

# Western Cape Mortality Profile 2012

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A copy of this report, as well as the data, is available on the Internet at:

<http://www.mrc.ac.za/bod/reports.htm>

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# Acronyms and abbreviations

<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>ASSA</b>	Actuarial Society of South Africa
<b>CARe</b>	Centre for Actuarial Research
<b>DNF</b>	Death Notification Form
<b>FPS</b>	Forensic Pathology Services
<b>ICD-10</b>	International Statistical Classification of Disease
<b>LMSS</b>	Local Mortality Surveillance System
<b>MRC</b>	Medical Research Council
<b>NBD</b>	National Burden of Diseases and Related Health Problems
<b>PIMSS</b>	Provincial Injury Mortality Surveillance System
<b>Stats SA</b>	Statistics South Africa
<b>WCDoH</b>	Western Cape Department of Health
<b>YLLs</b>	Years of Life Lost

## Glossary and explanation of common terms used

**UNDERLYING CAUSE OF DEATH:** The disease or injury that initiated the train of morbid events leading directly to death or the circumstances of the accident or violence that produced the fatal injury (WHO).

**IMMEDIATE CAUSE OF DEATH:** Any disease or condition entered on line (a) in Part 1 of the death certificate directly leading to death and consequent to diseases entered on lower lines of Part 1. Also known as the terminal, direct or final cause of death.

**INTERMEDIATE CAUSE OF DEATH:** Any cause between the underlying cause and the immediate cause of death, or, if the certificate has not been filled out correctly, any condition that the certifier should have reported there. Also known as a complication of the underlying cause.

**GARBAGE CODE:** ICD – 10 codes for causes of death that cannot or should not be considered underlying causes of death.

**MECHANISM OF DEATH:** The physiological disturbance in the body at the time of death, e.g. metabolic acidosis, hypokalaemia and acute cardiac failure.

**MANNER OF DEATH:** Manner of death helps to clarify the modality/intention surrounding the deceased. The most common options for the classification of this variable are natural, accident, intentional self-harm (including suicide), assault (homicide) and undetermined.

**RISK FACTORS:** A risk is an attribute or exposure that is causally associated with increased risk of a disease or injury. These may be physiological (e.g. hypertension), or external (e.g. air pollution).



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**BROAD CAUSES:** Broad causes group together causes of death with related underlying aetiology. Examining the distribution of deaths in this way allows us to understand the upstream causes of the burden of disease, and positions the population in relation to the theory of epidemiological transition.

**PREMATURE MORTALITY:** Years of Life Lost (YLL) are used in order to understand and compare premature mortality, which are the causes of death that lead to the greatest shortening of life. This is necessary because without it, the causes of death that are more common at older ages will be the most frequently observed. YLL is a measure that places more emphasis on deaths that occur at a younger age. It is an extremely useful measure in determining which causes of death are most important, and should therefore be used for planning. YLL are presented in the leading causes of YLL sections, as well as the league tables.

**AGE STANDARDISED MORTALITY RATES:** Age-standardised mortality rates (ASR) are presented in order to compare mortality in different populations. This is necessary because the age distribution of a population influences mortality rates. For example, a population that has a higher proportion of older people will have higher mortality rates, as older people are more likely to die. Age-standardisation removes this effect, by adjusting the deaths in each age group to a standard age distribution, for each population. The mortality rates in each population are therefore comparable to each other, despite their different age structures.



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## 1 Executive Summary

Cause of death information is essential for planning and monitoring health services and in advocating for inter-sectoral action to improve public health. The Western Cape Department of Health (WCDoH), the City of Cape Town and the South African Medical Research Council (MRC) Burden of Disease Research Unit have developed a mortality surveillance system that reports on mortality at district and sub-district levels in the province. It makes use of cause of death information provided on death notification forms (DNFs) for deaths registered with the Department of Home Affairs and Forensic Pathology Services (FPS). This report presents the mortality profile for the Western Cape and each of its districts for the year 2012.

Summary of key findings from mortality surveillance in the Western Cape in 2012:

- There were 43,253 deaths in 2012, of which 56% were males and 63% of overall deaths occurred in the Cape Metro District
- Ischaemic heart disease was the leading cause of death (9.6% of all deaths), however HIV/AIDS was the leading cause of premature mortality (12.0% of Years of Life Lost, YLLs)
- HIV/AIDS was the leading cause of premature mortality (YLL) in all districts, except the West Coast where TB was first and HIV/AIDS second
- Injuries accounted for a higher proportion of male deaths compared to female deaths, peaking between 15 and 35 years of age
- Age standardised rates (ASRs) for all causes show an overall decline between 2009 and 2012 in all districts, except the Overberg
- ASRs for Communicable/Maternal/Perinatal/Nutrition causes, Non-communicable diseases and HIV/AIDS and TB show an overall decline between 2009 and 2012, whereas ASRs for injuries have increased for this period.
- Child mortality rates for the Western Cape continue to decline
- The leading causes of death in children under 5 were neonatal causes (39%), injuries (15%), pneumonia (13%) and diarrhoea (9%)
- Prematurity and birth asphyxia were the leading causes of death in neonates
- A large proportion (34%) of deaths in children occurred at home

The quality of provincial mortality data, as measured by improved completeness and reduced number of ill-defined deaths, has continued to improve year on year. This has resulted in the use of the data in several public health initiatives aimed at improving service efficiencies. These initiatives include active weekly follow-up of diarrhoeal deaths as part of the diarrhoeal season campaign, follow-up of HIV and TB defaulters and identification of missed opportunities in HIV care and cervical and colposcopy services.

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## 2 Methods

### 2.1 Data collection

The six district information offices of the WCDoH collected copies of DNFs from the local Department of Home Affairs offices in their district. Socio-demographic and cause of death information were captured into a customised database at each district office (Local Mortality Surveillance System – LMSS). Information on the manner of death for those due to unnatural causes was collected by FPS (Provincial Injury Mortality Surveillance System – PIMSS).

### 2.2 Data cleaning and linkage

LMSS and PIMSS data were checked and cleaned of duplicates. Incorrect capture of serial and mortuary reference numbers, invalid ages, and missing sex and incomplete or incorrect data were returned to the respective offices/mortuaries for checking and correction.

There were 43,060 LMSS records and 9,784 PIMSS records for 2012. Cases in the PIMSS data were linked with cases in the LMSS data using the unique DNF serial number and/or mortuary reference number. The linked data were further checked for duplicates, valid date of birth and date of death. Linked cases were verified as the same case by cross checking date of birth, date of death, sex, race and sub-district of residence. The 1,713 PIMSS records that did not link with the LMSS data were added to the merged dataset on the assumption that these records were missing from the LMSS data. Where residence information was missing from the PIMSS records the place of injury was used to allocate the death to a district.

After linking and consolidation there were 44,772 total records. 1,463 stillbirths, non-viable foetuses and abortions, and 57 non-residents, were excluded, leaving a total of 43,253 records for analysis. Validity checks were performed on causes that are age and sex specific, and corrections made when any anomalies were identified (Web Appendix).

### 2.3 Data completeness

The completeness of our data was assessed against Stats SA 2012<sup>1</sup> data on total deaths per district and found to be 94.9% complete for the province overall (see Appendix Table A.1). West Coast District had the highest completeness (100.4%), followed by Cape Metro (97.8%). Cape Winelands (85.2%) and Overberg (86.4%) had the lowest completeness. Completeness for children under five years was high at 110.6% for the province overall. Eden (91.4%) had the lowest completeness for children.

### 2.4 Cause of death coding

The natural causes were coded to ICD-10<sup>2</sup> (4 digit) and the underlying cause was selected using the automated coding software, IRIS.<sup>3</sup> Rejects (spelling errors or errors in medical certification) were corrected and recoded using IRIS or manually if required. The unnatural deaths from PIMSS were

<sup>1</sup>Statistics South Africa. Mortality and causes of death in South Africa, 2012. Findings from death notification. Statistical release P0309.3. Pretoria: Statistics South Africa, 2014.

<sup>2</sup>World Health Organization. International classification of diseases and related health problems. Tenth Revision. Geneva: World Health Organization; 1992

<sup>3</sup>Johansson L, Pavillon G, Pelikan L, Weber S. Iris automated coding system for causes of death. User's reference manual (Iris version V4.1.3). IRIS Institute 2012.

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coded directly to ICD-10 (3 digit), using a look-up table based on the apparent manner and external cause information. The ICD codes were aggregated into 215 National Burden of Disease (NBD) analysis codes<sup>4</sup> distinguishing causes in the NBD list, general garbage codes and specific garbage codes.

## 2.5 Analysis

### 2.5.1 Redistribution

In order to provide a comprehensive profile of the causes of death, adjustments were made to account for ill-defined and garbage codes (non-specific causes) as well as cases with missing age and sex. The overall numbers of deaths were adjusted by proportionally redistributing deaths of unknown age (n=111) and sex (n=50) within each cause of death. Approximately 7% of deaths were misclassified to ill-defined signs and symptoms (R00-R99) and a further 11% assigned to a range of other garbage codes (Appendix Tables A.2 and A.3), including intermediate causes of death (e.g. septicaemia), mechanisms of death (e.g. cardiac arrest), partially specified causes (e.g. cancer with unknown site) or risk factors (e.g. hypertension) and ill-defined injuries. Estimated numbers of deaths, according to the NBD list, were derived by proportionally redistributing the garbage codes to specified causes within each age and sex category in stages outlined in the Web Appendix.

### 2.5.2 Data aggregations and calculations

Causes from the NBD list were grouped into the four broad cause groups to provide an overall profile of the causes of death. These include:

- HIV/AIDS and TB
- Communicable diseases (excluding HIV/AIDS and TB), maternal, perinatal and nutritional conditions (Comm/Mat/Peri/Nutr)
- Non-communicable diseases
- Injuries

In order to reduce the problem of misclassification of causes, trends in cause-specific mortality were assessed for five groupings of major burden causes of death:

1. Infectious diseases
2. Cardiovascular, diabetes and endocrine diseases
3. Cancers
4. Chronic respiratory diseases
5. Injuries

Premature mortality was calculated as years of life lost (YLLs) by multiplying the observed number of deaths in each age category by an idealised life expectancy for that age based on a model life table, Coale and Demeny West level 26<sup>5</sup>, with life expectancy at birth of 82.5 years for females and 80 years for males. Age weighting was not applied but the YLLs were discounted at 3% in line with the South African NBD study<sup>6</sup>.

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<sup>4</sup>Pillay-Van Wyk V, Laubscher R, Msemburi W, Groenewald G, Dorrington R, Vos T, Bradshaw D & the SA NBD team. Second South African National Burden of Disease Study: Data cleaning, validation and SA NBD List. MRC Technical Report. Forthcoming.

<sup>5</sup>Coale AJ & Demeny P (1966). Regional Model Life Tables and Stable Population, Princeton University Press, Princeton, N.J. 1966.

<sup>6</sup>Bradshaw D, Groenewald P, Laubscher R, Nannan N, Nojilana B, Norman R, et al. Initial burden of disease estimates for South Africa, 2000. Cape Town: South African Medical Research Council, 2003

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The denominator used to calculate mortality rates was taken from the alternative set of mid-year estimates (AltMYE) for the Western Cape Province produced by the Centre for Actuarial Research at the University of Cape Town (CARE, UCT)<sup>7</sup>. These estimates have an age distribution that is consistent with that of the 2011 Census, and CARE state that there is mounting evidence that the age distribution of the 2011 Census is probably closer to the truth than that of the official mid-year estimates produced by Statistics South Africa, and is also largely consistent with the age distribution of the 2001 Census. The ratio method<sup>8</sup> was then used to estimate the district municipalities and health sub-district populations by sex and five-year age groups between 2001 and 2013. The WHO age distribution for the world was used as the standard<sup>9</sup> to calculate the age standardised mortality rates.

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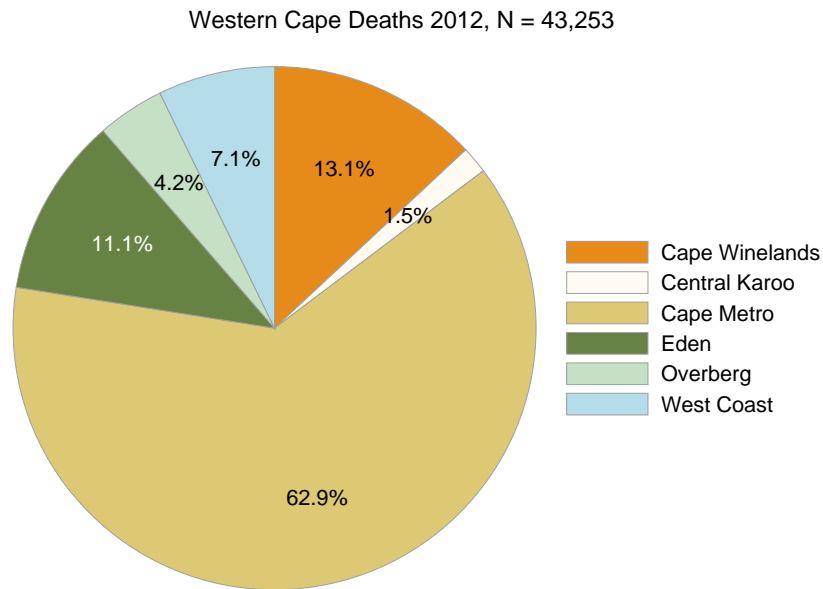
<sup>7</sup>Dorrington R.E. (2013) Alternative South African mid-year estimates, 2013. Centre for Actuarial Research Monograph 13, University of Cape Town.

<sup>8</sup>Shryock, H. S. and J. S. Siegel (1976). *The Methods and Materials of Demography* (Condensed Edition). San Diego, Academic Press.

<sup>9</sup>Ahmad OB, Boschi-Pinto C, Lopez AD, Murray CJL, Lozano R, Inoue M. Age standardisation of rates: A new WHO standard. GPE Discussion Paper Series: No.31. EIP/GPE/EBD. World Health Organization 2001.

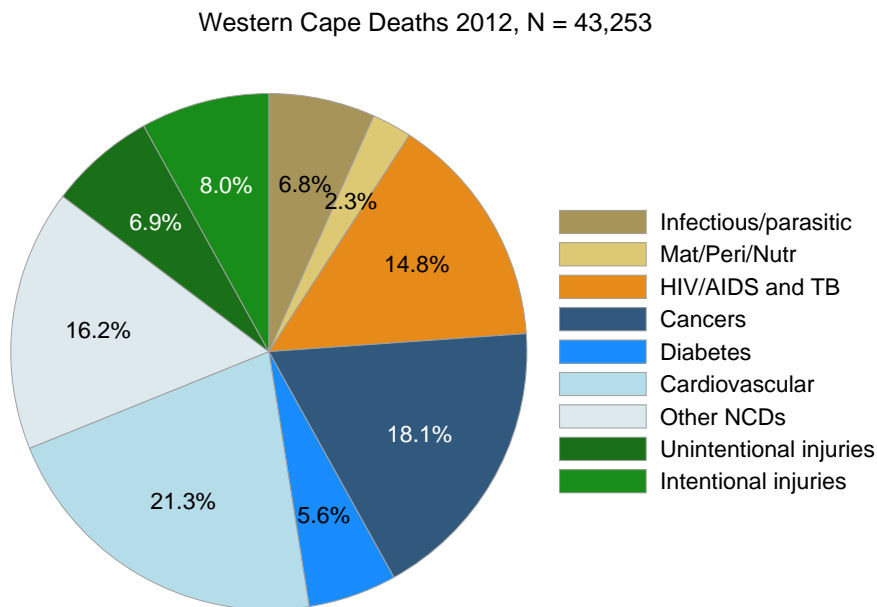
### 3 Mortality profile for the Western Cape

There were 43,253 deaths in the Western Cape with 62.9% of these occurring in the Cape Metro District (Figure 3.1, Appendix Section A.3). Male deaths accounted for 56% of all deaths.



**Figure 3.1: District proportions of provincial deaths**

The proportions of deaths and YLLs by disease category are shown in Figure 3.2 and 3.3 (Appendix Section A.3). Cardiovascular diseases accounted for the largest proportion of all deaths (21.3%), but the largest category of premature mortality was due to HIV/AIDS and TB (19.5%).



**Figure 3.2: Cause of death profile, Western Cape 2012**

Western Cape YLLs 2012, N = 737,617

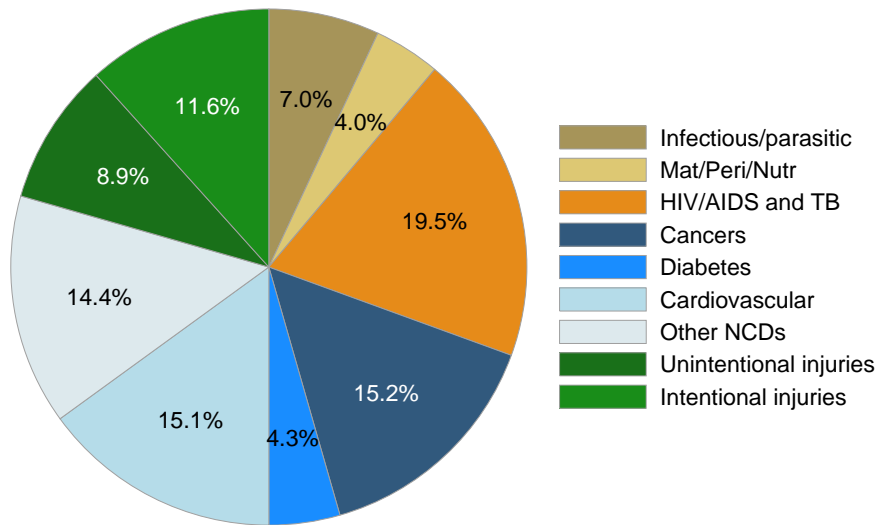


Figure 3.3: Cause of death and premature mortality profile, Western Cape 2012

### 3.1 Leading causes of death and premature mortality, 2012

The leading causes of death and YLLs are presented in Figures 3.4 to 3.6 for all persons, males and females (Appendix Section A.3). HIV/AIDS, tuberculosis, interpersonal violence and ischaemic heart disease were the leading single causes of premature mortality for all persons. Interpersonal violence was the leading cause of premature mortality among males and HIV/AIDS the leading cause amongst females.

#### 3.1.1 All Persons

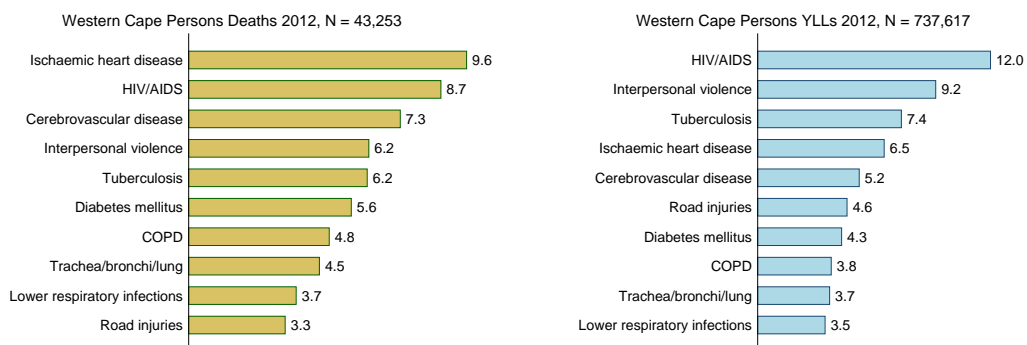
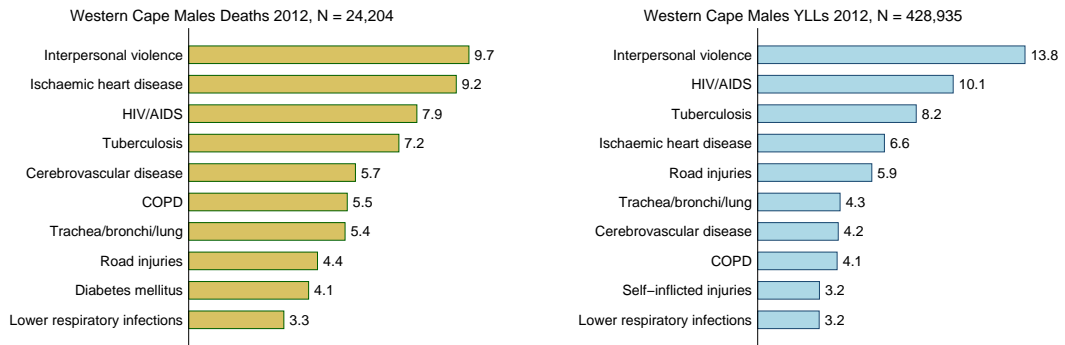


Figure 3.4: Leading causes of death for persons, Western Cape 2012

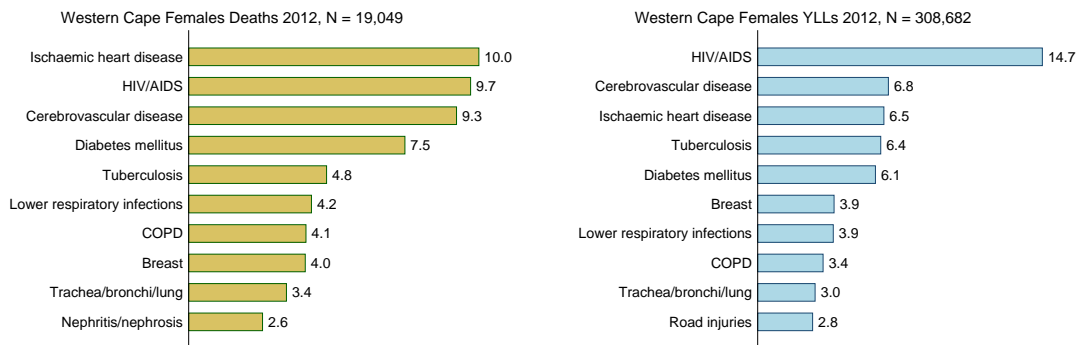


### 3.1.2 Males



**Figure 3.5: Leading causes of death for males, Western Cape 2012**

### 3.1.3 Females



**Figure 3.6: Leading causes of death for females, Western Cape 2012**

### 3.1.4 District comparison of premature mortality

A detailed profile for each district is provided in Chapter 7. Figure 3.7 presents a summary of the leading 10 causes of premature mortality for each district. The leading cause of premature mortality in all districts except West Coast was HIV/AIDS.

Rank	Cape Winelands	Central Karoo	Cape Metro	Eden	Overberg	West Coast	Western Cape
1	HIV/AIDS (12.0%)	HIV/AIDS (12.5%)	HIV/AIDS (12.3%)	HIV/AIDS (12.3%)	HIV/AIDS (8.5%)	Tuberculosis (12.3%)	HIV/AIDS (12.0%)
2	Tuberculosis (9.6%)	Road injuries (10.1%)	Interpersonal violence (11.0%)	Tuberculosis (9.8%)	Interpersonal violence (8.5%)	HIV/AIDS (11.0%)	Interpersonal violence (9.2%)
3	Interpersonal violence (6.5%)	Tuberculosis (8.5%)	Ischaemic heart disease (6.5%)	Ischaemic heart disease (7.3%)	Tuberculosis (7.7%)	Ischaemic heart disease (7.5%)	Tuberculosis (7.4%)
4	Cerebrovascular disease (6.1%)	Cerebrovascular disease (7.9%)	Tuberculosis (6.0%)	Cerebrovascular disease (5.6%)	Ischaemic heart disease (7.7%)	Interpersonal violence (6.4%)	Ischaemic heart disease (6.5%)
5	Ischaemic heart disease (5.5%)	COPD (6.3%)	Cerebrovascular disease (4.8%)	Interpersonal violence (5.1%)	Cerebrovascular disease (6.5%)	Cerebrovascular disease (5.6%)	Cerebrovascular disease (5.2%)
6	COPD (5.5%)	Trachea/bronchi/lung (5.1%)	Diabetes mellitus (4.5%)	COPD (4.8%)	Road injuries (4.8%)	Road injuries (5.2%)	Road injuries (4.6%)
7	Road injuries (5.4%)	Ischaemic heart disease (5.0%)	Road injuries (4.3%)	Road injuries (4.0%)	Lower respiratory infections (4.6%)	Diabetes mellitus (5.2%)	Diabetes mellitus (4.3%)
8	Diabetes mellitus (4.0%)	Lower respiratory infections (4.0%)	Trachea/bronchi/lung (3.7%)	Lower respiratory infections (3.8%)	COPD (4.4%)	COPD (4.7%)	COPD (3.8%)
9	Trachea/bronchi/lung (3.7%)	Interpersonal violence (3.4%)	Lower respiratory infections (3.4%)	Diabetes mellitus (3.7%)	Diabetes mellitus (4.0%)	Lower respiratory infections (3.8%)	Trachea/bronchi/lung (3.7%)
10	Lower respiratory infections (3.0%)	Diabetes mellitus (2.6%)	COPD (3.1%)	Trachea/bronchi/lung (3.6%)	Trachea/bronchi/lung (3.5%)	Trachea/bronchi/lung (3.6%)	Lower respiratory infections (3.5%)

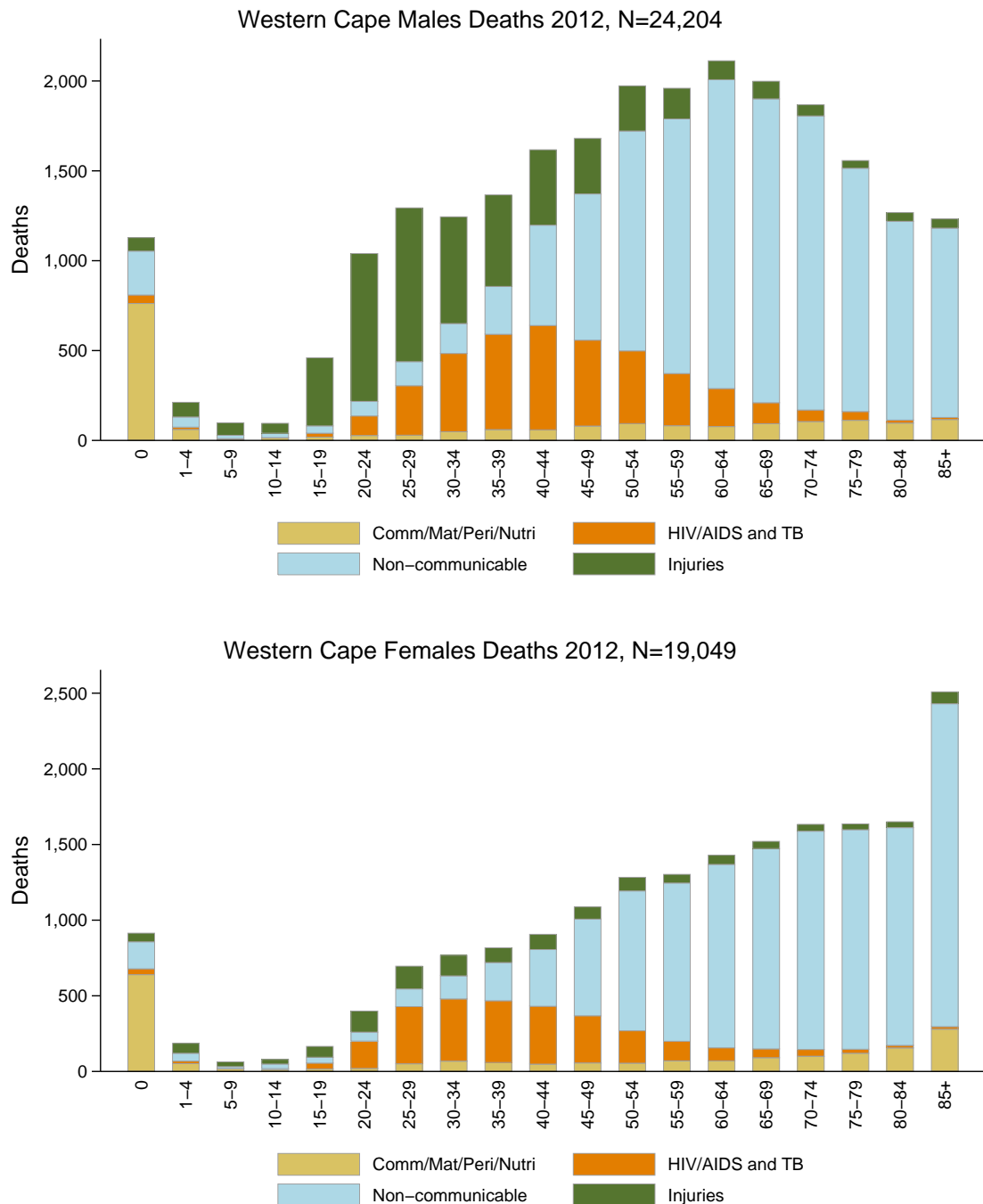
Figure 3.7: League table of leading causes of premature mortality, Western Cape districts 2012

## 4 Cause-specific mortality rates

### 4.1 Broad Causes

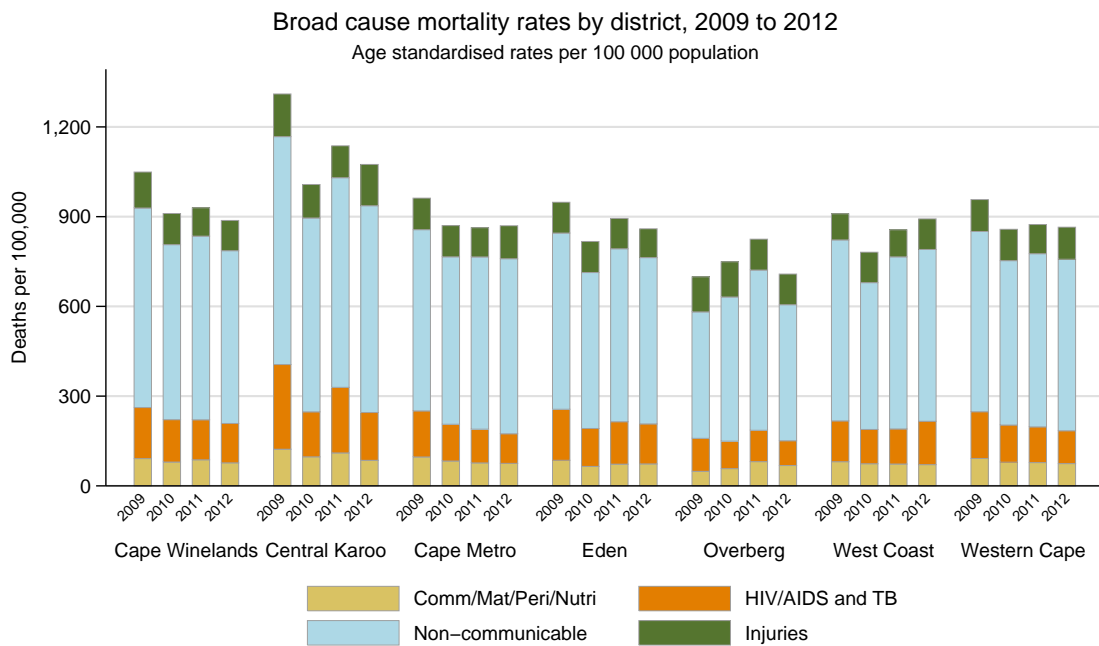
#### 4.1.1 Age-specific deaths by broad cause and sex

Non-communicable diseases accounted for the majority of deaths in adults 35 years and older (Figure 4.1). Injuries accounted for a higher proportion of male deaths compared to female deaths, peaking between 15 and 35 years of age. HIV/AIDS deaths accounted for a higher proportion of deaths in younger (20-29 years) females compared to males of the same age.



