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Western Cape Mortality Profile 2013

Mortality Trends 2009-2013



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Suggested citation

Morden E, Groenewald P, Zinyakatira N, Neethling I, Msemburi W, Daniels J, Vismer M, Coetzee D, Bradshaw D, Evans J. Western Cape Mortality Profile 2013. Cape Town: South African Medical Research Council, 2016. ISBN: 978-0-621-44356-1

Acknowledgments

Data capturers from the City of Cape Town and the provincial health districts (Cape Metropole, Cape Winelands, Central Karoo, Eden, Overberg and West Coast) are thanked for their continued support with collecting and capturing the local mortality data. The regional offices of Home Affairs are thanked for their cooperation. The Western Cape Forensic Pathology Services, the Division of Forensic Medicine & Toxicology, University of Cape Town and the Division of Forensic Medicine, Department of Pathology, University of Stellenbosch are thanked for their assistance with collection of injury data. Statistics South Africa are thanked for providing mortality data from the National vital registration system.

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

ASSA	A ctuarial S ociety of S outh A frica
CARe	C entre for A ctuarial R esearch
DNF	D eath N otification F orm
FPS	F orensic P athology S ervices
ICD-10	I nternational S tatistical C lassification of D isease
LMSS	L ocal M ortality S urveillance S ystem
IPV	I nterpersonal V iolence
MRC	M edical R esearch C ouncil
NBD	N ational B urden of D iseases and Related Health Problems
NCD	N on C ommunicable D iseases
PIMSS	P rovincial I njury M ortality S urveillance S ystem
Stats SA	S tatistics S outh A frica
WCDoH	W estern C ape D epartment of H ealth
YLLs	Y ears of L ife L ost

Glossary and explanation of common terms and analyses 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.

ILL-DEFINED CAUSES: ICD – 10 codes R00-R99.

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).

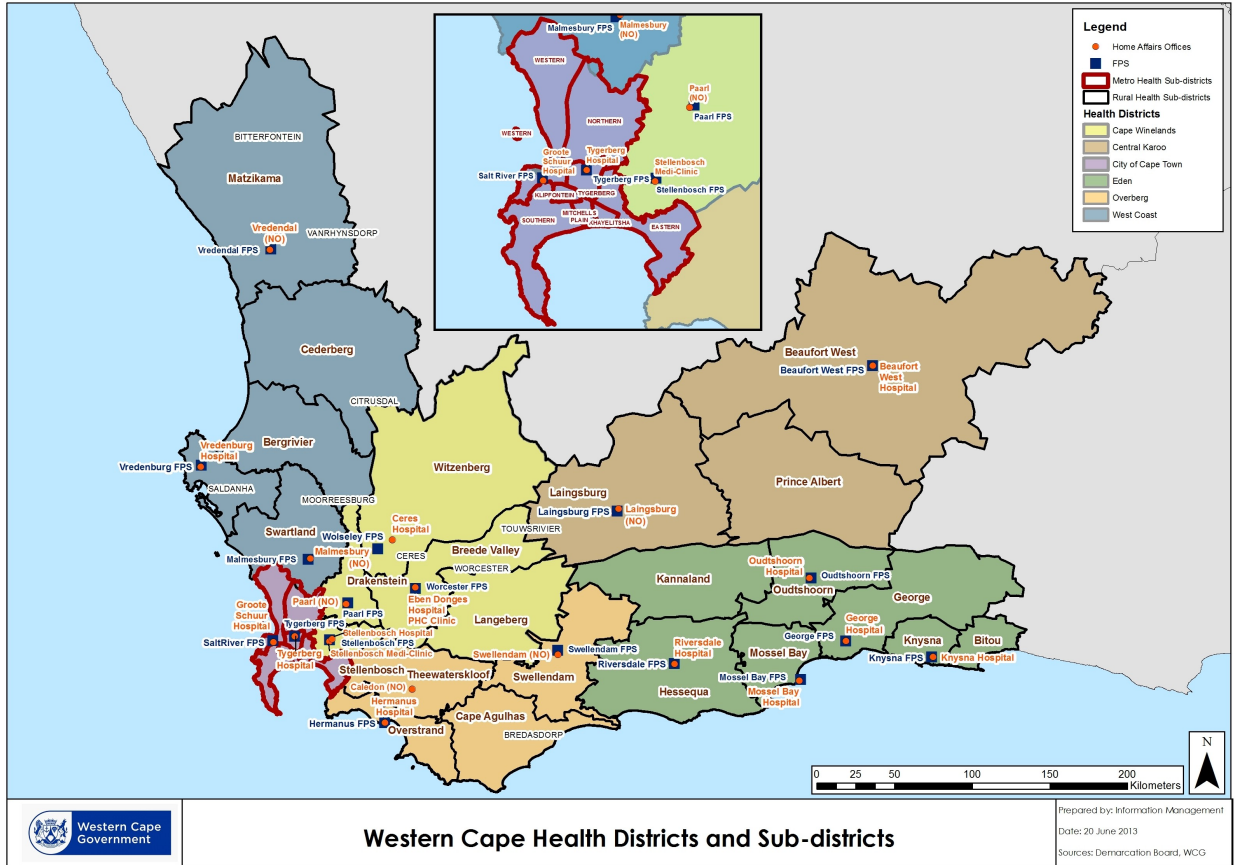
BROAD CAUSE GROUPINGS: Broad causes group together causes of death with related underlying aetiology. Examining the distribution of deaths in this way allows us to understand the upstream causes of the burden of disease, and positions the population in relation to the theory of epidemiological transition. Causes from the National Burden of Disease (NBD) list were grouped into three broad cause groups used by the Global Burden of Disease (GBD) study. These include:

- Group I: Pre-transitional causes
 - Infectious and parasitic (Inf/para)
 - HIV/AIDS and TB
 - Maternal, perinatal and nutritional conditions (Mat/Peri/Nutr)
- Group II: Non-communicable causes
 - Cancers
 - Diabetes
 - Cardiovascular
 - Other non-communicable diseases (NCDs)
- Group III: Injuries
 - Unintentional injuries
 - Intentional Injuries

LEADING CAUSES OF DEATH Individual causes are ranked and the top 10 are presented as leading causes of mortality.

PREMATURE MORTALITY: Years of Life Lost (YLL) are calculated 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 (ASR): Death rates of most diseases are strongly age-dependent, with risk rising with age. Direct comparison of crude death rates over time may be very misleading if the underlying age composition of the population being compared has also changed. Therefore, age-standardised death rates of leading causes of death are calculated to remove the impact of the change in age composition.



Ref: 201306 / 005 / MN

1 Executive Summary

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 established a district wide local mortality surveillance system (LMSS) in 2009. The system made use of cause of death information provided on death notification forms (DNFs) of deaths registered with the Department of Home Affairs and Forensic Pathology Services (FPS). This report presents trends in the mortality profile for the Western Cape and each of its districts for the years 2009 to 2013.

Summary of key findings from mortality surveillance in the Western Cape, 2009 – 2013

- There was a 12% decrease in the all-cause age-standardised mortality rate (ASR) in the Western Cape, from 957 deaths per 100 000 population in 2009 to 842 deaths per 100 000 population in 2013.
- Between 2008 and 2013, both infant and child mortality decreased by 15% to 19.3 deaths per 1 000 live births, and 23.8 deaths per 1 000 live births, respectively.
- From 2009 to 2013, non-communicable diseases (NCDs) accounted for ~60% of deaths for both males and females.
 - Ischaemic heart disease remained the leading cause of death in 2013 for both men and women after age-standardisation (89 deaths per 100 000 population), and was ranked 3rd in women and 4th in men in terms of leading cause of premature mortality (years of life lost).
- TB ASR decreased from 77 deaths per 100 000 population in 2009 to 44 deaths per 100 000 population in 2013. However, TB still ranked in the top 5 leading causes of premature mortality in both males and females in 2013.
- Among men, interpersonal violence (IPV) remained the leading cause of premature mortality in 2013.
 - IPV deaths were highest in males aged 20-30 years, and age standardised IPV rates were highest in Cape Metro sub-districts of Khayelitsha, Mitchells Plain, Klipfontein and Tygerberg and Central Karoo sub-districts of Beaufort West and Prince Albert.
- Among women, HIV/AIDS remained the leading cause of premature mortality in 2013.
- Among neonates (0-28 days), preterm birth complications remained the leading cause of death in 2013, followed by birth asphyxia and severe infections.
- Among children under 5, there was a 10% decrease in deaths due to infectious diseases between 2011 and 2013.
 - In children aged 1-59 months, diarrhoeal deaths decreased by 58%, and HIV/AIDS deaths by 70% between 2009 and 2013.
 - Deaths due to respiratory tract infections were the leading cause of death in children of this age group in 2013, increasing by 18% between 2009 and 2013.
- Among older children and adolescents (aged 5-17 years), injuries accounted for the greatest proportion (~60%) of deaths between 2011 and 2013.
 - Among boys, the proportion of deaths due to IPV increased from 27% in 2011 to 34% in 2013, making it the leading cause of death for this age group. This was followed by deaths from road traffic injuries and drowning.
 - Among girls, road injuries remained the leading cause of death between 2011 and 2013 (14%), followed by IPV and HIV/AIDS.

2 Mortality profile for the Western Cape

2.1 Trends in age-standardised mortality rates (ASR), 2009 – 2013

All-cause ASR for the Western Cape decreased by 12% from 957 deaths per 100 000 population in 2009 to 842 per 100 000 population in 2013. Changes in ASR varied among districts: in the Central Karoo, ASR decreased by 29% between 2009 and 2013, whereas in the Overberg ASR increased by 3%. The decline in ASR was greater for females (15%) compared to males (9%) (Table 2.1).

Table 2.1: Trends in all-cause age-standardised mortality rates (per 100 000 population) in the Western Cape, 2009 – 2013

	Year	Cape Winelands	Central Karoo	Cape Metro	Eden	Overberg	West Coast	Western Cape
Males	2009	1,248	1,551	1,160	1,118	868	1,116	1,150
	2010	1,102	1,195	1,044	974	918	926	1,029
	2011	1,102	1,218	1,049	1,035	1,020	1,016	1,049
	2012	1,084	1,268	1,079	1,039	869	1,081	1,064
	2013	1,027	1,091	1,060	1,061	894	1,056	1,044
Females	2009	872	1,098	798	797	542	722	792
	2010	742	839	723	674	594	644	709
	2011	782	1,057	707	765	640	715	723
	2012	723	905	695	702	558	723	695
	2013	665	815	676	705	547	673	671
Persons	2009	1,049	1,310	961	948	698	909	957
	2010	910	1,007	870	817	749	781	857
	2011	929	1,136	862	894	824	856	873
	2012	887	1,074	869	859	708	892	864
	2013	829	945	850	872	715	852	842

2.2 Trends in infant and child mortality rates, 2008 – 2013

Trends in infant (IMR) and under 5 mortality rates (U5MR) between 2008 and 2013 for each district are shown in Figures 2.1 and 2.2 (Appendix Tables A.2 to A.4) ^{1,2}. Between 2008 and 2013, both infant and child mortality decreased by 15% to 19.3 deaths per 1 000 live births and 23.8 deaths per 1 000 live births, respectively. However, child mortality rates reported for 2013 are likely an over-estimation due to poor birth registration for the Western Cape in 2013, where approximately 10 000 less births were reported by Stats SA compared to previous years (see Appendix Table A.4 comparing births reported by Stats SA and those reported on Sinjani).

¹Statistics South Africa, Mortality and causes of death in the Western Cape, 2008-2013.

²Statistics South Africa. Recorded live births, 2014. P0305, Pretoria: Statistics South Africa, 2015.

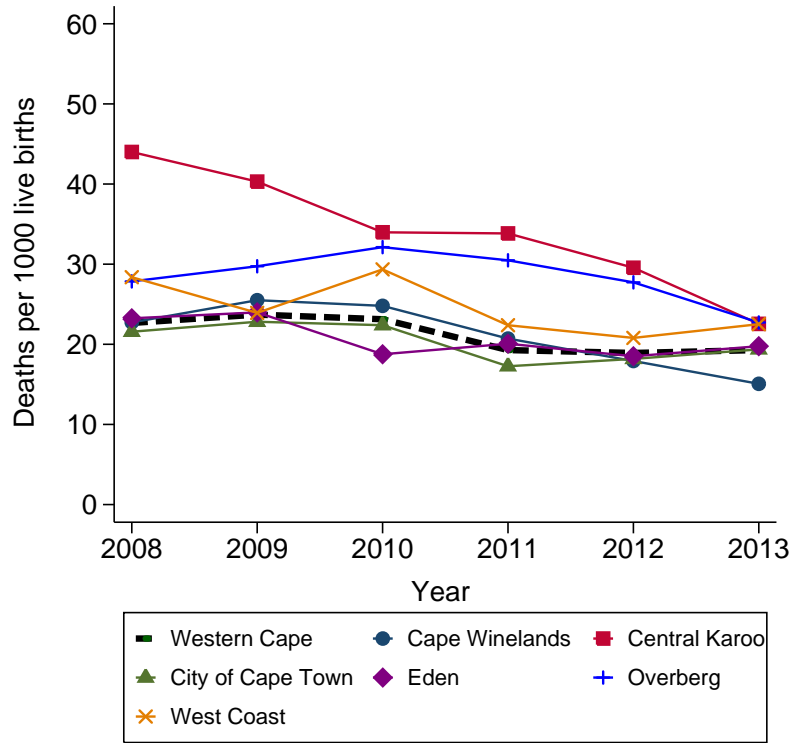


Figure 2.1: Trends in infant mortality rate by district, 2008 – 2013

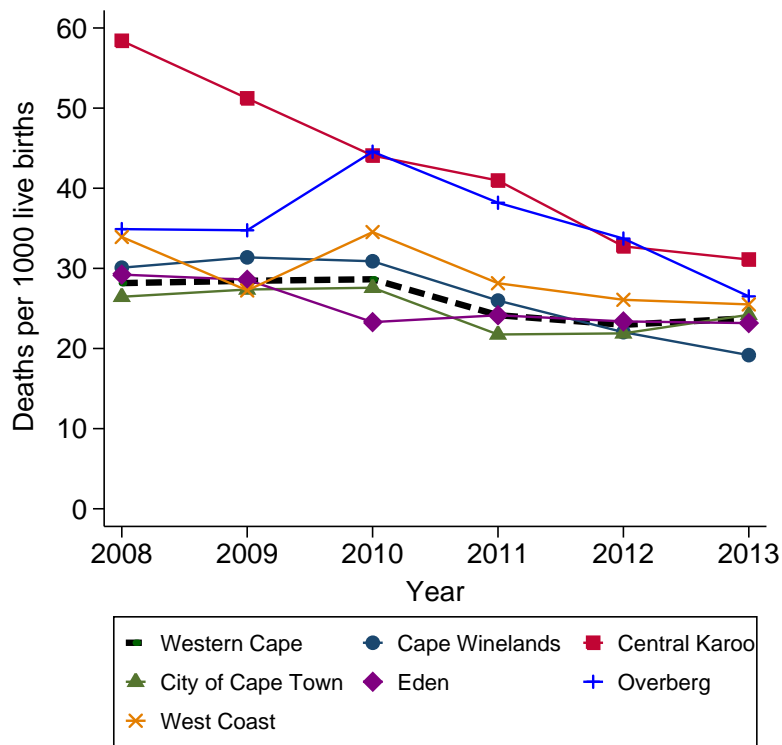


Figure 2.2: Trends in under 5 mortality rate by district, Western Cape 2008 – 2013

2.3 Cause-specific trends in mortality, Western Cape 2009 – 2013

2.3.1 Trends in broad causes of death

Trends in the proportion of deaths by broad cause disease category for all persons, males and females are shown in Figures 2.3 to 2.5. For all persons, NCDs (cancers, cardiovascular causes, diabetes and other NCDs) accounted for the largest proportion of deaths between 2009 (57%) and 2013 (61%). The proportion of NCD-related deaths was higher for females compared to males across all years: in 2013, 68% of deaths in women were due to NCDs compared to 56% among males.

The proportion of deaths due to infectious diseases have decreased by 6% from 29% in 2009 to 23% 2013 for all persons: this was due to a 5% decrease in HIV/AIDS and TB related deaths for both males and females and a 1% reduction in infectious/parasitic deaths. There was no change in the proportion of deaths due to maternal/perinatal or nutrition related causes.

Between 2009 and 2013, injury-related deaths accounted for a significantly larger proportion of deaths among males compared to females. The proportion of intentional injury deaths among men increased from 10.6% in 2009 to 13.4% in 2013. Among females, there was no change in the proportion of intentional injury deaths, which only accounted for approximately 2% of all female deaths in 2013 (Appendix Table A.5).

