIV disease. Although HIV and AIDS were not common among children aged under-five years in South Africa, it is an important health condition from the public health perspective in South Africa. Due to the small number of children affected by HIV/AIDS reported in the GHS, analysis will only be undertaken at national level, not disaggregated by province or population group.

10.1. Illnesses due to HIV and AIDS

The General Household Survey asked respondents whether they had been informed by a medical practitioner or nurse that they suffered from asthma, diabetes, cancer, HIV and AIDS, hypertension/high blood pressure or arthritis. A main member of the household answered these questions on behalf of children aged under-five years. The HIV/AIDS question was asked during 2006–2008 but not in 2009–2010. The results presented in Table 10.1 show that 3 500 children were reported as having HIV/AIDS in 2006, increasing to 5 144 in 2007 and then declining to 4 947 in 2008. This translated to 0,1% of children aged under-five years having HIV/AIDS over the 2006–2008 period.

Table 10.1: Distribution of children aged under-five years with HIV and AIDS, 2006–2008

Year	Total number of children aged under-five years	Number of children aged under-five years with HIV and AIDS	% of children with HIV and AIDS
2006	5 199 192	3 500	0,1
2007	5 157 761	5 144	0,1
2008	5 112 434	4 947	0,1

Source: Statistics South Africa, General Household Surveys, 2006–2010 data sets.

10.2. Deaths due to HIV disease

The number of children aged under-five years who died from HIV disease fluctuated between 2006 and 2009 (see Table 10.2). It was 973 in 2006, decreasing to 740 in 2007, increased slightly to 824 in 2008 after which it declined again to 778 in 2009. The proportion of deaths due to HIV disease over the four-year period was between 1,2% and 1,5% each year.

Table 10.2: Distribution of child deaths under-five years due to HIV disease, 2006–2009

Year	Total number of under-five deaths	Number of under-five deaths due to HIV disease	% of under-five deaths due to HIV disease
2006	64 346	973	1,5
2007	61 708	740	1,2
2008	61 062	824	1,3
2009	50 471	778	1,5

Source: Statistics South Africa, Mortality and Causes of Death, 2006–2009 data sets.

While it would have been of interest to include other conditions such as asthma, diabetes, measles and syphilis in this report, there were issues with the quality of data as well as the number of cases which were too few for meaningful statistical analyses.

10.3. Summary

This chapter provided information on HIV and AIDS based on morbidity collected from the GHS as well as HIV disease mortality data obtained from the death notification system. Both sources show that HIV was relatively not common among children aged under-five years in South Africa and due to a few number of cases, the information was not disaggregated by province and population group.

11. Discussions and recommendations

This report outlined health information on selected health conditions focusing on morbidity and mortality in children aged under-five years in South Africa. It highlighted morbidity trends for the period 2006 to 2010 and mortality trends between 2006 and 2009. The report is based on information from the mid-year population estimates, the General Household Surveys (GHS), the Living Conditions Survey (LCS) and the death notification system.

In 2010, there were about 5.2 million children aged under-five years in South Africa, representing 10,5% of all people in the country. There were slightly more male than female children in this age group. The majority of these children were black Africans and most of them lived in KwaZulu-Natal and Gauteng. In terms of the relative number of children aged under-five years to the total population in each province, the results showed higher proportions of children in KwaZulu-Natal, Eastern Cape and Limpopo. This information was gathered from modelled data using the 2011 projection methodology.

Generally, the results on morbidity and mortality patterns obtained from the GHS and from the death notification system, respectively, were not consistent. This observation was mainly influenced by the period of data collection and differences in the methodology used to collect morbidity and mortality data. The GHS was undertaken during July to September, with the question making reference to illnesses suffered a month before the survey while information from the death notification system was collected for all the 12 months of the year. Furthermore, while the responses on illnesses for children aged under-five years were reported by a main member in the household, the specific causes of death were mostly provided by medical practitioners.

There were similarities between the questions in the LCS and the GHS but the main difference pertains to the data collection period, which also makes comparison of the results difficult. The LCS was collected over a 12-month period, but its disadvantage is that it cannot be used for analysis of trends as it has only been conducted once. No attempt was made to compare the results from the GHS with those obtained from the LCS. The LCS data were only used to understand children's health status, disability and medical aid coverage.

The two household surveys that were used for this report have demonstrated that Statistics South Africa (Stats SA) is able to produce useful health information to a great extent. However, the emphasis of these surveys was not on health per se, but on the measurement of the living conditions of households (LCS) and service delivery to households (GHS). This makes it important to take note that caution should be exercised when interpreting certain disease trends, especially where there are drastic changes from one year to another.

Information from the death notification system provides information on both the number as well as the causes of death. Although this information was not 100% complete; had some limitation on content (e.g. high proportion of missing information on population group and misclassification on causes of death); and data available up to 2009, this system has proved to be a valuable source in understanding children's health conditions.

The mortality indicators derived from the mid-year population estimates, which showed declining infant and child mortality rates, signifies improvements in the overall health status of children aged under-five years in the country. The overall number of deaths for children aged under-five years continued to decline over time. In addition, the majority of main respondents interviewed in the LCS regarded the health of children aged under-five years living in their households as either good or very good. Furthermore, disability among children aged under-five years was not prevalent, with less than 1% of these children having disability. However, just about one in ten children aged under-five years was covered by medical aid. Although improvements in the health status of children were noted in the recent years, there were some disparities in both the patterns of morbidity and mortality by province as well as by population group.

The pattern of morbidity for children aged under-five years obtained from the GHS showed that the most prevalent illness was flu or acute respiratory tract infection (affecting about 10% or more of the children each year) followed by diarrhoea (affecting between 1% and 2% of children each year). These results reflect the prevalence of these diseases during the third quarter of the year. Another pertinent finding on morbidity was that there was no consistent trend in the prevalence of diseases over time, particularly when these were disaggregated by province and population group.

With regard to the causes of death, the leading underlying broad group of cause of death affecting children aged under-five years was intestinal infectious diseases, mainly diarrhoea. The distribution of deaths due to diarrhoea by month of death showed that July, August and September had the lowest proportions compared to the other months. This may explain the lower prevalence of diarrhoea illnesses obtained from the GHS.

The next three leading underlying broad causes of death for children aged under-five years were influenza and pneumonia; respiratory and cardiovascular disorders specific to the perinatal period; and malnutrition. Together with intestinal infectious diseases, these causes accounted for at least 55% of all deaths occurring to children aged under-five years in South Africa each year. Although tuberculosis and HIV disease accounted for a low proportion of deaths among children aged under-five years, they still warrant special attention as they remain a serious threat to the health of all South Africans.