**Figure 4.1: Age-specific deaths by broad cause and sex, Western Cape 2012**

## 4.1.2 District comparison of age-standardised rates (ASR) by broad causes 2009-2012



**Figure 4.2: Age-standardised rates (per 100,000) by broad cause and year, Western Cape districts**

Age-standardised mortality rates (ASR) are shown by broad cause groups for 2009 to 2012 for each district in Figure 4.2, and the values are provided in Table 4.1. The results show an overall decline in all Cause ASRs between 2009 and 2012 in all districts, with the exception of the Overberg district. Non-communicable diseases, HIV and TB, and Comm/Mat/Peri/Nutr ASRs, in the Cape Metropole District declined each year but injury ASRs have increased above 2009 (and 2010) rates despite a slight decline in 2011. In Overberg, Comm/Mat/Peri/Nutr and non-communicable ASRs have both increased above 2009 figures, as have HIV/AIDS and TB and injury ASRs in West Coast. It is important to note that deaths in 2009 were adjusted to the numbers reported by Stats SA, while no adjustment was made in subsequent years. As a result, some of the year on year fluctuations in ASRs can be ascribed to varying completeness of the deaths over the years.

**Table 4.1: Age-standardised rates (per 100,000) by broad cause and year, Western Cape districts**

	Cape Winelands	Central Karoo	Cape Metro	Eden	Over-berg	West Coast	Western Cape
<b>Comm/Mat/Peri/Nutr</b>							
2009	91.2	122.5	96.6	85.4	48.6	80.8	91.5
2010	79.5	97.1	83.0	64.9	57.7	74.0	79.0
2011	87.1	110.1	76.6	72.5	81.0	73.0	77.8
2012	76.9	85.3	75.1	73.4	67.9	71.0	74.4
<b>HIV/AIDS and TB</b>							
2009	170.5	283.1	154.0	170.6	110.2	136.3	156.3
2010	141.8	150.3	122.9	126.8	91.7	114.6	124.2
2011	133.8	219.3	112.8	141.9	104.8	117.2	119.4
2012	131.5	159.9	99.1	133.7	83.0	144.9	109.8
<b>Non-communicable</b>							
2009	667.0	762.1	605.9	589.1	422.8	605.1	602.5
2010	585.2	648.1	559.8	521.4	482.0	490.9	549.8
2011	614.0	700.8	575.9	578.3	535.7	575.4	579.0
2012	577.7	691.7	585.2	556.1	454.8	574.4	573.3
<b>Injuries</b>							
2009	120.3	142.6	105.4	102.9	117.3	87.3	106.7
2010	104.0	111.9	104.3	103.8	117.7	101.7	104.7
2011	94.7	106.7	97.5	101.2	103.2	90.5	97.5
2012	101.0	137.9	110.2	96.3	102.4	102.5	107.1
<b>All causes</b>							
2009	1 049.1	1 310.2	961.8	948.1	698.8	909.5	957.0
2010	910.5	1 007.4	870.0	817.0	749.1	781.1	857.7
2011	929.5	1 136.9	862.9	894.0	824.7	856.1	873.6
2012	887.2	1 074.6	869.6	859.5	708.1	892.7	864.7

#### 4.1.3 Sub-district comparison of age-standardised rates (ASR) by broad cause

A sub-district comparison of age standardised rates by broad cause are shown in Table 4.2. These need to be interpreted cautiously as the differences in death rates at a sub-district level may be influenced by a number of factors, including variations in the completeness in the data, small number of deaths and uncertainties in the estimates of the population age distribution. In summary:

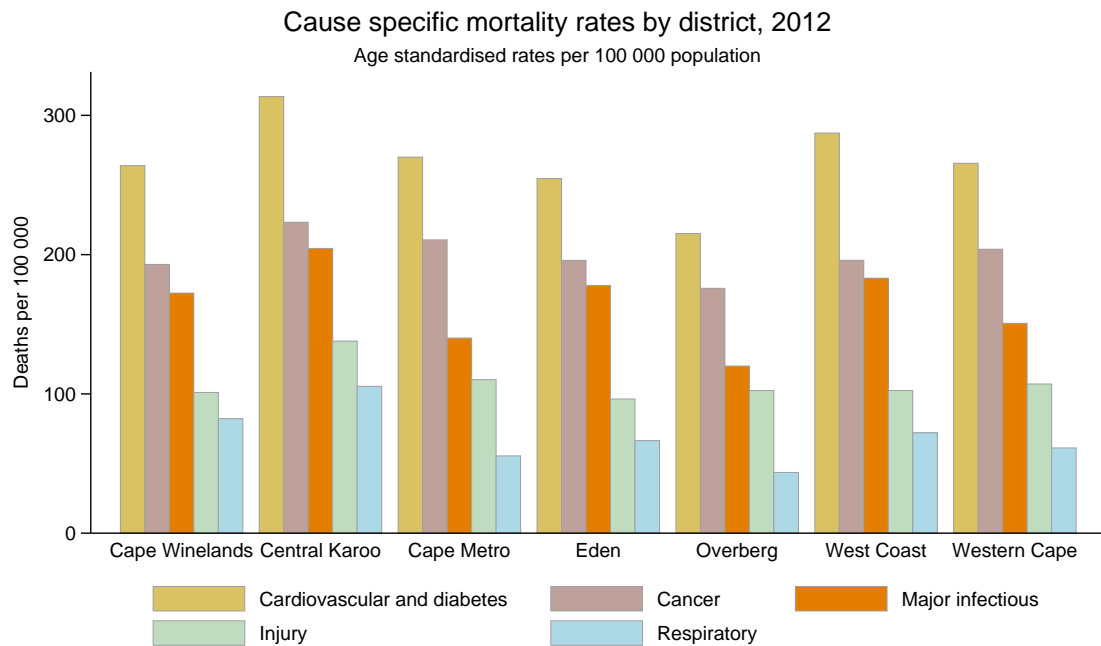
- Comm/Mat/Peri/Nutr ASR was highest in Breede Valley followed by Khayelitsha and Oudtshoorn. The lowest ASRs were in Swellendam, Knysna, and Bitou.
- HIV and TB ASRs were highest in Matzikama followed by Khayelitsha and Beaufort West. Swellendam, Southern and Overstrand had the lowest HIV and TB ASR.
- Non-communicable disease ASR was highest in Prince Albert followed by Cederberg and Tygerberg. Swellendam, Bitou and Knysna had the lowest ASR for non-communicable diseases.
- Injury deaths were considered to be complete because they were obtained from mortuaries. Thus, injury ASRs were considered to provide an accurate reflection of the situation. Prince Albert had the highest injury ASR followed by Cederberg and Khayelitsha. Bergrivier, Bitou and Southern had the lowest injury ASRs.
- Cederberg had the highest all-cause ASR followed by Prince Albert and Breede Valley, with Swellendam, Bitou and Overstrand having the lowest.

**Table 4.2: Sub-district comparison of age-standardised rates by broad cause, Western Cape 2012**

Sub-district	Comm/Mat/ Peri/Nutri	HIV/AIDS and TB	Non- communicable	Injuries	Total
Witzenberg	98.2	151.0	620.2	100.0	969.4
Drakenstein	60.0	108.2	571.7	104.1	844.0
Stellenbosch	54.7	134.1	486.1	82.8	757.8
Breede Valley	115.5*	163.4	664.6	116.7	1 060.2
Langeberg	66.5	114.3	544.6	104.8	830.2
<b>Cape Winelands</b>	<b>76.9</b>	<b>131.5</b>	<b>577.7</b>	<b>101.0</b>	<b>887.2</b>
Laingsburg	59.2	87.9	627.8	205.7	980.6
Prince Albert	68.5	98.7	790.1*	212.2*	1 169.4
Beaufort West	95.4	190.0	681.2	108.4	1 075.0
<b>Central Karoo</b>	<b>85.3</b>	<b>159.9</b>	<b>691.4</b>	<b>137.9</b>	<b>1074.6</b>
CT Eastern	71.9	117.1	580.4	110.1	879.5
CT Khayelitsha	113.7	209.0	543.5	153.4	1 019.6
CT Klipfontein	87.6	132.3	666.9	141.4	1 028.2
CT Mitchells Plain	69.9	107.6	640.1	97.0	914.6
CT Northern	65.1	82.2	411.8	94.5	653.6
CT Southern	60.3	51.3	552.6	78.8	743.1
CT Tygerberg	75.0	89.9	707.7	107.2	979.8
CT Western	78.6	74.7	553.2	116.4	823.0
<b>Cape Metro</b>	<b>75.1</b>	<b>99.1</b>	<b>585.2</b>	<b>110.2</b>	<b>869.6</b>
Kannaland	69.0	155.8	699.0	123.0	1 046.7
Hessequa	53.3	78.3	547.1	82.9	761.6
Mossel Bay	84.8	160.6	548.3	118.1	911.8
George	76.1	151.2	594.3	100.1	921.7
Oudtshoorn	98.8	155.6	668.4	91.4	1 014.3
Bitou	51.1	75.7	374.9	76.5	578.2
Knysna	46.3	105.5	408.6	85.4	645.9
<b>Eden</b>	<b>73.4</b>	<b>133.7</b>	<b>556.1</b>	<b>96.3</b>	<b>859.5</b>
Theewaterskloof	88.7	122.5	596.1	119.0	926.4
Overstrand	65.3	63.2	420.8	94.9	644.2
Cape Agulhas	82.6	67.7	447.7	90.9	689.0
Swellendam	26.9	40.6	281.8	84.5	433.7
<b>Overberg</b>	<b>67.9</b>	<b>83.0</b>	<b>454.8</b>	<b>102.4</b>	<b>708.1</b>
Matzikama	65.2	225.9*	565.0	128.2	984.3
Cederberg	72.9	183.1	749.0	192.8	1 197.8*
Bergrivier	79.2	97.0	484.6	60.6	721.4
Saldanha Bay	76.0	135.6	575.8	93.9	881.3
Swartland	68.3	117.4	563.8	79.2	828.6
<b>West Coast</b>	<b>71.0</b>	<b>144.9</b>	<b>574.4</b>	<b>102.5</b>	<b>892.7</b>
<b>Western Cape</b>	<b>74.4</b>	<b>109.8</b>	<b>573.3</b>	<b>107.1</b>	<b>864.7</b>

\*Indicates Sub-district with the highest ASR per broad cause category

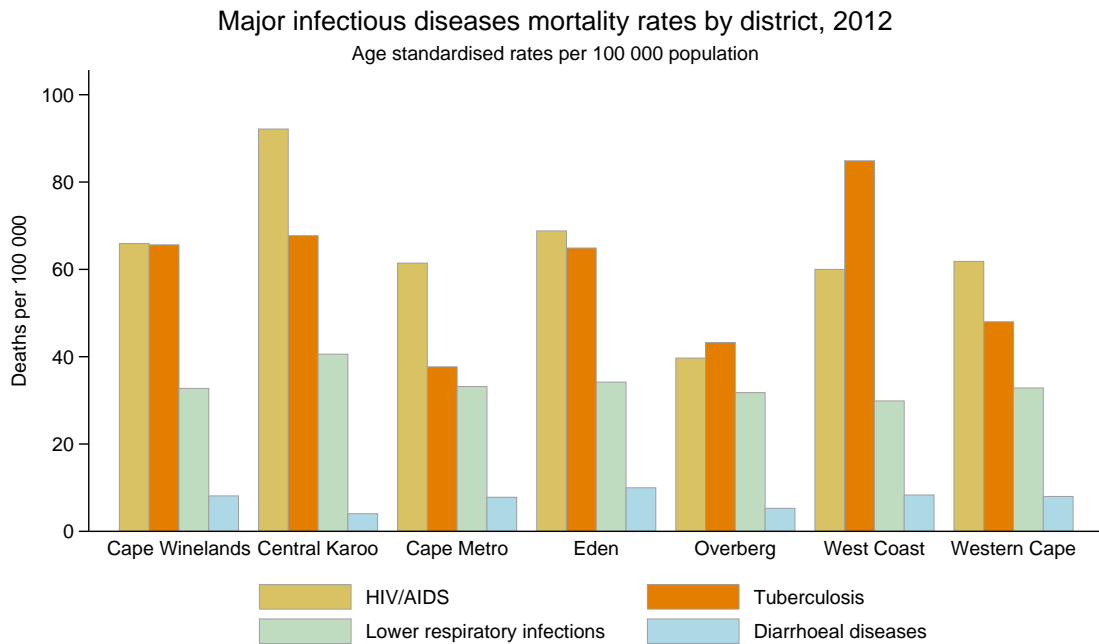
## 4.2 Major causes



**Figure 4.3: Major disease mortality rates by district, Western Cape 2012**

Cause-specific mortality rates for selected groupings of 5 major burden causes are presented to overcome the problem of misclassification of causes of death. Cardiovascular and diabetes rates, and major infectious diseases show marked variation across districts, whilst injury mortality rates are more consistent. Cardiovascular and diabetes mortality rates were highest in Central Karoo and West Coast, and lowest in Overberg. Cancer and infectious disease death rates were highest in Central Karoo, and lowest in Overberg.

## 4.2.1 Infectious diseases

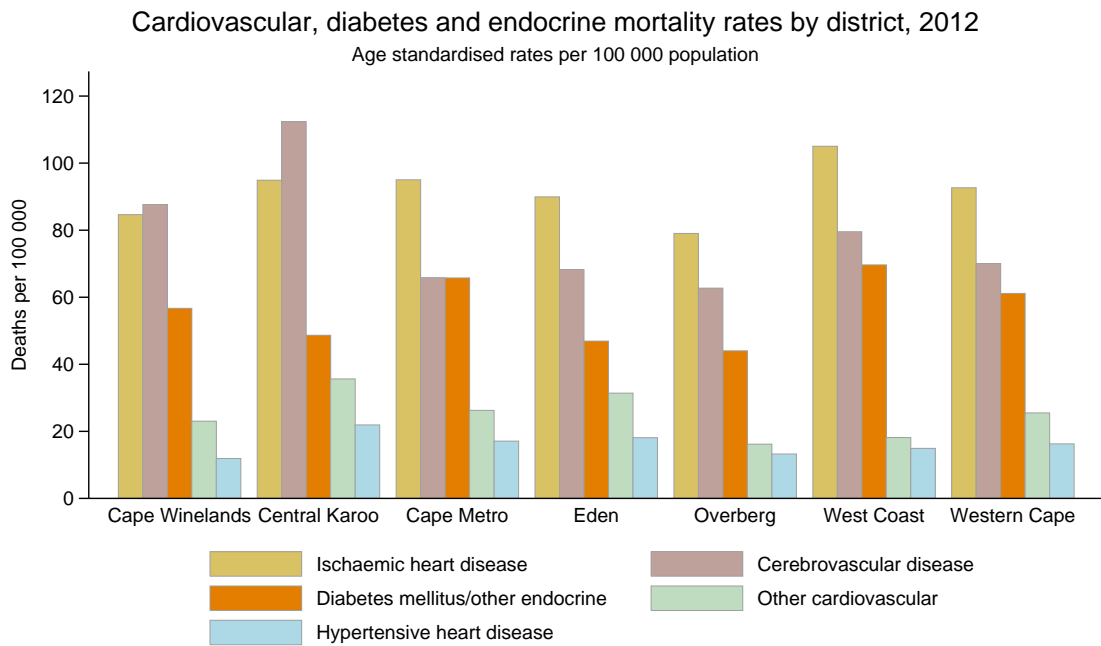


**Figure 4.4: Infectious disease mortality rates by district, Western Cape 2012**

HIV mortality rates were highest in Central Karoo followed by Eden and Cape Winelands. TB death rates were highest in West Coast followed by Central Karoo, Cape Winelands and Eden. Lower respiratory infection rates were highest in Central Karoo followed by Cape Winelands, and lowest in West Coast.



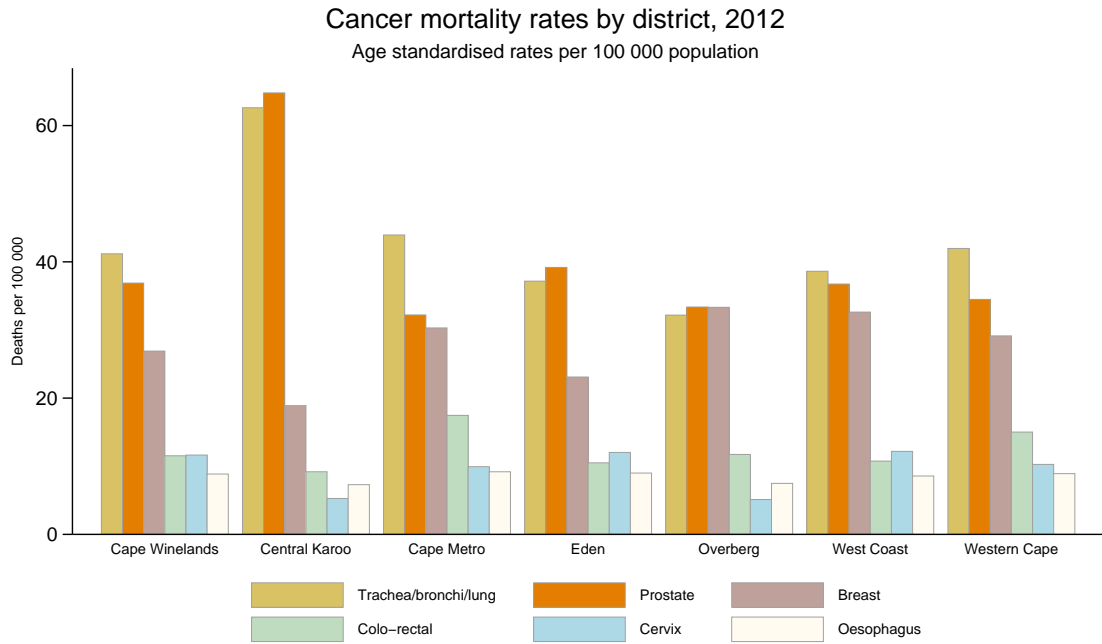
## 4.2.2 Cardiovascular, diabetes and endocrine diseases



**Figure 4.5: Cardiovascular, diabetes and endocrine mortality rates by district, Western Cape 2012**

Ischaemic heart disease mortality rates were highest in West Coast and lowest in Overberg, whilst death rates due to cerebrovascular disease were highest in Central Karoo followed by Cape Winelands, and lowest in the Overberg. Diabetes and endocrine mortality rates were highest in West Coast and lowest in Overberg.

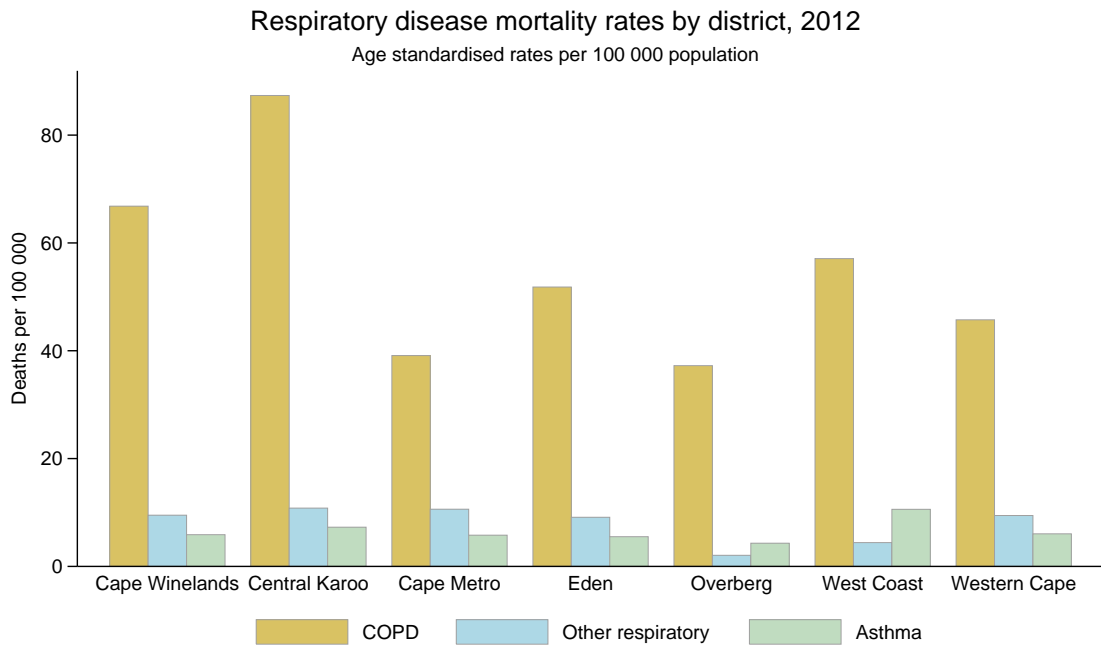
### 4.2.3 Cancers



**Figure 4.6: Cancer mortality rates by district, Western Cape 2012**

Lung cancer mortality rates were highest in Central Karoo followed by Cape Metro, and lowest in Overberg. Prostate cancer mortality rates were highest in Central Karoo followed by Eden, and lowest in Cape Metro. Breast cancer mortality rates were highest in West Coast followed by Overberg, and lowest in Central Karoo. Cervical, colo-rectal and oesophageal cancer mortality rates showed little variation across districts.

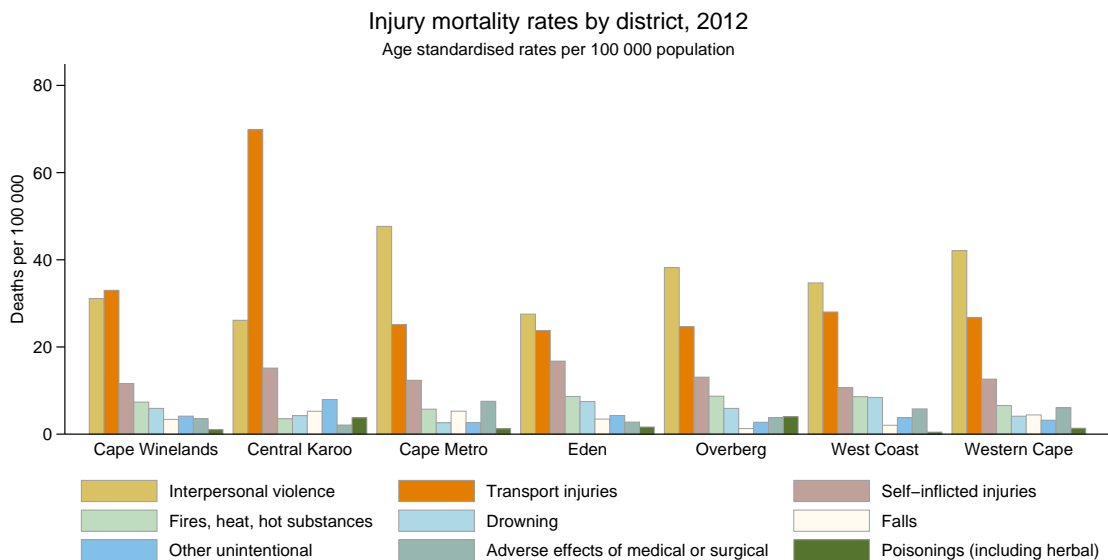
## 4.2.4 Respiratory diseases



**Figure 4.7: Respiratory disease mortality rates by district, Western Cape 2012**

Chronic obstructive pulmonary disease (COPD) death rates were highest in Central Karoo followed by Cape Winelands, and lowest in Cape Metro. Asthma mortality rates showed little variation across districts.

## 4.2.5 Injuries



**Figure 4.8: Injury mortality rates by district, Western Cape 2012**

Transport injury mortality rates were highest in Central Karoo followed by Cape Winelands, and lowest in Eden. Interpersonal violence was highest in Cape Metro and lowest in Central Karoo and Eden districts.

### 4.3 Deaths from vaccine-preventable and notifiable diseases

Vaccine-preventable and notifiable diseases accounted for 41 deaths in Western Cape in 2012 (Table 4.3). These were mainly due to hepatitis B (19), influenza (11) and meningococcal infections (8) (Table 4.4). Measles accounted for 1 death and there were 2 deaths due to malaria.