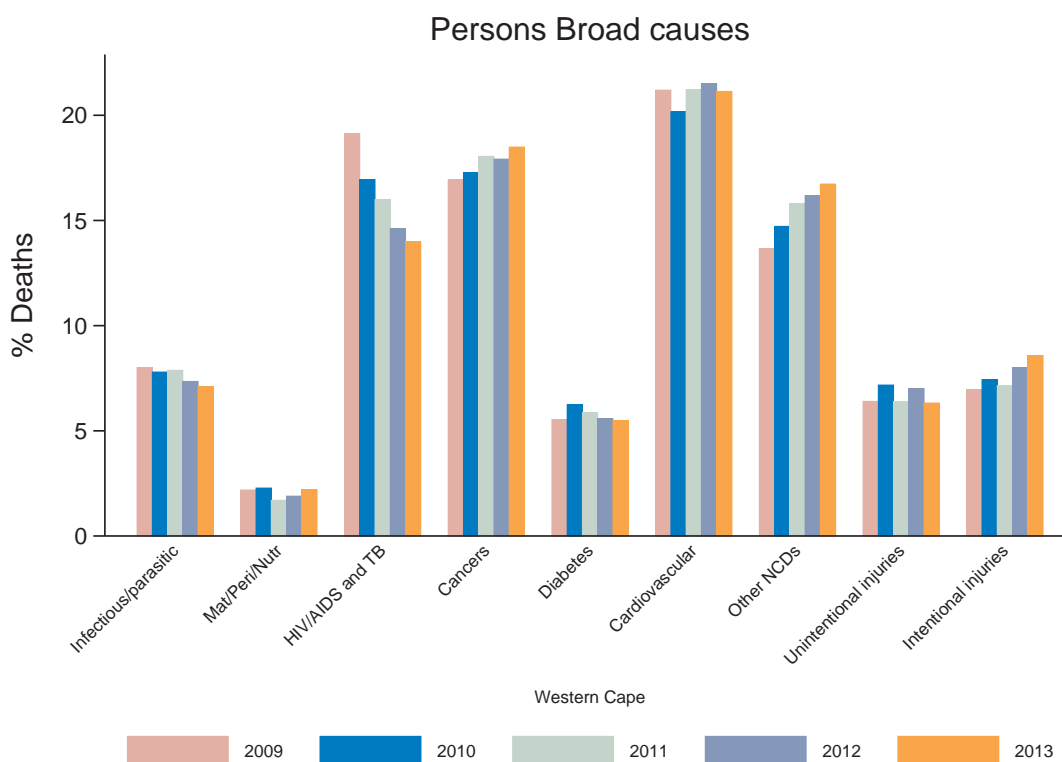


Figure 2.3: Trends in the percentage of deaths by broad cause disease category for all persons, Western Cape 2009 – 2013

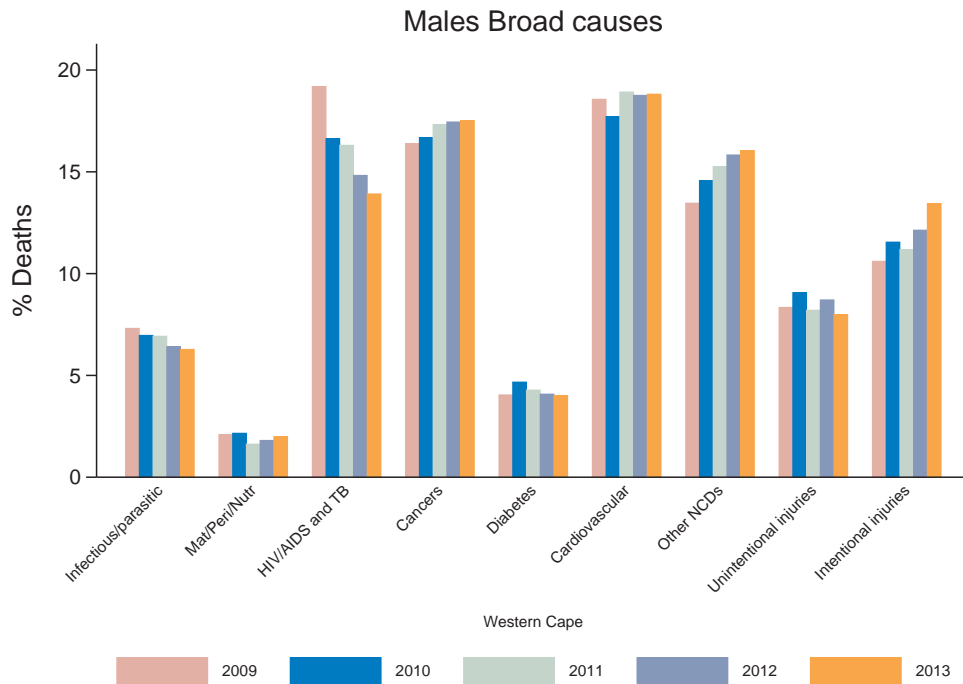


Figure 2.4: Trends in the percentage of deaths by broad cause disease category for males, Western Cape 2009 – 2013

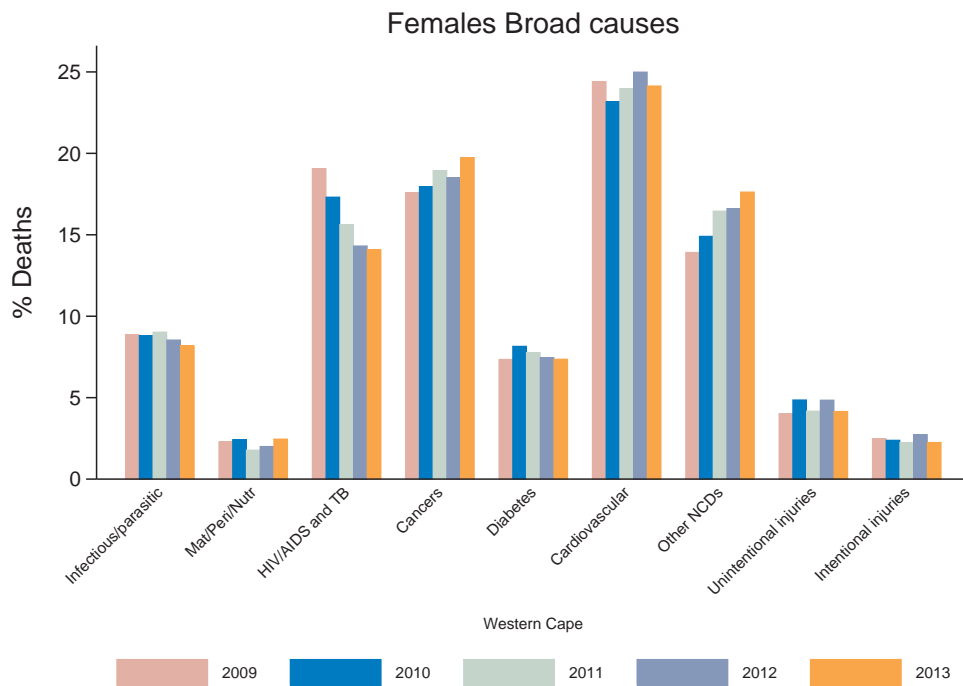


Figure 2.5: Trends in the percentage of deaths by broad cause disease category for females, Western Cape 2009 – 2013

2.3.2 Trends in leading causes of death

2.3.2.1 Age-standardised death rates (ASR)

Trends in leading causes of death based on ASRs for all persons, males and females are shown in Figures 2.6 to 2.8. Ranking is based on the top 10 leading causes for 2013.

Among all persons, ischaemic heart disease remained the leading cause of death between 2009 and 2013, accounting for approximately 90 deaths per 100 000 population in 2013. TB ASR almost halved from 77 deaths per 100 000 population in 2009 to 44 deaths per 100 000 population in 2013. HIV/AIDS ASR decreased by 27% from 79 deaths per 100 000 population in 2009 to 58 deaths per 100 000 population in 2013, ranking 3rd. It is important to note that due to incomplete registration, deaths in 2009 were adjusted to the numbers reported by Stats SA, while no adjustment was made for 2010. We therefore assume that some of the decrease, particularly between 2009 and 2010, can be ascribed to lack of completeness in 2010.

Among males, IPV ASR, which was ranked 5th in 2009, increased from 70 deaths per 100 000 population to 84 deaths per 100 000 population in 2013, ranking 2nd. The greatest increase in IPV deaths was in men aged 20-30 years (Figure 2.9). TB ASR decreased from 104 deaths per 100 000 population in 2009 (ranked 2nd) to 62 deaths per 100 000 population in 2013 (ranked 6th). HIV/AIDS ASR decreased from 80 deaths per 100 000 population in 2009 (ranked 3rd) to 59 deaths per 100 000 population in 2013 (ranked 7th). The greatest decline in HIV/AIDS and TB deaths combined was in men aged 35-39 years (Figure 2.10).

Among females, HIV/AIDS ASR, which was ranked 1st in 2009 and 2010, decreased from 80 deaths per 100 000 population to 57 deaths per 100 000 population in 2013, ranking 3rd. The greatest decrease in HIV/AIDS and TB deaths was in women aged 25-34 years (Figure 2.11).

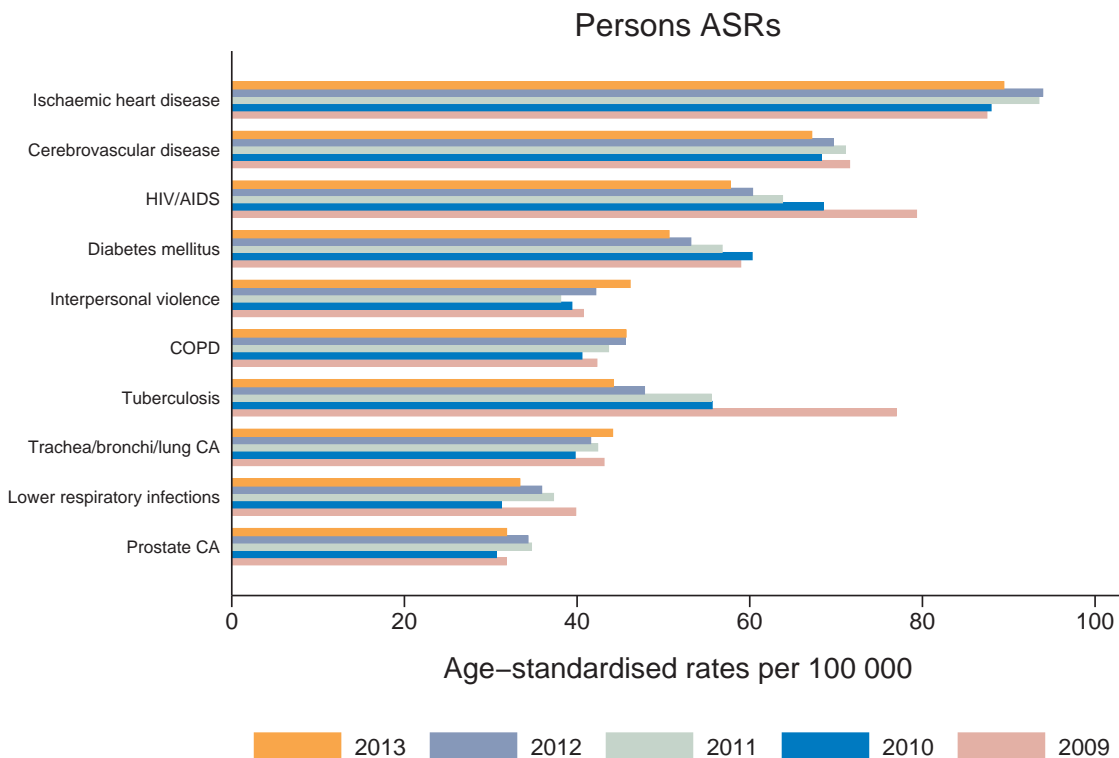


Figure 2.6: Leading causes of death (ASR) for all persons, Western Cape 2009 – 2013

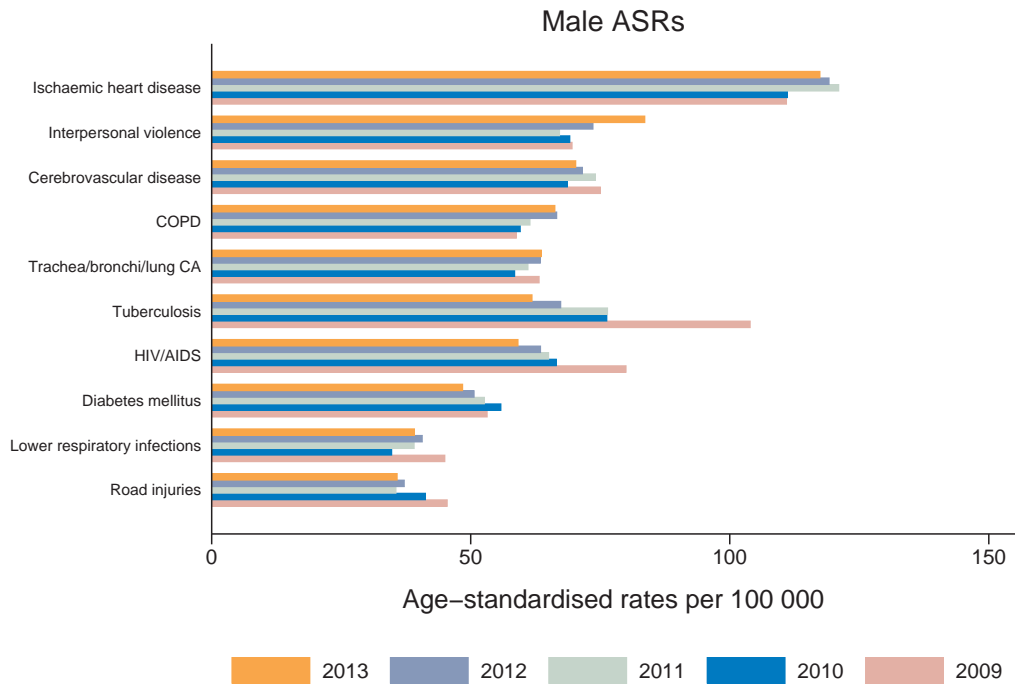


Figure 2.7: Leading causes of death (ASR) for males, Western Cape 2009 – 2013

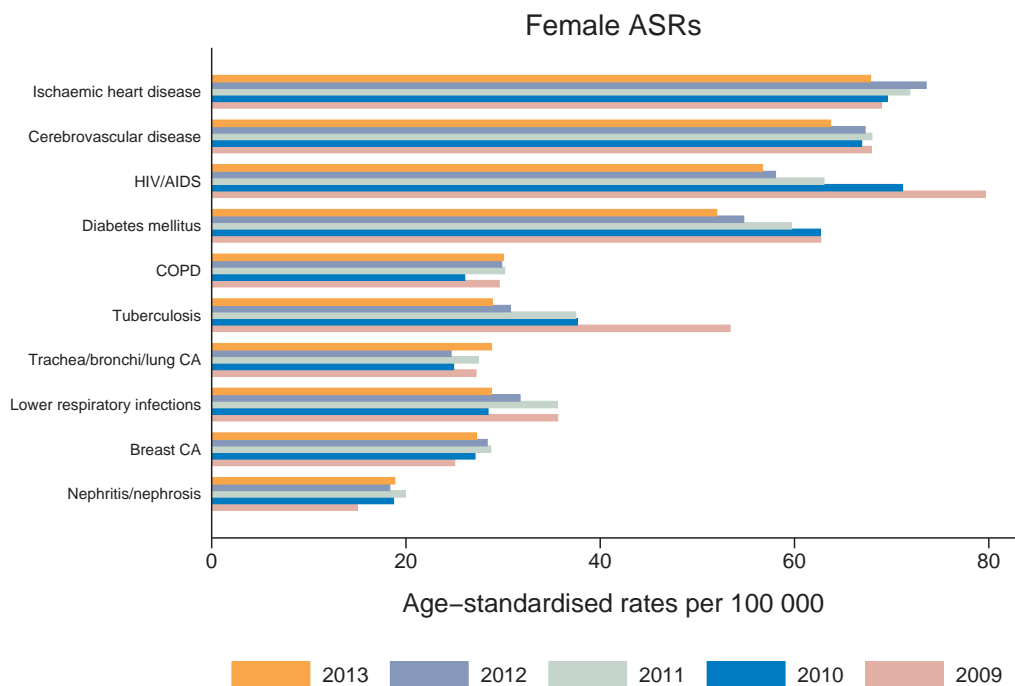


Figure 2.8: Leading causes of death (ASR) for females, Western Cape 2009 – 2013

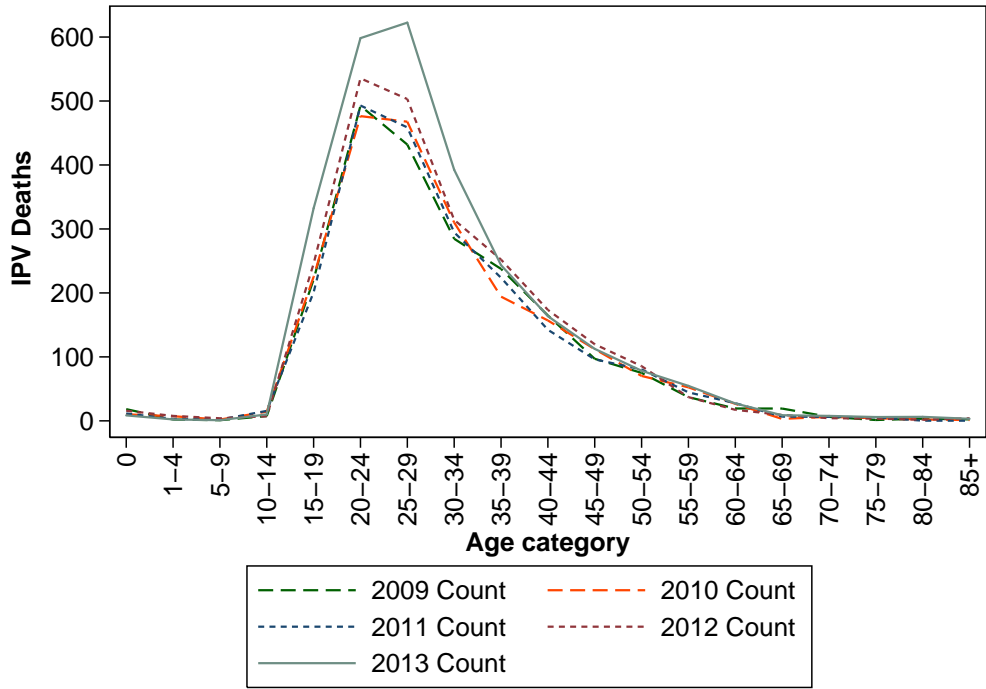


Figure 2.9: Age distribution of IPV deaths in men, Western Cape 2009 – 2013

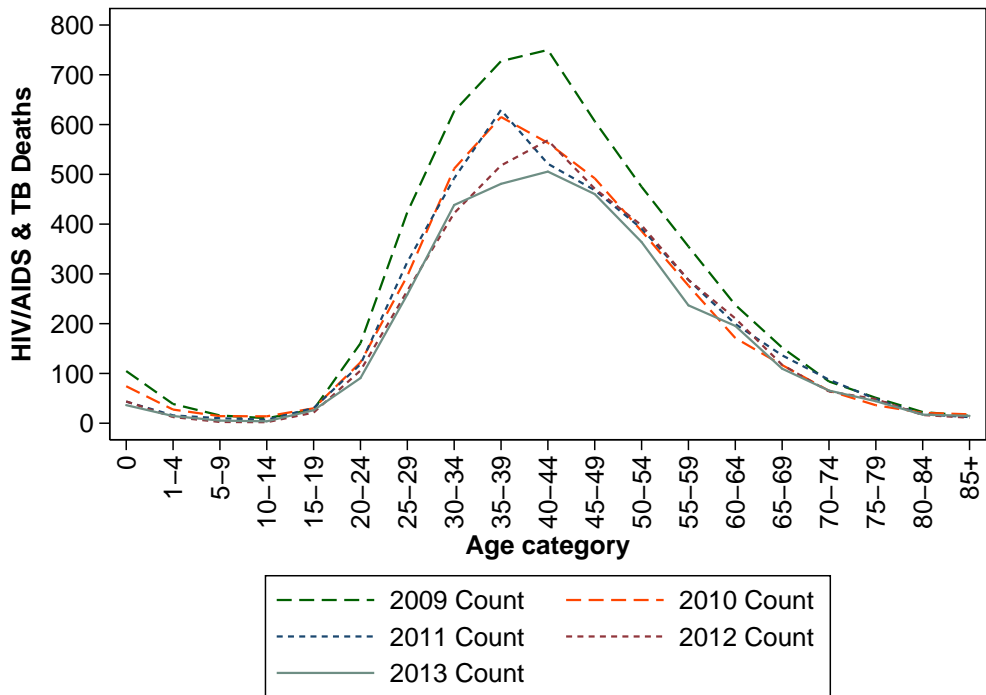


Figure 2.10: Age distribution of HIV/AIDS and TB deaths in men, Western Cape 2009 – 2013