Provinces mostly affected by diarrhoea deaths for children aged under-five years were Mpumalanga and Limpopo; for influenza and pneumonia the highest proportions were observed in Free State, North West, Mpumalanga and Limpopo; for malnutrition the highest proportions were observed in Northern Cape, Free State and North West; and for tuberculosis the highest proportions were observed in Eastern Cape and KwaZulu-Natal.

Generally, the black African population group continued to have negative health outcomes. This population group had the highest proportion of deaths occurring to children aged under-five years; were least covered by medical aid; had the highest proportion of deaths due to diarrhoea, influenza and pneumonia and malnutrition; and had the highest proportion of households with children aged under-five years where it was reported that children aged 17 years or younger went hungry because there was not enough food. While the report did not control for other confounding variables, this population group remained disadvantaged in terms of children's morbidity and mortality status. Children from the coloured population group also seemed disadvantaged in terms of health outcomes.

The findings in this report call for concerted efforts by relevant stakeholders to improve the health of children in South Africa, for example by strengthening immunisation programmes for the prevention of diarrhoea and pneumonia. For a more informative process, this should also entail a concerted effort to improve on the quality of information collected both by household surveys as well as from administrative sources such as the death notification system in the country. For continued provision of accurate and robust household-level demographic and health information, it is imperative that the South African Demographic and Health Survey be conducted in the country as a priority to provide information that will specifically focus on these issues. Evidence provided in this report indicates that health information is not completely well reported in household surveys that are not meant to specifically collect information for health and demographic purposes. Efforts to improve the completeness of death registration and recording of information on causes of death in South Africa should be strengthened.

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Appendix I: Distribution of children aged under-five years by health status and province, 2008/09

Province	Total number of children aged under 5 years	Very good	Good	Fair	Poor
Western Cape	530 855	243 426	243 843	32 065	6 232
Eastern Cape	719 641	350 480	319 872	25 469	12 316
Northern Cape	119 458	47 515	60 574	6 783	1 785
Free State	301 071	106 993	160 418	22 740	5 499
KwaZulu Natal	1 012 795	343 700	561 629	52 827	20 564
North West	376 769	116 389	217 090	32 601	7 121
Gauteng	1 018 353	451 168	461 253	58 948	18 488
Mpumalanga	395 823	135 893	227 811	18 424	6 579
Limpopo	628 701	241 511	326 511	38 192	14 481
South Africa	5 103 466	2 037 076	2 579 001	288 048	93 065

Appendix II: Distribution of children aged under-five years by health status and population group, 2008/09

Population group	Total number of children aged under 5 years	Very good	Good	Fair	Poor
Black African	4 335 912	1 636 183	2 253 453	259 115	86 446
Coloured	418 525	184 881	204 141	22 034	4 297
Indian/Asian	97 415	44 134	45 503	5 638	1 611
White	251 614	171 878	75 904	1 262	711
South Africa	5 103 466	2 037 076	2 579 001	288 048	93 065

Appendix III: Distribution of deaths occurring in children aged under-five years by province and year of death, 2006–2009

Province of death occurrence	Number of all deaths				Number of deaths occurring to children aged under-five years			
	2006	2007	2008	2009	2006	2007	2008	2009
Western Cape	34 886	36 240	37 103	38 428	2 215	2 260	2 314	2 324
Eastern Cape	77 578	74 912	72 211	70 131	5 508	5 123	5 142	3 647
Northern Cape	13 489	13 886	14 080	14 555	1 518	1 437	1 542	1 361
Free State	49 439	48 691	47 481	46 264	6 181	5 762	5 935	4 645
KwaZulu-Natal	116 779	116 256	114 136	113 593	11 008	10 592	10 235	9 009
North West	36 382	36 112	35 855	36 639	5 167	4 969	4 951	4 289
Gauteng	98 778	99 511	100 746	101 354	11 962	11 672	11 697	10 325
Mpumalanga	39 386	40 471	39 722	43 692	4 202	4 384	4 281	3 966
Limpopo	46 494	47 534	47 848	49 377	5 197	5 422	5 641	4 975

Appendix IV: Distribution of deaths occurring in children aged under-five years by population group and year of death, 2006–2009

Population group	Number of all deaths				Number of deaths occurring to children aged under-five years			
	2006	2007	2008	2009	2006	2007	2008	2009
Black African	384 459	377 453	370 036	353 607	44 514	42 702	41 857	34 574
Coloured	25 611	26 077	25 369	25 178	2 038	1 987	1 839	1 681
Indian/Asian	7 976	7 902	7 441	7 467	242	230	220	166
White	35 725	36 039	35 946	36 260	401	434	412	378

Appendix V: Distribution of deaths occurring in children aged under-five years by main groups of the underlying causes of death and year of death, 2006–2009

Underlying causes of death	Year of death			
	2006	2007	2008	2009
Certain infectious and parasitic diseases (A00-B99)	19 557	18 335	19 432	13 422
Perinatal conditions (P00-P96)	12 923	12 525	12 255	12 526
Diseases of the respiratory system (J00-J99)	12 110	11 255	10 338	7 976
Symptoms and signs not elsewhere classified (R00-R99)	8 221	8 208	8 034	6 754
External causes of morbidity and mortality (V01-Y98)	2 853	2 850	2 706	2 582
Endocrine, nutritional and metabolic diseases (E00-E90)	2 915	2 799	2 853	2 469
Congenital malformations (Q00-Q99)	1 395	1 606	1 404	1 381
Diseases of the nervous system (G00-G99)	1 137	1 190	1 115	1 013
Diseases of the blood and immune mechanism (D50-D89)	1 481	1 374	1 270	889
Diseases of the digestive system (K00-K93)	712	613	652	553
Diseases of the circulatory system (I00-I99)	605	559	606	552
Neoplasms (C00-D48)	160	170	157	156
Diseases of the genitourinary system (N00-N99)	150	130	142	119
Diseases of the skin and subcutaneous tissue (L00-L99)	75	64	64	48
Diseases of the ear and mastoid process (H60-H95)	28	17	28	16
Diseases of the musculoskeletal system etc. (M00-M99)	14	9	4	12
Diseases of the eye and adnexa (H00-H59)	3	2	1	2
Mental and behavioural disorders (F00-F99)	7	2	1	1
All causes	64 346	61 708	61 062	50 471

Appendix VI: Percentage distribution of deaths occurring in children aged under-five years by main groups of the underlying causes of death, province of residence of the deceased and year of death, 2006–2009