**Table 4.3: Vaccine-preventable and notifiable deaths by age group, Western Cape 2012**

Age	Hepatitis B (B16)	Meningococcal infection (A39)	Malaria (B50 – B54)	Measles (B05)	Influenza (H1N1) (J09, J11)	Total
<1 yr	0	2	0	0	0	2
1–4 yr	0	1	0	0	1	2
5–14 yr	0	0	0	0	0	0
15–49 yr	14	3	1	0	1	19
50–69 yr	5	2	0	1	3	11
70+ yr	0	0	1	0	6	7
Total	19	8	2	1	11	41

**Table 4.4: Vaccine-preventable and notifiable deaths by cause and district, Western Cape 2012**

District	Hepatitis B (B16)	Meningococcal infection (A39)	Malaria (B50-B54)	Measles (B05)	Influenza (H1N1) (J09, J11)	Total
Cape Wine	3	2	0	0	1	6
Central Karoo	0	0	0	0	0	0
Cape Metro	10	6	2	1	9	28
Eden	4	0	0	0	0	4
Overberg	2	0	0	0	0	2
West Coast	0	0	0	0	0	1
Western Cape	19	8	2	1	11	41

## 5 Child mortality

### 5.1 Child deaths

There were 2,427 deaths reported in children under 5 years of age in 2012. Approximately half of all child deaths were certified at forensic mortuaries (mortuary certified), and 78% of these were natural deaths (Table 5.1). The place of death differed markedly by place of certification (Table 5.2); the majority of non-mortuary certified cases died in hospital (70.3%) whilst the majority of mortuary certified cases died at home (62.6%). Out of the 2,427 Western Cape child deaths only 919 (37%) occurred in hospitals in 2012.

**Table 5.1: Classification of cause of death by mortuary and non-mortuary certification, Western Cape 2012**

Place of certification	Mortuary certified		Non-Mortuary certified		Total	
	N	%	N	%	N	%
Natural	946	78.2	1210	99.4	2156	88.8
Unnatural	264	21.8	7	0.6	271	11.2
Total	1,210	100.0	1,217	100.0	2,427	100.0

**Table 5.2: Place of death by mortuary and non-mortuary certification, Western Cape 2012**

Place of death	Mortuary certified		Non-mortuary certified		Total	
	N	%	N	%	N	%
DOA hospital	20	1.7	51	4.2	71	2.9
ER/Outpatient hospital	7	0.6	27	2.2	34	1.4
Home	<b>758</b>	<b>62.6</b>	71	5.8	829	34.2
Inpatient hospital	54	4.5	<b>855</b>	<b>70.3</b>	909	37.5
Nursing home	5	0.4	5	0.4	10	0.4
Other	177	14.6	5	0.4	182	7.5
Unknown	189	15.6	203	16.7	392	16.2
<b>Total</b>	<b>1,210</b>	<b>100.0</b>	<b>1,217</b>	<b>100.0</b>	<b>2,427</b>	<b>100.0</b>

### 5.2 Child mortality rates

Sources of information on live births and child deaths in the Western Cape include Statistics SA<sup>1,2</sup> birth and death registration data, WCDoH and City of Cape Town data (LMSS; live births occurring in facilities from SINJANI). These provide different estimates of child mortality rates, particularly at district and sub-district level (see Table 5.3). Due to this uncertainty, it was decided to present a range of infant and child mortality rates from these different sources of data. In addition, estimates of infant mortality rates (IMR) and child mortality rates (U5MR) were made using an abridged lifetable (deaths LMSS and population estimates Centre for Actuarial Research (CARE)). These estimates suggest that in 2012, the IMR for the Western Cape ranged between 18.6 and 20.4 deaths per 1,000 live births, and U5MR ranged between 22.6 and 23.7 per 1,000 live births.

<sup>1</sup>Statistics South Africa. Mortality and causes of death in South Africa, 2012. Findings from death notification. Statistical release P0309.3. Pretoria: Statistics South Africa, 2014.

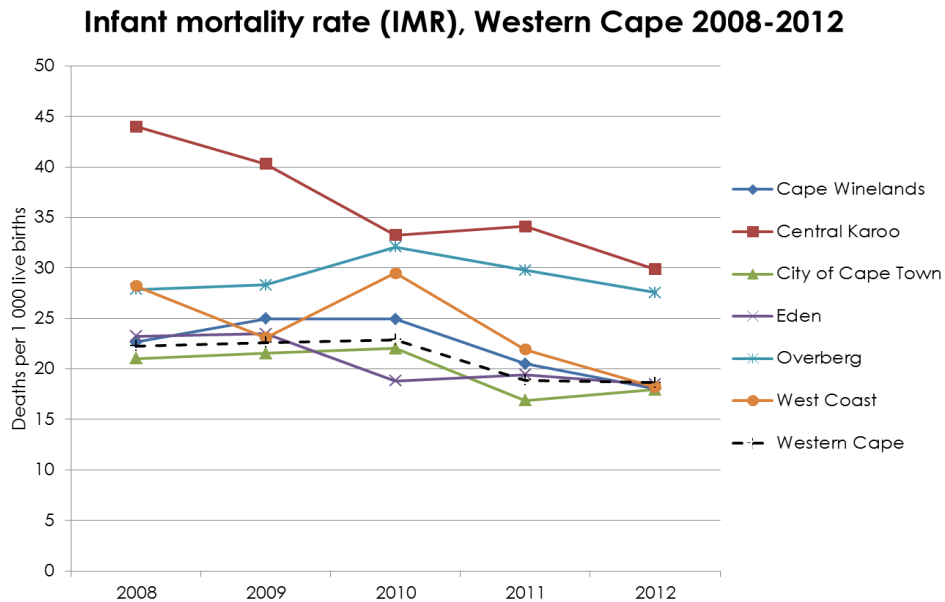
<sup>2</sup>Statistics South Africa. Recorded live births, 2013. P0305, Pretoria: Statistics South Africa, 2015

**Table 5.3: Estimates of IMR and U5MR, Western Cape districts 2012**

Districts	IMR per 1,000 live births			U5MR per 1,000 live births		
	SINJANI	Stats SA	Lifetable	SINJANI	Stats SA	Lifetable
Cape Winelands	19.5	18.0	22.1	22.2	25.9	26.0
Central Karoo	31.7	29.9	33.3	35.9	33.1	36.2
Cape Metro	*18.0	18.0	19.2	*21.2	21.6	22.1
Eden	17.0	18.5	18.4	21.6	23.3	22.3
Overberg	26.7	27.6	30.6	34.3	33.7	35.5
West Coast	25.9	18.2	27.1	31.1	23.0	30.6
<b>Western Cape</b>	<b>18.9</b>	<b>18.6</b>	<b>20.4</b>	<b>22.6</b>	<b>22.6</b>	<b>23.7</b>

\*City of Cape Town live births

Trends in IMR and U5MR between 2008 and 2012 for each district are shown in Figures 5.1 and 5.2 (Appendix Table A.10) using Stats SA vital registration data (Appendix Table A.9), as these data were available for the period. Overall, child mortality rates have continued to decline year on year in the Western Cape.



**Figure 5.1: Trends in infant mortality rate by district, Western Cape 2008-2012**

### Under 5 Mortality Rate (U5MR), Western Cape 2008-2012

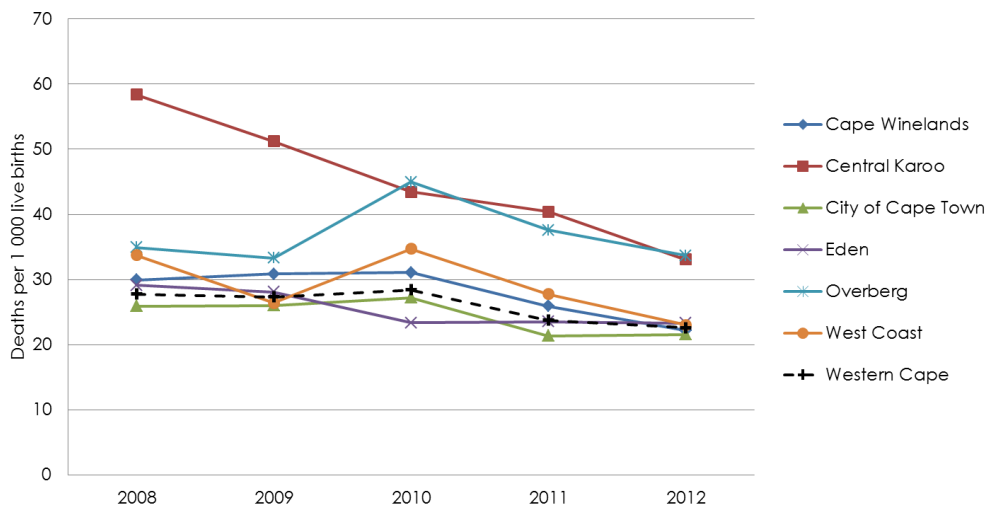
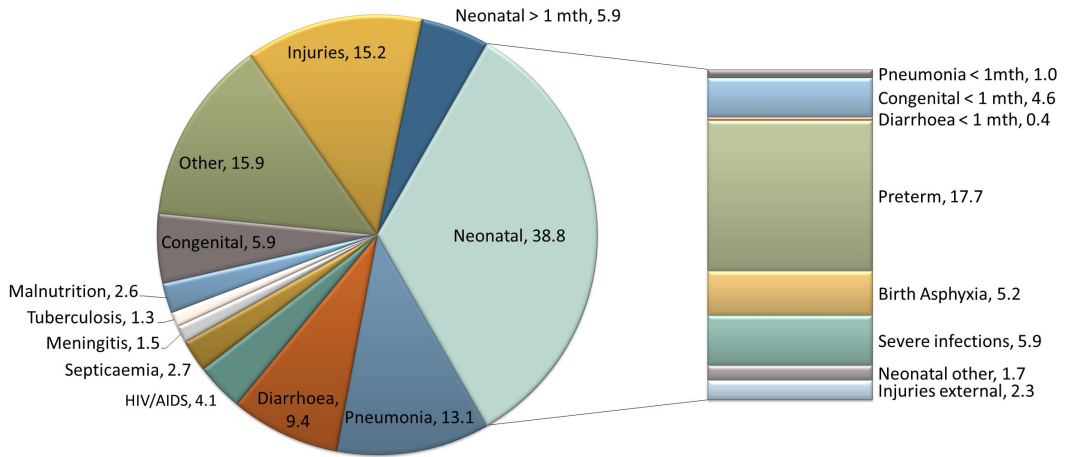


Figure 5.2: Trends in under 5 mortality rate by district, Western Cape 2008-2012

### 5.3 Causes of child deaths

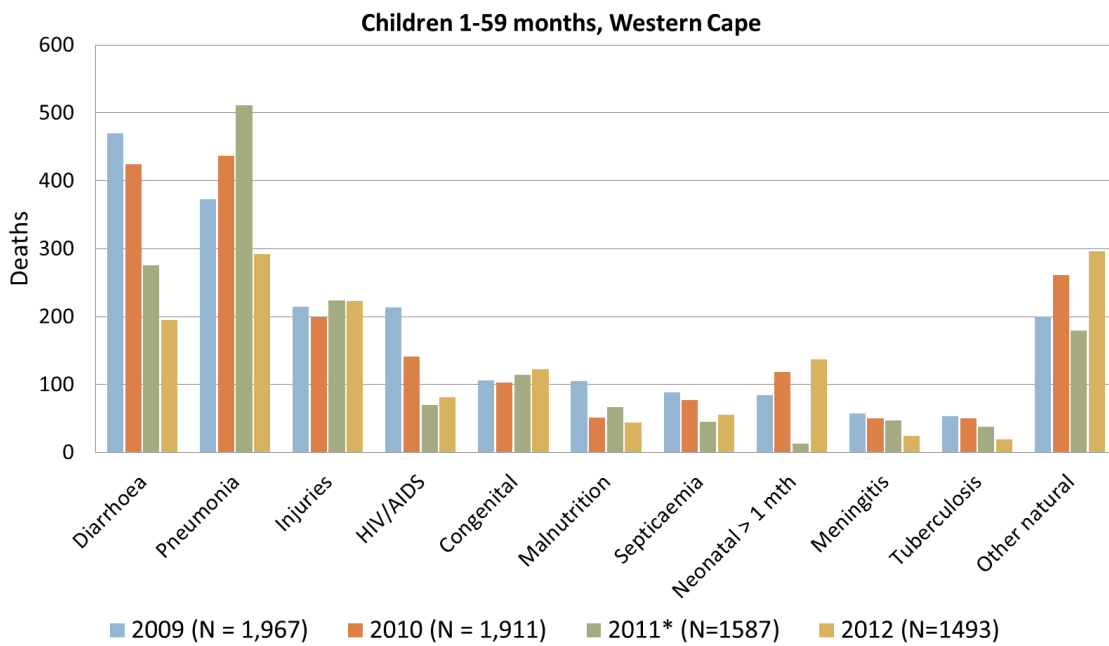
The mortality profile for children under 5 years of age, after redistribution of the ill-defined causes of death, is shown in Figure 5.3. In 2012, neonatal causes of death, which are classified to P-codes in ICD-10, accounted for 39% of all deaths under 5 years. Prematurity was the leading cause of death accounting for over 17% of deaths followed by injuries (15%), pneumonia (13%) and diarrhoea (9%). It should be noted that HIV is likely to be under reported as a cause of death in these data with probable misattribution of HIV-related deaths to pneumonia and diarrhoea.

**Western Cape Child Mortality 2012 (N=2,427)**



**Figure 5.3: Causes of death in children under 5 years, Western Cape 2012**

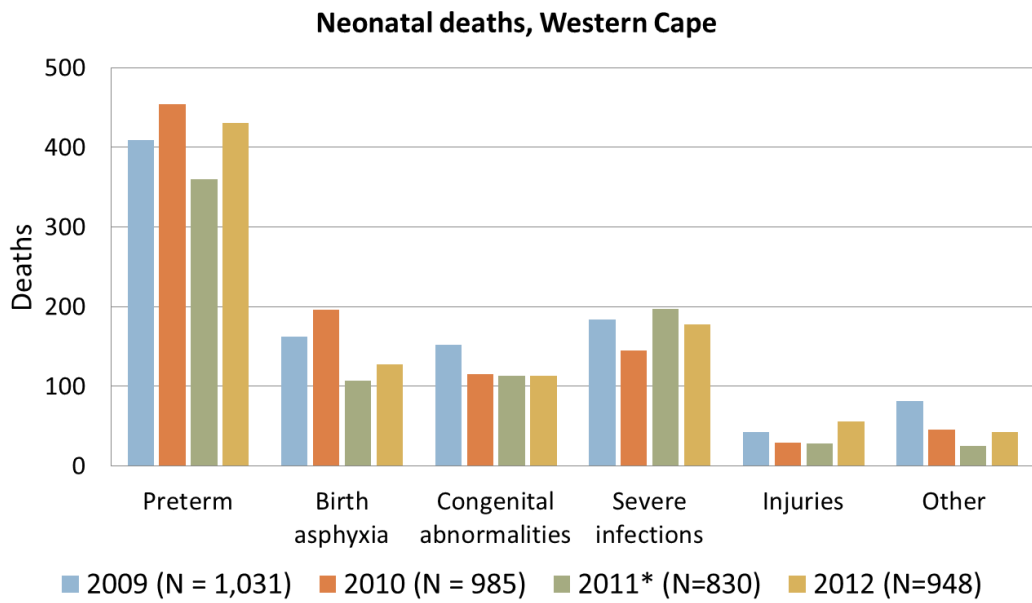
The change in causes of death between 2009 and 2012 in neonates and children from 1 to 59 months are shown in Figure 5.4 and Figure 5.5 respectively. Increased case finding from mortuary records in 2011 are likely to explain the decrease in pneumonia deaths in 2012.



**Figure 5.4: Change in child causes of death, Western Cape 2009 to 2012**

\*Data for 2011 likely affected by the review of all ill-defined child deaths reported in this year





**Figure 5.5: Change in neonatal causes of death, Western Cape 2009 to 2012**  
 \*Data for 2011 likely affected by the review of all ill-defined child deaths reported in this year

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## 6 Summary and recommendations

Completeness of death data has continued to improve, especially for children under five years of age. All-cause mortality and child mortality has continued to decline in the Western Cape mainly due to declines in HIV and TB, maternal, perinatal and nutritional causes and non-communicable diseases. However, of concern, is the increase in injury mortality rates noted in all districts except Eden and Overberg in 2012.

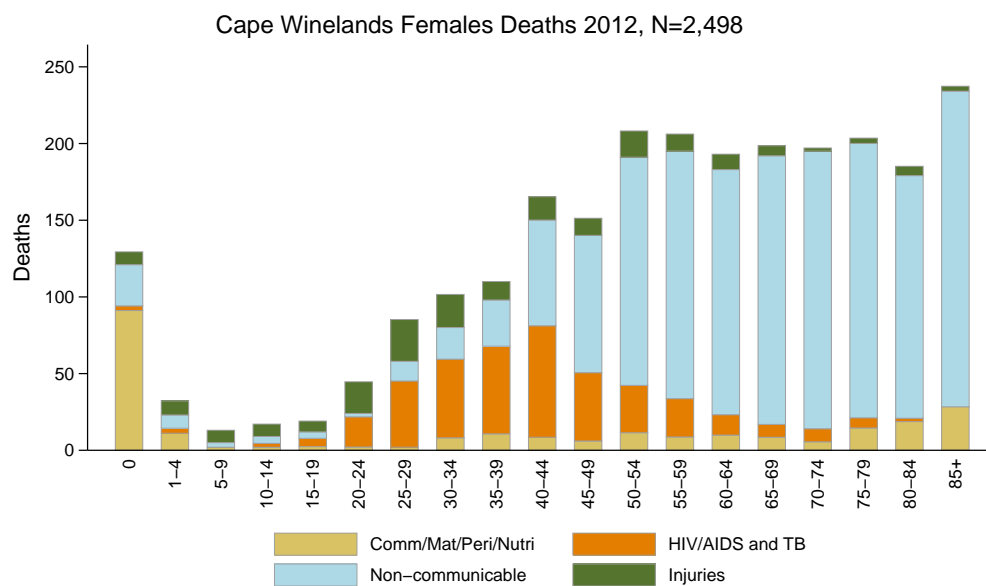
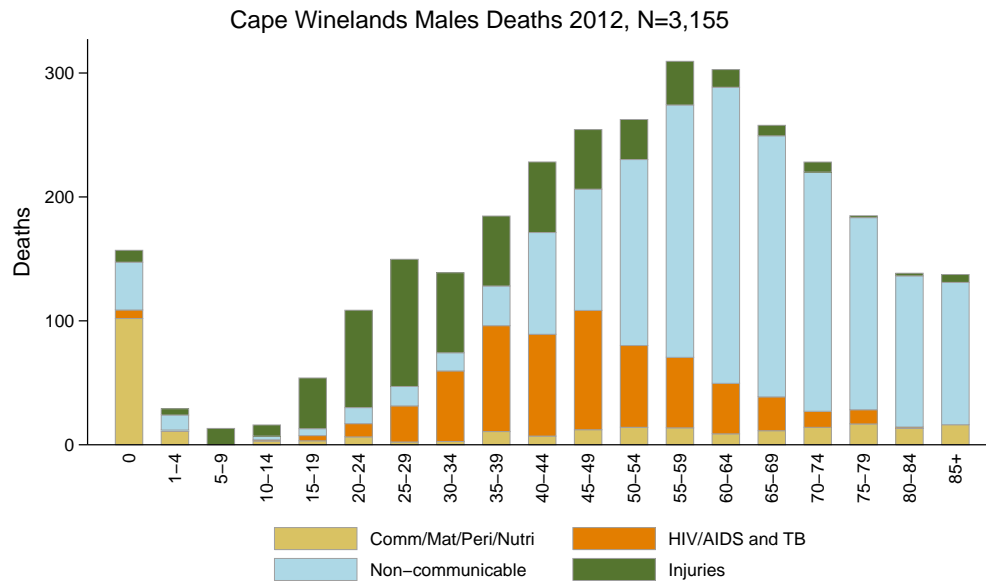
Despite further declines in adult HIV/AIDS mortality, it remains the leading cause of premature mortality, highlighting the need to strengthen intersectoral prevention strategies and the health service response. Tuberculosis mortality has also declined but remains high. Preliminary investigations linking HIV/AIDS and TB deaths with disease registers and laboratory data, have identified missed opportunities in the diagnosis and treatment of HIV and TB cases. This indicates the need for interventions to improve health seeking behaviour relating to TB and HIV and more diligent case finding by clinicians so that treatment can be initiated as early as possible. In addition, recent evidence suggests that smoking cessation would reduce TB mortality as well as mortality due to NCDs. Health promotion on quitting smoking should be introduced at least at all TB clinics. Mortality due to interpersonal violence has increased and is now the second leading cause of premature mortality. This needs further investigation and intersectoral strategies aimed at preventing violence need to be strengthened. Whilst child mortality is declining the 2012 child mortality data confirm the finding from 2011, namely that a large proportion of preventable child deaths such as pneumonia, occur at home and that integrated maternal and child initiatives (IMCI) need to be strengthened to prevent these deaths.

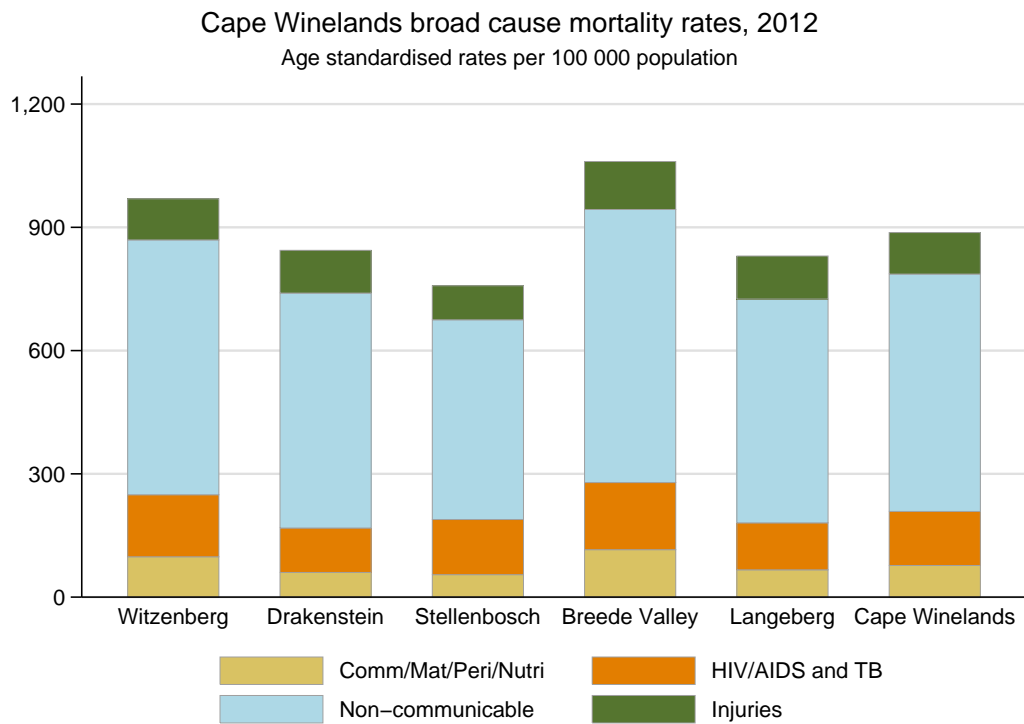
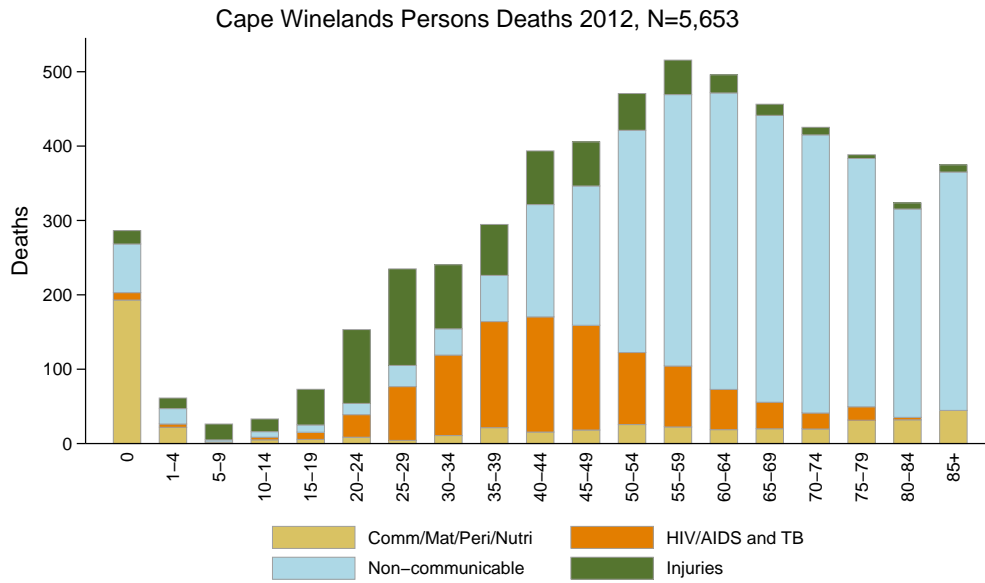
Unfortunately, new legislation introduced in 2014 has effectively shut down the Western Cape mortality surveillance system, as this prevents access to the cause of death information on the death notification to anyone other than Statistics South Africa. This is a great pity, as access to this information has assisted in providing more accurate mortality data at a lower geographic level than the vital registration system is able to do. In addition, this information is available within weeks allowing the health service to respond quickly where necessary and in so doing preventing further deaths.