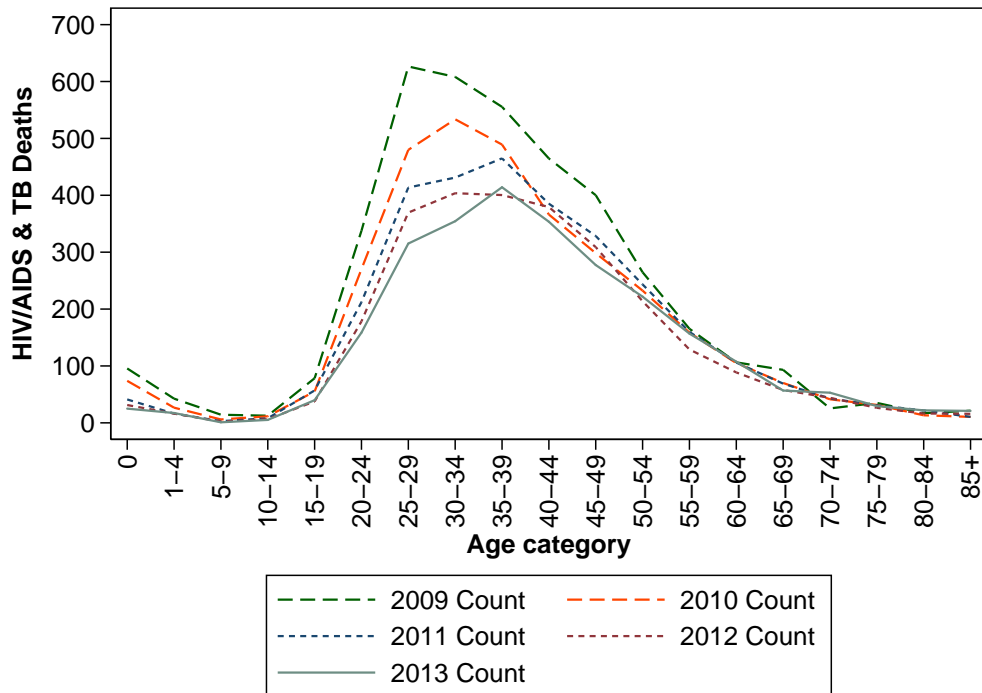


Figure 2.11: Age distribution of HIV/AIDS and TB deaths in women, Western Cape 2009 – 2013

2.3.2.2 Premature mortality (YLLs)

Trends in leading causes of premature mortality, measured as years of life lost (YLLs), for all persons, males and females are shown in Figures 2.12 to 2.14. Ranking is based on the top 10 leading causes for 2013.

For all persons and females, HIV/AIDS remained the leading cause of premature mortality in the Western Cape between 2009 and 2013. Among men, IPV was the leading cause of premature mortality in 2013, with the proportion of YLLs having increased from 12% in 2009 to 16% in 2013. Among females, NCDs (cerebrovascular disease, ischaemic heart disease and diabetes) have remained among the top 5 causes of premature mortality between 2009 and 2013. Despite significant decreases in TB-related deaths, it still ranked among the top 5 causes of premature mortality in the Western Cape for both males and females in 2013.

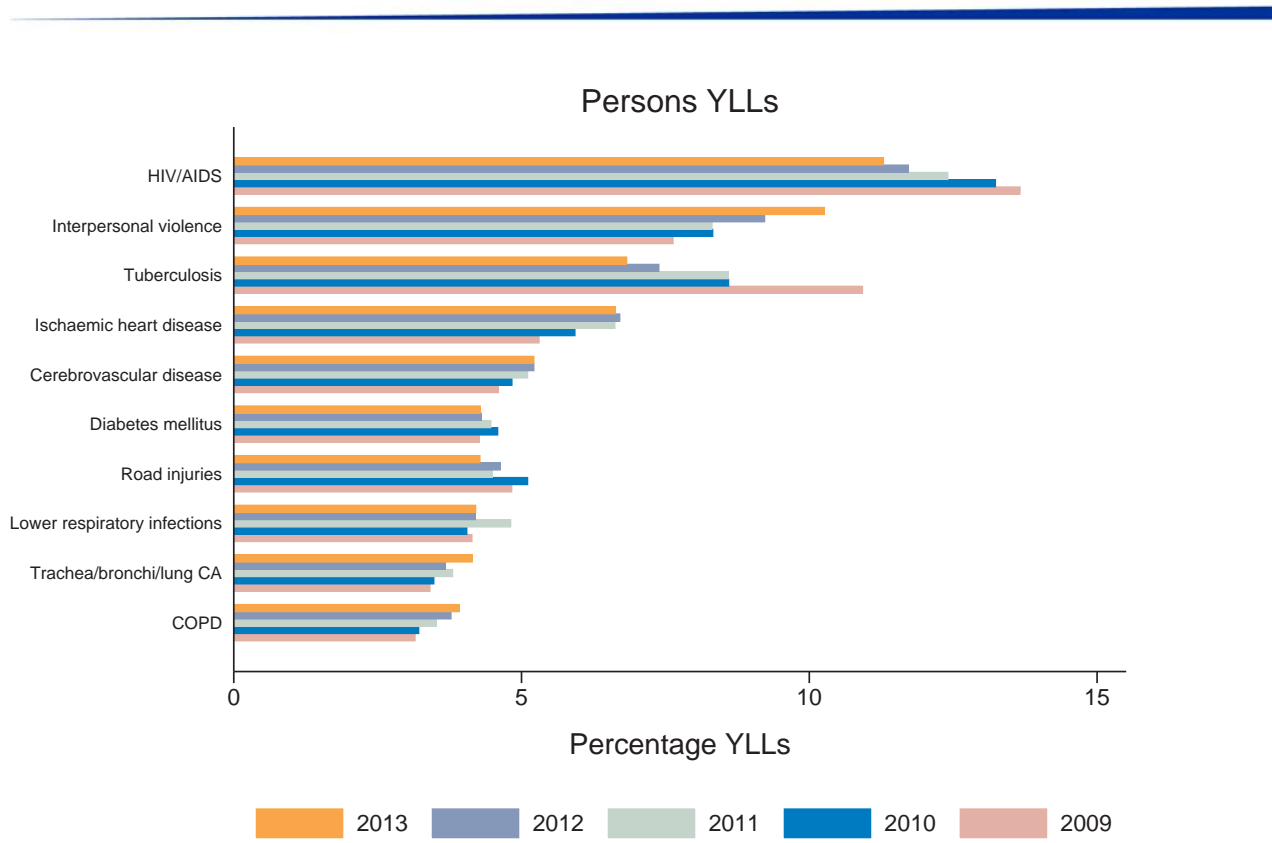


Figure 2.12: Leading causes of premature mortality (YLL) for all persons, Western Cape 2009 – 2013

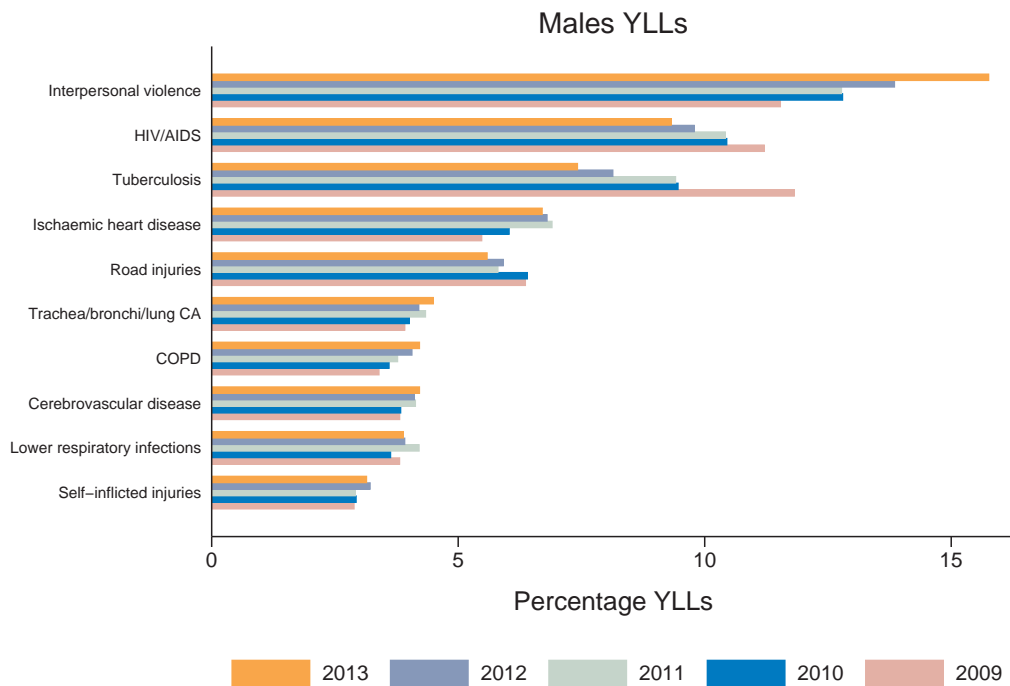


Figure 2.13: Leading causes of premature mortality (YLL) for males, Western Cape 2009 – 2013

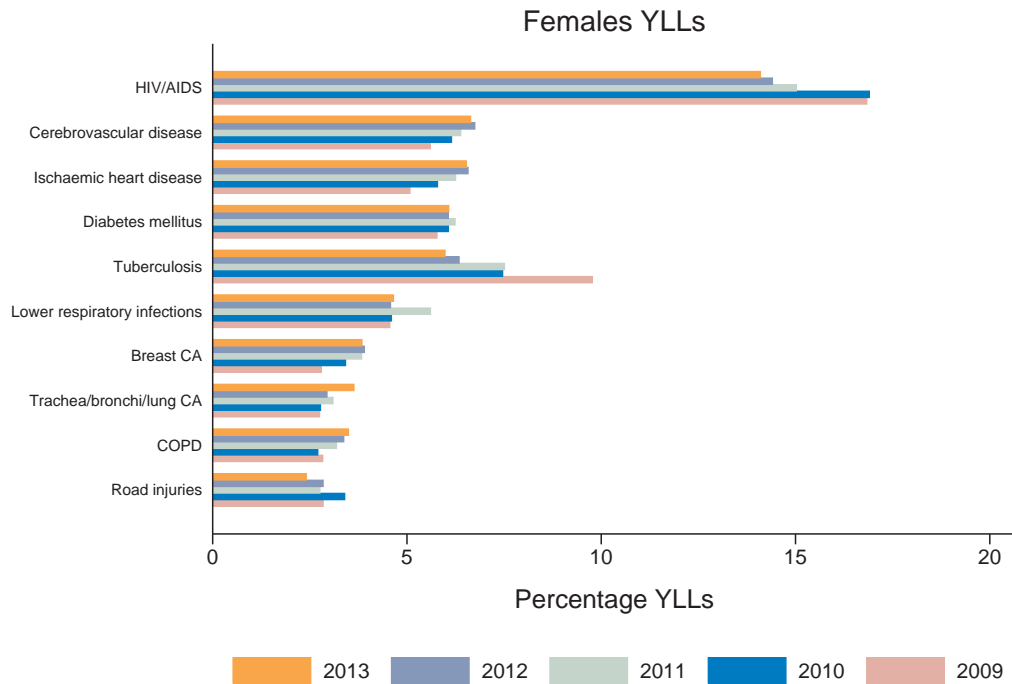


Figure 2.14: Leading causes of premature mortality (YLL) for females, Western Cape 2009 – 2013

2.3.2.3 District comparison of leading causes of premature mortality 2013

District comparison of leading causes of premature mortality in 2013 is shown in Figure 2.15. In 2013, HIV/AIDS remained the leading cause of premature mortality in all districts except Cape Metro and West Coast, where IPV and TB were the leading causes, respectively. TB and IPV ranked in the top 5 across all districts.

Rank	Cape Winelands	Central Karoo	Cape Town	Eden	Overberg	West Coast	Western Cape
1	HIV/AIDS (13.2%)	HIV/AIDS (12.3%)	Interpersonal violence (12.4%)	HIV/AIDS (11.7%)	HIV/AIDS (10.4%)	Tuberculosis (11.2%)	HIV/AIDS (11.3%)
2	Tuberculosis (8.4%)	Road injuries (9.6%)	HIV/AIDS (10.9%)	Tuberculosis (8.3%)	Interpersonal violence (7.1%)	HIV/AIDS (10.8%)	Interpersonal violence (10.3%)
3	Interpersonal violence (7.4%)	Interpersonal violence (7.5%)	Ischaemic heart disease (6.8%)	Ischaemic heart disease (6.9%)	Tuberculosis (6.8%)	Ischaemic heart disease (7.3%)	Tuberculosis (6.8%)
4	Cerebrovascular disease (6.4%)	COPD (6.9%)	Tuberculosis (5.8%)	Cerebrovascular disease (6.6%)	Cerebrovascular disease (6.7%)	Interpersonal violence (6.0%)	Ischaemic heart disease (6.6%)
5	COPD (6.2%)	Tuberculosis (6.7%)	Cerebrovascular disease (4.7%)	Interpersonal violence (5.2%)	Ischaemic heart disease (6.4%)	COPD (5.8%)	Cerebrovascular disease (5.2%)
6	Ischaemic heart disease (5.3%)	Ischaemic heart disease (5.7%)	Lower respiratory infections (4.4%)	Lower respiratory infections (4.7%)	COPD (5.8%)	Diabetes mellitus (5.3%)	Diabetes mellitus (4.3%)
7	Road injuries (5.0%)	Cerebrovascular disease (4.8%)	Diabetes mellitus (4.3%)	Diabetes mellitus (4.6%)	Trachea/bronchi/lung CA (5.3%)	Cerebrovascular disease (5.2%)	Road injuries (4.3%)
8	Trachea/bronchi/lung CA (4.1%)	Lower respiratory infections (4.0%)	Trachea/bronchi/lung CA (4.1%)	COPD (4.5%)	Road injuries (4.6%)	Road injuries (5.0%)	Lower respiratory infections (4.2%)
9	Diabetes mellitus (3.5%)	Preterm birth complications (3.0%)	Road injuries (4.0%)	Trachea/bronchi/lung CA (4.0%)	Diabetes mellitus (4.0%)	Trachea/bronchi/lung CA (4.1%)	Trachea/bronchi/lung CA (4.1%)
10	Lower respiratory infections (3.3%)	Trachea/bronchi/lung CA (2.9%)	COPD (3.0%)	Road injuries (3.9%)	Lower respiratory infections (3.8%)	Lower respiratory infections (4.0%)	COPD (3.9%)

Figure 2.15: District comparison of leading causes of premature mortality, Western Cape 2013

2.4 Causes of death among infants, children and adolescents

2.4.1 Trends in cause of death among neonates and children under 5 years

Trends in the proportion of deaths by broad cause disease category for children under 5 are shown in Figure 2.16³.

Among all children under 5 there was an increase in the proportion of deaths due to maternal/perinatal and nutritional causes between 2011 and 2013. This was mainly due to an increase in the number of neonatal deaths due to birth asphyxia (Figure 2.17). Preterm birth complications remained the leading cause of death in neonates between 2009 and 2013.

Infectious disease deaths in children under 5 decreased by approximately 10% between 2011 and 2013. In children aged 1-59 months (Figure 2.18) diarrhoea-related deaths decreased by 58% and HIV/AIDS deaths decreased by 70% between 2009 and 2013.