Province of usual residence of deceased	Year of death	Certain infectious and parasitic diseases (A00-B99)	Perinatal conditions (P00-P96)	Diseases of the respiratory system (J00-J99)	Endocrine, nutritional and metabolic diseases (E00-E99)	External causes of morbidity and mortality (V01-Y98)	Congenital malformations (Q00-Q99)
Western Cape	2006	19,9	29,4	11,2	3,4	8,9	6,0
	2007	22,9	26,2	10,1	3,1	10,5	6,8
	2008	20,2	28,0	9,2	3,0	9,7	6,8
	2009	19,1	30,4	9,0	3,0	6,9	7,3
Eastern Cape	2006	31,4	17,1	18,4	4,3	5,9	2,7
	2007	32,1	15,0	19,1	5,3	5,9	2,7
	2008	34,2	13,1	18,7	5,6	6,1	1,8
	2009	28,9	16,5	17,2	5,7	7,4	2,4
Northern Cape	2006	32,7	20,7	15,0	6,7	4,2	2,6
	2007	26,9	24,5	15,7	5,4	4,2	3,1
	2008	27,8	23,6	11,9	7,2	4,8	2,3
	2009	25,2	25,4	12,9	6,9	5,4	2,1
Free State	2006	29,4	17,0	26,6	6,4	2,5	1,3
	2007	29,9	18,0	24,9	5,9	3,1	1,7
	2008	35,0	17,6	20,6	5,9	2,6	1,5
	2009	26,4	23,7	20,1	7,4	3,2	1,8
KwaZulu-Natal	2006	36,3	19,9	16,5	3,8	5,2	1,7
	2007	34,6	20,0	16,9	4,2	5,0	2,4
	2008	35,8	21,5	14,4	4,2	4,9	2,2
	2009	31,3	24,9	13,6	4,9	6,4	2,7
North West	2006	30,8	17,0	24,5	6,9	3,1	1,6
	2007	30,2	17,8	21,6	6,7	3,0	1,8
	2008	33,3	18,4	20,3	7,7	3,4	1,3
	2009	28,4	24,0	18,8	6,9	3,4	2,3
Gauteng	2006	26,7	22,5	17,0	4,4	4,6	2,5
	2007	25,4	23,3	16,5	4,1	4,9	3,1
	2008	26,9	23,5	16,5	3,7	4,7	2,9
	2009	21,8	28,5	14,7	3,8	5,4	3,0
Mpumalanga	2006	36,6	16,0	22,2	4,5	4,0	1,4
	2007	37,1	15,9	22,7	4,2	3,9	1,8
	2008	38,5	16,2	21,3	4,4	3,6	1,6
	2009	32,7	21,2	20,0	4,4	5,0	2,0
Limpopo	2006	34,1	13,4	22,7	4,1	4,5	1,7
	2007	32,4	14,0	20,4	4,6	3,9	2,0
	2008	35,0	13,7	20,1	4,4	4,0	1,7
	2009	30,1	17,4	19,1	4,9	5,1	1,6

Appendix VIa: Number of deaths occurring in children aged under-five years by main groups of the underlying causes of death, province of residence of the deceased and year of death, 2006–2009

Province of residence of deceased	Underlying causes of death	Year of death			
		2006	2007	2008	2009
Western Cape	Certain infectious and parasitic diseases (A00-B99)	440	517	467	443
	Neoplasms (C00-D48)	13	16	14	11
	Diseases of the blood and immune mechanism (D50-D89)	43	60	13	27
	Endocrine, nutritional and metabolic diseases (E00-E90)	76	69	70	70
	Mental and behavioural disorders (F00-F99)	1	0	0	0
	Diseases of the nervous system (G00-G99)	46	42	44	44
	Diseases of the ear and mastoid process (H60-H95)	2	0	0	0
	Diseases of the circulatory system (I00-I99)	33	38	27	37
	Diseases of the respiratory system (J00-J99)	248	228	212	209
	Diseases of the digestive system (K00-K93)	17	16	10	15
	Diseases of the skin and subcutaneous tissue (L00-L99)	0	1	0	0
	Diseases of the musculoskeletal system etc. (M00-M99)	1	0	0	1
	Diseases of the genitourinary system (N00-N99)	2	7	6	4
	Perinatal conditions (P00-P96)	652	591	649	707
	Congenital malformations (Q00-Q99)	133	154	157	170
	Symptoms and signs not elsewhere classified (R00-R99)	310	283	420	425
	External causes of morbidity and mortality (V01-Y98)	198	238	225	161
All causes	2 215	2 260	2 314	2 324	
Eastern Cape	Certain infectious and parasitic diseases (A00-B99)	1 727	1 644	1 760	1 054
	Neoplasms (C00-D48)	11	17	11	12
	Diseases of the blood and immune mechanism (D50-D89)	157	185	156	78
	Endocrine, nutritional and metabolic diseases (E00-E90)	237	270	289	207
	Mental and behavioural disorders (F00-F99)	4	1	1	0
	Diseases of the nervous system (G00-G99)	123	111	124	103
	Diseases of the ear and mastoid process (H60-H95)	3	1	4	1
	Diseases of the circulatory system (I00-I99)	44	51	56	53
	Diseases of the respiratory system (J00-J99)	1 013	977	961	628
	Diseases of the digestive system (K00-K93)	66	53	62	61
	Diseases of the skin and subcutaneous tissue (L00-L99)	10	4	10	4
	Diseases of the musculoskeletal system etc. (M00-M99)	2	0	0	1
	Diseases of the genitourinary system (N00-N99)	13	12	15	12
	Perinatal conditions (P00-P96)	944	770	675	602
	Congenital malformations (Q00-Q99)	149	138	93	86
	Symptoms and signs not elsewhere classified (R00-R99)	682	587	609	474
	External causes of morbidity and mortality (V01-Y98)	323	302	316	271
All causes	5 508	5 123	5 142	3 647	

Appendix VIa: Number of deaths occurring in children aged under-five years by main groups of the underlying causes of death, province of residence of the deceased and year of death, 2006–2009 (continued)