## 7 District profiles

### 7.1 Cape Winelands

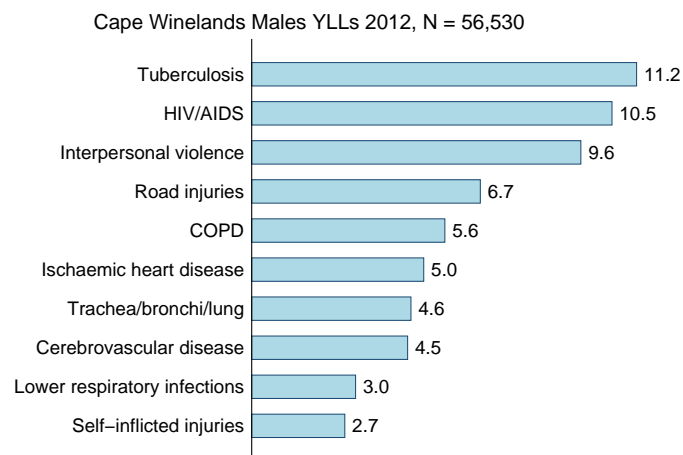
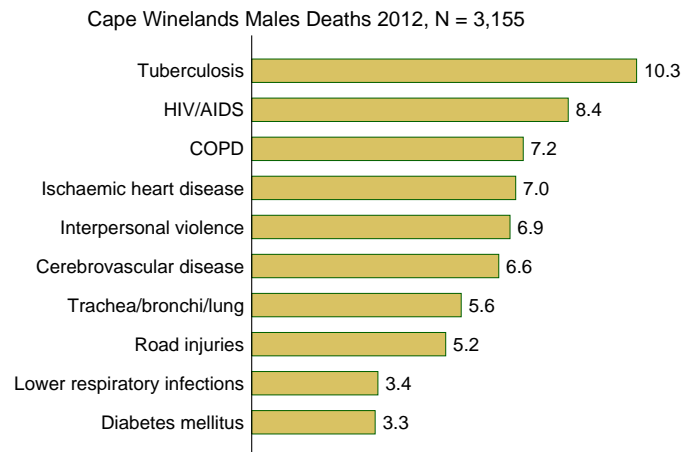
#### 7.1.1 Broad causes





**Figure 7.1: Cape Winelands age-standardised death rates per 100,000**

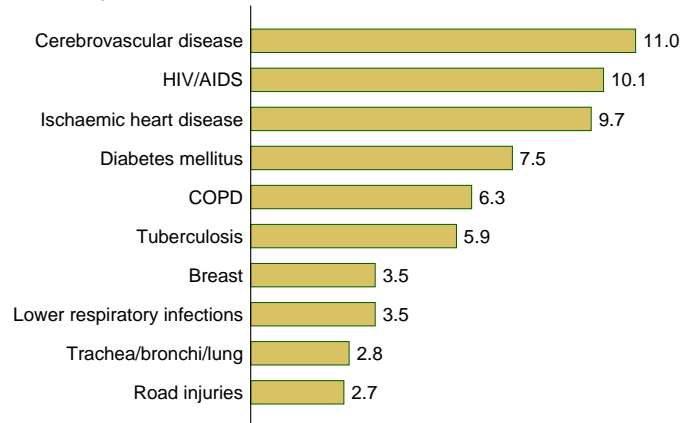
## 7.1.2 Leading causes of deaths and YLLs



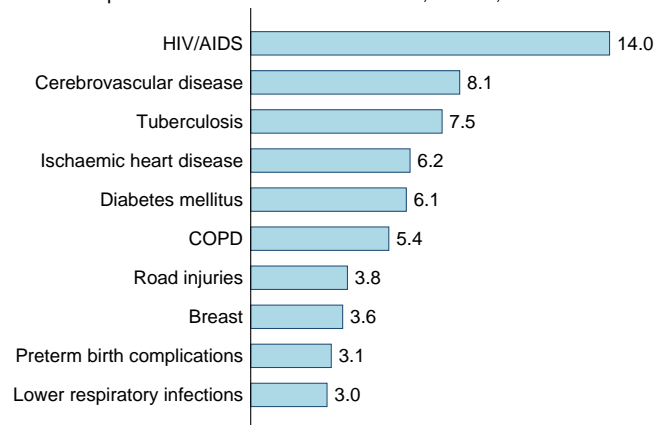
Cause of death	Deaths	%	Cause of death	YLLs	%
Tuberculosis	324	10.3	Tuberculosis	6,344	11.2
HIV/AIDS	266	8.4	HIV/AIDS	5,939	10.5
COPD	229	7.2	Interpersonal violence	5,425	9.6
Ischaemic heart disease	222	7.0	Road injuries	3,768	6.7
Interpersonal violence	217	6.9	COPD	3,184	5.6
Cerebrovascular disease	208	6.6	Ischaemic heart disease	2,836	5.0
Trachea/bronchi/lung	176	5.6	Trachea/bronchi/lung	2,625	4.6
Road injuries	163	5.2	Cerebrovascular disease	2,570	4.5
Lower respiratory infections	106	3.4	Lower respiratory infections	1,712	3.0
Diabetes mellitus	104	3.3	Self-inflicted injuries	1,535	2.7
Top 10 causes	2,016	63.9	Top 10 causes	35,805	63.3
Total	3,155	100.0	Total	56,530	100.0

**Table 7.1: Leading causes of death for Males, Cape Winelands 2012**

Cape Winelands Females Deaths 2012, N = 2,498



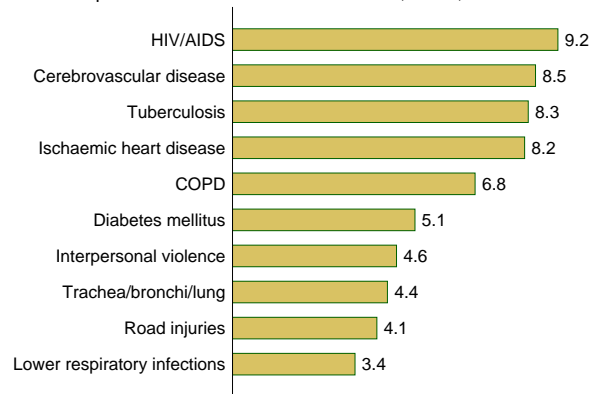
Cape Winelands Females YLLs 2012, N = 42,954



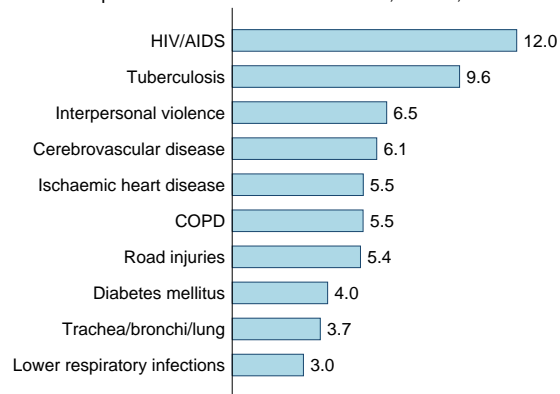
Cause of death	Deaths	%	Cause of death	YLLs	%
Cerebrovascular disease	274	11.0	HIV/AIDS	6,008	14.0
HIV/AIDS	251	10.1	Cerebrovascular disease	3,499	8.1
Ischaemic heart disease	242	9.7	Tuberculosis	3,204	7.5
Diabetes mellitus	186	7.5	Ischaemic heart disease	2,668	6.2
COPD	157	6.3	Diabetes mellitus	2,605	6.1
Tuberculosis	147	5.9	COPD	2,312	5.4
Breast	89	3.5	Road injuries	1,619	3.8
Lower respiratory infections	89	3.5	Breast	1,540	3.6
Trachea/bronchi/lung	70	2.8	Preterm birth complications	1,349	3.1
Road injuries	66	2.7	Lower respiratory infections	1,278	3.0
Top 10 causes	1,572	62.9	Top 10 causes	25,805	60.1
Total	2,498	100.0	Total	42,954	100.0

**Table 7.2: Leading causes of death for Females, Cape Winelands 2012**

Cape Winelands Persons Deaths 2012, N = 5,653



Cape Winelands Persons YLLs 2012, N = 99,484



Cause of death	Deaths	%	Cause of death	YLLs	%
HIV/AIDS	518	9.2	HIV/AIDS	11,946	12.0
Cerebrovascular disease	482	8.5	Tuberculosis	9,548	9.6
Tuberculosis	470	8.3	Interpersonal violence	6,486	6.5
Ischaemic heart disease	465	8.2	Cerebrovascular disease	6,069	6.1
COPD	386	6.8	Ischaemic heart disease	5,503	5.5
Diabetes mellitus	290	5.1	COPD	5,496	5.5
Interpersonal violence	261	4.6	Road injuries	5,387	5.4
Trachea/bronchi/lung	246	4.4	Diabetes mellitus	4,006	4.0
Road injuries	230	4.1	Trachea/bronchi/lung	3,698	3.7
Lower respiratory infections	195	3.4	Lower respiratory infections	2,990	3.0
Top 10 causes	3,543	62.7	Top 10 causes	61,131	61.4
Total	5,653	100.0	Total	99,484	100.0

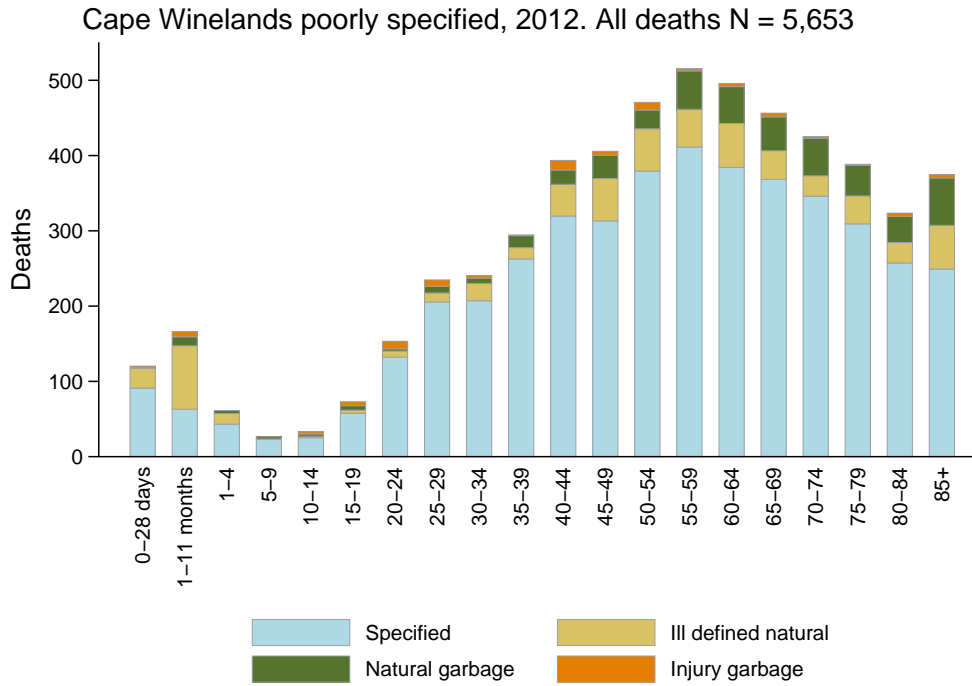
**Table 7.3: Leading causes of death for Persons, Cape Winelands 2012**

Rank	Witzenberg	Drakenstein	Stellenbosch	Breede Valley	Langeberg	Cape Winelands
1	HIV/AIDS (15.3%)	Tuberculosis (9.5%)	HIV/AIDS (13.2%)	HIV/AIDS (13.2%)	HIV/AIDS (11.4%)	HIV/AIDS (12.0%)
2	Tuberculosis (9.2%)	HIV/AIDS (8.9%)	Tuberculosis (12.0%)	Tuberculosis (8.9%)	Tuberculosis (8.7%)	Tuberculosis (9.6%)
3	Cerebrovascular disease (8.1%)	Ischaemic heart disease (7.7%)	Ischaemic heart disease (6.1%)	Interpersonal violence (7.0%)	Interpersonal violence (7.6%)	Interpersonal violence (6.5%)
4	COPD (7.6%)	Interpersonal violence (6.9%)	Road injuries (5.5%)	Cerebrovascular disease (5.8%)	Cerebrovascular disease (6.9%)	Cerebrovascular disease (6.1%)
5	Road injuries (6.7%)	Cerebrovascular disease (5.9%)	Interpersonal violence (5.1%)	COPD (5.4%)	COPD (5.6%)	Ischaemic heart disease (5.5%)
6	Interpersonal violence (5.6%)	Road injuries (5.5%)	Diabetes mellitus (4.8%)	Road injuries (5.1%)	Ischaemic heart disease (5.1%)	COPD (5.5%)
7	Trachea/bronchi/lung (4.4%)	COPD (5.5%)	Cerebrovascular disease (4.5%)	Trachea/bronchi/lung (4.1%)	Diabetes mellitus (4.2%)	Road injuries (5.4%)
8	Ischaemic heart disease (3.6%)	Diabetes mellitus (5.0%)	COPD (3.7%)	Ischaemic heart disease (4.1%)	Trachea/bronchi/lung (4.0%)	Diabetes mellitus (4.0%)
9	Preterm birth complications (3.1%)	Trachea/bronchi/lung (3.7%)	Lower respiratory infections (3.4%)	Lower respiratory infections (3.7%)	Road injuries (3.8%)	Trachea/bronchi/lung (3.7%)
10	Lower respiratory infections (3.0%)	Other respiratory (2.7%)	Preterm birth complications (2.9%)	Diabetes mellitus (3.1%)	Self-inflicted injuries (3.3%)	Lower respiratory infections (3.0%)

Figure 7.2: League table of leading causes of premature mortality, Cape Winelands 2012



### 7.1.3 Proportion ill-defined



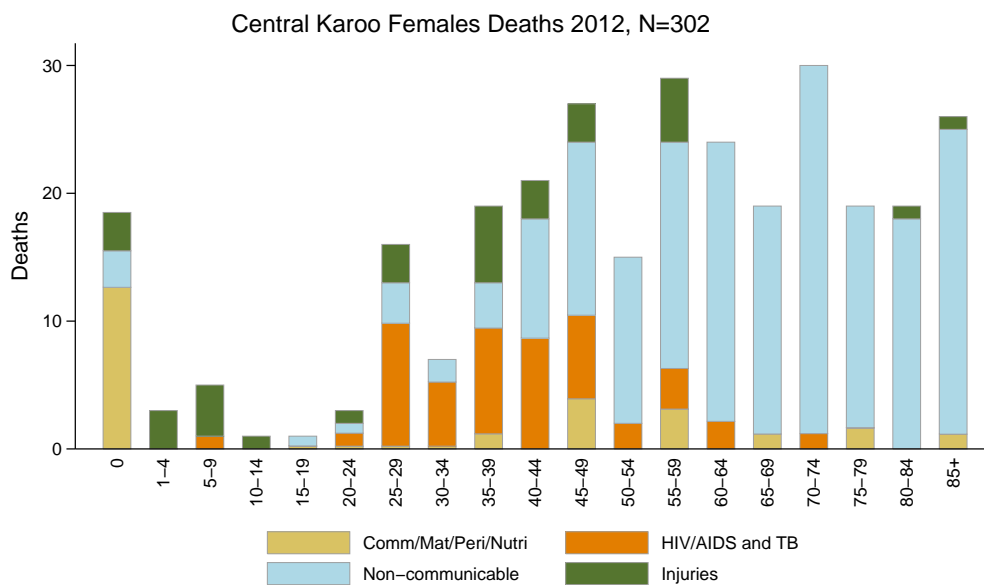
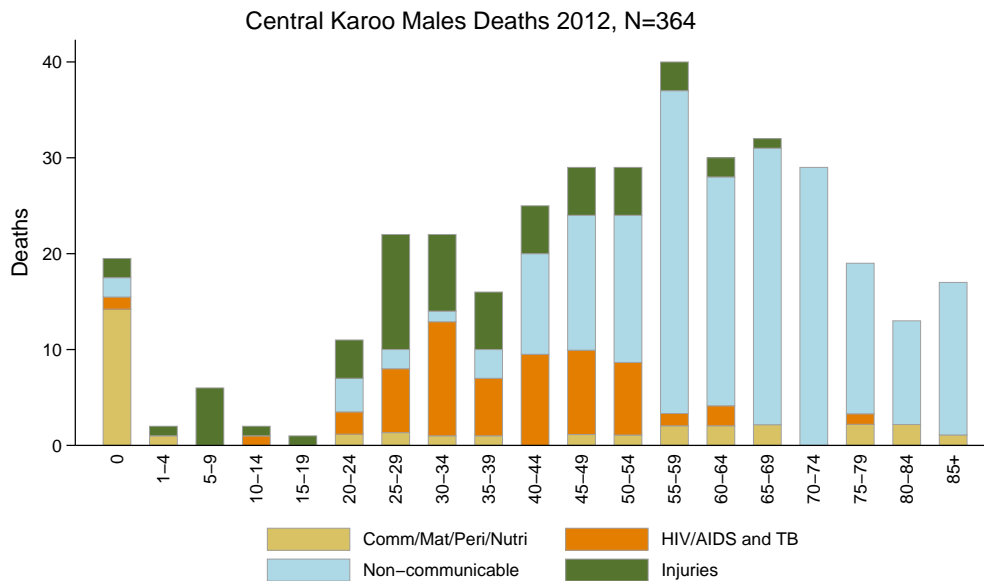
**Table 7.4: Cape Winelands quality of reporting, 2012**

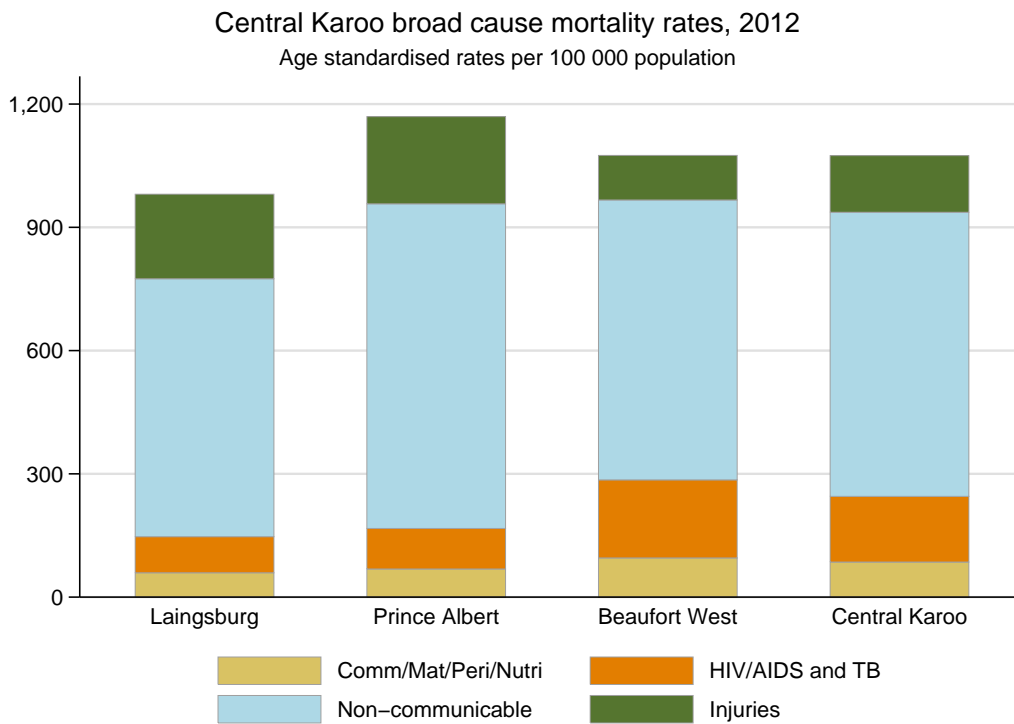
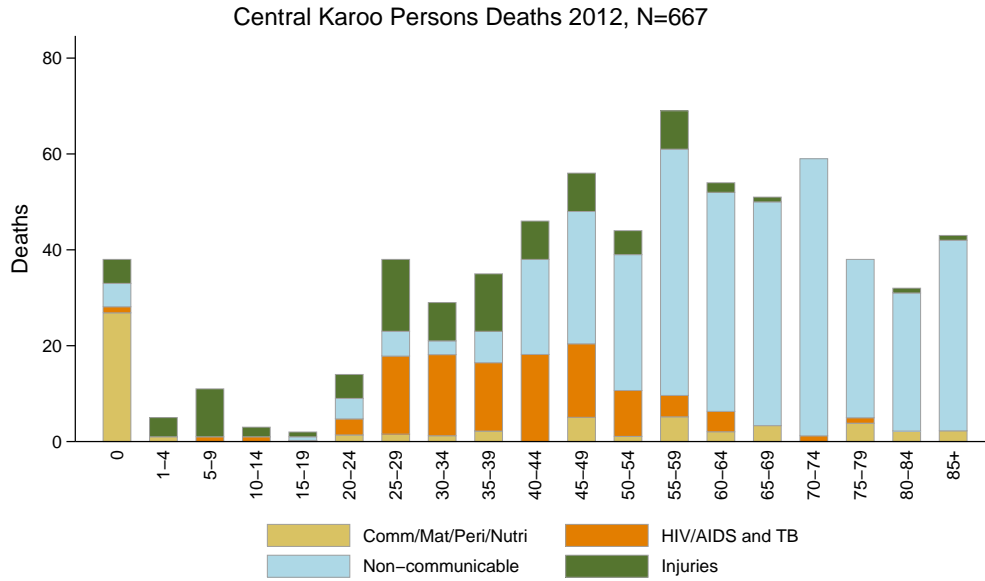
Age	Deaths	Ill def %	Garb (nat) %	Garb (inj) %	All Garb %
0-28 days	120	21.7	0.8	1.8	24.3
1-11 months	166	50.8	7.2	4.1	62.1
1-4	61	22.9	6.5	0.0	29.4
5-9	26	0.0	11.4	0.0	11.4
10-14	33	6.1	9.1	9.1	24.2
15-19	73	5.5	8.2	7.2	20.9
20-24	153	5.2	2.0	6.6	13.7
25-29	235	5.1	3.8	3.6	12.5
30-34	240	9.6	2.9	1.4	13.9
35-39	295	5.1	5.4	0.3	10.9
40-44	394	10.7	4.8	3.2	18.8
45-49	406	13.9	7.6	1.3	22.8
50-54	471	11.9	5.3	2.2	19.4
55-59	516	9.7	9.9	0.6	20.2
60-64	496	11.7	9.9	0.9	22.5
65-69	456	8.3	9.9	1.1	19.3
70-74	425	6.4	11.8	0.5	18.6
75-79	388	9.5	10.6	0.3	20.4
80-84	324	8.4	10.8	1.3	20.5
85+	375	15.5	16.8	1.2	33.5
All	5,653	11.3	8.4	1.6	21.3

## 7.2 Central Karoo

### 7.2.1 Broad causes

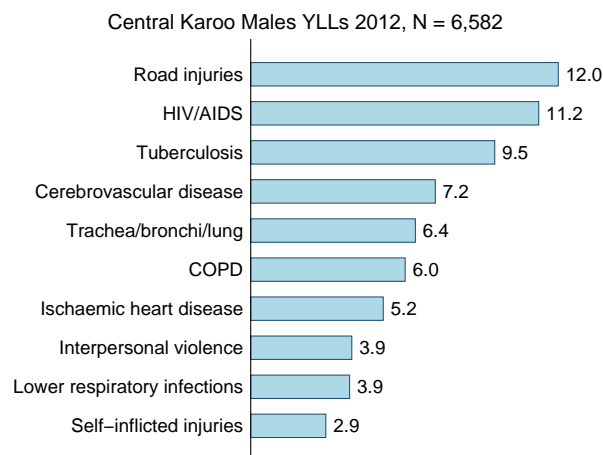
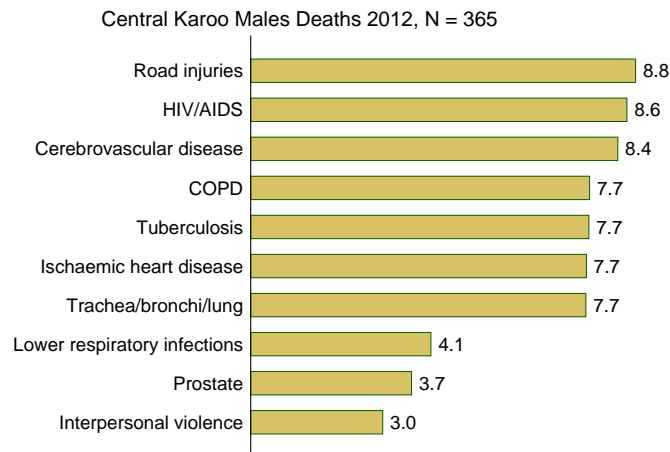
Interpret these results with caution as they are based on a small number of deaths.





**Figure 7.3: Central Karoo age-standardised rates per 100,000**

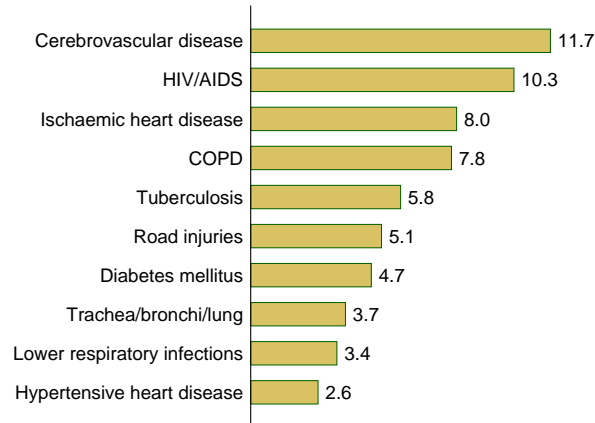
## 7.2.2 Leading causes of deaths and YLLs



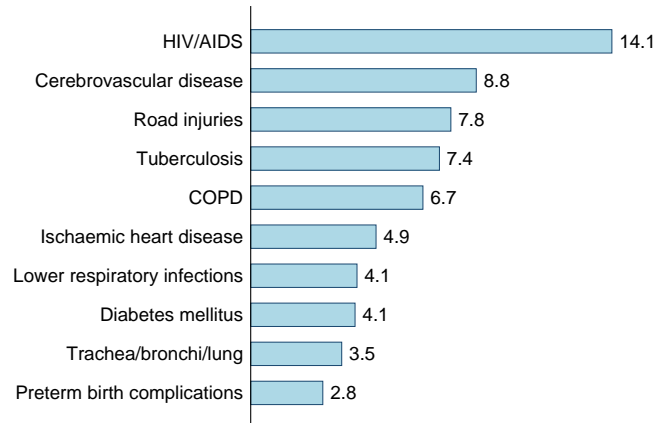
Cause of death	Deaths	%	Cause of death	YLLs	%
Road injuries	32	8.8	Road injuries	789	12.0
HIV/AIDS	31	8.6	HIV/AIDS	739	11.2
Cerebrovascular disease	31	8.4	Tuberculosis	626	9.5
COPD	28	7.7	Cerebrovascular disease	474	7.2
Tuberculosis	28	7.7	Trachea/bronchi/lung	422	6.4
Ischaemic heart disease	28	7.7	COPD	396	6.0
Trachea/bronchi/lung	28	7.7	Ischaemic heart disease	340	5.2
Lower respiratory infections	15	4.1	Interpersonal violence	259	3.9
Prostate	13	3.7	Lower respiratory infections	254	3.9
Interpersonal violence	11	3.0	Self-inflicted injuries	193	2.9
Top 10 causes	246	67.4	Top 10 causes	4,407	67.0
Total	365	100.0	Total	6,582	100.0

**Table 7.5: Leading causes of death for Males, Central Karoo 2012**

Central Karoo Females Deaths 2012, N = 303



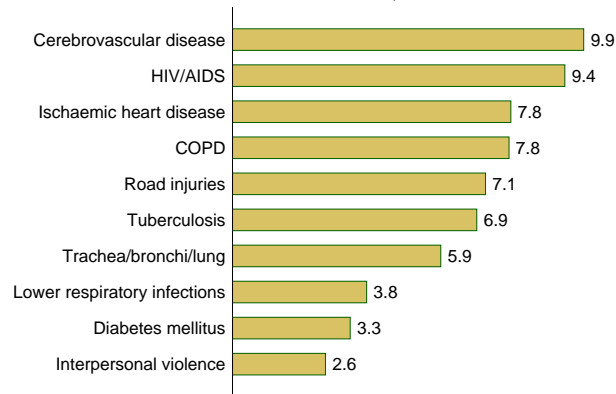
Central Karoo Females YLLs 2012, N = 5,389



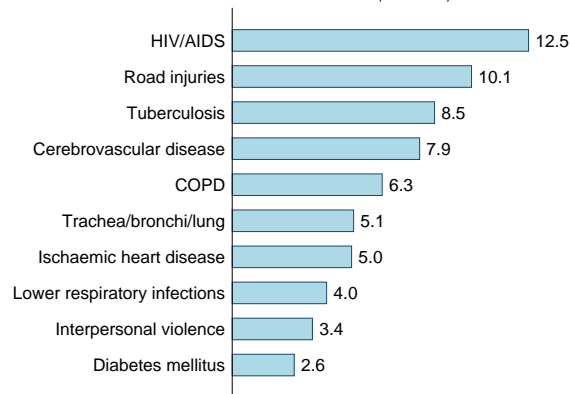
Cause of death	Deaths	%	Cause of death	YLLs	%
Cerebrovascular disease	35	11.7	HIV/AIDS	759	14.1
HIV/AIDS	31	10.3	Cerebrovascular disease	474	8.8
Ischaemic heart disease	24	8.0	Road injuries	420	7.8
COPD	24	7.8	Tuberculosis	396	7.4
Tuberculosis	18	5.8	COPD	362	6.7
Road injuries	15	5.1	Ischaemic heart disease	263	4.9
Diabetes mellitus	14	4.7	Lower respiratory infections	223	4.1
Trachea/bronchi/lung	11	3.7	Diabetes mellitus	219	4.1
Lower respiratory infections	10	3.4	Trachea/bronchi/lung	191	3.5
Hypertensive heart disease	8	2.6	Preterm birth complications	151	2.8
Top 10 causes	191	63.1	Top 10 causes	3,411	63.3
Total	303	100.0	Total	5,389	100.0