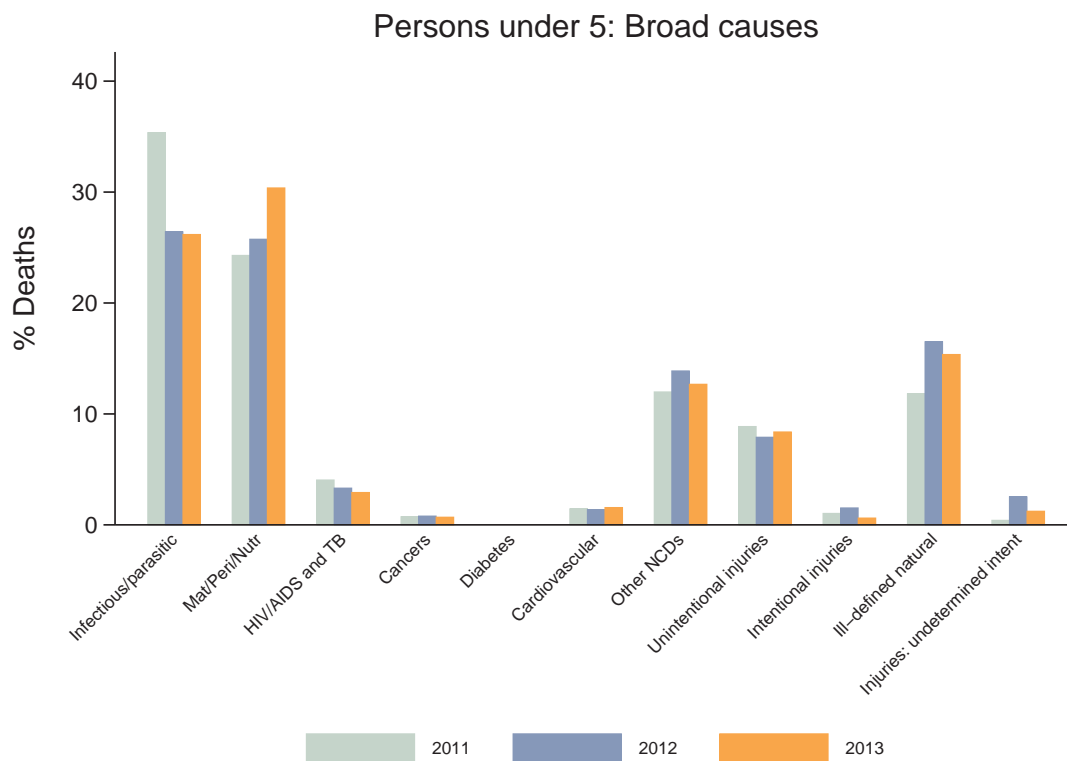


Figure 2.16: Trends in broad cause mortality for children under 5, Western Cape 2011 – 2013

³Data required for this analysis is only available from 2011.

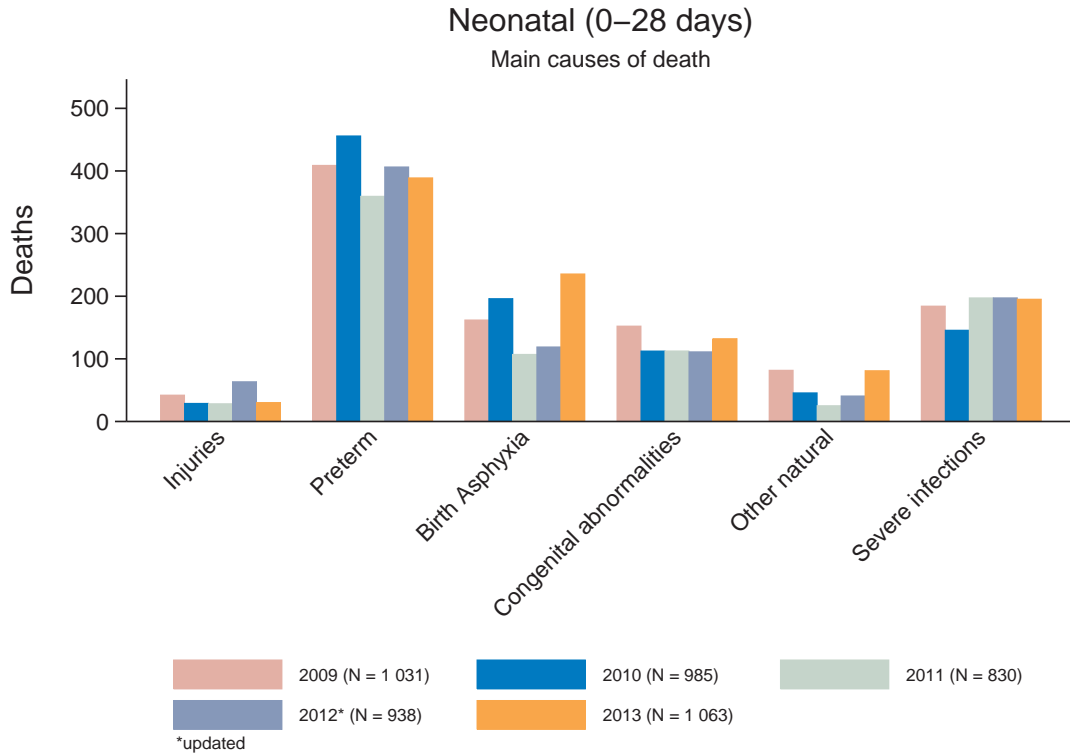


Figure 2.17: Causes of death for neonates, Western Cape 2009 – 2013

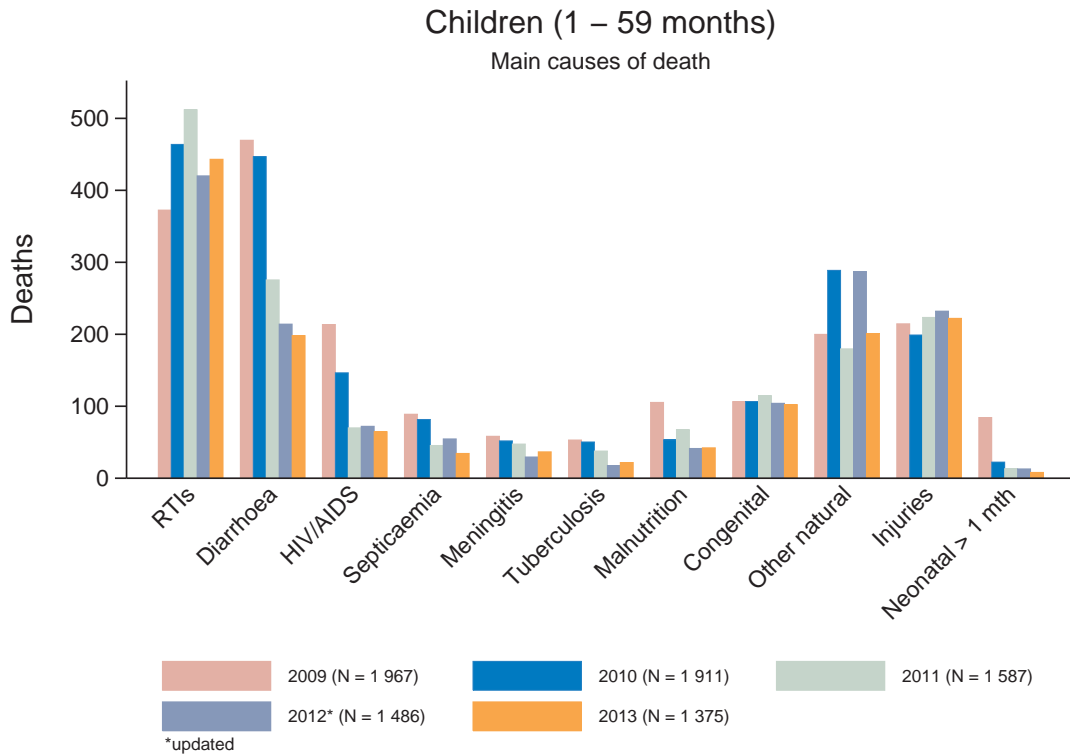


Figure 2.18: Causes of death for children 1- 59 months, Western Cape 2009 – 2013

2.4.2 Cause of death among older children and adolescents (5-17 years), Western Cape 2011 – 2013

2.4.2.1 Trends in broad causes

In 2013, injury-related deaths accounted for almost 60% of deaths in older children and adolescents aged 5-17 years (Figure 2.19). Among boys, there was an increase in intentional injuries from 31% in 2011 to 38% of deaths in 2013 (Figure 2.20).

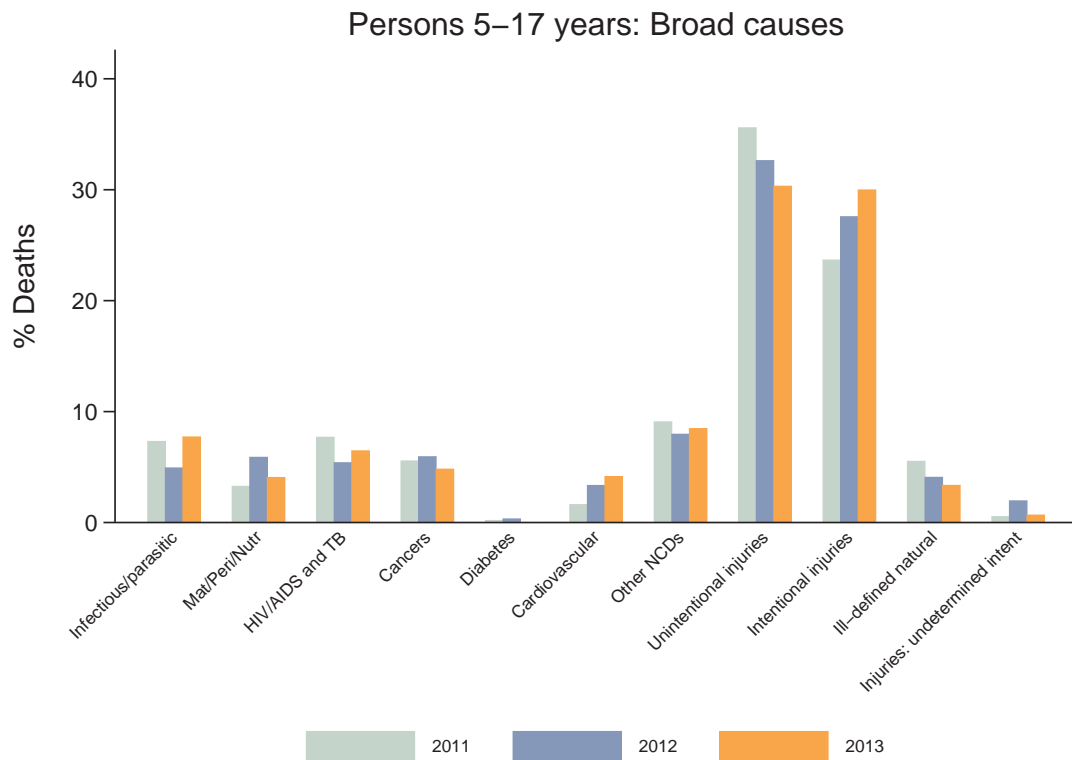


Figure 2.19: Trends in broad causes of death for older children and adolescents, Western Cape 2011 – 2013

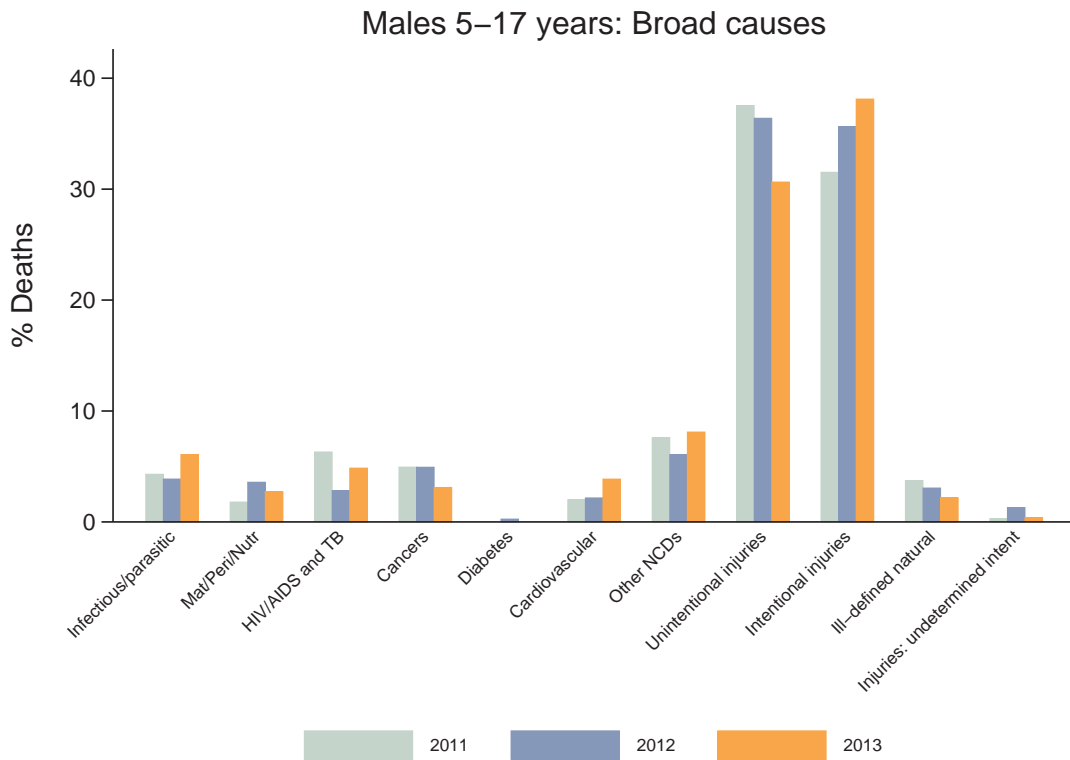


Figure 2.20: Trends in broad causes of death for older male children and adolescents, Western Cape 2011 – 2013

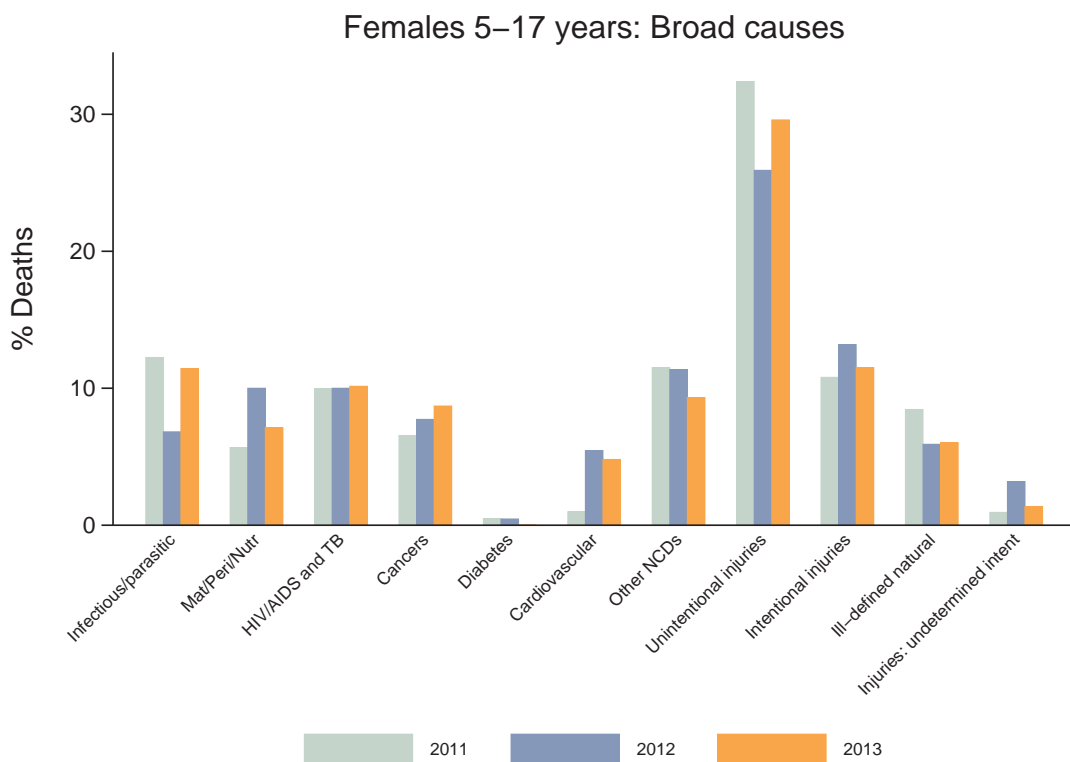


Figure 2.21: Trends in broad causes of death for older female children and adolescents, Western Cape 2011 – 2013

2.4.2.2 Trends in leading causes

Leading causes of death among children and adolescents aged 5-17 years are shown in Figures 2.22 to 2.24. Among boys, IPV remained the leading cause of death between 2011 and 2013, accounting for over a third of deaths in this age group in 2013. This was followed by road traffic injuries and drowning. Among girls, road injuries remained the leading cause of death between 2011 and 2013 (14%), followed by IPV and HIV/AIDS.