Province of residence of deceased	Underlying causes of death	Year of death			
		2006	2007	2008	2009
Northern Cape	Certain infectious and parasitic diseases (A00-B99)	496	386	428	343
	Neoplasms (C00-D48)	2	1	2	3
	Diseases of the blood and immune mechanism (D50-D89)	41	35	27	30
	Endocrine, nutritional and metabolic diseases (E00-E90)	102	77	111	94
	Diseases of the nervous system (G00-G99)	25	13	32	27
	Diseases of the ear and mastoid process (H60-H95)	0	0	1	1
	Diseases of the circulatory system (I00-I99)	12	10	13	13
	Diseases of the respiratory system (J00-J99)	228	225	183	176
	Diseases of the digestive system (K00-K93)	20	14	17	17
	Diseases of the skin and subcutaneous tissue (L00-L99)	0	0	1	0
	Diseases of the genitourinary system (N00-N99)	4	0	1	1
	Perinatal conditions (P00-P96)	314	352	364	346
	Congenital malformations (Q00-Q99)	40	44	35	29
	Symptoms and signs not elsewhere classified (R00-R99)	170	220	253	207
	External causes of morbidity and mortality (V01-Y98)	64	60	74	74
All causes	1 518	1 437	1 542	1 361	
Free State	Certain infectious and parasitic diseases (A00-B99)	1 819	1 721	2 078	1 228
	Neoplasms (C00-D48)	9	6	7	7
	Diseases of the blood and immune mechanism (D50-D89)	146	162	178	116
	Endocrine, nutritional and metabolic diseases (E00-E90)	396	342	350	344
	Mental and behavioural disorders (F00-F99)	0	1	0	0
	Diseases of the nervous system (G00-G99)	98	83	68	80
	Diseases of the ear and mastoid process (H60-H95)	7	2	5	5
	Diseases of the circulatory system (I00-I99)	40	42	34	33
	Diseases of the respiratory system (J00-J99)	1 647	1 436	1 223	935
	Diseases of the digestive system (K00-K93)	53	41	66	43
	Diseases of the skin and subcutaneous tissue (L00-L99)	5	5	8	8
	Diseases of the musculoskeletal system etc. (M00-M99)	1	1	0	1
	Diseases of the genitourinary system (N00-N99)	13	7	10	9
	Perinatal conditions (P00-P96)	1 052	1 036	1 046	1 101
	Congenital malformations (Q00-Q99)	78	100	91	84
	Symptoms and signs not elsewhere classified (R00-R99)	660	601	618	501
	External causes of morbidity and mortality (V01-Y98)	157	176	153	150
All causes	6 181	5 762	5 935	4 645	

Appendix VIa: Number of deaths occurring in children aged under-five years by main groups of the underlying causes of death, province of residence of the deceased and year of death, 2006–2009 (continued)

Province of residence of deceased	Underlying causes of death	Year of death			
		2006	2007	2008	2009
KwaZulu-Natal	Certain infectious and parasitic diseases (A00-B99)	3 995	3 667	3 666	2 819
	Neoplasms (C00-D48)	26	33	33	22
	Diseases of the blood and immune mechanism (D50-D89)	205	192	181	147
	Endocrine, nutritional and metabolic diseases (E00-E90)	419	440	431	441
	Mental and behavioural disorders (F00-F99)	1	0	0	0
	Diseases of the nervous system (G00-G99)	195	223	222	194
	Diseases of the ear and mastoid process (H60-H95)	1	2	5	1
	Diseases of the circulatory system (I00-I99)	89	85	110	88
	Diseases of the respiratory system (J00-J99)	1 819	1 793	1 472	1 225
	Diseases of the digestive system (K00-K93)	144	125	109	92
	Diseases of the skin and subcutaneous tissue (L00-L99)	11	12	12	7
	Diseases of the musculoskeletal system etc. (M00-M99)	3	3	0	3
	Diseases of the genitourinary system (N00-N99)	20	16	18	17
	Perinatal conditions (P00-P96)	2 194	2 123	2 197	2 243
	Congenital malformations (Q00-Q99)	186	249	221	240
	Symptoms and signs not elsewhere classified (R00-R99)	1 129	1 096	1 052	893
	External causes of morbidity and mortality (V01-Y98)	571	533	506	577
All causes	11 008	10 592	10 235	9 009	
North West	Certain infectious and parasitic diseases (A00-B99)	1 589	1 500	1 649	1 217
	Neoplasms (C00-D48)	11	11	6	9
	Diseases of the blood and immune mechanism (D50-D89)	145	121	100	79
	Endocrine, nutritional and metabolic diseases (E00-E90)	356	335	383	298
	Diseases of the nervous system (G00-G99)	76	104	81	77
	Diseases of the eye and adnexa (H00-H59)	1	1	0	0
	Diseases of the ear and mastoid process (H60-H95)	3	3	4	1
	Diseases of the circulatory system (I00-I99)	49	42	49	40
	Diseases of the respiratory system (J00-J99)	1 267	1 073	1 004	806
	Diseases of the digestive system (K00-K93)	45	55	41	42
	Diseases of the skin and subcutaneous tissue (L00-L99)	10	4	3	5
	Diseases of the musculoskeletal system etc. (M00-M99)	1	2	1	3
	Diseases of the genitourinary system (N00-N99)	6	12	14	12
	Perinatal conditions (P00-P96)	877	884	910	1 029
	Congenital malformations (Q00-Q99)	81	88	66	99
	Symptoms and signs not elsewhere classified (R00-R99)	490	586	470	425
	External causes of morbidity and mortality (V01-Y98)	160	148	170	147
All causes	5 167	4 969	4 951	4 289	

Appendix VIa: Number of deaths occurring in children aged under-five years by main groups of the underlying causes of death, province of residence of the deceased and year of death, 2006–2009 (continued)

Province of residence of deceased	Underlying causes of death	Year of death			
		2006	2007	2008	2009
Gauteng	Certain infectious and parasitic diseases (A00-B99)	3 195	2 968	3 147	2 254
	Neoplasms (C00-D48)	47	38	40	42
	Diseases of the blood and immune mechanism (D50-D89)	265	256	235	156
	Endocrine, nutritional and metabolic diseases (E00-E90)	524	479	435	397
	Diseases of the nervous system (G00-G99)	214	222	218	198
	Diseases of the eye and adnexa (H00-H59)	1	0	1	0
	Diseases of the ear and mastoid process (H60-H95)	5	4	3	2
	Diseases of the circulatory system (I00-I99)	172	143	188	147
	Diseases of the respiratory system (J00-J99)	2 033	1 928	1 928	1 515
	Diseases of the digestive system (K00-K93)	89	74	65	77
	Diseases of the skin and subcutaneous tissue (L00-L99)	11	11	10	8
	Diseases of the musculoskeletal system etc. (M00-M99)	2	1	2	2
	Diseases of the genitourinary system (N00-N99)	27	38	39	21
	Perinatal conditions (P00-P96)	2 688	2 722	2 747	2 943
	Congenital malformations (Q00-Q99)	301	367	334	310
	Symptoms and signs not elsewhere classified (R00-R99)	1 843	1 851	1 754	1 696
	External causes of morbidity and mortality (V01-Y98)	545	570	551	557
All causes	11 962	11 672	11 697	10 325	
Mpumalanga	Certain infectious and parasitic diseases (A00-B99)	1 537	1 628	1 648	1 297
	Neoplasms (C00-D48)	5	11	4	12
	Diseases of the blood and immune mechanism (D50-D89)	143	121	138	112
	Endocrine, nutritional and metabolic diseases (E00-E90)	187	183	187	175
	Diseases of the nervous system (G00-G99)	81	84	73	75
	Diseases of the eye and adnexa (H00-H59)	0	1	0	0
	Diseases of the ear and mastoid process (H60-H95)	3	2	2	1
	Diseases of the circulatory system (I00-I99)	21	27	25	51
	Diseases of the respiratory system (J00-J99)	934	997	910	792
	Diseases of the digestive system (K00-K93)	70	68	79	59
	Diseases of the skin and subcutaneous tissue (L00-L99)	7	5	3	5
	Diseases of the musculoskeletal system etc. (M00-M99)	2	0	0	0
	Diseases of the genitourinary system (N00-N99)	11	11	9	14
	Perinatal conditions (P00-P96)	674	697	695	841
	Congenital malformations (Q00-Q99)	60	79	68	80
	Symptoms and signs not elsewhere classified (R00-R99)	298	299	286	255
	External causes of morbidity and mortality (V01-Y98)	169	171	154	197
All causes	4 202	4 384	4 281	3 966	