**Table 7.6: Leading causes of death for Females, Central Karoo 2012**

Central Karoo Persons Deaths 2012, N = 667



Central Karoo Persons YLLs 2012, N = 11,971



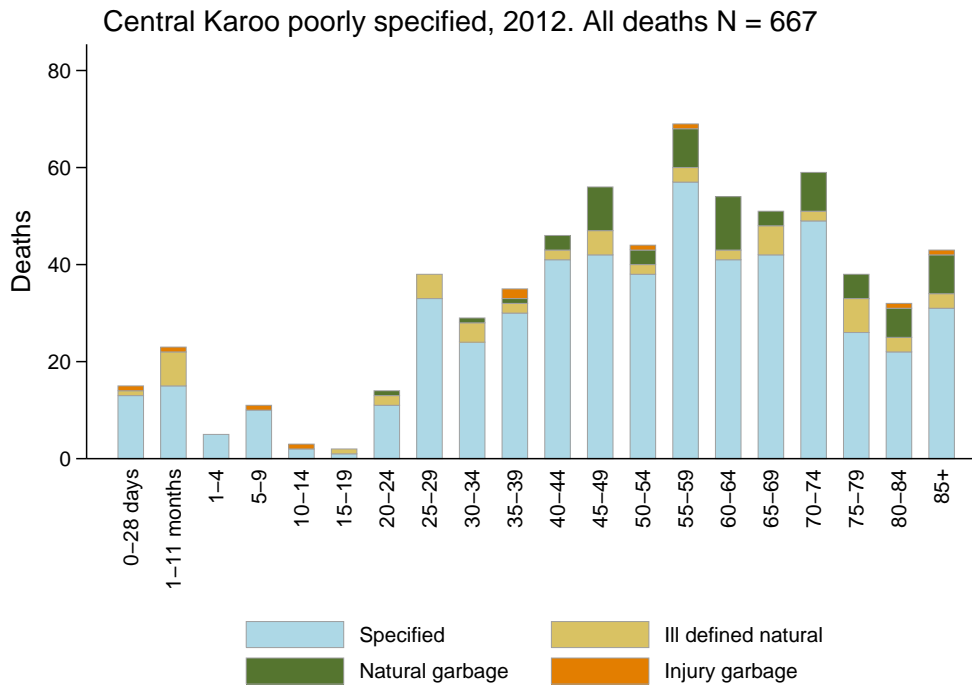
Cause of death	Deaths	%	Cause of death	YLLs	%
Cerebrovascular disease	66	9.9	HIV/AIDS	1,497	12.5
HIV/AIDS	62	9.4	Road injuries	1,209	10.1
Ischaemic heart disease	52	7.8	Tuberculosis	1,022	8.5
COPD	52	7.8	Cerebrovascular disease	947	7.9
Road injuries	47	7.1	COPD	758	6.3
Tuberculosis	46	6.9	Trachea/bronchi/lung	613	5.1
Trachea/bronchi/lung	39	5.9	Ischaemic heart disease	603	5.0
Lower respiratory infections	25	3.8	Lower respiratory infections	477	4.0
Diabetes mellitus	22	3.3	Interpersonal violence	405	3.4
Interpersonal violence	17	2.6	Diabetes mellitus	313	2.6
Top 10 causes	430	64.4	Top 10 causes	7,847	65.5
Total	667	100.0	Total	11,971	100.0

**Table 7.7: Leading causes of death for Persons, Central Karoo 2012**

Rank	Laingsburg	Prince Albert	Beaufort West	Central Karoo
1	Road injuries (25.5%)	Road injuries (16.7%)	HIV/AIDS (16.2%)	HIV/AIDS (12.5%)
2	Cerebrovascular disease (8.6%)	Cerebrovascular disease (7.9%)	Tuberculosis (9.4%)	Road injuries (10.1%)
3	Tuberculosis (7.6%)	Ischaemic heart disease (6.5%)	Cerebrovascular disease (7.8%)	Tuberculosis (8.5%)
4	Ischaemic heart disease (5.6%)	Trachea/bronchi/lung (6.5%)	COPD (7.7%)	Cerebrovascular disease (7.9%)
5	Diabetes mellitus (5.0%)	Tuberculosis (6.4%)	Road injuries (5.4%)	COPD (6.3%)
6	COPD (4.1%)	HIV/AIDS (5.6%)	Lower respiratory infections (5.2%)	Trachea/bronchi/lung (5.1%)
7	HIV/AIDS (3.7%)	Interpersonal violence (4.0%)	Trachea/bronchi/lung (5.0%)	Ischaemic heart disease (5.0%)
8	Hypertensive heart disease (3.3%)	Preterm birth complications (3.6%)	Ischaemic heart disease (4.5%)	Lower respiratory infections (4.0%)
9	Trachea/bronchi/lung (3.2%)	COPD (3.3%)	Interpersonal violence (3.5%)	Interpersonal violence (3.4%)
10	Pancreas (2.4%)	Brain (2.7%)	Diabetes mellitus (2.8%)	Diabetes mellitus (2.6%)

Figure 7.4: League table of leading causes of premature mortality, Central Karoo 2012

### 7.2.3 Proportion ill-defined



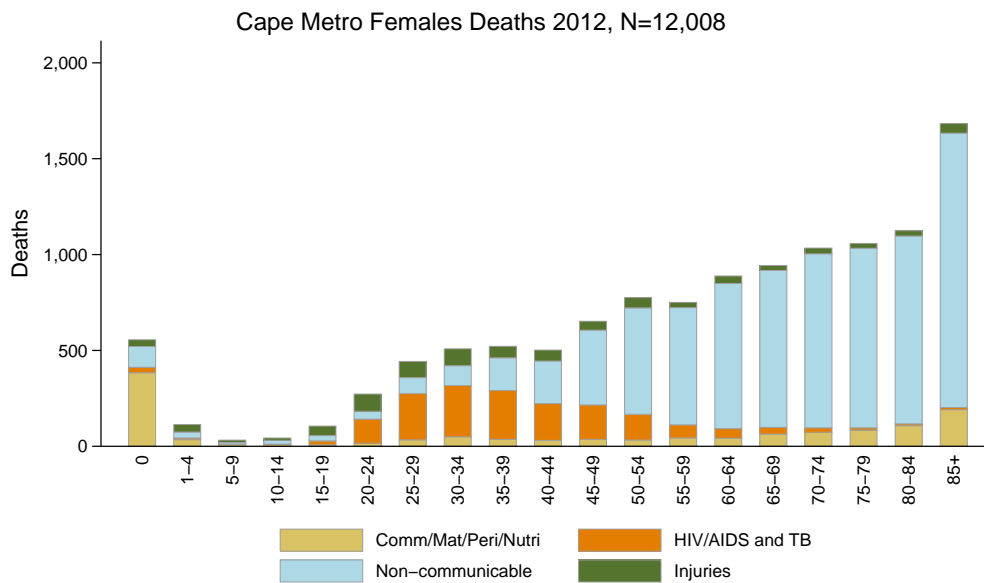
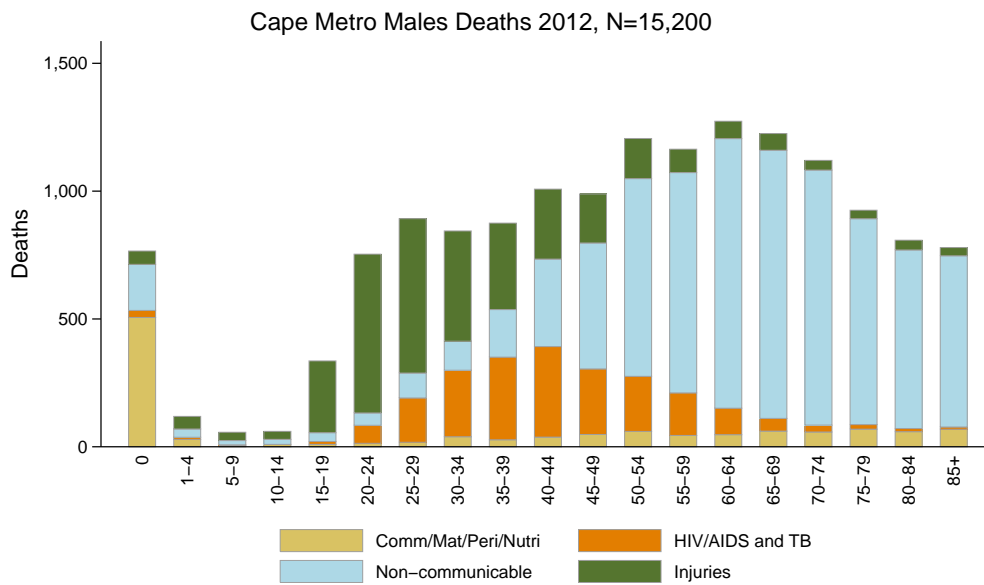
**Table 7.8: Central Karoo quality of reporting, 2012**

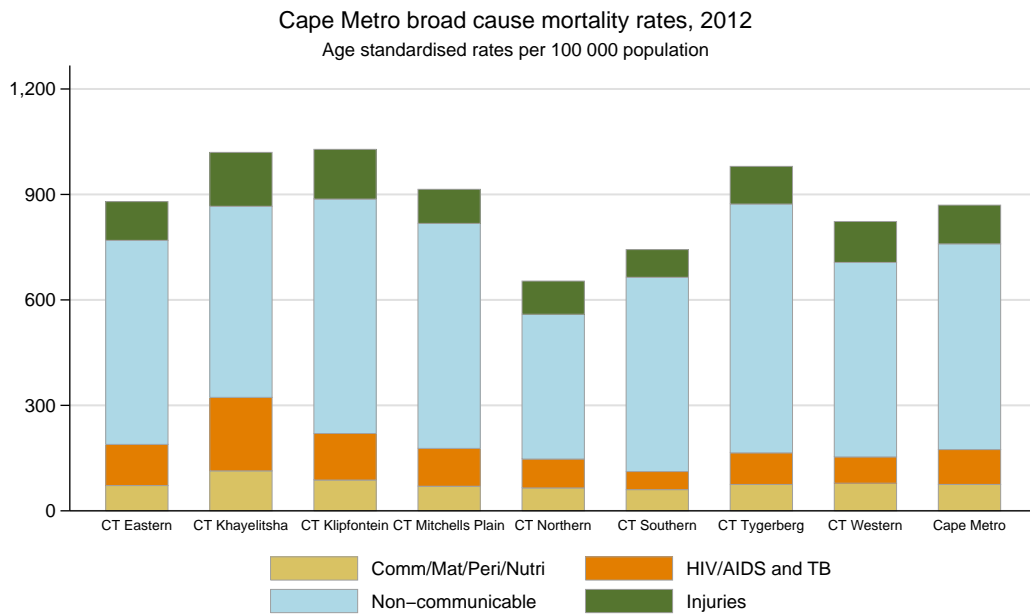
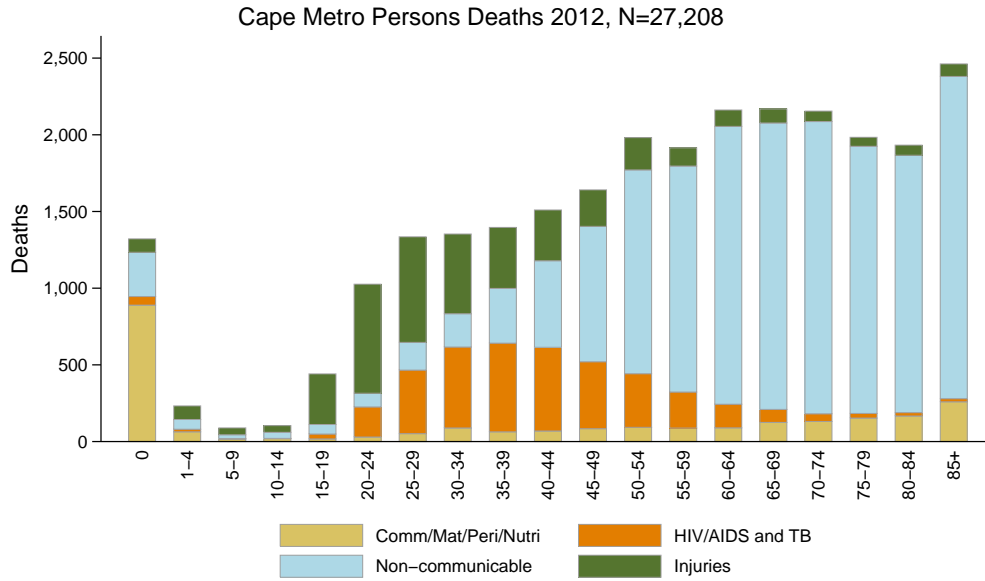
Age	Deaths	Ill def %	Garb (nat) %	Garb (inj) %	All Garb %
0-28 days	15	6.7	0.0	6.7	13.3
1-11 months	23	30.4	0.0	4.3	34.8
1-4	5	0.0	0.0	0.0	0.0
5-9	11	0.0	0.0	9.1	9.1
10-14	3	0.0	0.0	33.3	33.3
15-19	2	50.0	0.0	0.0	50.0
20-24	14	14.3	7.1	0.0	21.4
25-29	38	13.2	0.0	0.0	13.2
30-34	29	13.8	3.4	0.0	17.2
35-39	35	5.7	2.9	5.7	14.3
40-44	46	4.3	6.5	0.0	10.9
45-49	56	8.9	16.1	0.0	25.0
50-54	44	4.5	6.8	2.3	13.6
55-59	69	4.3	11.6	1.4	17.4
60-64	54	3.7	20.4	0.0	24.1
65-69	51	11.8	5.9	0.0	17.6
70-74	59	3.4	13.6	0.0	16.9
75-79	38	18.4	13.2	0.0	31.6
80-84	32	9.4	18.8	3.1	31.3
85+	43	7.0	18.6	2.3	27.9
All	667	8.5	10.0	1.5	20.1



## 7.3 Cape Metropole

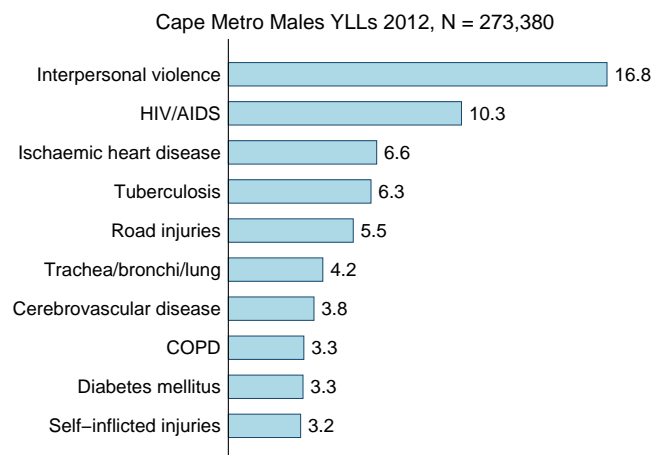
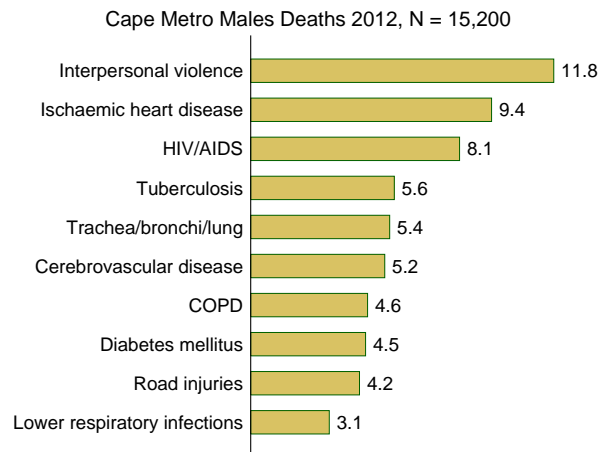
### 7.3.1 Broad causes





**Figure 7.5: Cape Metropole age-standardised rates per 100,000**

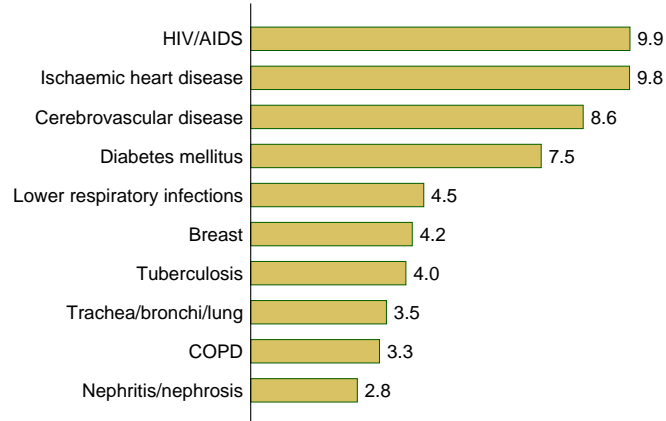
### 7.3.2 Leading causes of deaths and YLLs



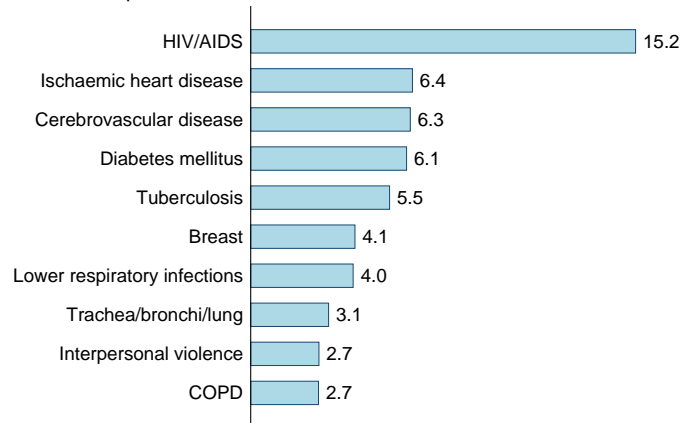
Cause of death	Deaths	%	Cause of death	YLLs	%
Interpersonal violence	1,795	11.8	Interpersonal violence	45,882	16.8
Ischaemic heart disease	1,427	9.4	HIV/AIDS	28,249	10.3
HIV/AIDS	1,237	8.1	Ischaemic heart disease	17,974	6.6
Tuberculosis	851	5.6	Tuberculosis	17,287	6.3
Trachea/bronchi/lung	823	5.4	Road injuries	15,138	5.5
Cerebrovascular disease	794	5.2	Trachea/bronchi/lung	11,450	4.2
COPD	692	4.6	Cerebrovascular disease	10,378	3.8
Diabetes mellitus	680	4.5	COPD	9,150	3.3
Road injuries	645	4.2	Diabetes mellitus	9,050	3.3
Lower respiratory infections	465	3.1	Self-inflicted injuries	8,762	3.2
Top 10 causes	9,410	61.9	Top 10 causes	172,677	63.2
Total	15,200	100.0	Total	273,380	100.0

**Table 7.9: Leading causes of death for Males, Cape Town 2012**

Cape Metro Females Deaths 2012, N = 12,008



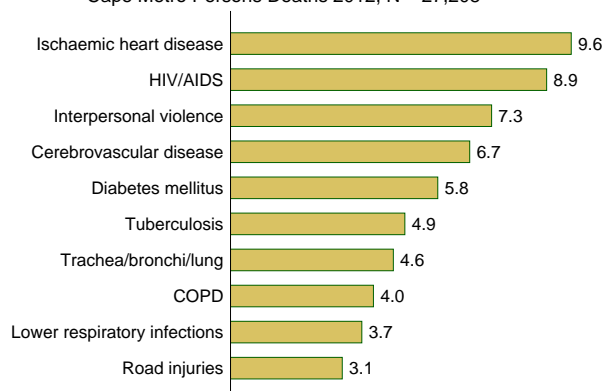
Cape Metro Females YLLs 2012, N = 191,422



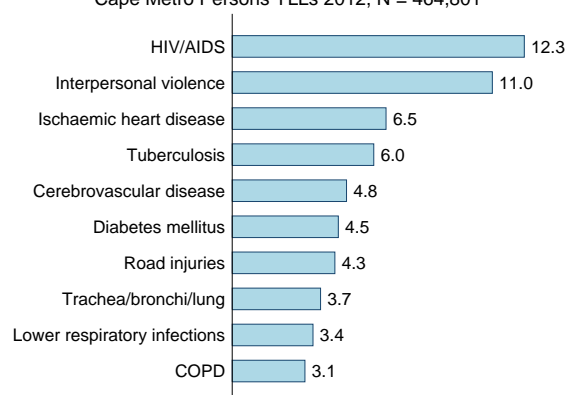
Cause of death	Deaths	%	Cause of death	YLLs	%
HIV/AIDS	1,183	9.9	HIV/AIDS	29,054	15.2
Ischaemic heart disease	1,182	9.8	Ischaemic heart disease	12,208	6.4
Cerebrovascular disease	1,037	8.6	Cerebrovascular disease	12,046	6.3
Diabetes mellitus	906	7.5	Diabetes mellitus	11,764	6.1
Lower respiratory infections	540	4.5	Tuberculosis	10,483	5.5
Breast	504	4.2	Breast	7,871	4.1
Tuberculosis	484	4.0	Lower respiratory infections	7,732	4.0
Trachea/bronchi/lung	423	3.5	Trachea/bronchi/lung	5,881	3.1
COPD	402	3.3	Interpersonal violence	5,152	2.7
Nephritis/nephrosis	333	2.8	COPD	5,118	2.7
Top 10 causes	6,994	58.2	Top 10 causes	106,682	55.7
Total	12,008	100.0	Total	191,422	100.0

**Table 7.10: Leading causes of death for Females, Cape Town 2012**

Cape Metro Persons Deaths 2012, N = 27,208



Cape Metro Persons YLLs 2012, N = 464,801



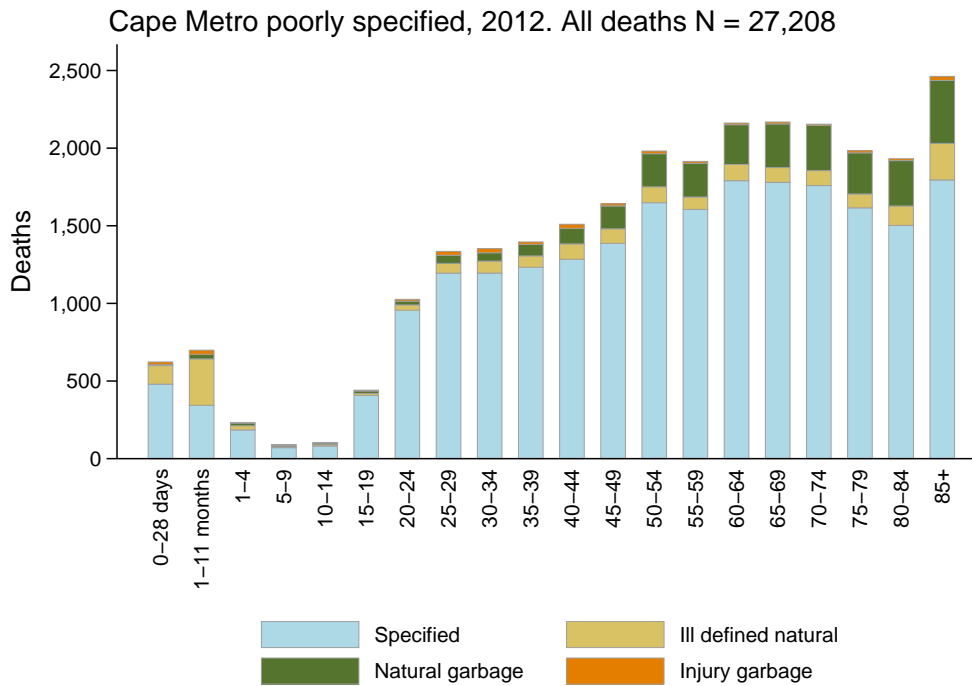
Cause of death	Deaths	%	Cause of death	YLLs	%
Ischaemic heart disease	2,609	9.6	HIV/AIDS	57,303	12.3
HIV/AIDS	2,420	8.9	Interpersonal violence	51,033	11.0
Interpersonal violence	1,999	7.3	Ischaemic heart disease	30,182	6.5
Cerebrovascular disease	1,831	6.7	Tuberculosis	27,771	6.0
Diabetes mellitus	1,587	5.8	Cerebrovascular disease	22,424	4.8
Tuberculosis	1,335	4.9	Diabetes mellitus	20,814	4.5
Trachea/bronchi/lung	1,247	4.6	Road injuries	20,141	4.3
COPD	1,094	4.0	Trachea/bronchi/lung	17,331	3.7
Lower respiratory infections	1,005	3.7	Lower respiratory infections	15,849	3.4
Road injuries	856	3.1	COPD	14,268	3.1
Top 10 causes	15,983	58.7	Top 10 causes	277,118	59.6
Total	27,208	100.0	Total	464,801	100.0

**Table 7.11: Leading causes of death for Persons, Cape Town 2012**

Rank	CT Eastern	CT Khayelitsha	CT Klipfontein	CT Mitchells Plain	CT Northern	CT Southern	CT Tygerberg	CT Western	Cape Metro
1	HIV/AIDS (14.6%)	HIV/AIDS (21.4%)	Interpersonal violence (14.8%)	HIV/AIDS (14.1%)	HIV/AIDS (13.5%)	Ischaemic heart disease (8.9%)	Interpersonal violence (9.4%)	Interpersonal violence (9.1%)	HIV/AIDS (12.3%)
2	Interpersonal violence (8.6%)	Interpersonal violence (19.5%)	HIV/AIDS (12.7%)	Interpersonal violence (12.0%)	Interpersonal violence (8.6%)	HIV/AIDS (7.2%)	HIV/AIDS (8.4%)	HIV/AIDS (9.0%)	Interpersonal violence (11.0%)
3	Tuberculosis (6.6%)	Tuberculosis (7.1%)	Ischaemic heart disease (6.9%)	Tuberculosis (5.9%)	Ischaemic heart disease (7.0%)	Interpersonal violence (6.8%)	Ischaemic heart disease (8.3%)	Ischaemic heart disease (6.7%)	Ischaemic heart disease (6.5%)
4	Ischaemic heart disease (5.9%)	Road injuries (4.6%)	Tuberculosis (5.7%)	Ischaemic heart disease (5.7%)	Tuberculosis (6.2%)	Diabetes mellitus (6.0%)	Tuberculosis (6.4%)	Tuberculosis (6.0%)	Tuberculosis (6.0%)
5	Cerebrovascular disease (4.9%)	Lower respiratory infections (3.6%)	Diabetes mellitus (5.3%)	Diabetes mellitus (5.3%)	Road injuries (5.1%)	Cerebrovascular disease (5.8%)	Cerebrovascular disease (6.0%)	Road injuries (5.5%)	Cerebrovascular disease (4.8%)
6	Road injuries (4.3%)	Diabetes mellitus (2.7%)	Cerebrovascular disease (4.2%)	Cerebrovascular disease (4.7%)	Cerebrovascular disease (4.4%)	Trachea/bronchi/lung (5.1%)	Diabetes mellitus (5.3%)	Cerebrovascular disease (5.2%)	Diabetes mellitus (4.5%)
7	Lower respiratory infections (4.2%)	Diarrhoeal diseases (2.7%)	Trachea/bronchi/lung (4.0%)	Road injuries (3.9%)	Trachea/bronchi/lung (4.0%)	COPD (4.1%)	Trachea/bronchi/lung (4.8%)	Diabetes mellitus (4.1%)	Road injuries (4.3%)
8	Diabetes mellitus (3.7%)	Cerebrovascular disease (2.6%)	Lower respiratory infections (3.6%)	Lower respiratory infections (3.5%)	Self-inflicted injuries (3.8%)	Tuberculosis (3.8%)	Road injuries (4.7%)	Trachea/bronchi/lung (3.9%)	Trachea/bronchi/lung (3.7%)
9	Trachea/bronchi/lung (2.8%)	Preterm birth complications (2.3%)	Road injuries (3.1%)	Trachea/bronchi/lung (3.3%)	COPD (3.2%)	Road injuries (3.7%)	COPD (4.6%)	Self-inflicted injuries (3.4%)	Lower respiratory infections (3.4%)
10	COPD (2.7%)	Self-inflicted injuries (2.0%)	COPD (2.8%)	COPD (2.8%)	Lower respiratory infections (3.0%)	Lower respiratory infections (3.2%)	Lower respiratory infections (2.9%)	Lower respiratory infections (3.3%)	COPD (3.1%)