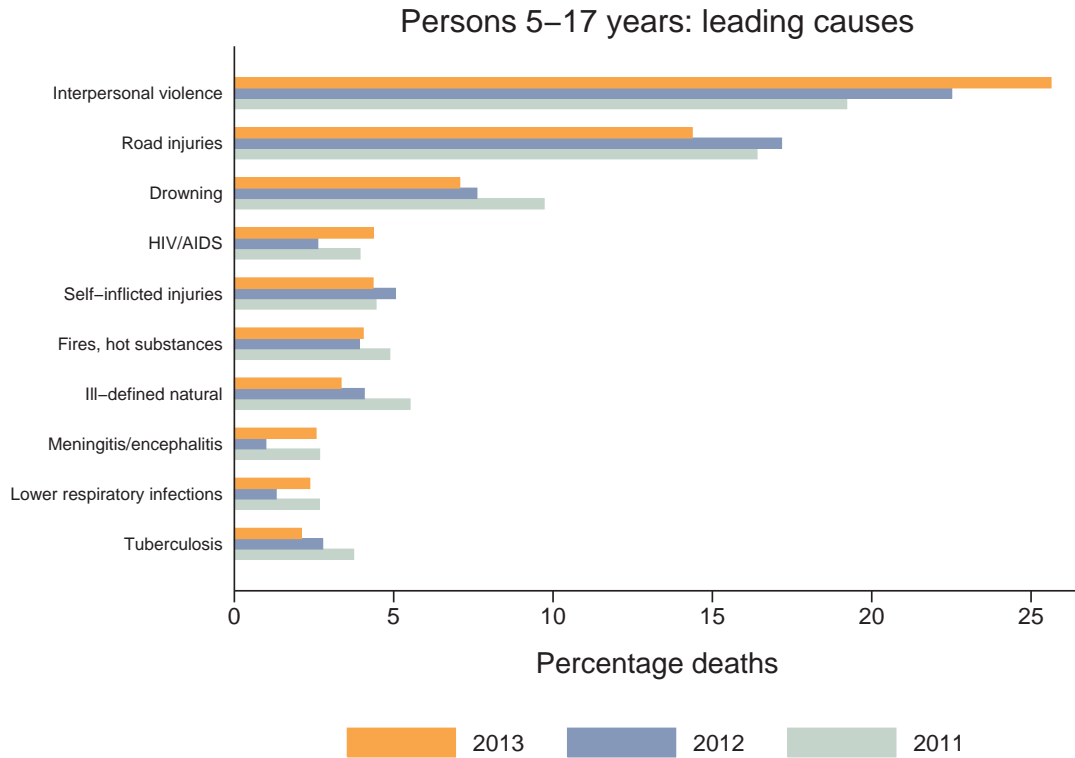


Figure 2.22: Trends in leading causes of death for older children and adolescents, Western Cape 2011 – 2013

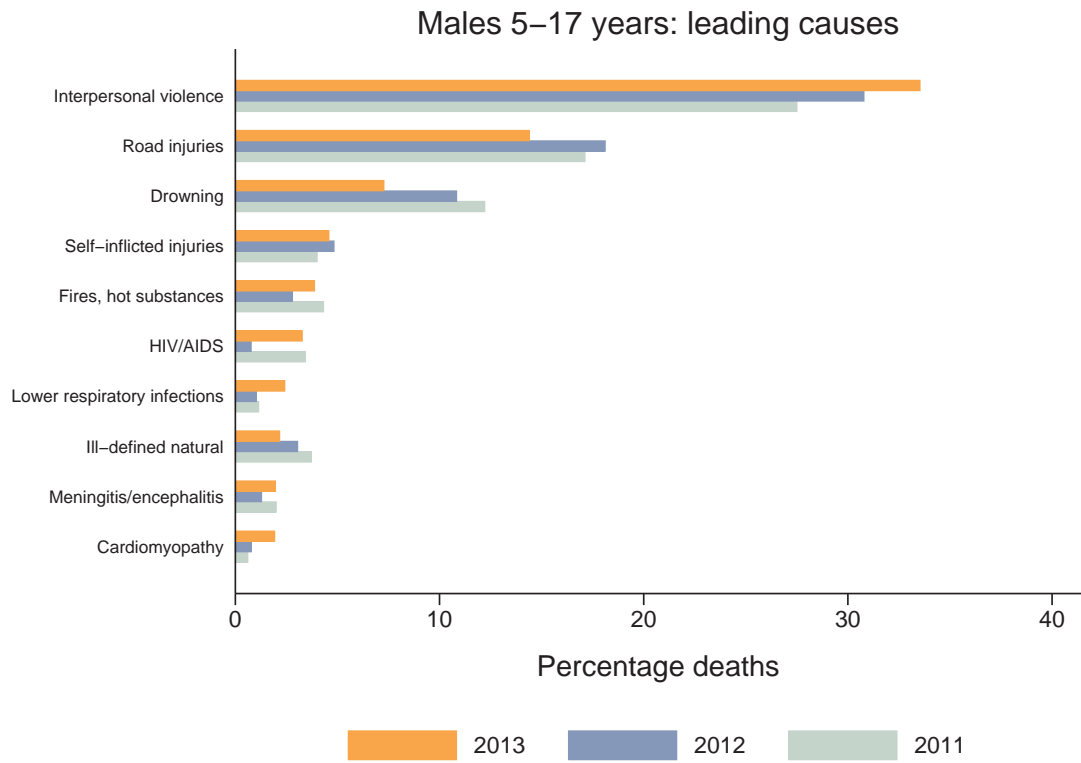


Figure 2.23: Trends in leading causes of death for older male children and adolescents, Western Cape 2011 – 2013

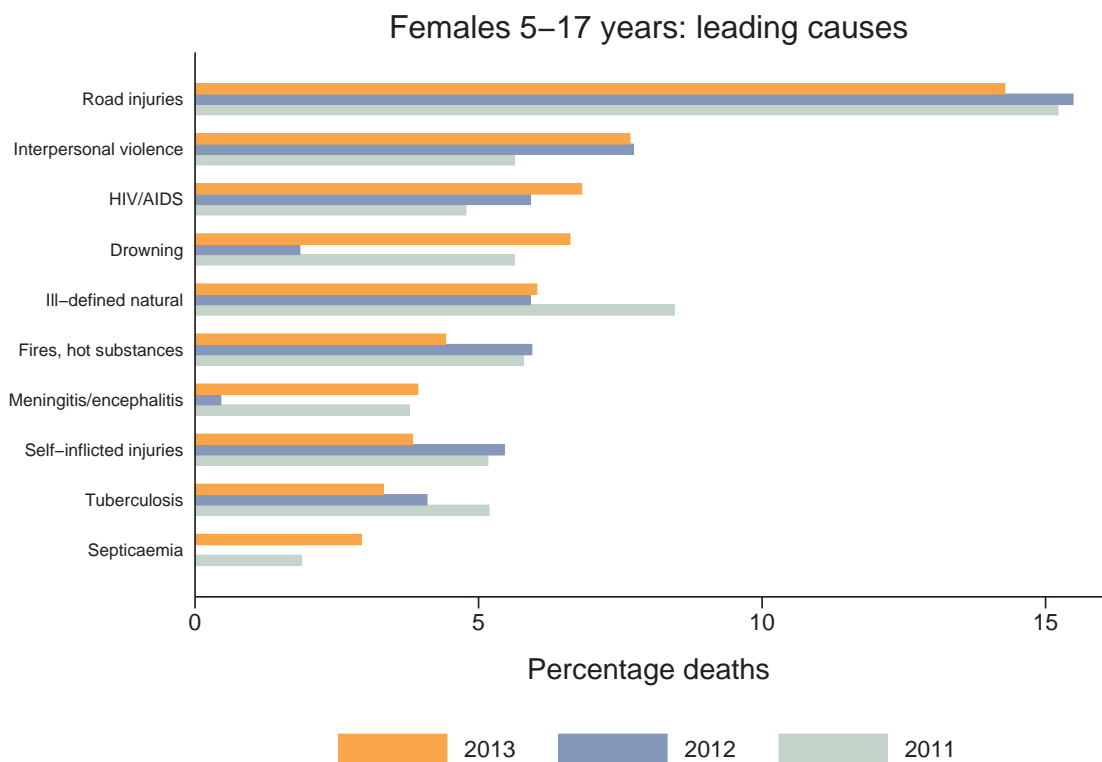


Figure 2.24: Trends in leading causes of death for older female children and adolescents, Western Cape 2011 – 2013

3 Summary and recommendations

All-cause mortality rates in the Western Cape have decreased between 2009 and 2013. Among all persons, decreases in all-cause ASR were mainly due to a decrease in TB (43% decrease in ASR between 2009 and 2013) and HIV/AIDS (27% decrease in ASR between 2009 and 2013) deaths. The greatest reduction in the number of HIV/AIDS and TB deaths (combined) was among men aged 35-39 years and women aged 25-34 years. These sustained improvements can largely be attributed to roll out of ART and prevention of mother to child transmission. However, both HIV/AIDS and TB remain leading causes of premature mortality across all districts in the Western Cape and further efforts need to be made to improve retention in care and prioritise patients at high risk of mortality.

NCDs continued to account for the largest proportion of deaths (60%) in the Western Cape in 2013. Ischaemic heart disease ASR remained the highest individual cause ASR between 2009 and 2013, and was ranked 4th in terms of premature mortality in all persons in the Western Cape. Sub-districts with the highest NCD ASR (>800 deaths per 100 000 population) were Kannaland, Oudtshoorn, Mitchells Plain, Breede Valley and Tygerberg. In 2013, NDoH released the Strategic Plan for the Prevention and Control of Non-Communicable Diseases 2013-2017. The plan outlines three main components to combat NCDs, including healthy lifestyle promotion, health systems strengthening, as well as monitoring cases and risk factors. The Western Cape on Wellness campaign (WOW) was subsequently launched in 2015, aiming to promote and activate a range of health-related physical activities and healthy eating through team leaders to expand and sustain a culture of wellness at and across workplace, community and school levels.

Injuries accounted for almost two thirds of deaths among older children and adolescents (5-17 years), and approximately 14% of deaths in all persons. Of great concern is the high number of intentional injury deaths, particularly those due to IPV (homicide) in males between the ages of 15 and 35 (Figure 2.9). Further investigation has shown that there was on average a 7% annual increase in IPV deaths in males between 2010 and 2013. In 2013, IPV ASRs were highest in Cape Metro sub-districts of Khayelitsha, Mitchells Plain, Klipfontein and Tygerberg and Central Karoo sub-districts of Beaufort West and Prince Albert. The Western Cape Government's Integrated Violence Prevention Policy (IVPP) Framework was developed in 2013. Upstream interventions specifically mentioned in the IVPP Framework include firearm control, urban upgrading and alcohol access interventions in selected low-income communities.

It is important to note that the injury profile from the LMSS (this report) and Stats SA are substantially different. Linking with the FPS system means injury cause of death in the LMSS is obtained directly from the forensic pathologist, whereas StatsSA currently follow WHO ICD-10 coding rules which state that injuries with unspecified intent should default to accidental. This has resulted in high numbers of gunshots and hangings being reported as accidental rather than due to homicide or suicide. A comparison of the injury cause of death profile for 2011 between the LMSS data and StatsSA data is used to illustrate the differences (Appendix Table A.8). This is very misleading and needs to be addressed in the national cause of death reports.

Among younger children (under 5 years), there was a significant decline in the proportion of HIV/AIDS (70%) and diarrhoeal deaths (57%) between 2009 and 2013. These successes can be attributed to progressive provincial policies and successful partnerships with the local authority health services, academic institutions and non-governmental organisations as well as dedicated managers and staff. In addition to the introduction of the rotavirus (RV) vaccine in 2009, concerted efforts have been made to identify diarrhoeal hotspots in communities and escalate problems with access to water, sanitation and refuse collection to respective departments. Furthermore, the Province has

opted to place all HIV positive pregnant women on lifelong ART (Option B+) in the antenatal setting and this significantly benefits the pregnant mother, reduces the risk of transmission to the unborn baby and addresses ART as a prevention strategy. In contrast, there was an overall 18% increase in deaths due to RTIs in children under 5 between 2009 and 2013. This increase could, in part, be attributed to improved case finding through retrospective review of ill-defined natural deaths from Tygerberg and Salt River mortuaries. Strengthening IMCI has been identified as the key strategy to reducing RTI deaths in young children.

It is widely acknowledged that reliable and timely information on cause-specific mortality is a critical part of identifying emerging health problems and a fundamental component of evidence-based health policy development, implementation, and evaluation. However, in February 2014, an amendment to the South African Births and Deaths Registration Act was regulated. The new format of the death notification form (DNF), making the fourth page (medical certificate of cause of death) self-sealing, was introduced. While this measure is important for confidentiality, it includes the instruction that the page may only be opened by a Statistics South Africa (SSA) official. This has resulted in the WCDoH being denied access to identified cause-of-death information (provided by health workers) and has compromised efforts by WCDoH and the MRC to provide accurate injury and small area statistics, provide information for public health actions and to improve the quality of cause of death data.

4 District profiles

4.1 Cape Winelands

4.1.1 Summary

- There was a 21% decrease in all-cause ASR in the Cape Winelands, from 1,049 deaths per 100 000 population in 2009 to 829 deaths per 100 000 population in 2013 (Table 2.1).
- Between 2008 and 2013, infant mortality decreased by 30% to 15.1 deaths per 1 000 live births and under 5 mortality decreased by 36% to 19.2 per 1 000 live births (Table A.2).
- Among all persons:
 - Cardiovascular diseases accounted for the greatest proportion (20%) of deaths for all persons between 2009 – 2013 (Figure 4.1).
 - Cerebrovascular disease had the highest ASR in 2013 (80 deaths per 100 000 in population) (Figure 4.2).
 - TB ASR decreased from 90 deaths per 100 000 population in 2009 to 55 deaths per 100 000 population in 2013.
 - HIV/AIDS, followed by TB and IPV remained the top 3 causes of premature mortality between 2009 – 2013 (Figure 4.3).
- Among men:
 - COPD had the highest ASR in 2013 (100 deaths per 100 000 population) (Figure 4.5).
 - HIV/AIDS, IPV and TB remained the top 3 causes of premature mortality between 2009 – 2013 (Figure 4.6).
- Among women:
 - Cerebrovascular disease remained the highest ASR between 2009 – 2013 (80 deaths per 100 000 population) (Figure 4.8).
 - HIV/AIDS, cerebrovascular disease and TB remained the leading causes of premature mortality 2009 – 2013 (Figure 4.9).
- HIV/AIDS was the leading cause of premature mortality across all sub-districts in 2013 (Figure 4.10).

4.1.2 Cape Winelands: All persons

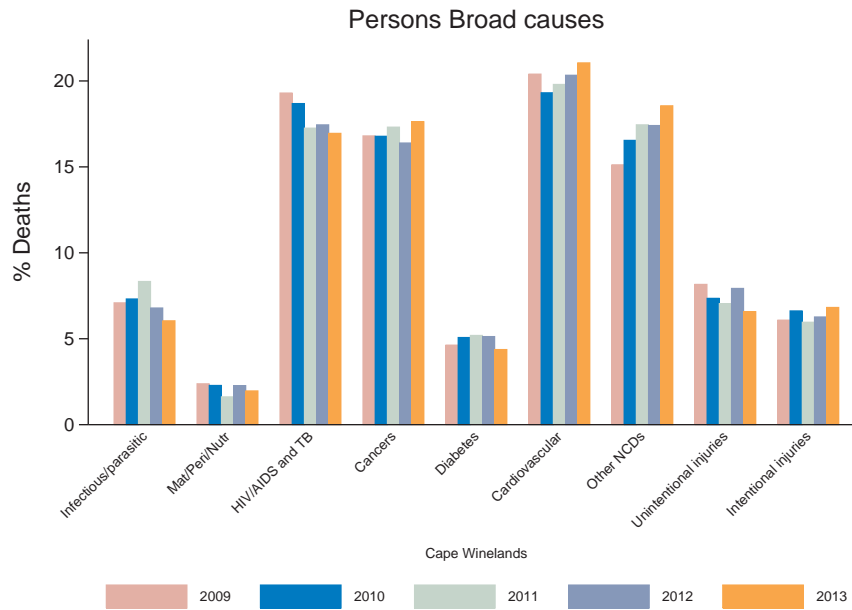


Figure 4.1: Trends in proportion of deaths for all persons by broad cause, Cape Winelands 2009 – 2013

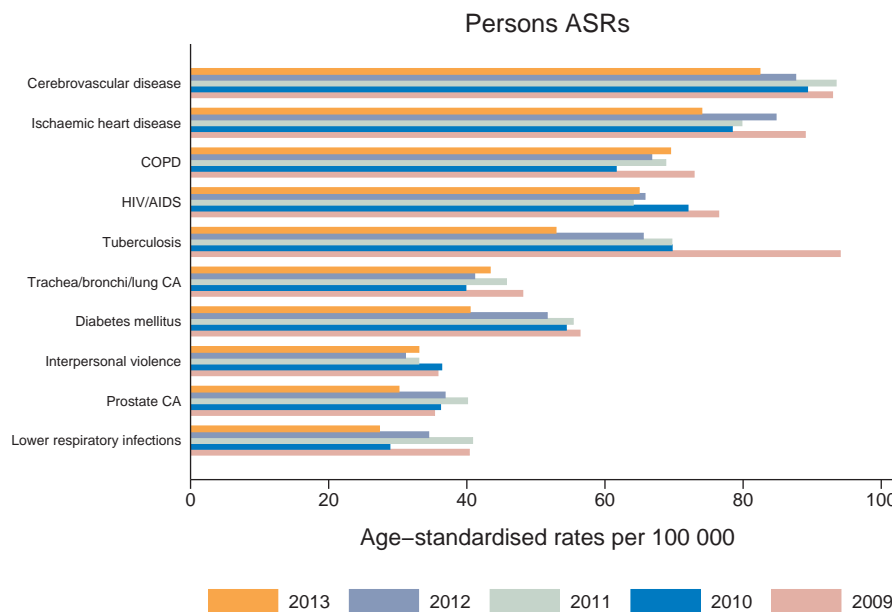


Figure 4.2: Trends in leading causes of death (ASR) for all persons, Cape Winelands 2009 – 2013

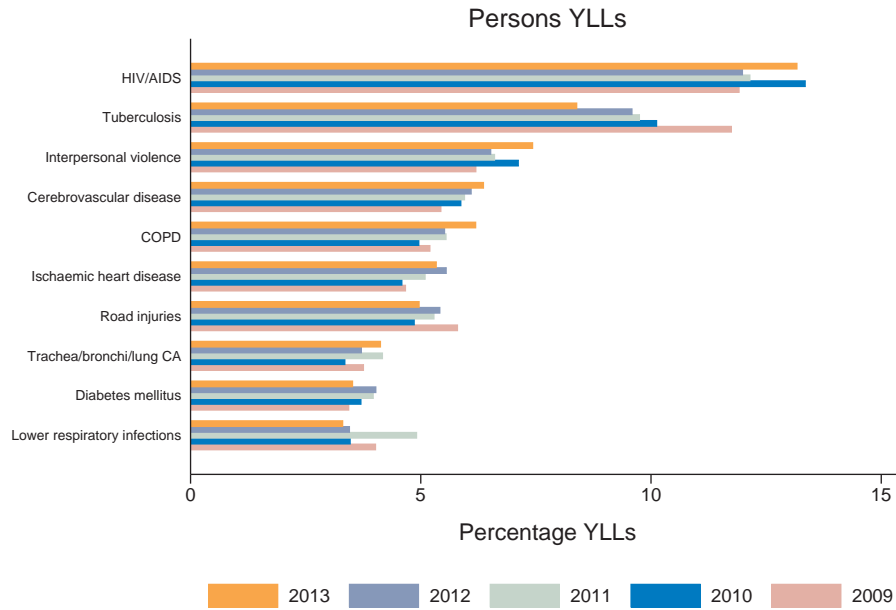


Figure 4.3: Trends in leading causes of premature mortality (YLL) for all persons, Cape Winelands 2009 – 2013