Appendix VIa: Number of deaths occurring in children aged under-five years by main groups of the underlying causes of death, province of residence of the deceased and year of death, 2006–2009 (concluded)

Province of residence of deceased	Underlying causes of death	Year of death			
		2006	2007	2008	2009
Limpopo	Certain infectious and parasitic diseases (A00-B99)	1 771	1 759	1 974	1 495
	Neoplasms (C00-D48)	12	13	14	20
	Diseases of the blood and immune mechanism (D50-D89)	102	86	92	62
	Endocrine, nutritional and metabolic diseases (E00-E90)	212	247	248	242
	Diseases of the nervous system (G00-G99)	109	135	114	107
	Diseases of the eye and adnexa (H00-H59)	0	0	0	2
	Diseases of the ear and mastoid process (H60-H95)	2	0	2	2
	Diseases of the circulatory system (I00-I99)	37	40	23	35
	Diseases of the respiratory system (J00-J99)	1 180	1 106	1 132	952
	Diseases of the digestive system (K00-K93)	84	80	110	101
	Diseases of the skin and subcutaneous tissue (L00-L99)	8	7	10	6
	Diseases of the musculoskeletal system etc. (M00-M99)	1	1	1	1
	Diseases of the genitourinary system (N00-N99)	28	10	15	16
	Perinatal conditions (P00-P96)	697	761	772	865
	Congenital malformations (Q00-Q99)	86	109	94	80
	Symptoms and signs not elsewhere classified (R00-R99)	635	859	816	734
	External causes of morbidity and mortality (V01-Y98)	233	209	224	255
	All causes	5 197	5 422	5 641	4 975

Appendix VII: Percentage distribution of deaths occurring in children aged under-five years by main groups of the underlying causes of death, population group and year of death, 2006–2009

Population group	Year of death	Certain infectious and parasitic diseases (A00-B99)	Endocrine, nutritional and metabolic diseases (E00-E90)	Diseases of the respiratory system (J00-J99)	Perinatal conditions (P00-P96)	Congenital malformations (Q00-Q99)	External causes of morbidity and mortality (V01-Y98)
Black African	2006	32,5	4,5	20,4	19,0	1,9	4,4
	2007	31,7	4,6	19,7	19,5	2,4	4,4
	2008	34,7	4,8	18,6	19,1	1,9	4,4
	2009	28,6	4,9	17,4	24,0	2,4	5,3
Coloured	2006	19,3	4,0	13,3	32,6	5,6	8,5
	2007	18,0	3,8	13,5	32,4	5,9	9,8
	2008	17,8	4,3	12,8	30,6	6,2	8,9
	2009	14,7	3,7	12,1	36,8	6,2	6,8
Indian/Asian	2006	15,7	2,1	11,6	35,5	11,6	11,6
	2007	12,6	4,8	10,4	39,1	9,6	8,3
	2008	12,7	2,7	6,4	43,6	14,1	5,9
	2009	11,4	1,2	3,6	45,8	14,5	7,8
White	2006	8,2	1,7	9,7	34,9	13,0	14,7
	2007	9,9	2,5	6,7	37,8	13,8	13,4
	2008	8,5	1,9	6,1	37,1	15,0	13,3
	2009	6,3	1,1	5,0	39,2	14,8	12,7

Appendix VIIa: Number of deaths occurring in children aged under-five years by main groups of the underlying causes of death, population group and year of death, 2006–2009

Population group	Underlying causes of death	2006	2007	2008	2009
Black African	Certain infectious and parasitic diseases (A00-B99)	14 470	13 553	14 522	9 899
	Neoplasms (C00-D48)	113	117	100	94
	Diseases of the blood and immune mechanism (D50-D89)	1 048	981	886	586
	Endocrine, nutritional and metabolic diseases (E00-E90)	2 004	1 965	1 989	1 711
	Mental and behavioural disorders (F00-F99)	2	1	1	0
	Diseases of the nervous system (G00-G99)	767	859	778	716
	Diseases of the eye and adnexa (H00-H59)	0	1	1	1
	Diseases of the ear and mastoid process (H60-H95)	21	12	20	14
	Diseases of the circulatory system (I00-I99)	433	383	372	364
	Diseases of the respiratory system (J00-J99)	9 089	8 421	7 791	6 020
	Diseases of the digestive system (K00-K93)	523	462	432	388
	Diseases of the skin and subcutaneous tissue (L00-L99)	53	53	50	35
	Diseases of the musculoskeletal system etc. (M00-M99)	8	7	3	7
	Diseases of the genitourinary system (N00-N99)	108	96	94	78
	Perinatal conditions (P00-P96)	8 475	8 344	8 007	8 283
	Congenital malformations (Q00-Q99)	838	1 004	816	838
	Symptoms and signs not elsewhere classified (R00-R99)	4 592	4 555	4 173	3 700
	External causes of morbidity and mortality (V01-Y98)	1 970	1 888	1 822	1 840
All causes	44 514	42 702	41 857	34 574	
Coloured	Certain infectious and parasitic diseases (A00-B99)	393	357	327	247
	Neoplasms (C00-D48)	7	13	3	6
	Diseases of the blood and immune mechanism (D50-D89)	38	53	20	17
	Endocrine, nutritional and metabolic diseases (E00-E90)	82	75	79	62
	Mental and behavioural disorders (F00-F99)				
	Diseases of the nervous system (G00-G99)	36	23	40	30
	Diseases of the eye and adnexa (H00-H59)				
	Diseases of the ear and mastoid process (H60-H95)	1	0	1	0
	Diseases of the circulatory system (I00-I99)	15	18	24	15
	Diseases of the respiratory system (J00-J99)	271	268	236	204
	Diseases of the digestive system (K00-K93)	16	19	16	12
	Diseases of the skin and subcutaneous tissue (L00-L99)	0	0	0	1
	Diseases of the musculoskeletal system etc. (M00-M99)	1	0	0	0
	Diseases of the genitourinary system (N00-N99)	3	3	7	3
	Perinatal conditions (P00-P96)	665	644	563	619
	Congenital malformations (Q00-Q99)	114	118	114	104
	Symptoms and signs not elsewhere classified (R00-R99)	222	202	246	246
	External causes of morbidity and mortality (V01-Y98)	174	194	163	115
All causes	2 038	1 987	1 839	1 681	