Figure 7.6: League table of leading causes of premature mortality, Cape Metropole 2012

### 7.3.3 Proportion ill-defined

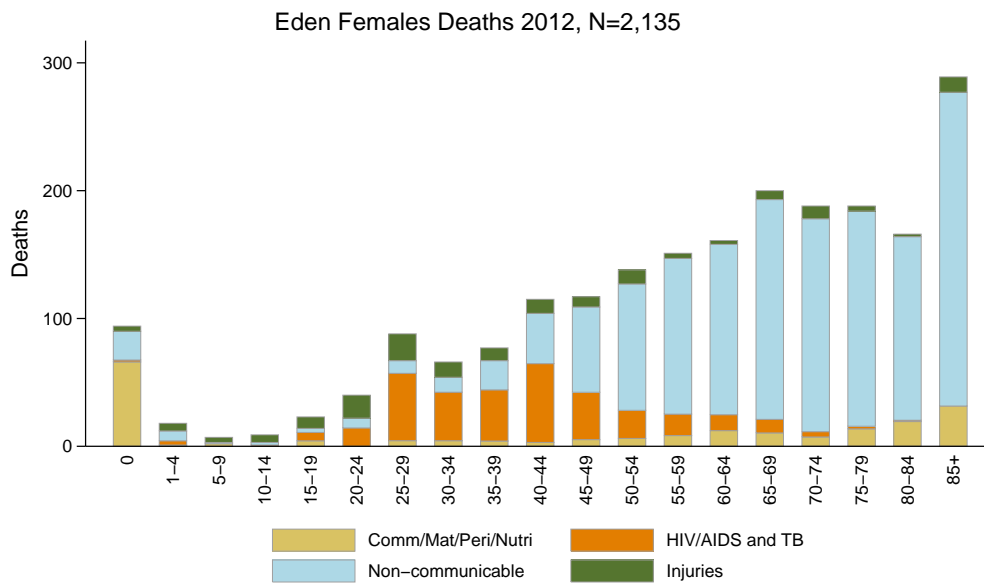
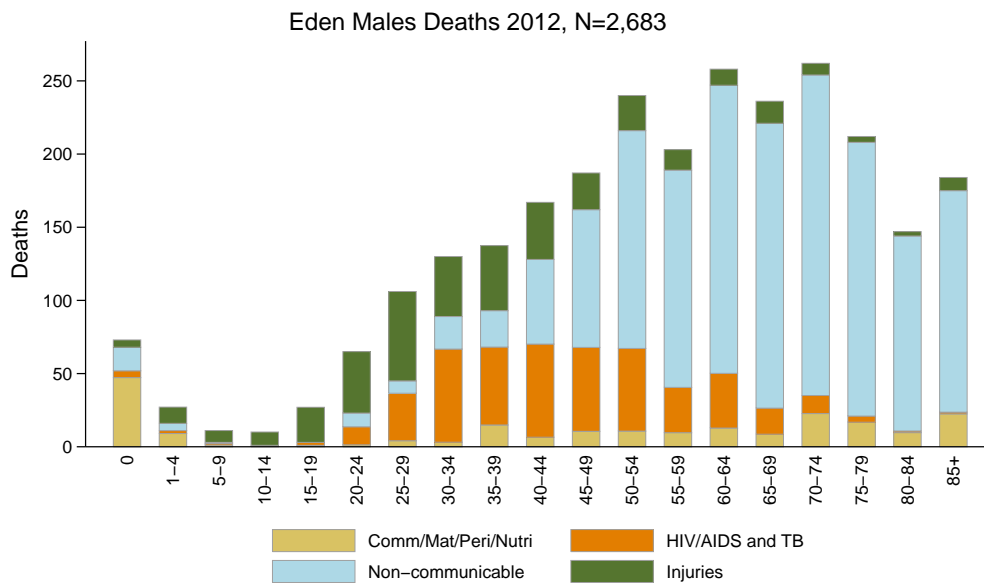


**Table 7.12: City of Cape Town quality of reporting, 2012**

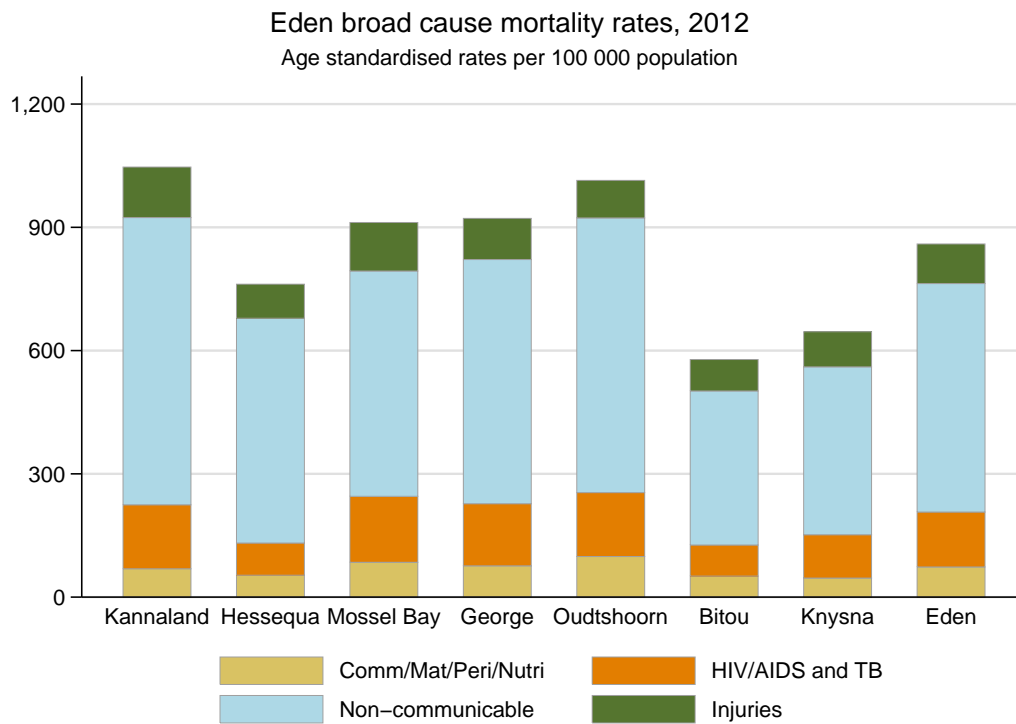
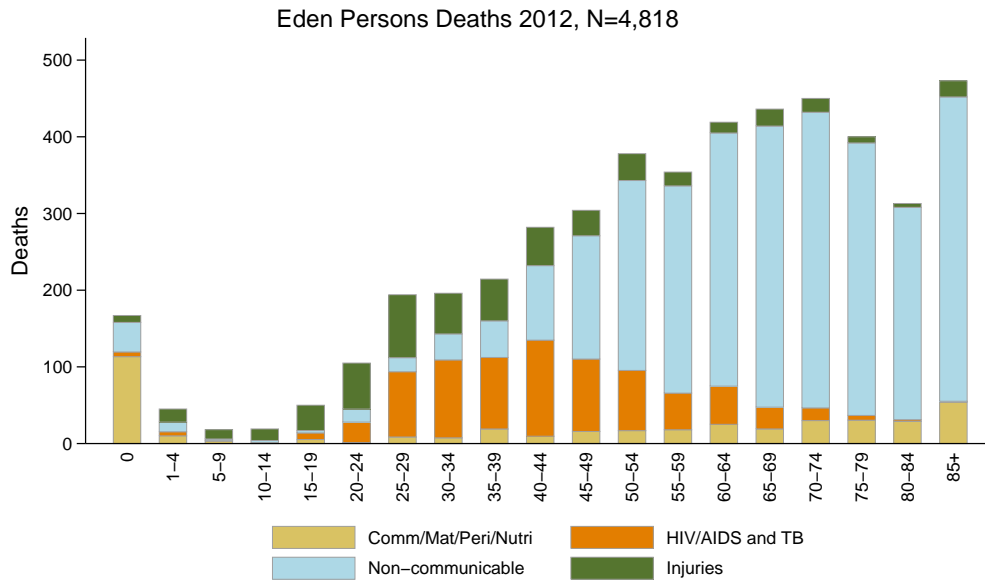
Age	Deaths	Ill def %	Garb (nat) %	Garb (inj) %	All Garb %
0-28 days	623	19.2	1.0	2.9	23.0
1-11 months	699	42.8	4.3	3.7	50.8
1-4	233	11.6	7.3	1.4	20.4
5-9	89	6.7	11.2	2.7	20.7
10-14	104	8.7	9.7	3.4	21.8
15-19	441	3.0	3.6	1.1	7.7
20-24	1,026	3.3	2.3	1.1	6.8
25-29	1,335	4.7	3.9	1.9	10.5
30-34	1,353	5.7	4.0	2.0	11.7
35-39	1,396	5.3	5.3	1.2	11.7
40-44	1,510	6.6	6.6	1.7	15.0
45-49	1,641	5.7	9.0	0.8	15.5
50-54	1,982	5.2	10.8	0.9	16.8
55-59	1,915	4.2	11.3	0.6	16.2
60-64	2,162	4.8	11.9	0.5	17.2
65-69	2,168	4.4	13.0	0.6	17.9
70-74	2,154	4.5	13.6	0.3	18.4
75-79	1,983	4.5	13.4	0.7	18.6
80-84	1,932	6.5	15.1	0.7	22.3
85+	2,462	9.5	16.5	1.0	27.1
All	27,208	6.8	10.2	1.1	18.0

## 7.4 Eden

### 7.4.1 Broad causes

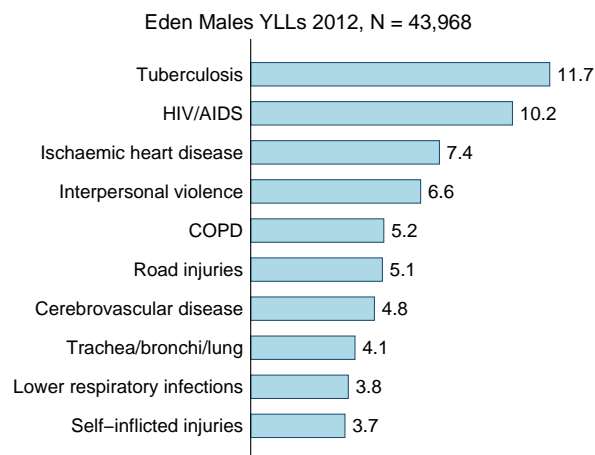
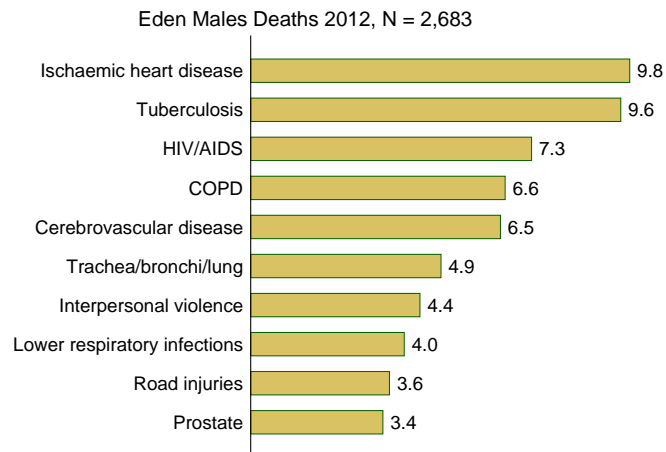






**Figure 7.7: Eden age-standardised rates per 100,000**

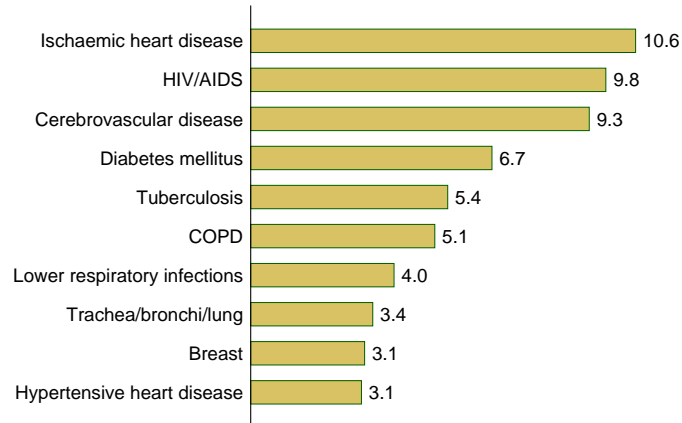
## 7.4.2 Leading causes of deaths and YLLs



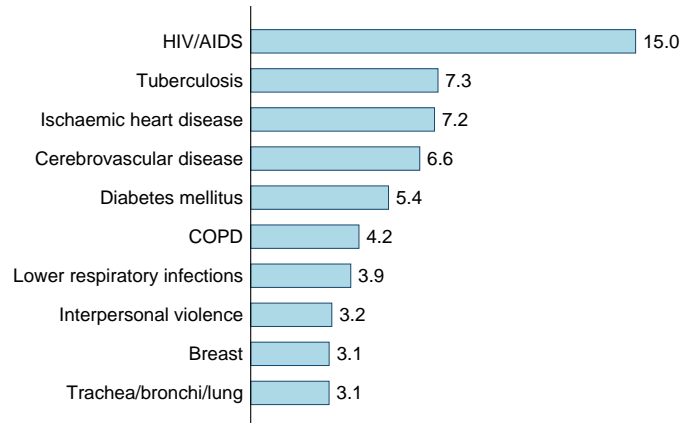
Cause of death	Deaths	%	Cause of death	YLLs	%
Ischaemic heart disease	264	9.8	Tuberculosis	5,124	11.7
Tuberculosis	258	9.6	HIV/AIDS	4,485	10.2
HIV/AIDS	196	7.3	Ischaemic heart disease	3,234	7.4
COPD	177	6.6	Interpersonal violence	2,912	6.6
Cerebrovascular disease	174	6.5	COPD	2,281	5.2
Trachea/bronchi/lung	133	4.9	Road injuries	2,256	5.1
Interpersonal violence	118	4.4	Cerebrovascular disease	2,120	4.8
Lower respiratory infections	107	4.0	Trachea/bronchi/lung	1,787	4.1
Road injuries	97	3.6	Lower respiratory infections	1,672	3.8
Prostate	92	3.4	Self-inflicted injuries	1,615	3.7
Top 10 causes	1,616	60.2	Top 10 causes	26,707	60.7
Total	2,683	100.0	Total	43,968	100.0

**Table 7.13: Leading causes of death for Males, Eden 2012**

Eden Females Deaths 2012, N = 2,135

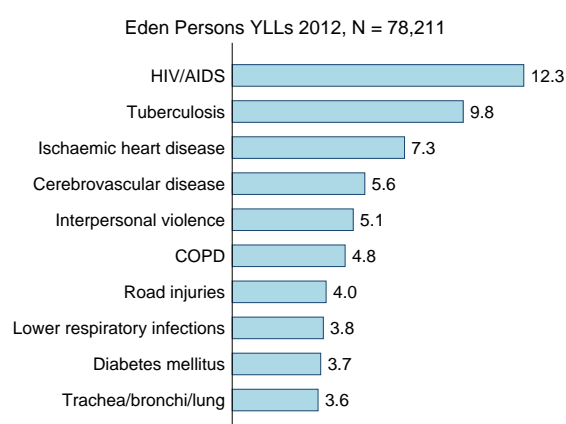
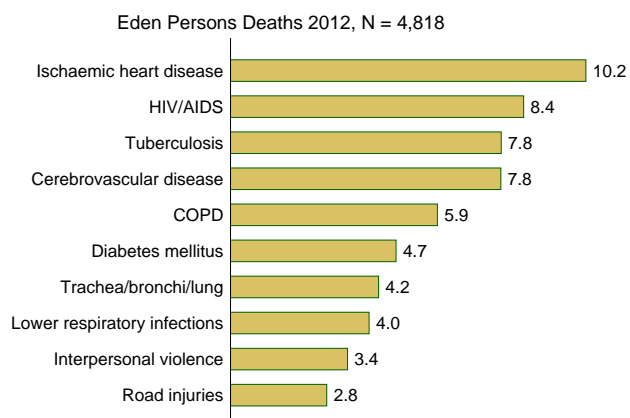


Eden Females YLLs 2012, N = 34,243



Cause of death	Deaths	%	Cause of death	YLLs	%
Ischaemic heart disease	227	10.6	HIV/AIDS	5,141	15.0
HIV/AIDS	209	9.8	Tuberculosis	2,502	7.3
Cerebrovascular disease	199	9.3	Ischaemic heart disease	2,455	7.2
Diabetes mellitus	142	6.7	Cerebrovascular disease	2,258	6.6
Tuberculosis	116	5.4	Diabetes mellitus	1,841	5.4
COPD	108	5.1	COPD	1,446	4.2
Lower respiratory infections	84	4.0	Lower respiratory infections	1,337	3.9
Trachea/bronchi/lung	72	3.4	Interpersonal violence	1,083	3.2
Breast	67	3.1	Breast	1,048	3.1
Hypertensive heart disease	65	3.1	Trachea/bronchi/lung	1,047	3.1
Top 10 causes	1,290	60.4	Top 10 causes	19,770	57.7
Total	2,135	100.0	Total	34,243	100.0

**Table 7.14: Leading causes of death for Females, Eden 2012**



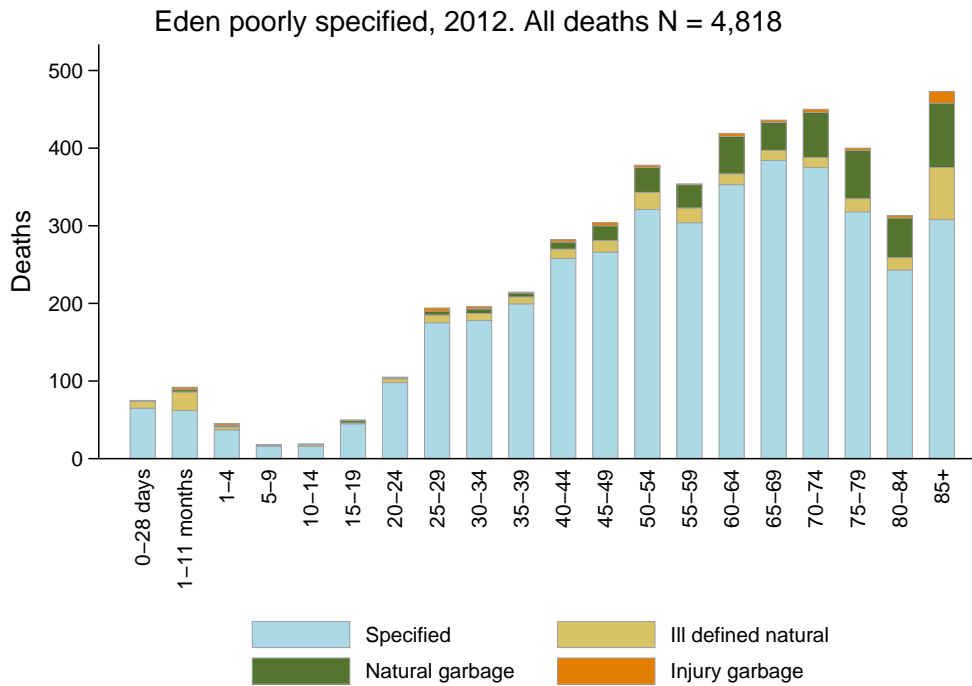
Cause of death	Deaths	%	Cause of death	YLLs	%
Ischaemic heart disease	491	10.2	HIV/AIDS	9,626	12.3
HIV/AIDS	405	8.4	Tuberculosis	7,626	9.8
Tuberculosis	374	7.8	Ischaemic heart disease	5,689	7.3
Cerebrovascular disease	373	7.8	Cerebrovascular disease	4,378	5.6
COPD	286	5.9	Interpersonal violence	3,995	5.1
Diabetes mellitus	229	4.7	COPD	3,727	4.8
Trachea/bronchi/lung	205	4.2	Road injuries	3,100	4.0
Lower respiratory infections	191	4.0	Lower respiratory infections	3,009	3.8
Interpersonal violence	162	3.4	Diabetes mellitus	2,922	3.7
Road injuries	133	2.8	Trachea/bronchi/lung	2,834	3.6
Top 10 causes	2,848	59.1	Top 10 causes	46,906	60.0
Total	4,818	100.0	Total	78,211	100.0

**Table 7.15: Leading causes of death for Persons, Eden 2012**

Rank	Kannaland	Hessequa	Mossel Bay	George	Oudtshoorn	Bitou	Knysna	Eden
1	Tuberculosis (12.7%)	Ischaemic heart disease (12.4%)	HIV/AIDS (14.0%)	HIV/AIDS (13.6%)	Tuberculosis (10.7%)	HIV/AIDS (13.1%)	HIV/AIDS (16.6%)	HIV/AIDS (12.3%)
2	Ischaemic heart disease (9.6%)	HIV/AIDS (7.5%)	Tuberculosis (9.9%)	Tuberculosis (10.7%)	HIV/AIDS (10.0%)	Interpersonal violence (10.1%)	Tuberculosis (7.3%)	Tuberculosis (9.8%)
3	Cerebrovascular disease (8.5%)	COPD (7.2%)	Ischaemic heart disease (9.3%)	Ischaemic heart disease (5.6%)	Ischaemic heart disease (5.9%)	Lower respiratory infections (7.0%)	Road injuries (6.8%)	Ischaemic heart disease (7.3%)
4	HIV/AIDS (6.6%)	Cerebrovascular disease (6.3%)	Cerebrovascular disease (5.3%)	Cerebrovascular disease (5.1%)	Cerebrovascular disease (5.4%)	Cerebrovascular disease (6.9%)	Ischaemic heart disease (6.6%)	Cerebrovascular disease (5.6%)
5	COPD (6.0%)	Tuberculosis (6.3%)	COPD (4.6%)	Interpersonal violence (4.9%)	Interpersonal violence (4.9%)	Tuberculosis (6.6%)	Interpersonal violence (6.3%)	Interpersonal violence (5.1%)
6	Diabetes mellitus (5.8%)	Preterm birth complications (4.3%)	Road injuries (4.4%)	COPD (4.9%)	Diabetes mellitus (4.4%)	Ischaemic heart disease (6.6%)	Cerebrovascular disease (5.5%)	COPD (4.8%)
7	Interpersonal violence (5.8%)	Diabetes mellitus (4.2%)	Interpersonal violence (4.2%)	Lower respiratory infections (4.4%)	COPD (4.2%)	Self-inflicted injuries (4.8%)	COPD (4.0%)	Road injuries (4.0%)
8	Trachea/bronchi/lung (4.9%)	Trachea/bronchi/lung (3.7%)	Trachea/bronchi/lung (3.3%)	Diabetes mellitus (4.0%)	Trachea/bronchi/lung (3.8%)	Drowning (4.3%)	Lower respiratory infections (3.3%)	Lower respiratory infections (3.8%)
9	Road injuries (4.9%)	Road injuries (3.7%)	Self-inflicted injuries (3.3%)	Road injuries (3.9%)	Lower respiratory infections (3.8%)	Trachea/bronchi/lung (3.4%)	Diabetes mellitus (3.0%)	Diabetes mellitus (3.7%)
10	Lower respiratory infections (4.0%)	Interpersonal violence (3.6%)	Lower respiratory infections (3.3%)	Trachea/bronchi/lung (3.8%)	Preterm birth complications (2.9%)	COPD (2.5%)	Self-inflicted injuries (2.8%)	Trachea/bronchi/lung (3.6%)

Figure 7.8: League table of leading causes of premature mortality, Eden 2012

### 7.4.3 Proportion ill-defined

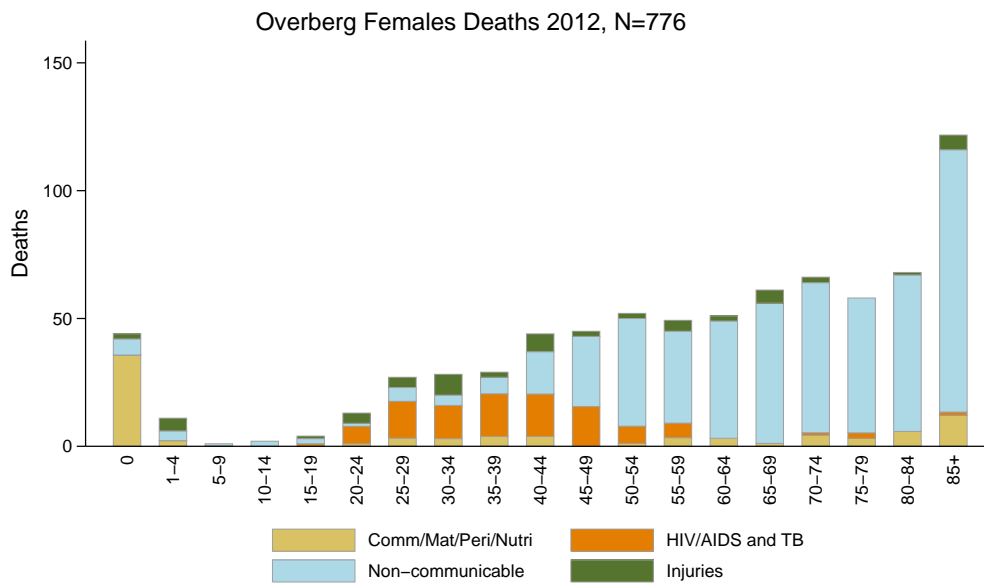
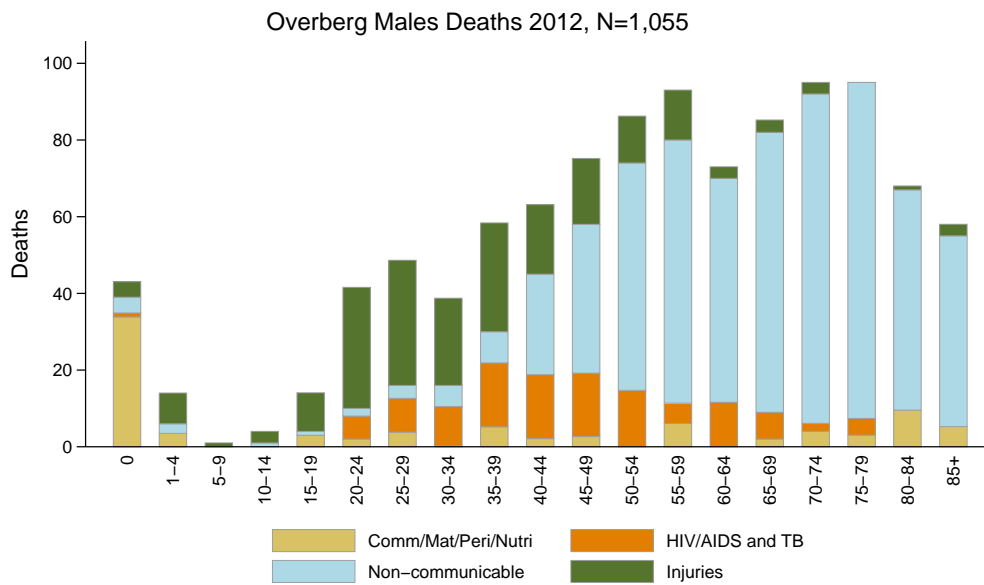