4.1.3 Cape Winelands: Males

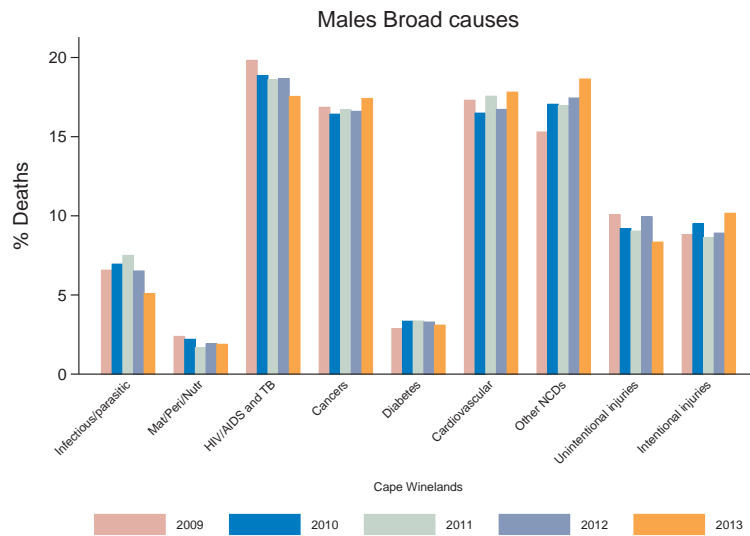


Figure 4.4: Trends in proportion of male deaths by broad cause, Cape Winelands 2009 – 2013

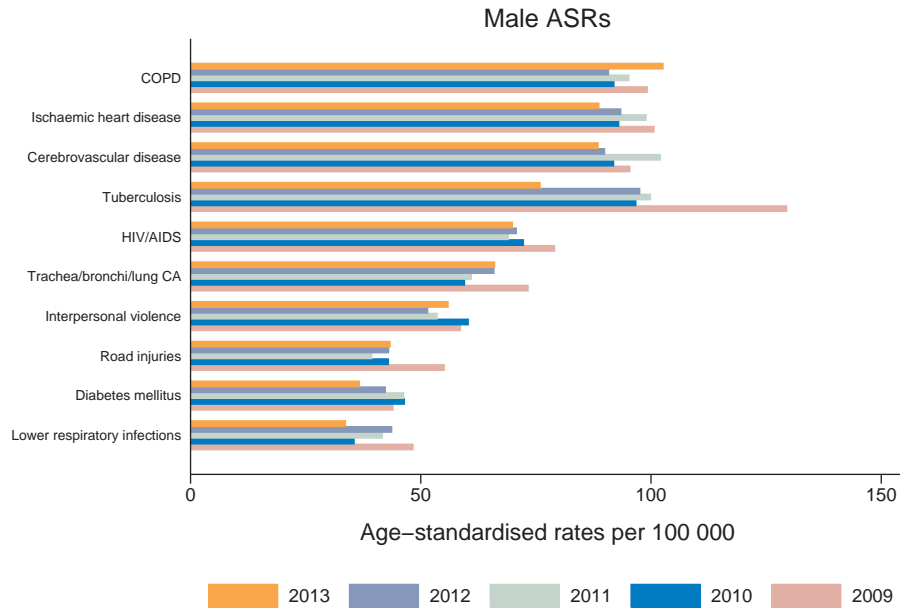


Figure 4.5: Trends in leading causes of death (ASR) for males, Cape Winelands 2009 – 2013

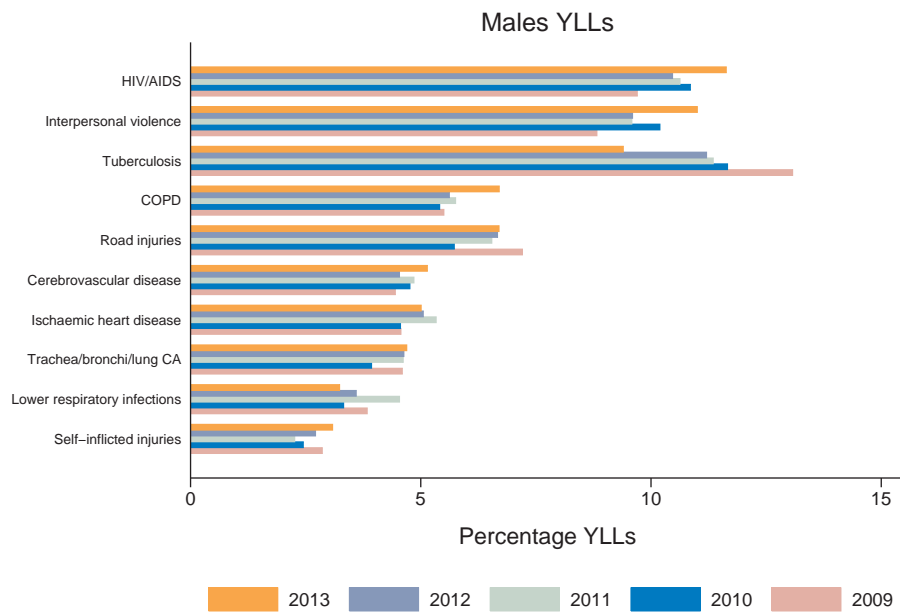


Figure 4.6: Trends in leading causes of premature mortality (YLL) for males, Cape Winelands 2009 – 2013

4.1.4 Cape Winelands: Females

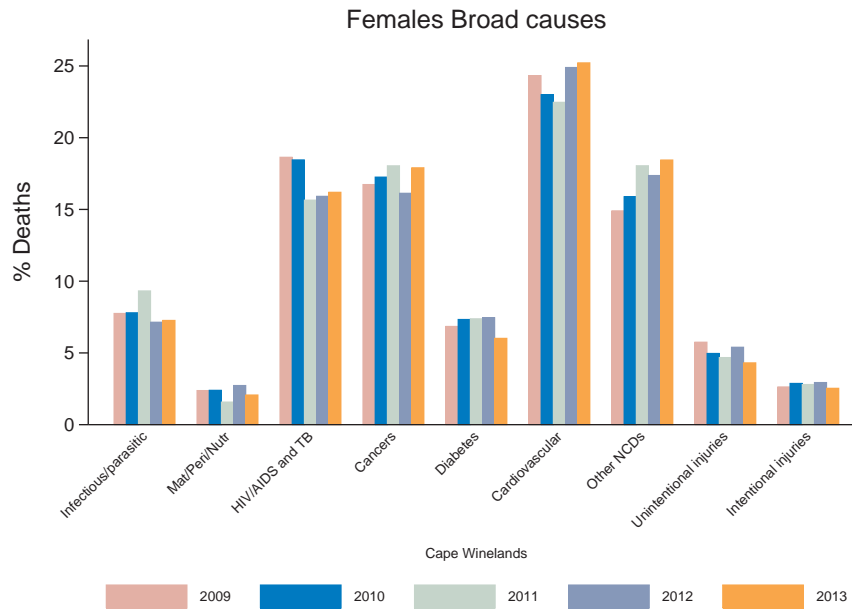


Figure 4.7: Trends in proportion of female deaths by broad cause, Cape Winelands 2009 – 2013

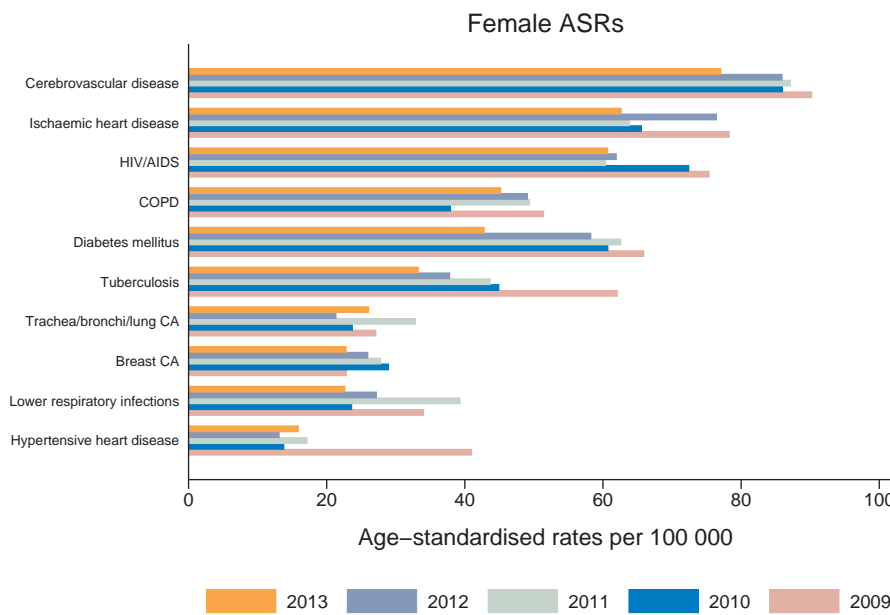


Figure 4.8: Trends in leading causes of death (ASR) for females, Cape Winelands 2009 – 2013

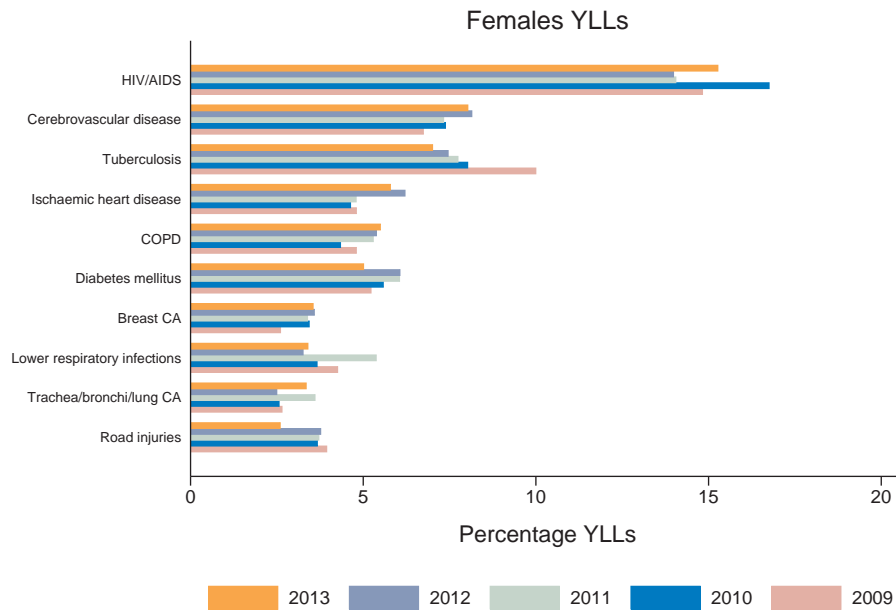


Figure 4.9: Trends in leading causes of premature mortality (YLL) for females, Cape Winelands 2009 – 2013

4.1.5 Sub-district ranking of premature mortality, 2013

Rank	Witzenberg	Drakenstein	Stellenbosch	Breede Valley	Langeberg	Cape Winelands
1	HIV/AIDS (17.1%)	HIV/AIDS (11.3%)	HIV/AIDS (13.5%)	HIV/AIDS (13.8%)	HIV/AIDS (11.3%)	HIV/AIDS (13.2%)
2	Tuberculosis (9.9%)	Tuberculosis (6.6%)	Tuberculosis (9.8%)	Tuberculosis (9.2%)	COPD (8.0%)	Tuberculosis (8.4%)
3	COPD (8.3%)	Interpersonal violence (6.6%)	Interpersonal violence (8.6%)	Interpersonal violence (8.1%)	Tuberculosis (7.4%)	Interpersonal violence (7.4%)
4	Interpersonal violence (7.6%)	Cerebrovascular disease (6.4%)	Ischaemic heart disease (6.5%)	COPD (6.2%)	Cerebrovascular disease (6.7%)	Cerebrovascular disease (6.4%)
5	Cerebrovascular disease (6.8%)	Ischaemic heart disease (6.2%)	Cerebrovascular disease (6.1%)	Cerebrovascular disease (6.0%)	Interpersonal violence (6.5%)	COPD (6.2%)
6	Road injuries (4.9%)	COPD (5.6%)	Road injuries (5.3%)	Ischaemic heart disease (4.2%)	Ischaemic heart disease (5.5%)	Ischaemic heart disease (5.3%)
7	Trachea/bronchi/lung CA (4.3%)	Road injuries (5.6%)	Lower respiratory infections (4.8%)	Trachea/bronchi/lung CA (4.2%)	Road injuries (5.2%)	Road injuries (5.0%)
8	Ischaemic heart disease (4.0%)	Trachea/bronchi/lung CA (5.1%)	COPD (3.8%)	Road injuries (4.0%)	Trachea/bronchi/lung CA (3.5%)	Trachea/bronchi/lung CA (4.1%)
9	Self-inflicted injuries (3.8%)	Diabetes mellitus (4.2%)	Diabetes mellitus (2.9%)	Diabetes mellitus (3.3%)	Lower respiratory infections (3.4%)	Diabetes mellitus (3.5%)
10	Diabetes mellitus (3.7%)	Lower respiratory infections (3.0%)	Trachea/bronchi/lung CA (2.5%)	Lower respiratory infections (2.9%)	Diabetes mellitus (3.1%)	Lower respiratory infections (3.3%)

Figure 4.10: Sub-district ranking of leading causes of premature mortality (YLL), Cape Winelands 2013

4.2 Central Karoo

4.2.1 Summary

- There was a 28% decrease in all-cause ASR in the Central Karoo, from 1,310 deaths per 100 000 population in 2009 to 945 deaths per 100 000 population in 2013 (Table 2.1).
- Between 2008 and 2013, infant mortality decreased by 48% to 22.6 deaths per 1 000 live births and under 5 mortality decreased by 47% to 31.1 per 1 000 live births (Table A.2).
- Among all persons:
 - Cardiovascular diseases and other NCDs accounted for the greatest proportion (19% and 18%, respectively) of deaths for all persons between 2010 and 2013 (Figure 4.11). HIV/AIDS accounted for the greatest proportion in 2009.
 - HIV/AIDS and ischaemic heart disease had the highest ASRs in 2013 (83 deaths per 100 000 in population, Figure 4.12).
 - TB ASR decreased from 126 deaths per 100 000 population in 2009 to 58 deaths per 100 000 population in 2013.
 - HIV/AIDS, followed by road injuries and IPV were the top 3 causes of premature mortality between in 2013 (Figure 4.13).
- Among men:
 - Ischaemic heart disease had the highest ASR in 2013 (100 deaths per 100 000 population, Figure 4.15).
 - Road injuries, IPV and HIV/AIDS were the top 3 causes of premature mortality in 2013 (Figure 4.16).
- Among women:
 - HIV/AIDS remained the highest ASR between 2009 and 2013 (80 deaths per 100 000 population, Figure 4.18).
 - HIV/AIDS, TB and road injuries remained the leading causes of premature mortality 2009 – 2013 (Figure 4.19).
- HIV/AIDS was the leading cause of premature mortality in Beaufort West and Central Karoo, and road injuries were the leading cause of premature mortality in Laingsburg and Prince Albert 2013 (Figure 4.20).