Appendix VIIa: Number of deaths occurring in children aged under-five years by main groups of the underlying causes of death, population group and year of death, 2006–2009 (concluded)

Population group	Underlying causes of death	2006	2007	2008	2009
Indian/Asian	Certain infectious and parasitic diseases (A00-B99)	38	29	28	19
	Neoplasms (C00-D48)	1	0	5	4
	Diseases of the blood and immune mechanism (D50-D89)	3	7	1	0
	Endocrine, nutritional and metabolic diseases (E00-E90)	5	11	6	2
	Mental and behavioural disorders (F00-F99)				
	Diseases of the nervous system (G00-G99)	1	3	3	5
	Diseases of the eye and adnexa (H00-H59)				
	Diseases of the ear and mastoid process (H60-H95)				
	Diseases of the circulatory system (I00-I99)	2	3	7	5
	Diseases of the respiratory system (J00-J99)	28	24	14	6
	Diseases of the digestive system (K00-K93)	1	0	1	2
	Diseases of the skin and subcutaneous tissue (L00-L99)	1	0	0	0
	Diseases of the musculoskeletal system etc. (M00-M99)				
	Diseases of the genitourinary system (N00-N99)	1	1	0	0
	Perinatal conditions (P00-P96)	86	90	96	76
	Congenital malformations (Q00-Q99)	28	22	31	24
	Symptoms and signs not elsewhere classified (R00-R99)	19	21	15	10
	External causes of morbidity and mortality (V01-Y98)	28	19	13	13
All causes		242	230	220	166
White	Certain infectious and parasitic diseases (A00-B99)	33	43	35	24
	Neoplasms (C00-D48)	10	7	8	13
	Diseases of the blood and immune mechanism (D50-D89)	3	7	2	1
	Endocrine, nutritional and metabolic diseases (E00-E90)	7	11	8	4
	Mental and behavioural disorders (F00-F99)	2	0	0	0
	Diseases of the nervous system (G00-G99)	9	18	11	21
	Diseases of the eye and adnexa (H00-H59)				
	Diseases of the ear and mastoid process (H60-H95)	0	0	0	1
	Diseases of the circulatory system (I00-I99)	13	8	9	8
	Diseases of the respiratory system (J00-J99)	39	29	25	19
	Diseases of the digestive system (K00-K93)	7	3	6	5
	Diseases of the skin and subcutaneous tissue (L00-L99)				
	Diseases of the musculoskeletal system etc. (M00-M99)	1	0	1	0
	Diseases of the genitourinary system (N00-N99)	0	2	5	4
	Perinatal conditions (P00-P96)	140	164	153	148
	Congenital malformations (Q00-Q99)	52	60	62	56
	Symptoms and signs not elsewhere classified (R00-R99)	26	24	32	26
	External causes of morbidity and mortality (V01-Y98)	59	58	55	48
All causes		401	434	412	378

Appendix VIII: The ten leading natural causes of death among children aged under-five years by broad groups of the underlying causes of death, and year of death, 2006–2009 (concluded)

Underlying causes of death	2006		2007		2008		2009	
	No.	%	No.	%	No.	%	No.	%
Intestinal infectious diseases (A00-A09)	13 662	21,2	13 175	21,4	14 391	23,6	9 310	18,4
Influenza and pneumonia (J09-J18)	9 750	15,2	8 847	14,3	8 016	13,1	5 930	11,7
Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	6 527	10,1	6 261	10,1	6 148	10,1	5 759	11,4
Malnutrition (E40-E46)	2 149	3,3	1 868	3,0	2 229	3,7	1 995	4,0
Disorders related to length of gestation and foetal growth (P05-P08)	1 964	3,1	1 785	2,9	1 719	2,8	1 718	3,4
Tuberculosis (A15-A19)	1 648	2,6	1 519	2,5	1 475	2,4	1 195	2,4
Infections specific to the perinatal period (P35-P39)	1 430	2,2	1 437	2,3	1 392	2,3	1 409	2,8
Certain disorders involving the immune mechanism (D80-D89)	1 269	2,0	1 137	1,8	1 075	1,8	733	1,5
Other disorders originating in the perinatal period (P90-P96)	1 226	1,9	1 441	2,3	1 429	2,3	1 562	3,1
Other acute lower respiratory infections (J20-J22)	1 082	1,7	1 168	1,9	1 120	1,8	913	1,8
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00-P04)	545	0,8	602	1,0	575	0,9	972	1,9
Other causes	20 241	31,5	19 618	31,8	18 787	30,8	16 393	32,5
Non-natural causes	2 853	4,4	2 850	4,6	2 706	4,4	2 582	5,1
All causes	64 346	100,0	61 708	100,0	61 062	100,0	50 471	100,0

Appendix IX: Number of children aged under-five years who suffered from diarrhoea by year and province, 2006–2010

Province	Total number of children aged under-five years				Number of children aged under-five years who had diarrhoea					
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Western Cape	477 071	475 469	511 636	526 768	533 016	875	4 669	5 206	6 111	8 586
Eastern Cape	751 546	740 166	757 355	735 511	701 184	14 724	18 634	15 679	10 632	6 984
Northern Cape	125 677	118 875	132 132	118 822	123 024	896	1 747	956	815	913
Free State	318 035	303 035	305 488	298 750	276 304	1 379	2 158	6 728	3 101	4 045
KwaZulu-Natal	1 068 559	1 127 868	1 065 162	1 103 126	1 082 003	14 755	12 640	17 830	12 331	6 467
North West	401 484	396 359	370 741	369 292	354 612	2 080	3 831	7 212	3 825	5 571
Gauteng	995 333	985 466	999 892	944 501	991 763	20 290	7 387	18 495	5 400	20 180
Mpumalanga	433 220	404 231	386 740	367 669	376 781	11 373	5 201	9 573	10 734	3 274
Limpopo	628 267	606 292	583 288	599 062	582 713	10 926	9 090	15 009	4 783	5 992
South Africa	5 199 192	5 157 761	5 112 434	5 063 500	5 021 399	77 300	65 357	96 689	57 731	62 012

Appendix X: Number of children aged under-five years who suffered from diarrhoea by year and population group, 2006–2010

Province	Total number of children aged under-five years				Number of children aged under-five years who had diarrhoea					
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Black African	4 426 711	4 388 681	4 346 124	4 299 239	4 259 143	75 872	60 174	90 927	49 459	54 651
Coloured	423 719	422 046	419 605	416 696	413 791	1 428	3 027	2 332	7 687	5 194
Indian/Asian	92 505	94 253	96 415	99 067	101 350	0	1 719	1 547	0	426
White	256 257	252 781	250 290	248 498	247 115	0	436	1 884	585	1 742
South Africa	5 199 192	5 157 761	5 112 434	5 063 500	5 021 399	77 300	65 357	96 689	57 731	62 012