**Table 7.16: Eden quality of reporting, 2012**

Age	Deaths	Ill def %	Garb (nat) %	Garb (inj) %	All Garb %
0-28 days	75	12.0	0.0	1.3	13.3
1-11 months	92	26.1	3.3	3.3	32.6
1-4	45	8.9	4.4	4.4	17.7
5-9	18	5.5	5.5	0.0	11.1
10-14	19	10.5	0.0	5.2	15.7
15-19	50	2.0	6.0	2.0	10.0
20-24	105	4.8	1.0	1.0	6.7
25-29	194	5.2	2.6	2.1	9.8
30-34	196	4.6	3.1	1.5	9.2
35-39	214	4.2	2.3	0.5	7.0
40-44	282	4.3	3.2	1.1	8.5
45-49	304	4.9	6.2	1.3	12.5
50-54	378	5.8	8.5	0.8	15.1
55-59	354	5.4	8.5	0.3	14.1
60-64	419	3.3	11.5	1.0	15.8
65-69	436	3.0	8.3	0.7	11.9
70-74	450	2.9	12.9	0.9	16.7
75-79	400	4.3	15.5	0.8	20.5
80-84	313	5.1	16.3	1.0	22.4
85+	473	14.2	17.5	3.2	34.9
All	4,818	5.9	9.4	1.2	16.5

## 7.5 Overberg

### 7.5.1 Broad causes



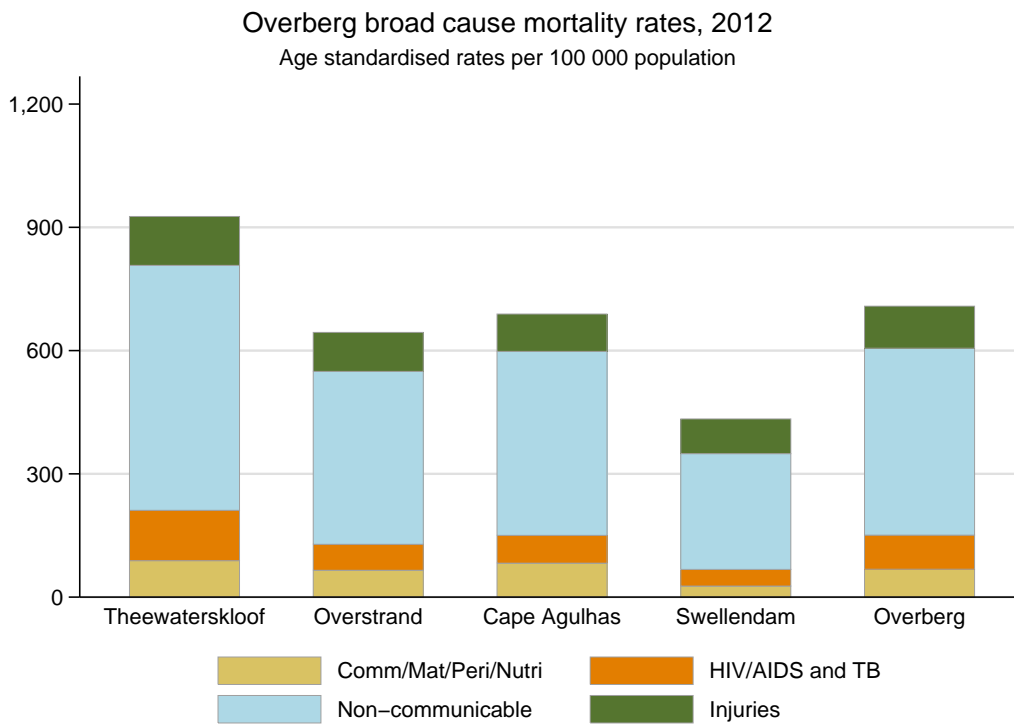
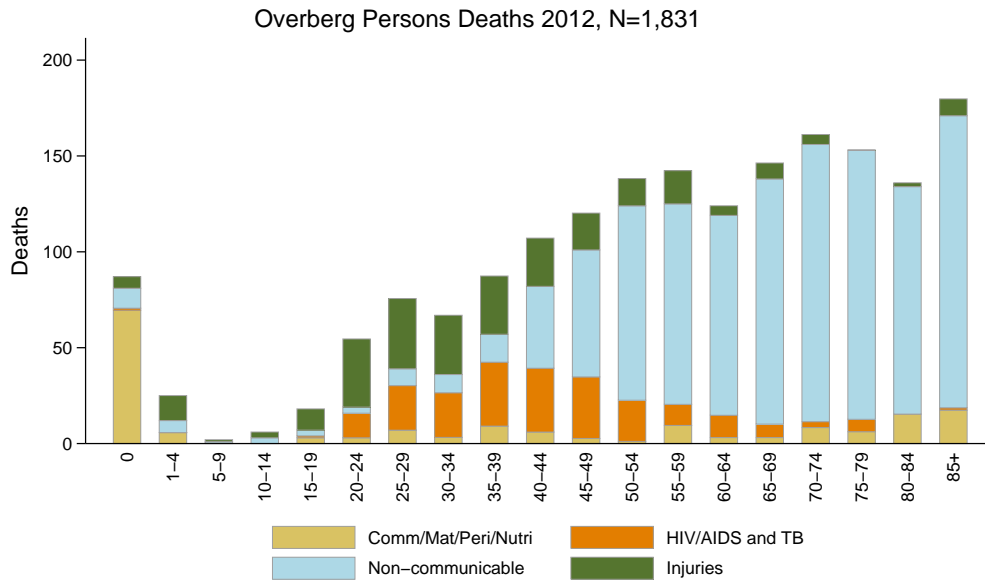
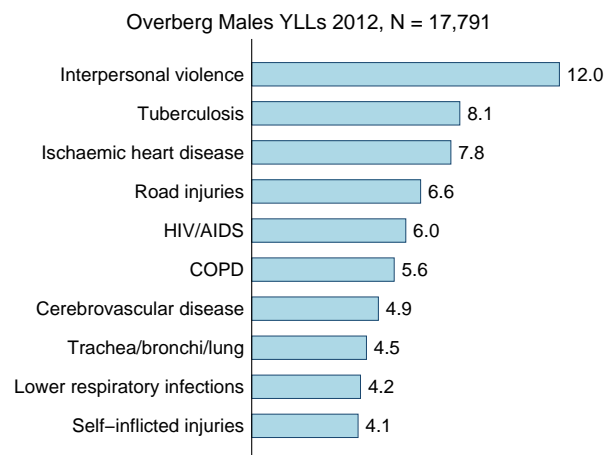
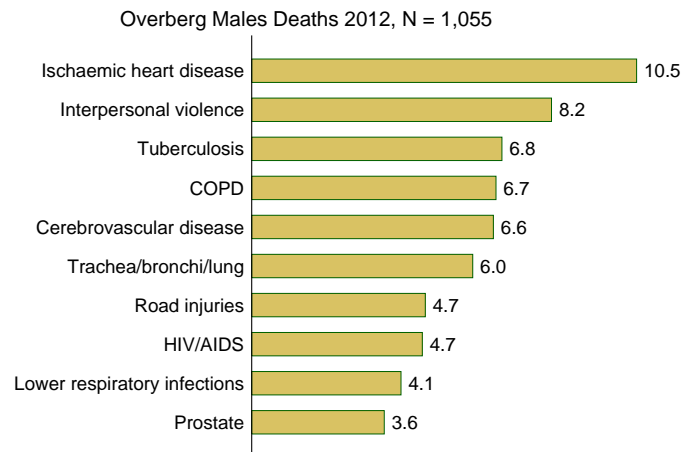


Figure 7.9: Overberg age-standardised rates per 100,000



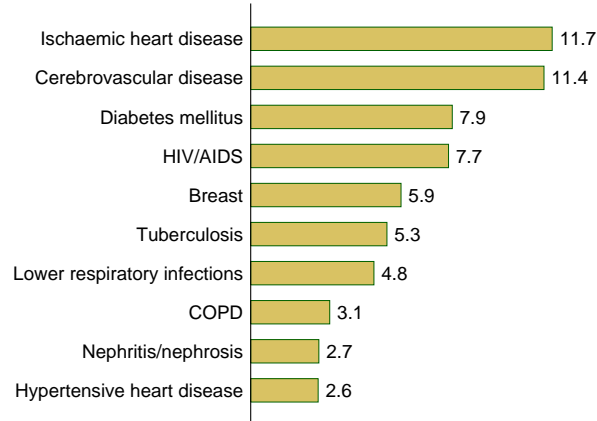
## 7.5.2 Leading causes of deaths and YLLs



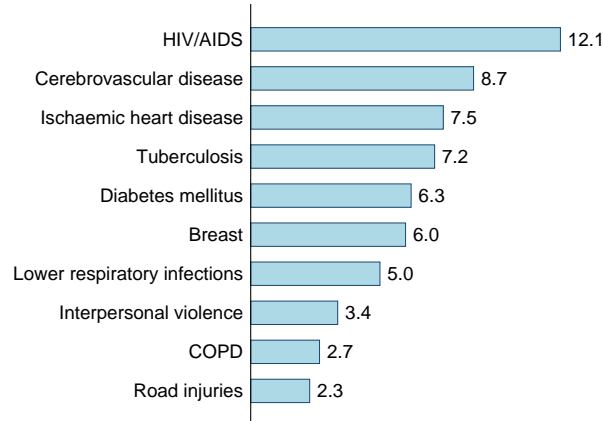
Cause of death	Deaths	%	Cause of death	YLLs	%
Ischaemic heart disease	111	10.5	Interpersonal violence	2,133	12.0
Interpersonal violence	86	8.2	Tuberculosis	1,443	8.1
Tuberculosis	72	6.8	Ischaemic heart disease	1,381	7.8
COPD	70	6.7	Road injuries	1,171	6.6
Cerebrovascular disease	70	6.6	HIV/AIDS	1,068	6.0
Trachea/bronchi/lung	64	6.0	COPD	988	5.6
Road injuries	50	4.7	Cerebrovascular disease	878	4.9
HIV/AIDS	49	4.7	Trachea/bronchi/lung	796	4.5
Lower respiratory infections	43	4.1	Lower respiratory infections	754	4.2
Prostate	38	3.6	Self-inflicted injuries	738	4.1
Top 10 causes	653	61.8	Top 10 causes	10,993	61.8
Total	1,055	100.0	Total	17,791	100.0

**Table 7.17: Leading causes of death for Males, Overberg 2012**

Overberg Females Deaths 2012, N = 776



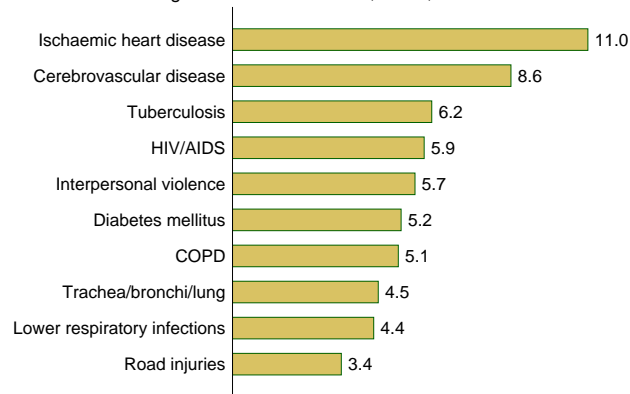
Overberg Females YLLs 2012, N = 12,383



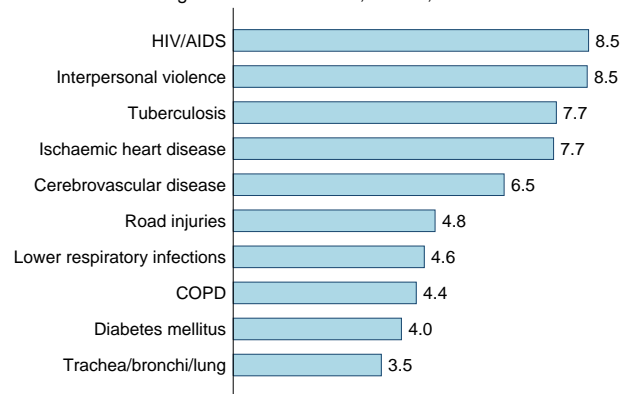
Cause of death	Deaths	%	Cause of death	YLLs	%
Ischaemic heart disease	91	11.7	HIV/AIDS	1,495	12.1
Cerebrovascular disease	89	11.4	Cerebrovascular disease	1,076	8.7
Diabetes mellitus	61	7.9	Ischaemic heart disease	930	7.5
HIV/AIDS	60	7.7	Tuberculosis	888	7.2
Breast	45	5.9	Diabetes mellitus	774	6.3
Tuberculosis	41	5.3	Breast	747	6.0
Lower respiratory infections	37	4.8	Lower respiratory infections	624	5.0
COPD	24	3.1	Interpersonal violence	420	3.4
Nephritis/nephrosis	21	2.7	COPD	332	2.7
Hypertensive heart disease	20	2.6	Road injuries	285	2.3
Top 10 causes	489	63.1	Top 10 causes	7,285	58.8
Total	776	100.0	Total	12,383	100.0

**Table 7.18: Leading causes of death for Females, Overberg 2012**

Overberg Persons Deaths 2012, N = 1,831



Overberg Persons YLLs 2012, N = 30,175



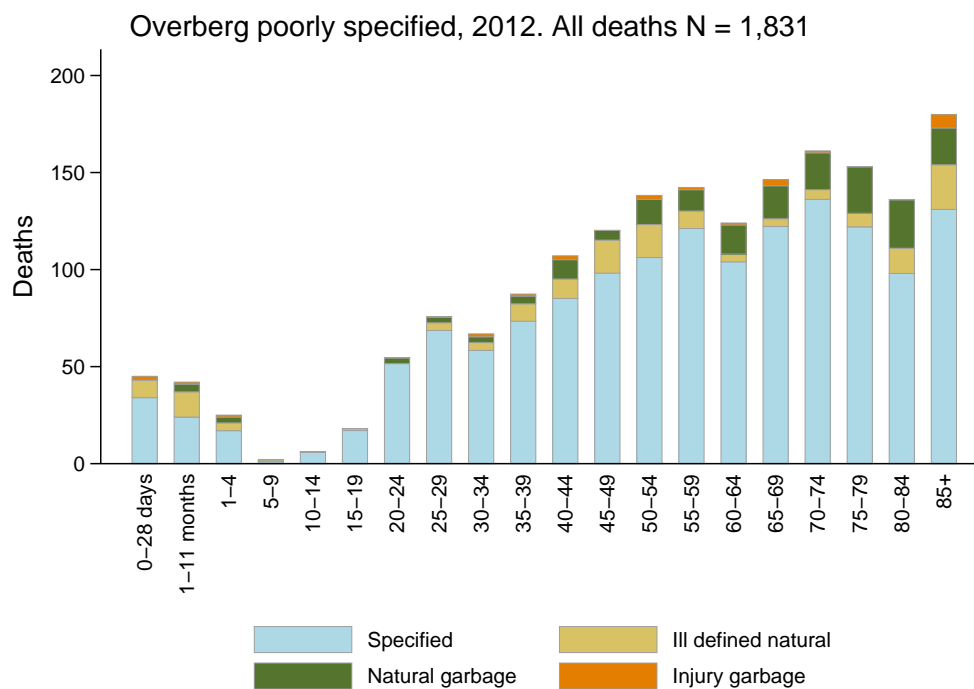
Cause of death	Deaths	%	Cause of death	YLLs	%
Ischaemic heart disease	202	11.0	HIV/AIDS	2,563	8.5
Cerebrovascular disease	158	8.6	Interpersonal violence	2,553	8.5
Tuberculosis	113	6.2	Tuberculosis	2,331	7.7
HIV/AIDS	109	5.9	Ischaemic heart disease	2,311	7.7
Interpersonal violence	104	5.7	Cerebrovascular disease	1,954	6.5
Diabetes mellitus	96	5.2	Road injuries	1,456	4.8
COPD	94	5.1	Lower respiratory infections	1,378	4.6
Trachea/bronchi/lung	83	4.5	COPD	1,320	4.4
Lower respiratory infections	80	4.4	Diabetes mellitus	1,213	4.0
Road injuries	62	3.4	Trachea/bronchi/lung	1,068	3.5
Top 10 causes	1,101	60.1	Top 10 causes	18,147	60.1
Total	1,831	100.0	Total	30,175	100.0

**Table 7.19: Leading causes of death for Persons, Overberg 2012**

Rank	Theewaterskloof	Overstrand	Cape Agulhas	Swellendam	Overberg
1	HIV/AIDS (11.9%)	Ischaemic heart disease (10.4%)	Tuberculosis (12.7%)	Interpersonal violence (14.7%)	HIV/AIDS (8.5%)
2	Interpersonal violence (9.5%)	HIV/AIDS (7.5%)	Interpersonal violence (7.5%)	Tuberculosis (11.0%)	Interpersonal violence (8.5%)
3	Tuberculosis (7.5%)	Cerebrovascular disease (5.8%)	Ischaemic heart disease (6.9%)	COPD (7.6%)	Tuberculosis (7.7%)
4	Cerebrovascular disease (7.4%)	Interpersonal violence (5.5%)	Cerebrovascular disease (5.7%)	Road injuries (5.7%)	Ischaemic heart disease (7.7%)
5	Ischaemic heart disease (6.6%)	Self-inflicted injuries (5.3%)	Lower respiratory infections (5.6%)	Ischaemic heart disease (5.0%)	Cerebrovascular disease (6.5%)
6	Road injuries (6.0%)	Tuberculosis (5.2%)	Road injuries (5.6%)	Cerebrovascular disease (4.5%)	Road injuries (4.8%)
7	Lower respiratory infections (4.8%)	Lower respiratory infections (4.0%)	COPD (5.0%)	Diabetes mellitus (4.4%)	Lower respiratory infections (4.6%)
8	COPD (4.6%)	Breast (3.7%)	Trachea/bronchi/lung (4.3%)	Trachea/bronchi/lung (4.3%)	COPD (4.4%)
9	Diabetes mellitus (4.5%)	Diabetes mellitus (3.6%)	Self-inflicted injuries (3.4%)	Lower respiratory infections (3.6%)	Diabetes mellitus (4.0%)
10	Trachea/bronchi/lung (3.2%)	Trachea/bronchi/lung (3.5%)	Diabetes mellitus (2.8%)	HIV/AIDS (2.5%)	Trachea/bronchi/lung (3.5%)

Figure 7.10: League table of leading causes of premature mortality, Overberg 2012

### 7.5.3 Proportion ill-defined

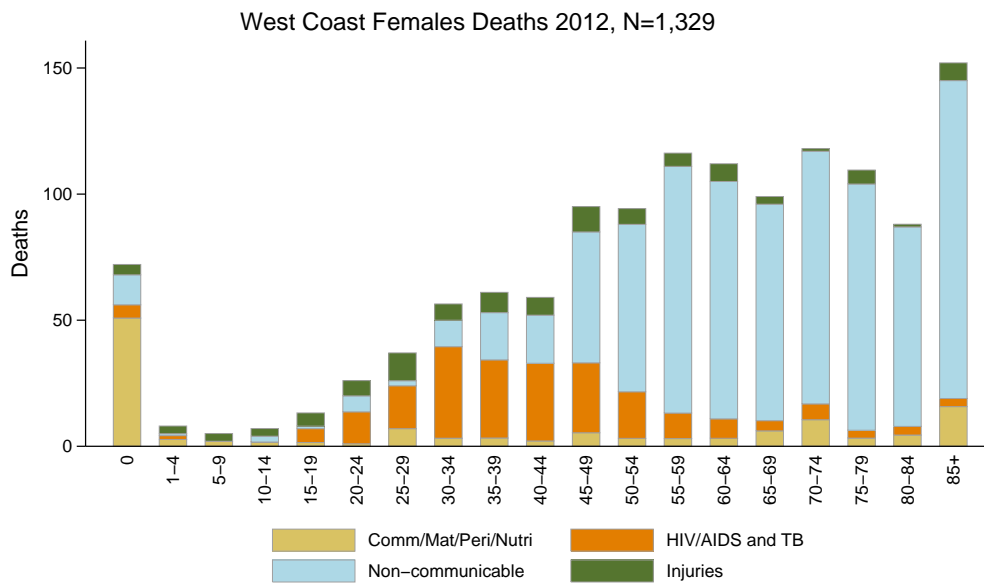
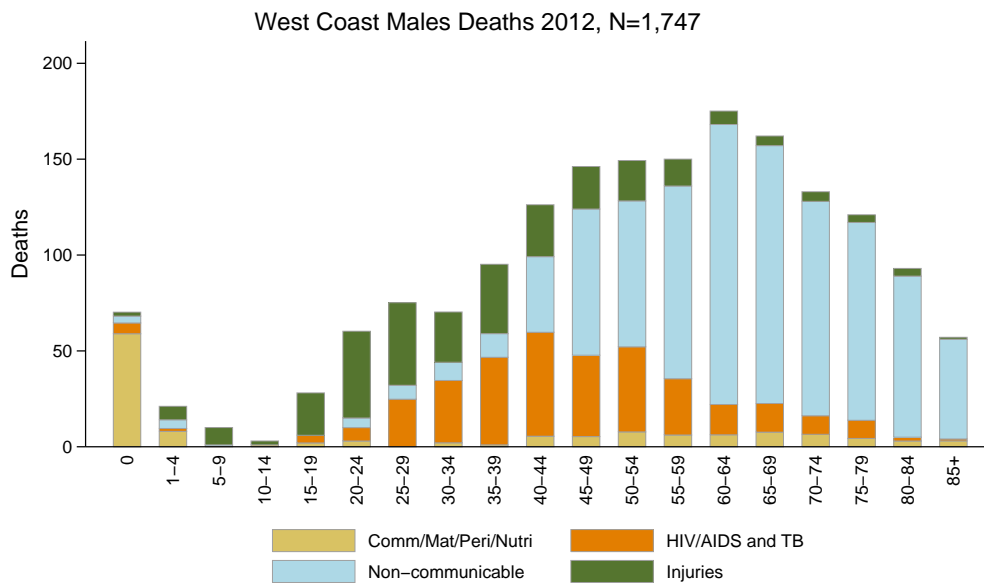


**Table 7.20: Overberg quality of reporting, 2012**

Age	Deaths	Ill def %	Garb (nat) %	Garb (inj) %	All Garb %
0-28 days	45	20.0	0.0	4.5	24.5
1-11 months	42	30.9	9.5	2.4	42.9
1-4	25	16.0	12.0	4.1	32.1
5-9	2	49.4	0.0	1.2	50.6
10-14	6	0.0	0.0	0.4	0.4
15-19	18	5.5	0.0	0.1	5.7
20-24	55	0.0	5.5	0.0	5.5
25-29	76	5.3	4.0	0.0	9.3
30-34	67	6.0	4.5	2.3	12.7
35-39	87	10.3	4.6	1.2	16.0
40-44	107	9.3	9.3	1.9	20.6
45-49	120	14.1	4.2	0.0	18.3
50-54	138	12.3	9.4	1.5	23.2
55-59	142	6.3	7.7	0.8	14.9
60-64	124	3.2	12.1	0.8	16.1
65-69	146	2.7	11.6	2.2	16.5
70-74	161	3.1	11.8	0.6	15.5
75-79	153	4.6	15.7	0.0	20.3
80-84	136	9.6	18.4	0.0	28.0
85+	180	12.8	10.6	3.8	27.1
All	1,831	8.4	9.7	1.3	19.4

## 7.6 West Coast

### 7.6.1 Broad causes



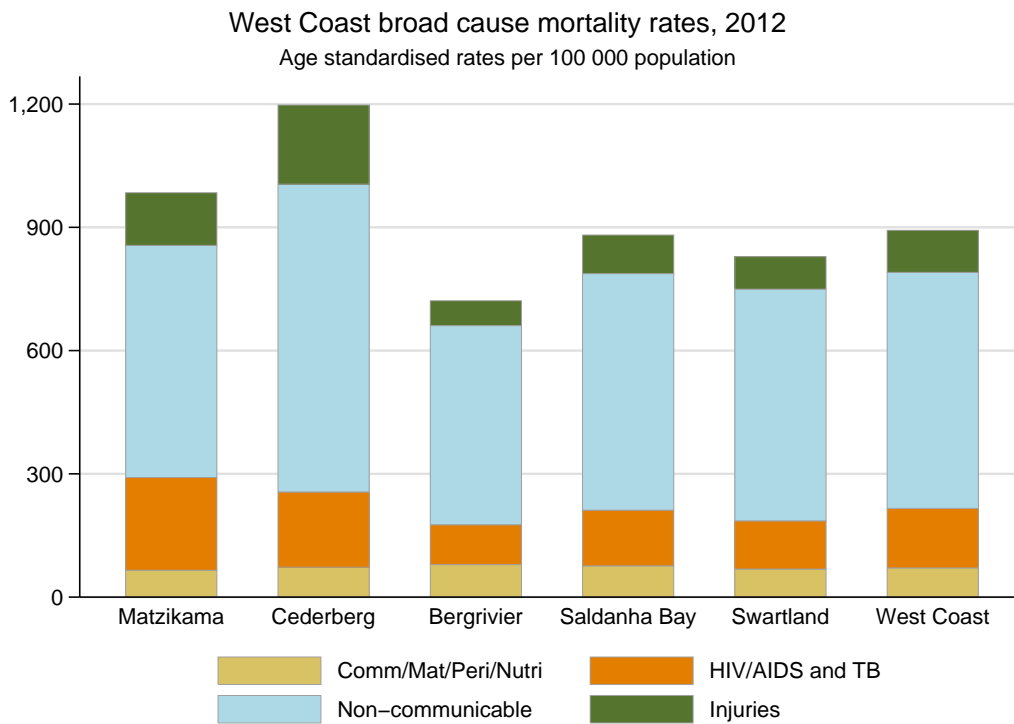
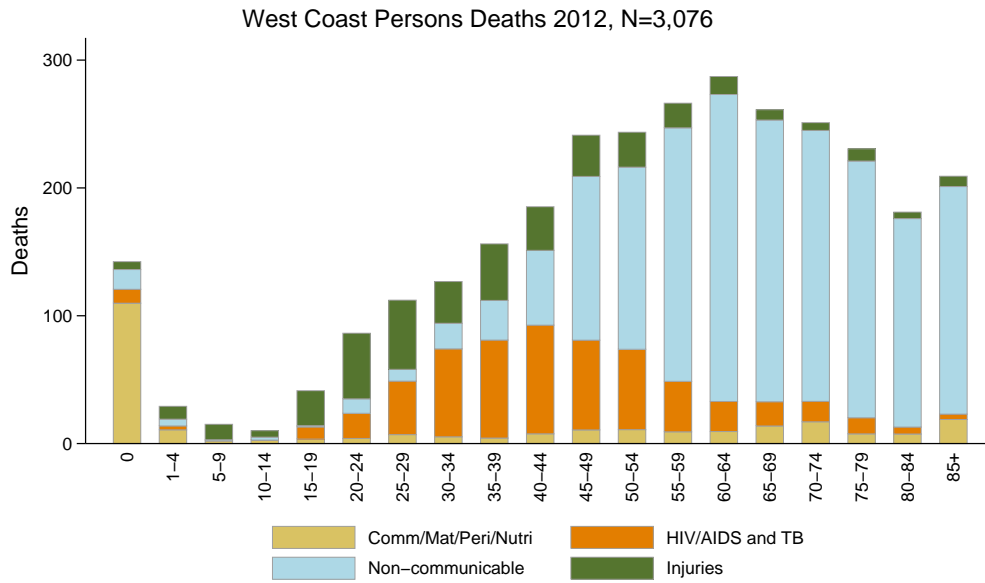
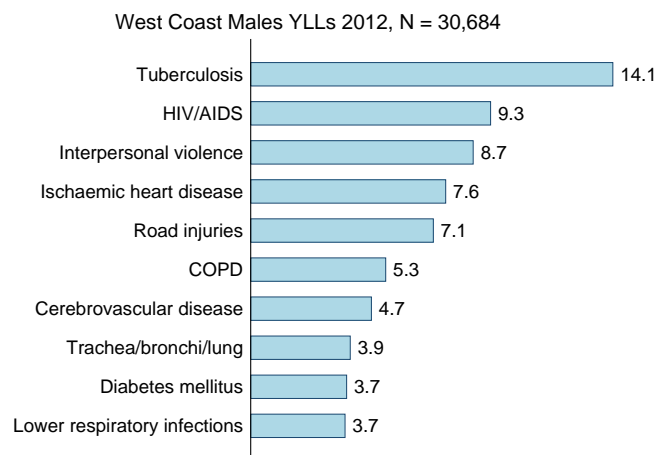
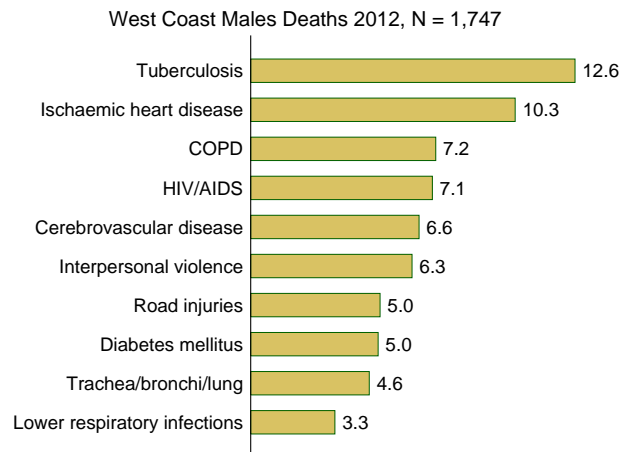