4.2.2 Central Karoo: All persons

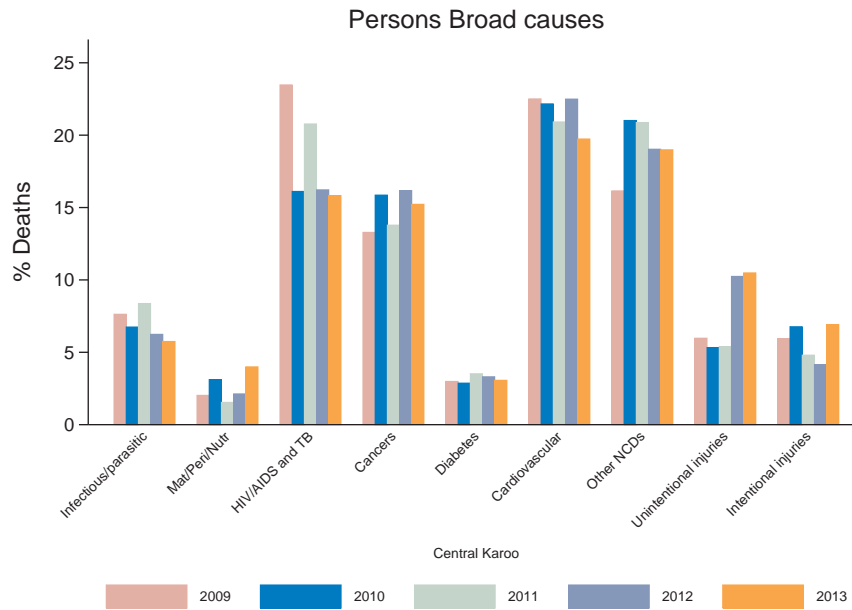


Figure 4.11: Trends in proportion of deaths for all persons by broad cause, Central Karoo 2009 – 2013

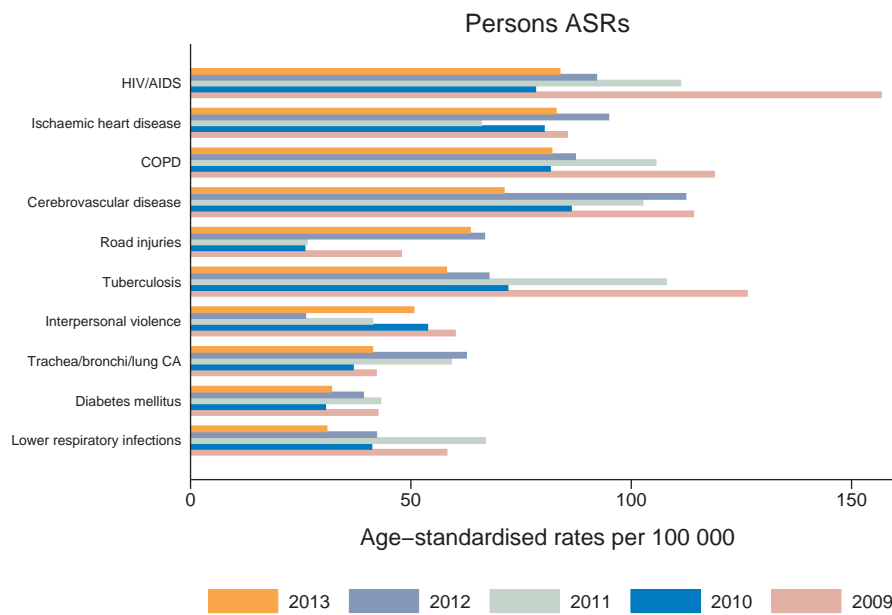


Figure 4.12: Trends in leading causes of death (ASR) for all persons, Central Karoo 2009 – 2013



Figure 4.13: Trends in leading causes of premature mortality (YLL) for all persons, Central Karoo 2009 – 2013

4.2.3 Central Karoo: Males

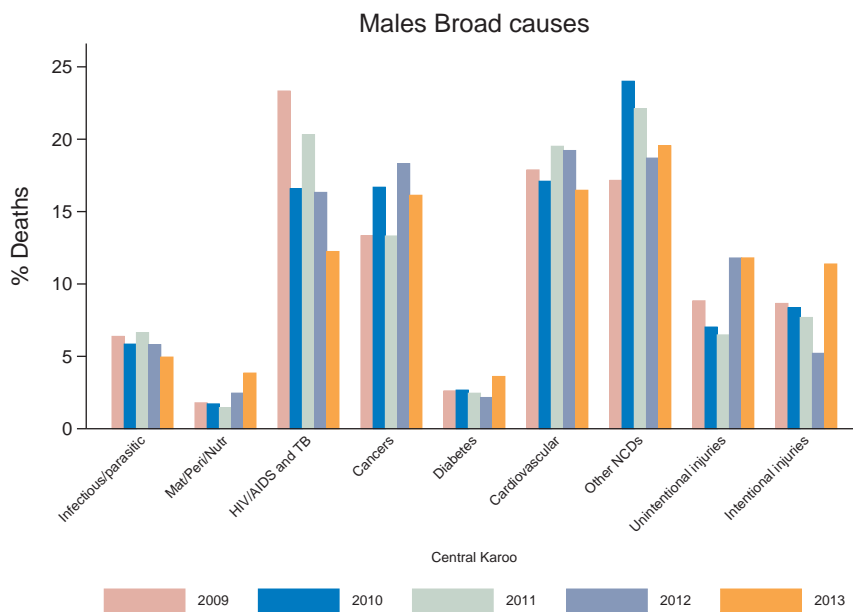


Figure 4.14: Trends in proportion of male deaths by broad cause, Central Karoo 2009 – 2013

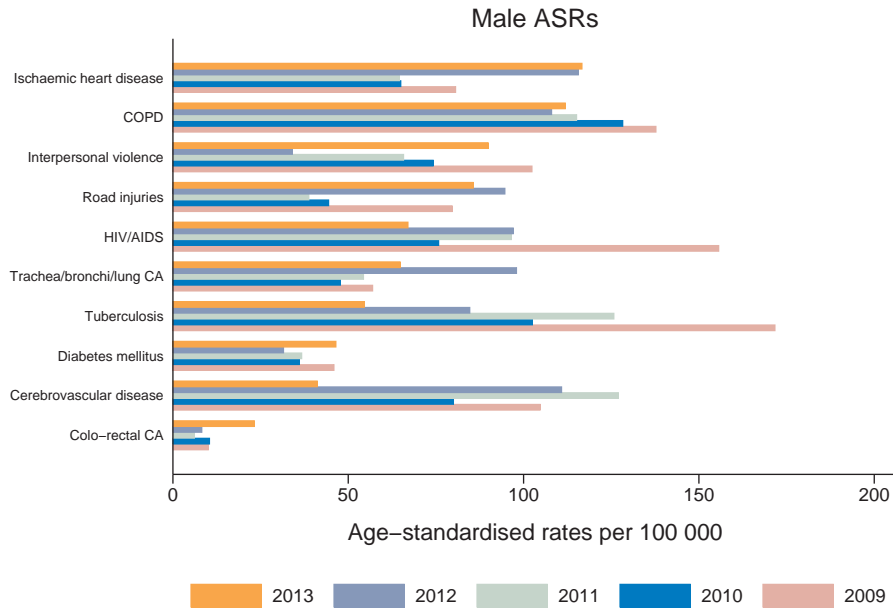


Figure 4.15: Trends in leading causes of death (ASR) in males, Central Karoo 2009 – 2013

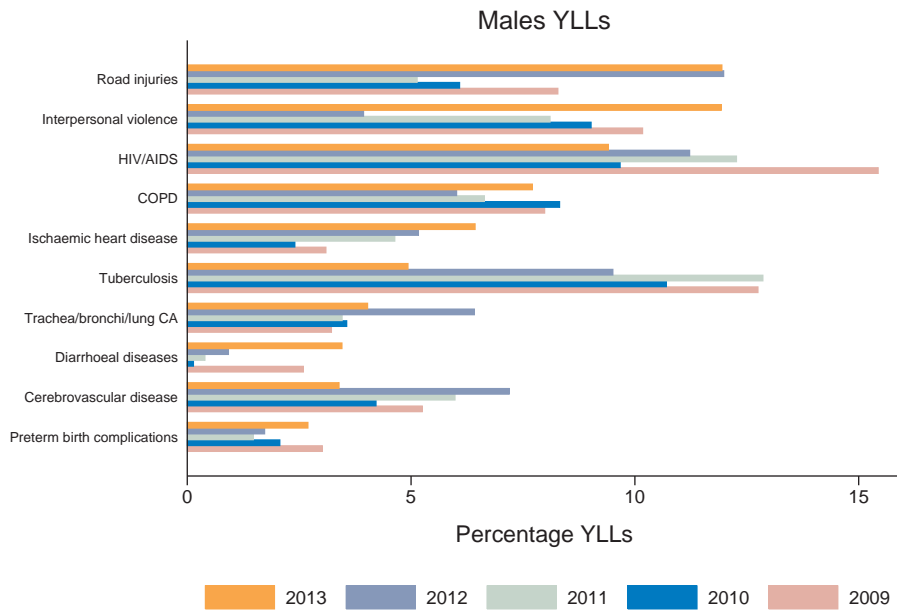


Figure 4.16: Trends in leading causes of premature mortality (YLL) for males, Central Karoo 2009 – 2013

4.2.4 Central Karoo: Females

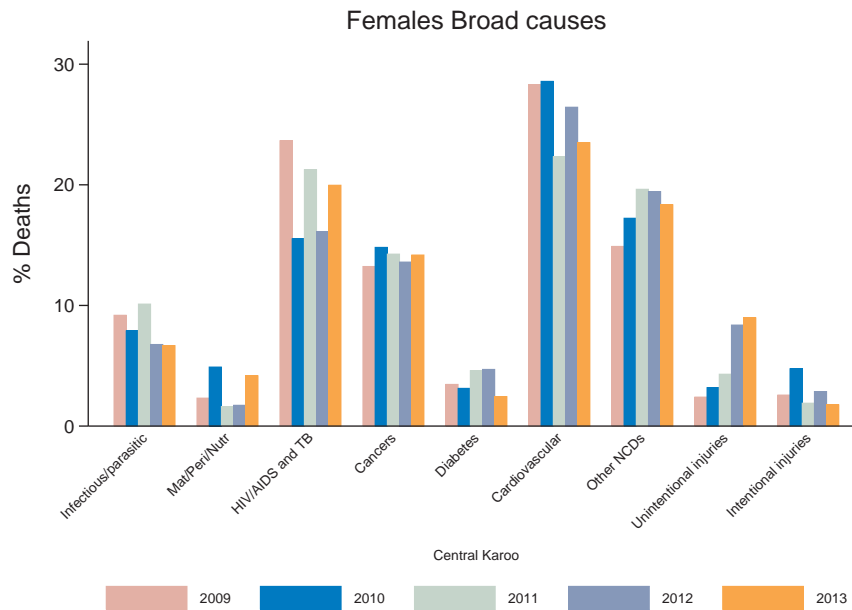


Figure 4.17: Trends in proportion of female deaths by broad cause, Central Karoo 2009 – 2013

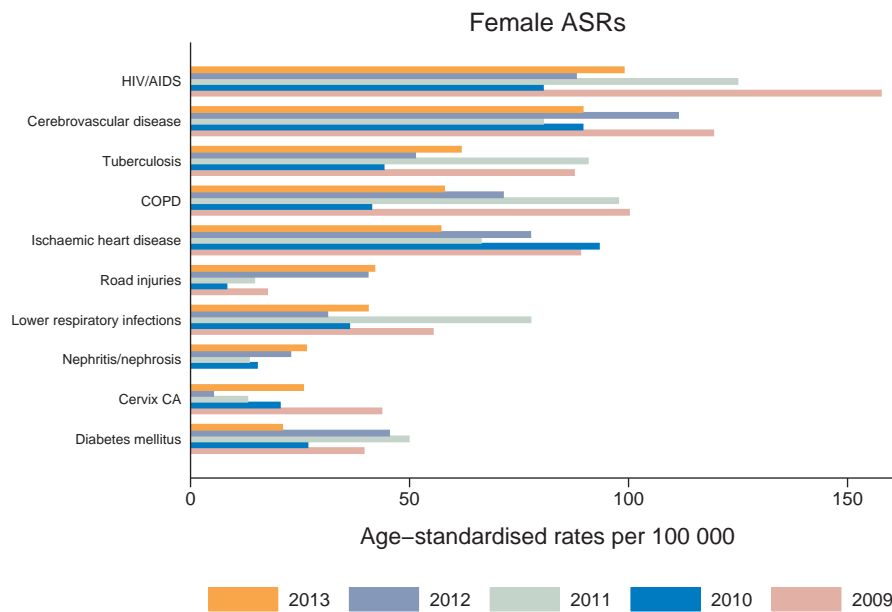


Figure 4.18: Trends in leading causes of death (ASR) for females, Central Karoo 2009 – 2013

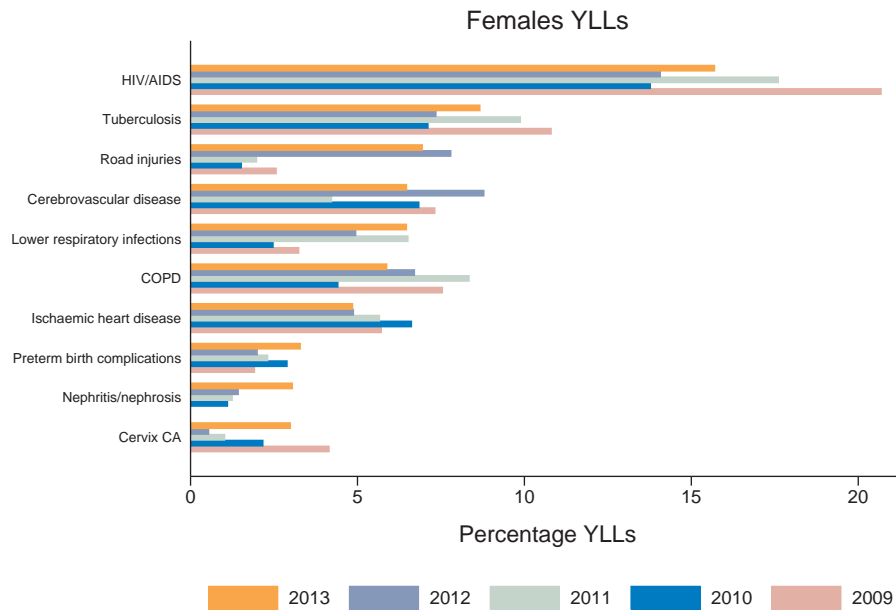


Figure 4.19: Trends in leading causes of premature mortality (YLL) for females, Central Karoo 2009 – 2013

4.2.5 Sub-district ranking of premature mortality, 2013

Rank	Laingsburg	Prince Albert	Beaufort West	Central Karoo
1	Road injuries (33.4%)	Road injuries (11.4%)	HIV/AIDS (16.9%)	HIV/AIDS (12.3%)
2	Ischaemic heart disease (6.4%)	Tuberculosis (10.6%)	Interpersonal violence (9.1%)	Road injuries (9.6%)
3	COPD (6.3%)	Interpersonal violence (7.5%)	COPD (7.7%)	Interpersonal violence (7.5%)
4	Diabetes mellitus (6.1%)	Ischaemic heart disease (7.3%)	Tuberculosis (5.9%)	COPD (6.9%)
5	Lower respiratory infections (5.1%)	HIV/AIDS (6.9%)	Cerebrovascular disease (5.6%)	Tuberculosis (6.7%)
6	Tuberculosis (5.0%)	Nephritis/nephrosis (4.9%)	Ischaemic heart disease (5.0%)	Ischaemic heart disease (5.7%)
7	Preterm birth complications (4.9%)	COPD (4.8%)	Lower respiratory infections (4.2%)	Cerebrovascular disease (4.8%)
8	Trachea/bronchi/lung CA (4.0%)	Cerebrovascular disease (4.8%)	Diarrhoeal diseases (3.0%)	Lower respiratory infections (4.0%)
9	Nephritis/nephrosis (2.3%)	Trachea/bronchi/lung CA (4.3%)	Road injuries (2.6%)	Preterm birth complications (3.0%)
10	HIV/AIDS (2.2%)	Endocrine nutritional, blood, immune (3.0%)	Preterm birth complications (2.5%)	Trachea/bronchi/lung CA (2.9%)

Figure 4.20: Sub-district ranking of leading causes of premature mortality (YLL) , Central Karoo 2013

4.3 Cape Metropole

4.3.1 Summary

- There was a 12% decrease in all-cause ASR in the Cape Metro, from 961 deaths per 100 000 population in 2009 to 850 deaths per 100 000 population in 2013 (Table 2.1).
- Between 2008 and 2013, infant mortality decreased by 10% to 19.4 deaths per 1 000 live births and under 5 mortality decreased by 9% to 24.2 per 1 000 live births (Table A.2).
- Among all persons:
 - Cardiovascular diseases accounted for the greatest proportion (~20%) of deaths for all persons between 2009 and 2013 (Figure 4.21).
 - Ischaemic heart disease ASR remained the highest in 2013 (94 deaths per 100 000 in population, Figure 4.22).
 - TB ASR decreased from 70.4 deaths per 100 000 population in 2009 to 36.8 deaths per 100 000 population in 2013.
 - IPV replaced HIV/AIDS as the leading cause of premature mortality in 2013 (Figure 4.23).
- Among men:
 - Ischaemic heart disease had the highest ASR in 2013 (125.8 deaths per 100 000 population), followed by IPV (101 deaths per 100 000 population, Figure 4.25).
 - IPV, HIV/AIDS and ischaemic heart disease remained the top 3 causes of premature mortality between 2009 and 2013 (Figure 4.26).
- Among women:
 - Ischaemic heart disease had the highest ASR in 2013 (71.3 deaths per 100 000 population, Figure 4.23).
 - HIV/AIDS, ischaemic heart disease and diabetes mellitus were the leading causes of premature mortality in 2013 (Figure 4.23).
 - Premature mortality due to TB decreased significantly between 2009 and 2013.
- HIV/AIDS and IPV were the top 2 leading causes of premature mortality across all sub-districts except Southern where ischaemic heart disease was ranked 1st and IPV 2nd, and Tygerberg where IPV was ranked 1st and ischaemic heart disease 2nd (Figure 4.30).