Appendix XI: Number of children aged under-five years who died due to diarrhoea and gastroenteritis of presumed infectious origin by province of residence of deceased, 2006–2009

Province	Total number of child deaths				Number of child deaths due to diarrhoea			
	2006	2007	2008	2009	2006	2007	2008	2009
Western Cape	2 215	2 260	2 314	2 324	218	288	278	267
Eastern Cape	5 508	5 123	5 142	3 647	1 086	1 110	1 236	682
Northern Cape	1 518	1 437	1 542	1 361	345	281	315	232
Free State	6 181	5 762	5 935	4 645	1 367	1 259	1 608	904
KwaZulu-Natal	11 008	10 592	10 235	9 009	2 753	2 497	2 530	1 839
North West	5 167	4 969	4 951	4 289	1 189	1 163	1 272	884
Gauteng	11 962	11 672	11 697	10 325	1 914	2 002	2 251	1 508
Mpumalanga	4 202	4 384	4 281	3 966	1 205	1 269	1 283	907
Limpopo	5 197	5 422	5 641	4 975	1 437	1 451	1 645	1 181
Foreign/unspecified	11 388	10 087	9 324	5 930	2 075	1 788	1 914	871
South Africa	64 346	61 708	61 062	50 471	13 589	13 108	14 332	9 275

Appendix XII: Number of children aged under-five years who died due to diarrhoea and gastroenteritis of presumed infectious origin by population group, 2006–2009

Province	Total number of child deaths				Number of child deaths due to diarrhoea			
	2006	2007	2008	2009	2006	2007	2008	2009
Black African	44 514	42 702	41 857	34 574	10 338	9 834	10 903	7 022
Coloured	2 038	1 987	1 839	1 681	229	217	205	146
Indian/Asian	242	230	220	166	20	17	16	13
White	401	434	412	378	17	26	16	8
Other/unspecified	17 151	16 355	16 734	13 672	2 985	3 014	3 192	2 086
South Africa	64 346	61 708	61 062	50 471	13 589	13 108	14 332	9 275

Appendix XIII: Number of children aged under-five years who suffered from flu or acute respiratory tract infection by year and province, 2006–2010

Province	Total number of children aged under-five years					Number of children aged under-five years who had flu or acute respiratory tract infection				
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Western Cape	477 071	475 469	511 636	526 768	533 016	26 970	60 781	70 555	63 023	71 207
Eastern Cape	751 546	740 166	757 355	735 511	701 184	88 074	47 493	77 527	86 194	40 571
Northern Cape	125 677	118 875	132 132	118 822	123 024	11 253	14 511	16 899	13 598	13 612
Free State	318 035	303 035	305 488	298 750	276 304	54 152	32 319	43 390	63 681	40 268
KwaZulu-Natal	1 068 559	1 127 868	1 065 162	1 103 126	1 082 003	110 602	83 550	95 348	121 567	101 580
North West	401 484	396 359	370 741	369 292	354 612	41 165	38 967	40 893	55 946	30 264
Gauteng	995 333	985 466	999 892	944 501	991 763	142 559	100 523	142 795	200 950	143 028
Mpumalanga	433 220	404 231	386 740	367 669	376 781	57 464	48 959	57 185	63 726	37 859
Limpopo	628 267	606 292	583 288	599 062	582 713	63 912	60 282	57 794	127 346	65 224
South Africa	5 199 192	5 157 761	5 112 434	5 063 500	5 021 399	596 151	487 385	602 385	796 029	543 613

Appendix XIV: Number of children aged under-five years who suffered from flu or acute respiratory tract infection by year and population group, 2006–2010

Population group	Total number of children aged under-five years					Number of children aged under-five years who had flu or acute respiratory tract infection				
	2006	2007	2008	2009	2010	2006	2007	2008	2009	2010
Black African	4 426 711	4 388 681	4 346 124	4 299 239	4 259 143	75 872	60 174	90 927	49 459	54 651
Coloured	423 719	422 046	419 605	416 696	413 791	1 428	3 027	2 332	7 687	5 194
Indian/Asian	92 505	94 253	96 415	99 067	101 350	0	1 719	1 547	0	426
White	256 257	252 781	250 290	248 498	247 115	0	436	1 884	585	1 742
South Africa	5 199 192	5 157 761	5 112 434	5 063 500	5 021 399	77 300	65 357	96 689	57 731	62 012

Appendix XV: Number of children aged under-five years who died due to influenza and pneumonia by province of residence of deceased, 2006–2009

Province	Total number of child deaths			Number of child deaths due to influenza and pneumonia				
	2006	2007	2008	2009	2006	2007	2008	2009
Western Cape	2 215	2 260	2 314	2 324	168	163	128	116
Eastern Cape	5 508	5 123	5 142	3 647	736	718	695	436
Northern Cape	1 518	1 437	1 542	1 361	161	146	132	124
Free State	6 181	5 762	5 935	4 645	1 436	1 213	1 009	765
KwaZulu-Natal	11 008	10 592	10 235	9 009	1 366	1 373	1 102	875
North West	5 167	4 969	4 951	4 289	997	870	751	619
Gauteng	11 962	11 672	11 697	10 325	1 704	1 514	1 525	1 139
Mpumalanga	4 202	4 384	4 281	3 966	764	757	700	571
Limpopo	5 197	5 422	5 641	4 975	1 025	942	979	793
Foreign/unspecified	11 388	10 087	9 324	5 930	1 393	1 151	995	492
South Africa	64 346	61 708	61 062	50 471	9 750	8 847	8 016	5 930

Appendix XVI: Number of children aged under-five years who died due to influenza and pneumonia by population group, 2006–2009

Province	Total number of child deaths			Number of child deaths due to influenza and pneumonia				
	2006	2007	2008	2009	2006	2007	2008	2009
Black African	44 514	42 702	41 857	34 574	7 395	6 707	6 148	4 499
Coloured	2 038	1 987	1 839	1 681	200	195	162	136
Indian/Asian	242	230	220	166	18	15	9	4
White	401	434	412	378	27	19	18	11
Other/unspecified	17 151	16 355	16 734	13 672	2 110	1 911	1 679	1 280
South Africa	64 346	61 708	61 062	50 471	9 750	8 847	8 016	5 930

Appendix XVII: Number of children aged under-five years who died due to respiratory and cardiovascular disorders specific to the perinatal period by province of residence of deceased, 2006–2009