Figure 7.11: West Coast age-standardised rates per 100,000

## 7.6.2 Leading causes of deaths and YLLs

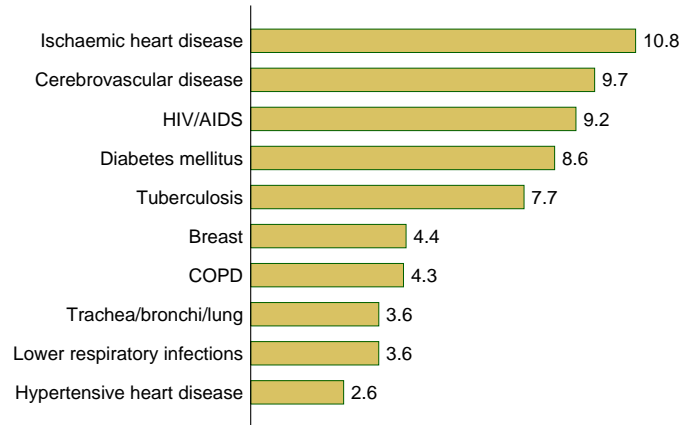


Cause of death	Deaths	%	Cause of death	YLLs	%
Tuberculosis	221	12.6	Tuberculosis	4,330	14.1
Ischaemic heart disease	180	10.3	HIV/AIDS	2,868	9.3
COPD	126	7.2	Interpersonal violence	2,660	8.7
HIV/AIDS	124	7.1	Ischaemic heart disease	2,332	7.6
Cerebrovascular disease	115	6.6	Road injuries	2,184	7.1
Interpersonal violence	110	6.3	COPD	1,614	5.3
Road injuries	88	5.0	Cerebrovascular disease	1,443	4.7
Diabetes mellitus	87	5.0	Trachea/bronchi/lung	1,190	3.9
Trachea/bronchi/lung	81	4.6	Diabetes mellitus	1,147	3.7
Lower respiratory infections	57	3.3	Lower respiratory infections	1,128	3.7
Top 10 causes	1,187	68.0	Top 10 causes	20,898	68.1
Total	1,747	100.0	Total	30,684	100.0

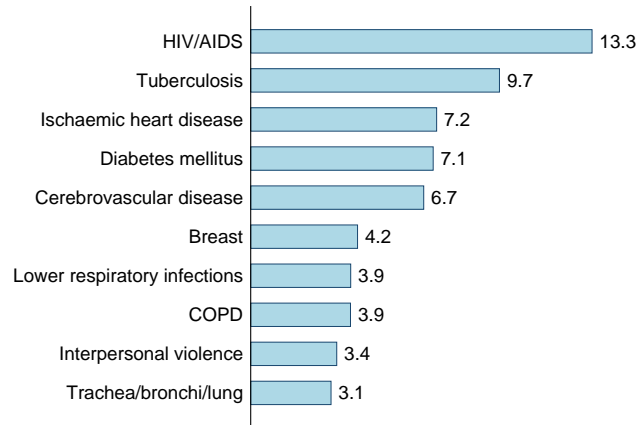
**Table 7.21: Leading causes of death for Males, West Coast 2012**



West Coast Females Deaths 2012, N = 1,330

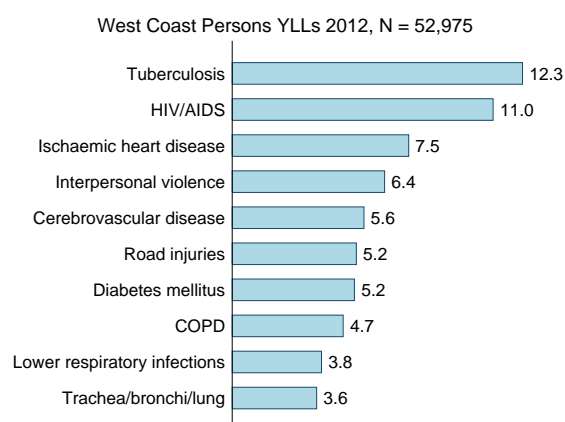
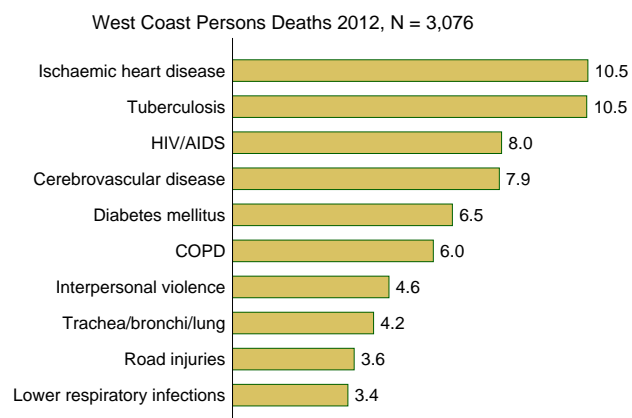


West Coast Females YLLs 2012, N = 22,291



Cause of death	Deaths	%	Cause of death	YLLs	%
Ischaemic heart disease	144	10.8	HIV/AIDS	2,965	13.3
Cerebrovascular disease	129	9.7	Tuberculosis	2,161	9.7
HIV/AIDS	122	9.2	Ischaemic heart disease	1,615	7.2
Diabetes mellitus	114	8.6	Diabetes mellitus	1,585	7.1
Tuberculosis	102	7.7	Cerebrovascular disease	1,503	6.7
Breast	58	4.4	Breast	928	4.2
COPD	57	4.3	Lower respiratory infections	869	3.9
Trachea/bronchi/lung	48	3.6	COPD	867	3.9
Lower respiratory infections	48	3.6	Interpersonal violence	747	3.4
Hypertensive heart disease	35	2.6	Trachea/bronchi/lung	698	3.1
Top 10 causes	857	64.5	Top 10 causes	13,568	60.9
Total	1,330	100.0	Total	22,291	100.0

**Table 7.22: Leading causes of death for Females, West Coast 2012**



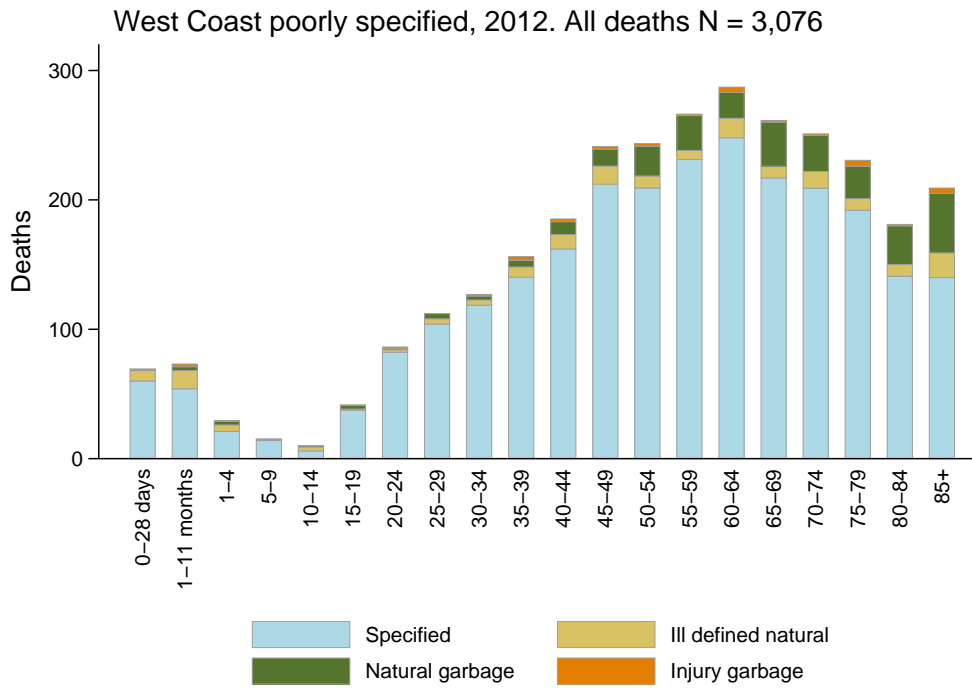
Cause of death	Deaths	%	Cause of death	YLLs	%
Ischaemic heart disease	324	10.5	Tuberculosis	6,491	12.3
Tuberculosis	323	10.5	HIV/AIDS	5,834	11.0
HIV/AIDS	245	8.0	Ischaemic heart disease	3,947	7.5
Cerebrovascular disease	243	7.9	Interpersonal violence	3,408	6.4
Diabetes mellitus	201	6.5	Cerebrovascular disease	2,946	5.6
COPD	183	6.0	Road injuries	2,776	5.2
Interpersonal violence	143	4.6	Diabetes mellitus	2,732	5.2
Trachea/bronchi/lung	129	4.2	COPD	2,481	4.7
Road injuries	111	3.6	Lower respiratory infections	1,997	3.8
Lower respiratory infections	105	3.4	Trachea/bronchi/lung	1,888	3.6
Top 10 causes	2,007	65.3	Top 10 causes	34,500	65.1
Total	3,076	100.0	Total	52,975	100.0

**Table 7.23: Leading causes of death for Persons, West Coast 2012**

Rank	Matzikama	Cederberg	Bergrivier	Saldanha Bay	Swartland	West Coast
1	Tuberculosis (20.0%)	Tuberculosis (12.8%)	Tuberculosis (10.1%)	HIV/AIDS (14.4%)	HIV/AIDS (12.2%)	Tuberculosis (12.3%)
2	HIV/AIDS (9.5%)	Interpersonal violence (10.2%)	Ischaemic heart disease (8.2%)	Tuberculosis (9.1%)	Tuberculosis (9.6%)	HIV/AIDS (11.0%)
3	Interpersonal violence (8.1%)	HIV/AIDS (8.7%)	HIV/AIDS (8.0%)	Ischaemic heart disease (8.4%)	Ischaemic heart disease (7.6%)	Ischaemic heart disease (7.5%)
4	Cerebrovascular disease (6.3%)	Road injuries (7.5%)	COPD (7.6%)	Road injuries (5.9%)	COPD (6.2%)	Interpersonal violence (6.4%)
5	Ischaemic heart disease (6.0%)	Ischaemic heart disease (7.2%)	Diabetes mellitus (6.4%)	Lower respiratory infections (5.6%)	Diabetes mellitus (6.1%)	Cerebrovascular disease (5.6%)
6	Preterm birth complications (4.9%)	Cerebrovascular disease (7.1%)	Cerebrovascular disease (5.5%)	Interpersonal violence (5.5%)	Interpersonal violence (5.1%)	Road injuries (5.2%)
7	Road injuries (4.7%)	Diabetes mellitus (5.1%)	Preterm birth complications (5.4%)	Cerebrovascular disease (5.0%)	Cerebrovascular disease (4.5%)	Diabetes mellitus (5.2%)
8	Trachea/bronchi/lung (3.9%)	COPD (4.3%)	Road injuries (4.8%)	Diabetes mellitus (4.9%)	Lower respiratory infections (3.8%)	COPD (4.7%)
9	Diabetes mellitus (3.4%)	Fires, hot substances (3.9%)	Lower respiratory infections (4.7%)	Trachea/bronchi/lung (3.9%)	Road injuries (3.8%)	Lower respiratory infections (3.8%)
10	COPD (2.9%)	Trachea/bronchi/lung (3.6%)	Trachea/bronchi/lung (4.2%)	COPD (3.1%)	Breast (2.8%)	Trachea/bronchi/lung (3.6%)

Figure 7.12: League table of leading causes of premature mortality, West Coast 2012

### 7.6.3 Proportion ill-defined



**Table 7.24: West Coast quality of reporting, 2012**

Age	Deaths	Ill def %	Garb (nat) %	Garb (inj) %	All Garb %
0-28 days	69	11.7	1.4	0.1	13.2
1-11 months	73	19.2	4.1	2.8	26.2
1-4	29	17.4	10.3	0.3	28.0
5-9	15	0.0	6.6	0.5	7.1
10-14	10	29.8	9.9	0.7	40.4
15-19	41	2.4	7.3	0.2	9.8
20-24	86	2.3	1.2	1.2	4.7
25-29	112	3.6	3.6	0.1	7.3
30-34	127	3.2	2.4	0.8	6.4
35-39	156	5.1	3.2	2.0	10.3
40-44	185	6.0	5.4	1.1	12.5
45-49	241	5.8	5.4	0.9	12.1
50-54	244	3.8	9.4	0.9	14.1
55-59	266	2.6	10.1	0.4	13.2
60-64	287	5.3	7.0	1.4	13.6
65-69	261	3.5	13.0	0.4	16.9
70-74	251	5.2	11.2	0.4	16.8
75-79	231	3.9	10.8	2.0	16.7
80-84	181	5.0	16.6	0.6	22.1
85+	209	9.1	22.0	1.9	33.1
All	3,076	5.4	9.1	1.0	15.5

## A APPENDICES

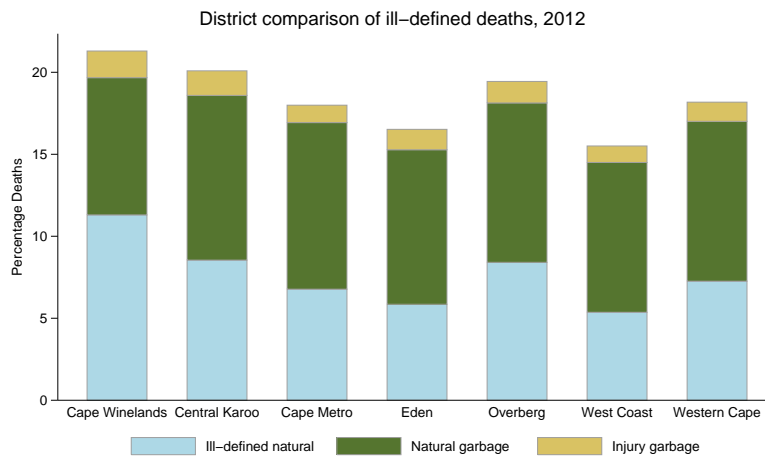
### A.1 Completeness by district and age

**Table A.1: Estimates of completeness of all deaths compared with Stats SA deaths, 2012**

District	Completeness (%)			N		
	< 5 yr	> 5 yr	All	< 5 yr	> 5 yr	All*
Cape Winelands	111.7	83.6	85.2	346	5,290	5,653
Central Karoo	104.9	88.3	89.2	43	624	667
Cape Metro	97.4	97.5	97.8	1,545	25,582	27,208
Eden	91.4	92.8	92.8	212	4,603	4,818
Overberg	106.7	85.3	86.6	112	1,714	1,831
West Coast	106.7	85.3	86.6	171	2,900	3,076
Western Cape	100.5	94.3	94.9	2,429	40,713	43,253

\*Includes 111 deaths with unknown age

### A.2 Proportion ill-defined



**Figure A.1: District comparison of ill-defined causes**

**Table A.2: District comparison of garbage coded causes, 2012**

District	Deaths	Ill-def %	Garb (nat) %	Garb (inj) %	All Garb %
Cape Winelands	5,653	11.3	8.4	1.6	21.3
Central Karoo	667	8.5	10.0	1.5	20.1
Cape Town	27,208	6.8	10.2	1.1	18.0
Eden	4,818	5.9	9.4	1.2	16.5
Overberg	1,831	8.4	9.7	1.3	19.4
West Coast	3,076	5.4	9.1	1.0	15.5
Western Cape	43,253	7.3	9.7	1.2	18.2

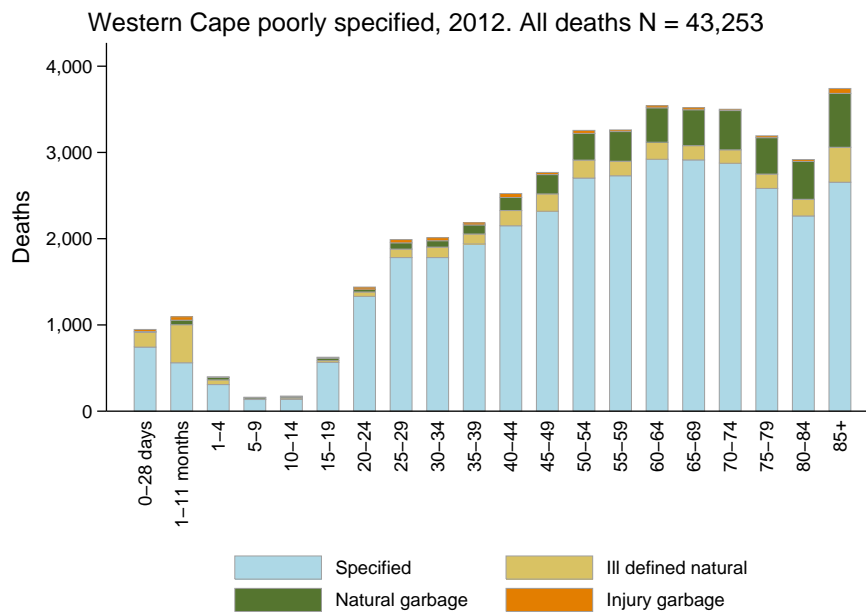


Figure A.2: Western Cape poorly specified, 2012

Table A.3: Western Cape quality of reporting, 2012

Age	Deaths	Ill def %	Garb (nat) %	Garb (inj) %	All Garb %
0-28 days	948	18.2	0.8	2.5	21.6
1-11 months	1,095	40.3	4.8	3.7	48.7
1-4	398	13.6	7.3	1.6	22.5
5-9	162	4.9	9.3	2.2	16.4
10-14	175	9.2	8.0	4.9	22.1
15-19	626	3.4	4.5	1.8	9.7
20-24	1,439	3.6	2.3	1.7	7.5
25-29	1,990	4.9	3.7	1.9	10.5
30-34	2,012	6.0	3.7	1.8	11.5
35-39	2,184	5.3	4.8	1.1	11.2
40-44	2,524	7.0	6.0	1.8	14.8
45-49	2,768	7.3	8.1	0.9	16.3
50-54	3,256	6.4	9.5	1.1	17.0
55-59	3,262	5.2	10.5	0.6	16.3
60-64	3,542	5.6	11.3	0.7	17.5
65-69	3,519	4.7	11.8	0.7	17.2
70-74	3,501	4.5	13.0	0.4	17.9
75-79	3,193	5.2	13.2	0.7	19.1
80-84	2,918	6.6	15.1	0.8	22.4
85+	3,742	10.8	16.7	1.5	29.1
All	43,253	7.3	9.7	1.2	18.2

## A.3 Western Cape Deaths and YLLs, 2012

**Table A.4: Western Cape districts deaths and YLLs, 2012**

District	Deaths	%	YLLs	%
Cape Winelands	5,653	13.1	99,484	13.5
Central Karoo	667	1.5	11,971	1.6
Cape Metro	27,208	62.9	464,801	63.0
Eden	4,818	11.1	78,211	10.6
Overberg	1,831	4.2	30,175	4.1
West Coast	3,076	7.1	52,975	7.2
Western Cape	43,253	100.0	737,617	100.0

**Table A.5: Deaths and YLLs by disease category for Persons, Western Cape 2012**

Cause	Deaths	%	YLLs	%
Inf/para	2,937	6.8	51,489	7.0
Other Group 1	990	2.3	29,505	4.0
HIV/AIDS and TB	6,421	14.8	143,560	19.5
Cancers	7,826	18.1	111,863	15.2
Diabetes	2,424	5.6	32,001	4.3
Cardiovascular	9,214	21.3	111,669	15.1
Other Group 2	7,022	16.2	105,912	14.4
Unintentional injuries	2,974	6.9	65,886	8.9
Intentional injuries	3,446	8.0	85,733	11.6
Total	43,253	100.0	737,617	100.0

**Table A.6: Leading causes of death for Persons, Western Cape 2012**

Cause of death	Deaths	%	Cause of death	YLLs	%
Ischaemic heart disease	4,143	9.6	HIV/AIDS	88,770	12.0
HIV/AIDS	3,760	8.7	Interpersonal violence	67,881	9.2
Cerebrovascular disease	3,154	7.3	Tuberculosis	54,789	7.4
Interpersonal violence	2,685	6.2	Ischaemic heart disease	48,234	6.5
Tuberculosis	2,661	6.2	Cerebrovascular disease	38,718	5.2
Diabetes mellitus	2,424	5.6	Road injuries	34,069	4.6
COPD	2,095	4.8	Diabetes mellitus	32,001	4.3
Trachea/bronchi/lung	1,948	4.5	COPD	28,050	3.8
Lower respiratory infections	1,602	3.7	Trachea/bronchi/lung	27,433	3.7
Road injuries	1,438	3.3	Lower respiratory infections	25,701	3.5
Top 10 causes	25,911	59.9	Top 10 causes	445,648	60.4
Total	43,253	100.0	Total	737,617	100.0

**Table A.7: Leading causes of death for Males, Western Cape 2012**

Cause of death	Deaths	%	Cause of death	YLLs	%
Interpersonal violence	2,338	9.7	Interpersonal violence	59,272	13.8
Ischaemic heart disease	2,232	9.2	HIV/AIDS	43,349	10.1
HIV/AIDS	1,903	7.9	Tuberculosis	35,155	8.2
Tuberculosis	1,753	7.2	Ischaemic heart disease	28,096	6.6
Cerebrovascular disease	1,391	5.7	Road injuries	25,306	5.9
COPD	1,323	5.5	Trachea/bronchi/lung	18,270	4.3
Trachea/bronchi/lung	1,305	5.4	Cerebrovascular disease	17,863	4.2
Road injuries	1,075	4.4	COPD	17,614	4.1
Diabetes mellitus	1,000	4.1	Self-inflicted injuries	13,695	3.2
Lower respiratory infections	794	3.3	Lower respiratory infections	13,638	3.2
Top 10 causes	15,114	62.4	Top 10 causes	271,777	63.4
Total	24,204	100.0	Total	428,935	100.0

**Table A.8: Leading causes of death for Females, Western Cape 2012**

Cause of death	Deaths	%	Cause of death	YLLs	%
Ischaemic heart disease	1,911	10.0	HIV/AIDS	45,422	14.7
HIV/AIDS	1,856	9.7	Cerebrovascular disease	20,855	6.8
Cerebrovascular disease	1,763	9.3	Ischaemic heart disease	20,138	6.5
Diabetes mellitus	1,424	7.5	Tuberculosis	19,634	6.4
Tuberculosis	908	4.8	Diabetes mellitus	18,788	6.1
Lower respiratory infections	808	4.2	Breast	12,188	3.9
COPD	772	4.1	Lower respiratory infections	12,062	3.9
Breast	768	4.0	COPD	10,437	3.4
Trachea/bronchi/lung	644	3.4	Trachea/bronchi/lung	9,163	3.0
Nephritis/nephrosis	486	2.6	Road injuries	8,763	2.8
Top 10 causes	11,340	59.5	Top 10 causes	175,120	56.7
Total	19,049	100.0	Total	308,682	100.0



## A.4 Live births and deaths, Stats SA Western Cape

**Table A.9: Live births and deaths in children under 5 years, Stats SA**

Districts	DEATHS (Stats SA)						LIVE BIRTHS <sup>1</sup> (Stats SA)								
	2008 <sup>2</sup>		2009 <sup>3</sup>		2010 <sup>4</sup>		2011 <sup>5</sup>		2012 <sup>6</sup>		2008	2009	2010	2011	2012
	1-4	0	1-4	0	1-4	0	1-4	0	1-4	0	1-4	0	1-4	0	1-4
Cape Winelands	308	99	336	79	334	82	274	72	251	58	13,450	13,400	13,365	12,939	
Cent Karoo	55	18	48	13	36	11	38	7	37	4	1,250	1,191	1,114	1,239	
Cape Metro	1,617	373	1,591	331	1,590	373	1,198	316	1,322	267	76,867	73,895	70,981	73,610	
Eden	245	62	235	46	182	44	185	39	184	48	10,540	10,007	9,526	9,963	
Overberg	83	21	79	14	92	37	84	22	86	19	2,980	2,971	2,822	3,119	
West Coast	173	34	139	20	170	30	128	34	109	29	6,132	6,019	5,840	5,990	
<b>West Cape</b>	<b>2,481</b>	<b>607</b>	<b>2,428</b>	<b>503</b>	<b>2,404</b>	<b>577</b>	<b>1,958*</b>	<b>504*</b>	<b>2010*</b>	<b>427*</b>	<b>111,362</b>	<b>107,353</b>	<b>104,961</b>	<b>103,648</b>	<b>107,860</b>

\*Excluding unspecified districts

Sources:

1. StatsSA. Recorded Live Births, 2012. Statistical Release P0305. Pretoria: Statistics South Africa, 2013.
2. Stats SA. Mortality and causes of death in South Africa, 2008. Statistical Release P0309.3. Pretoria: Statistics South Africa, 2010.
3. Stats SA. Mortality and causes of death in South Africa, 2009. Statistical Release P0309.3. Pretoria: Statistics South Africa, 2011.
4. Stats SA. Mortality and causes of death in South Africa, 2010. Statistical Release P0309.3. Pretoria: Statistics South Africa, 2013.
5. Stats SA. Mortality and causes of death in South Africa, 2011. Statistical Release P0309.3. Pretoria: Statistics South Africa, 2014.
6. Stats SA. Mortality and causes of death in South Africa, 2012. Statistical Release P0309.3. Pretoria: Statistics South Africa, 2014.

## A.5 Trends in Infant and Under 5 Mortality rates by District, 2008-2012

**Table A.10: Trends in IMR and U5MR in Western Cape districts, 2008–2012 Stats SA**

Districts	IMR per 1,000 live births* (Stats SA)					U5MR per 1,000 live births* (Stats SA)				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Cape Winelands	22.7	25.0	24.9	20.5	18.0	29.9	30.9	31.0	25.9	22.2
Central Karoo	44.0	40.3	33.3	34.1	29.9	58.4	51.2	43.4	40.4	33.1
Cape Metro	21.0	21.5	22.0	16.9	18.0	25.9	26.0	27.2	21.3	21.6
Eden	23.2	23.5	18.8	19.4	18.5	29.1	28.1	23.4	23.5	23.3
Overberg	27.9	28.3	32.1	29.8	27.6	34.9	33.3	45.0	37.6	33.7
West Coast	28.2	23.1	29.5	21.9	18.2	33.8	26.4	34.7	27.7	23.0
<b>Western Cape</b>	<b>22.3</b>	<b>22.6</b>	<b>22.9</b>	<b>18.9</b>	<b>18.6</b>	<b>27.7</b>	<b>27.3</b>	<b>28.4</b>	<b>23.8</b>	<b>22.6</b>

\*Rates recalculated yearly to include late registrations of births