Province	Total number of child deaths			Number of child deaths due to respiratory and cardiovascular disorders specific to the perinatal period				
	2006	2007	2008	2009	2006	2007	2008	2009
Western Cape	2 215	2 260	2 314	2 324	277	221	221	233
Eastern Cape	5 508	5 123	5 142	3 647	469	393	350	305
Northern Cape	1 518	1 437	1 542	1 361	150	160	143	127
Free State	6 181	5 762	5 935	4 645	509	482	529	537
KwaZulu-Natal	11 008	10 592	10 235	9 009	1 127	1 043	1 086	942
North West	5 167	4 969	4 951	4 289	399	462	454	494
Gauteng	11 962	11 672	11 697	10 325	1 411	1 423	1 485	1 488
Mpumalanga	4 202	4 384	4 281	3 966	327	331	371	402
Limpopo	5 197	5 422	5 641	4 975	382	436	441	425
Foreign/unspecified	11 388	10 087	9 324	5 930	1 476	1 310	1 068	806
South Africa	64 346	61 708	61 062	50 471	6 527	6 261	6 148	5 759

Appendix XVIII: Number of children aged under-five years who died due to respiratory and cardiovascular disorders specific to the perinatal period by population group, 2006–2009

Province	Total number of child deaths			Number of child deaths due to respiratory and cardiovascular disorders specific to the perinatal period				
	2006	2007	2008	2009	2006	2007	2008	2009
Black African	44 514	42 702	41 857	34 574	4 386	4 273	4 150	3 855
Coloured	2 038	1 987	1 839	1 681	295	280	240	261
Indian/Asian	242	230	220	166	45	44	47	33
White	401	434	412	378	80	91	87	69
Other/unspecified	17 151	16 355	16 734	13 672	1 721	1 573	1 624	1 541
South Africa	64 346	61 708	61 062	50 471	6 527	6 261	6 148	5 759

Appendix XIX: Number of households with children aged under-five years where children went hungry because there was not enough food by year and province, 2006–2010

Province	Number of households with children aged under-five years				Number of households with children who went hungry because there was not enough food			
	2006	2007	2008	2010	2006	2007	2008	2010
Western Cape	298 855	302 457	330 785	372 378	3 096	4 593	4 804	3 444
Eastern Cape	456 191	485 759	492 686	505 327	9 244	9 034	4 875	1 215
Northern Cape	79 445	85 082	96 408	96 319	777	1 154	1 614	2 248
Free State	200 402	201 875	234 634	243 958	3 434	2 073	928	1 208
KwaZulu-Natal	514 176	624 879	710 678	800 472	6 710	4 126	14 671	7 990
North West	206 570	220 134	272 263	286 596	129	1 959	12 291	2 563
Gauteng	636 340	679 153	811 850	915 952	3 504	3 382	2 002	1 196
Mpumalanga	277 403	284 176	303 644	311 895	1 448	1 660	3 148	7 042
Limpopo	396 108	408 779	437 351	474 172	1 642	515	950	924
South Africa	3 065 489	3 292 295	3 690 299	4 007 069	29 984	28 496	45 284	27 829

Appendix XX: Number of households with children aged under-five years where children went hungry because there was not enough food by year and population group, 2006–2010

Population group	Number of households with children aged under-five years				Number of households with children who went hungry because there was not enough food			
	2006	2007	2008	2010	2006	2007	2008	2010
Black African	2 531 492	2 726 880	3 104 568	3 393 982	28 521	25 678	42 433	24 533
Coloured	305 592	294 295	338 914	354 648	1 463	2 817	2 851	3 296
Indian/Asian	57 124	71 897	56 378	73 051	0	0	0	0
White	171 282	199 223	190 439	185 387	0	0	0	0
South Africa	3 065 489	3 292 295	3 690 299	4 007 069	29 984	28 496	45 284	27 829

Appendix XXI: Number of children aged under-five years who died due to malnutrition by province of residence of deceased, 2006–2009

Province	Total number of child deaths				Number of child deaths due to malnutrition			
	2006	2007	2008	2009	2006	2007	2008	2009
Western Cape	2215	2260	2314	2324	48	44	57	54
Eastern Cape	5508	5123	5142	3647	183	193	232	171
Northern Cape	1518	1437	1542	1361	77	57	83	80
Free State	6181	5762	5935	4645	318	240	288	293
KwaZulu-Natal	11008	10592	10235	9009	300	290	349	340
North West	5167	4969	4951	4289	247	222	302	241
Gauteng	11962	11672	11697	10325	351	272	309	300
Mpumalanga	4202	4384	4281	3966	149	122	152	143
Limpopo	5197	5422	5641	4975	171	179	195	209
Foreign/unspecified	11 388	10 087	9 324	5 930	305	249	262	164
South Africa	64 346	61 708	61 062	50 471	2 149	1 868	2 229	1 995

Appendix XXII: Number of children aged under-five years who died due to malnutrition by population group, 2006–2009

Province	Total number of child deaths				Number of child deaths due to malnutrition			
	2006	2007	2008	2009	2006	2007	2008	2009
Black African	44514	42702	41857	34574	1451	1288	1561	1379
Coloured	2038	1987	1839	1681	49	46	61	55
Indian/Asian	242	230	220	166	3	8	3	0
White	401	434	412	378	2	4	3	3
Other/unspecified	17 151	16 355	16 734	13 672	644	522	601	558
South Africa	64 346	61 708	61 062	50 471	2 149	1 868	2 229	1 995

Appendix XXIII: Number of children aged under-five years who died due to tuberculosis by province of residence of deceased, 2006–2009

Province	Total number of child deaths			Number of child deaths due to tuberculosis				
	2006	2007	2008	2009	2006	2007	2008	2009
Western Cape	2 215	2 260	2 314	2 324	56	48	36	42
Eastern Cape	5 508	5 123	5 142	3 647	183	188	195	150
Northern Cape	1 518	1 437	1 542	1 361	47	36	30	26
Free State	6 181	5 762	5 935	4 645	120	116	111	84
KwaZulu-Natal	11 008	10 592	10 235	9 009	415	400	382	321
North West	5 167	4 969	4 951	4 289	156	114	107	120
Gauteng	11 962	11 672	11 697	10 325	197	156	160	145
Mpumalanga	4 202	4 384	4 281	3 966	93	124	113	106
Limpopo	5 197	5 422	5 641	4 975	99	123	122	103
Foreign/unspecified	11 388	10 087	9 324	5 930	282	214	219	98
South Africa	64 346	61 708	61 062	50 471	1 648	1 519	1 475	1 195

Appendix XXIV: Number of children aged under-five years who died due to tuberculosis by population group, 2006–2009

Province	Total number of child deaths			Number of child deaths due to tuberculosis				
	2006	2007	2008	2009	2006	2007	2008	2009
Black African	44 514	42 702	41 857	34 574	1 160	1 116	1 082	849
Coloured	2 038	1 987	1 839	1 681	63	52	34	29
Indian/Asian	242	230	220	166	4	2	2	0
White	401	434	412	378	1	4	1	0
Other/unspecified	17 151	16 355	16 734	13 672	420	345	356	317
South Africa	64 346	61 708	61 062	50 471	1 648	1 519	1 475	1 195