4.3.2 Cape Metro: All persons

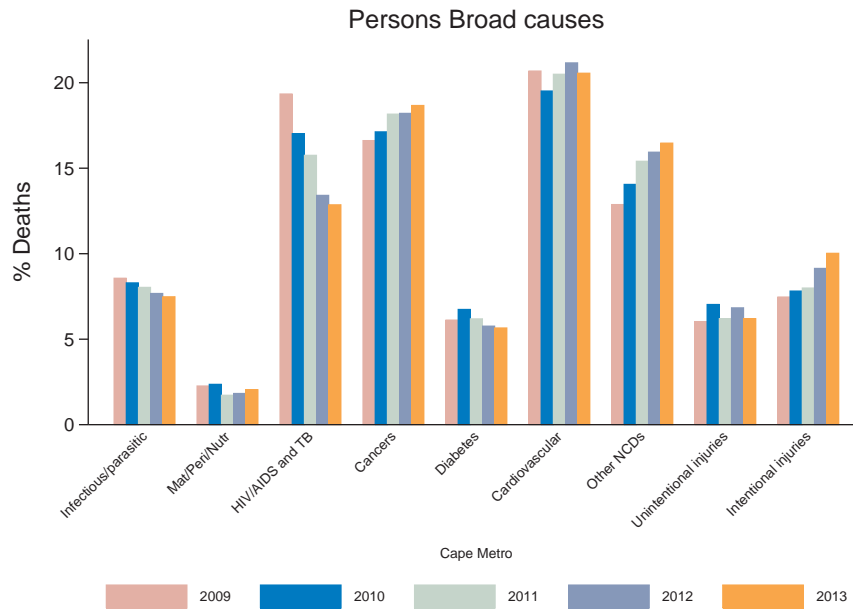


Figure 4.21: Trends in proportion of deaths for all persons by broad cause, Cape Metro 2009 – 2013

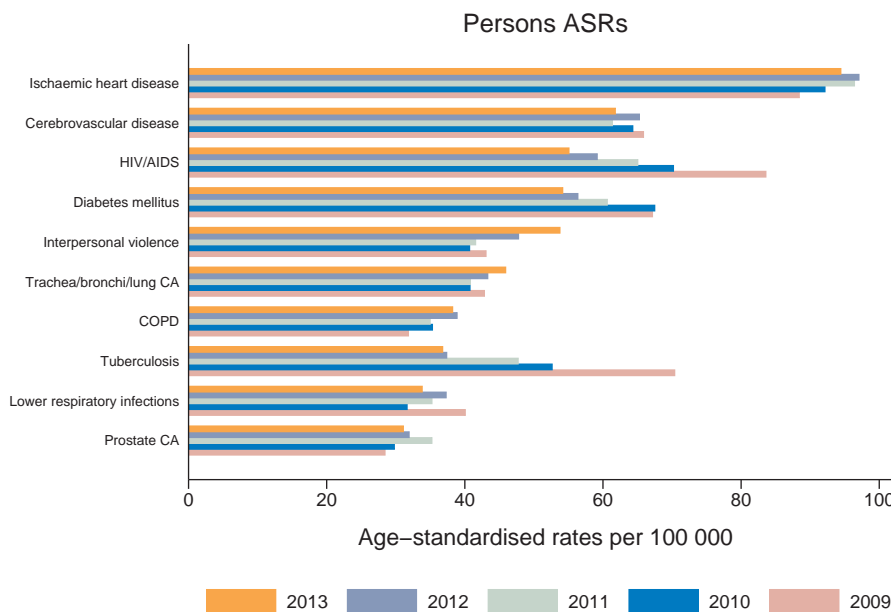


Figure 4.22: Trends in leading causes of death (ASR) for all persons, Cape Metro 2009 – 2013



Figure 4.23: Trends in leading causes of premature mortality (YLL) for all persons, Cape Metro 2009 – 2013

4.3.3 Cape Metro: Males

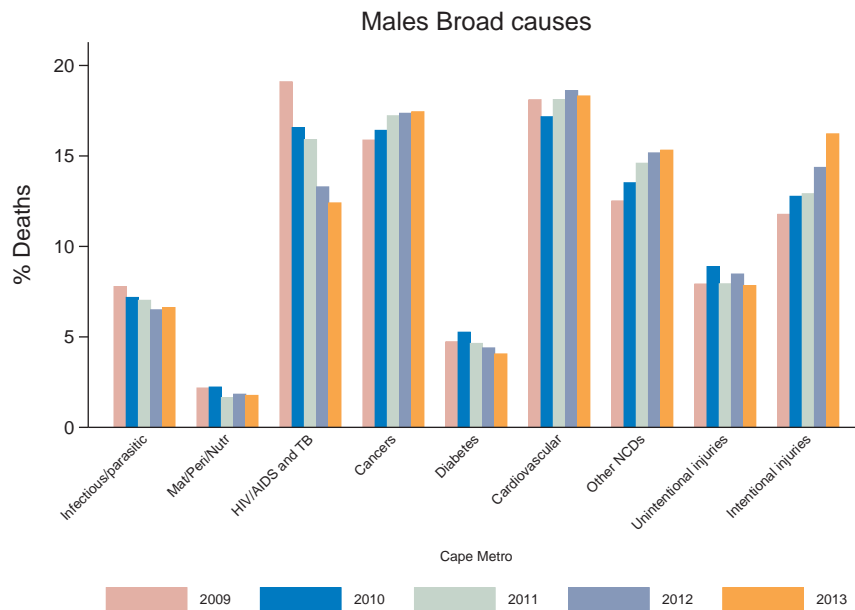


Figure 4.24: Trends in proportion of deaths for males by broad cause, Cape Metro 2009 – 2013

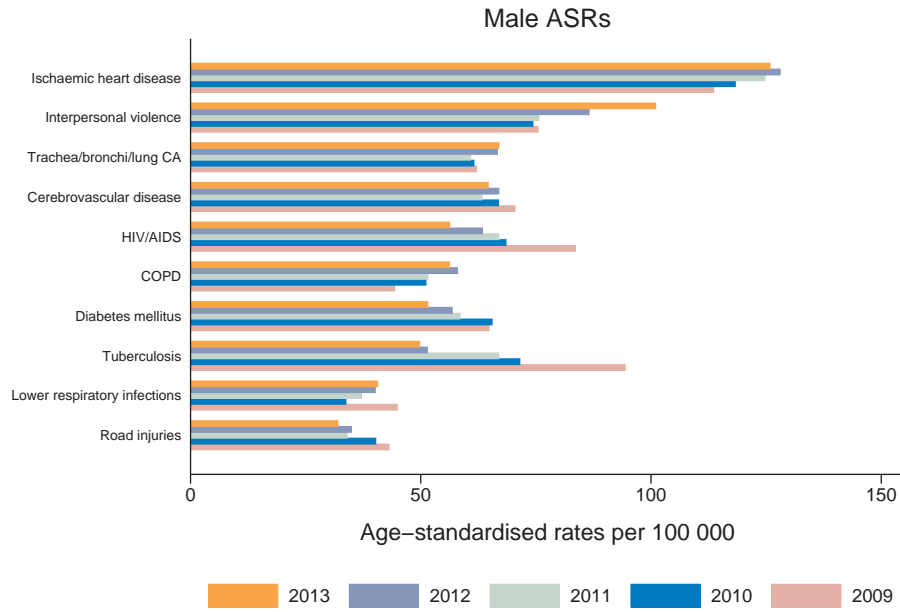


Figure 4.25: Trends in leading causes of death (ASR) for males, Cape Metro 2009 – 2013

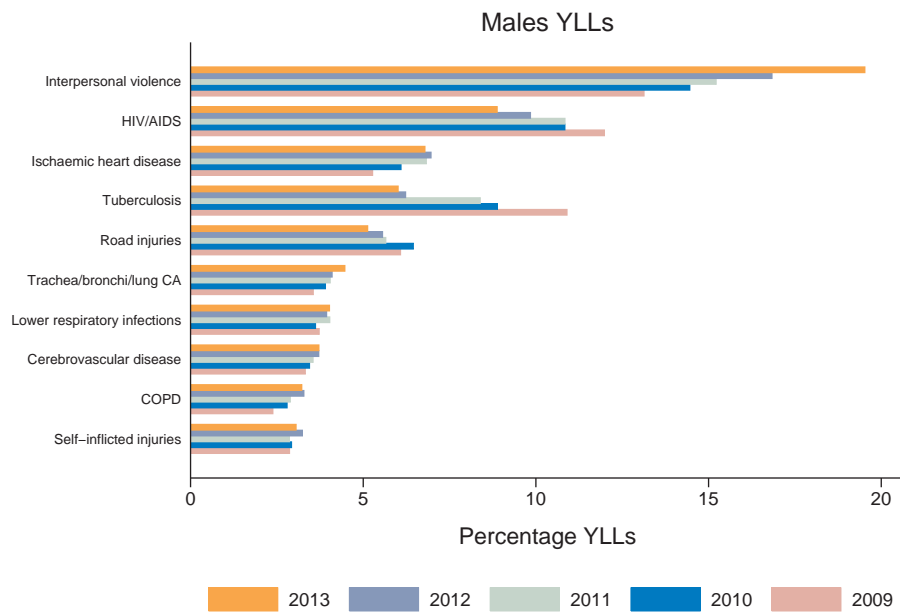


Figure 4.26: Trends in leading causes of premature mortality (YLL) for males, Cape Metro 2009 – 2013

4.3.4 Cape Metro: Females

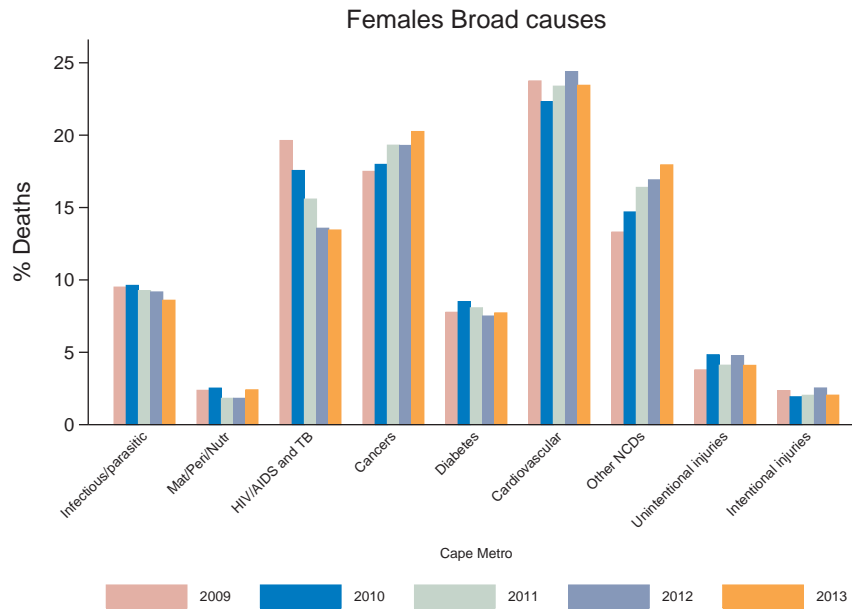


Figure 4.27: Trends in proportion of female deaths by broad cause, Cape Metro 2009 – 2013

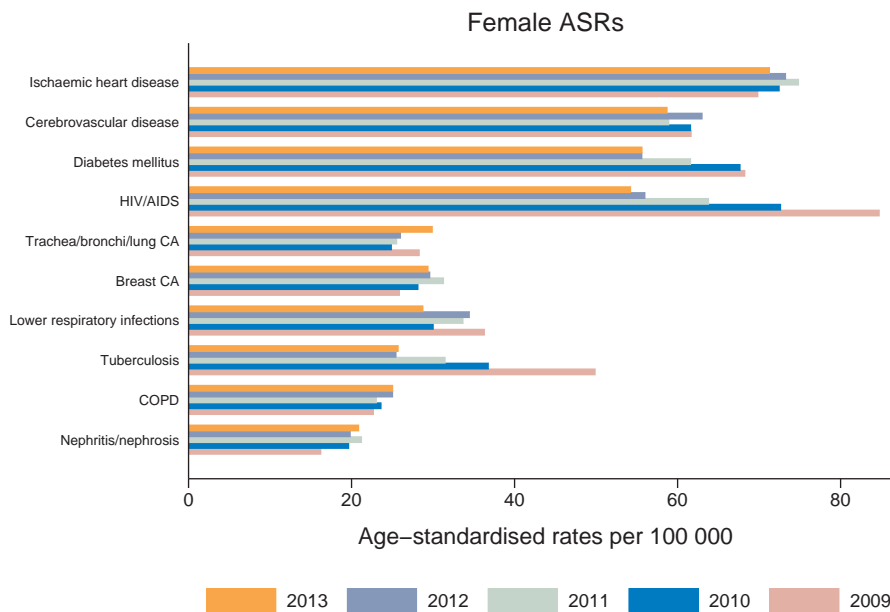


Figure 4.28: Trends in leading causes of death (ASR) for females, Cape Metro 2009 – 2013

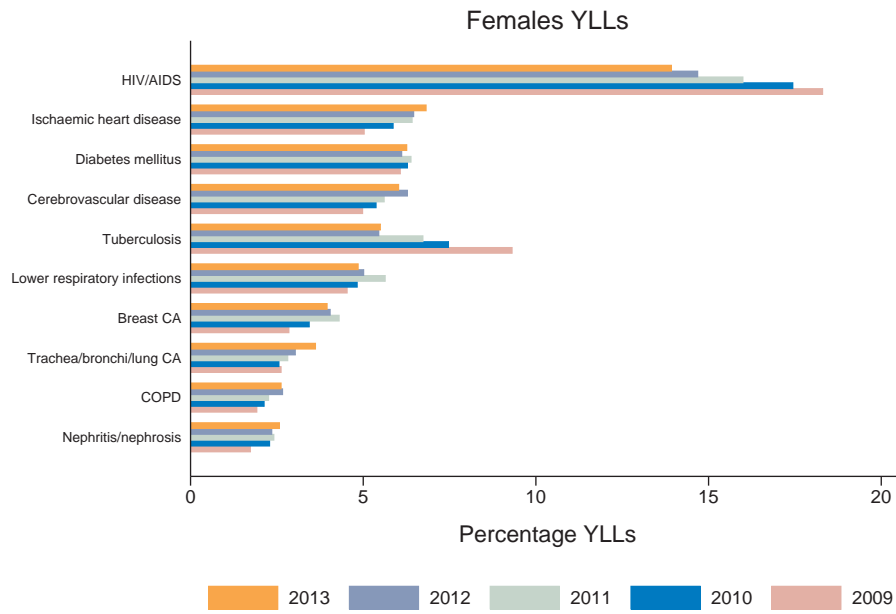


Figure 4.29: Trends in leading causes of premature mortality (YLL) for females, Cape Metro 2009 – 2013

4.3.5 Sub-district ranking of premature mortality, 2013

Rank	CT Eastern	CT Khayelitsha	CT Klipfontein	CT Mitchells Plain	CT Northern	CT Southern	CT Tygerberg	CT Western	Cape Town
1	HIV/AIDS (13.4%)	HIV/AIDS (20.0%)	Interpersonal violence (15.2%)	Interpersonal violence (16.1%)	HIV/AIDS (12.8%)	Ischaemic heart disease (10.1%)	Interpersonal violence (12.8%)	HIV/AIDS (10.0%)	Interpersonal violence (12.4%)
2	Interpersonal violence (9.8%)	Interpersonal violence (18.3%)	HIV/AIDS (10.1%)	HIV/AIDS (9.0%)	Interpersonal violence (9.4%)	Interpersonal violence (7.6%)	Ischaemic heart disease (8.1%)	Interpersonal violence (9.9%)	HIV/AIDS (10.9%)
3	Tuberculosis (6.5%)	Tuberculosis (6.8%)	Tuberculosis (6.6%)	Ischaemic heart disease (6.1%)	Ischaemic heart disease (7.6%)	HIV/AIDS (7.0%)	HIV/AIDS (7.4%)	Ischaemic heart disease (7.7%)	Ischaemic heart disease (6.8%)
4	Ischaemic heart disease (6.1%)	Road injuries (5.7%)	Ischaemic heart disease (6.3%)	Lower respiratory infections (5.8%)	Tuberculosis (5.8%)	Cerebrovascular disease (5.6%)	Tuberculosis (5.9%)	Cerebrovascular disease (5.1%)	Tuberculosis (5.8%)
5	Cerebrovascular disease (5.2%)	Lower respiratory infections (5.5%)	Diabetes mellitus (4.9%)	Tuberculosis (5.6%)	Road injuries (5.3%)	Diabetes mellitus (5.1%)	Cerebrovascular disease (5.5%)	Tuberculosis (5.0%)	Cerebrovascular disease (4.7%)
6	Lower respiratory infections (4.6%)	Cerebrovascular disease (2.8%)	Lower respiratory infections (4.5%)	Diabetes mellitus (5.1%)	Trachea/bronchi/lung CA (5.3%)	Trachea/bronchi/lung CA (5.1%)	Diabetes mellitus (5.1%)	Road injuries (4.6%)	Lower respiratory infections (4.4%)
7	Diabetes mellitus (4.2%)	Diabetes mellitus (2.5%)	Cerebrovascular disease (4.2%)	Cerebrovascular disease (3.9%)	Cerebrovascular disease (4.4%)	Tuberculosis (4.2%)	Trachea/bronchi/lung CA (5.0%)	Trachea/bronchi/lung CA (4.3%)	Diabetes mellitus (4.3%)
8	Trachea/bronchi/lung CA (3.8%)	Self-inflicted injuries (2.5%)	Trachea/bronchi/lung CA (4.1%)	Trachea/bronchi/lung CA (3.7%)	Lower respiratory infections (3.9%)	COPD (3.9%)	Road injuries (3.9%)	Diabetes mellitus (4.0%)	Trachea/bronchi/lung CA (4.1%)
9	Road injuries (3.6%)	Nephritis/nephrosis (2.5%)	COPD (3.1%)	Road injuries (3.6%)	COPD (3.7%)	Lower respiratory infections (3.6%)	COPD (3.8%)	Lower respiratory infections (3.9%)	Road injuries (4.0%)
10	COPD (3.2%)	Ischaemic heart disease (2.0%)	Road injuries (2.9%)	COPD (2.5%)	Diabetes mellitus (2.8%)	Road injuries (3.0%)	Lower respiratory infections (3.3%)	COPD (3.2%)	COPD (3.0%)

Figure 4.30: Sub-district ranking of leading causes of premature mortality (YLL), Cape Metro 2013

4.4 Eden

4.4.1 Summary

- There was an 8% decrease in all-cause ASR in the Eden, from 948 deaths per 100 000 population in 2009 to 872 deaths per 100 000 population in 2013 (Table 2.1).
- Between 2008 and 2013, infant mortality decreased by 15% to 19.8 deaths per 1 000 live births and under 5 mortality decreased by 20% to 23.2 deaths per 1 000 live births (Table A.2).
- Among all persons:
 - Cardiovascular diseases accounted for the greatest proportion (~24%) of deaths for all persons between 2009 and 2013 (Figure 4.31).
 - Ischaemic heart disease had the highest ASR in 2013 (94 deaths per 100 000 in population, Figure 4.32).
 - TB ASR decreased from 95 deaths per 100 000 population in 2009 to 59 deaths per 100 00 population in 2013.
 - HIV/AIDS, TB and ischaemic heart disease remained the top 3 leading causes of premature mortality between 2009 and 2013 (Figure 4.33).
- Among men:
 - Ischaemic heart disease had the highest ASR in 2013 (117 deaths per 100 000 population), followed by TB (87.5 deaths per 100 000 population, Figure 4.35).
 - HIV/AIDS, TB and ischaemic heart disease remained the top 3 causes of premature mortality between 2009 and 2013 (Figure 4.36).
- Among women:
 - Cerebrovascular disease had the highest ASR in 2013 (75.8 deaths per 100 000 population, Figure 4.38).
 - HIV/AIDS, cerebrovascular disease and ischaemic heart disease remained the top 3 leading causes of premature mortality between 2009 and 2013 (Figure 4.39).
- HIV/AIDS was the leading causes of premature mortality across all sub-districts except Hessequa, where ischaemic heart disease was ranked 1st, and Oudtshoorn, where TB was ranked 1st (Figure 4.40).

4.4.2 Eden: All persons

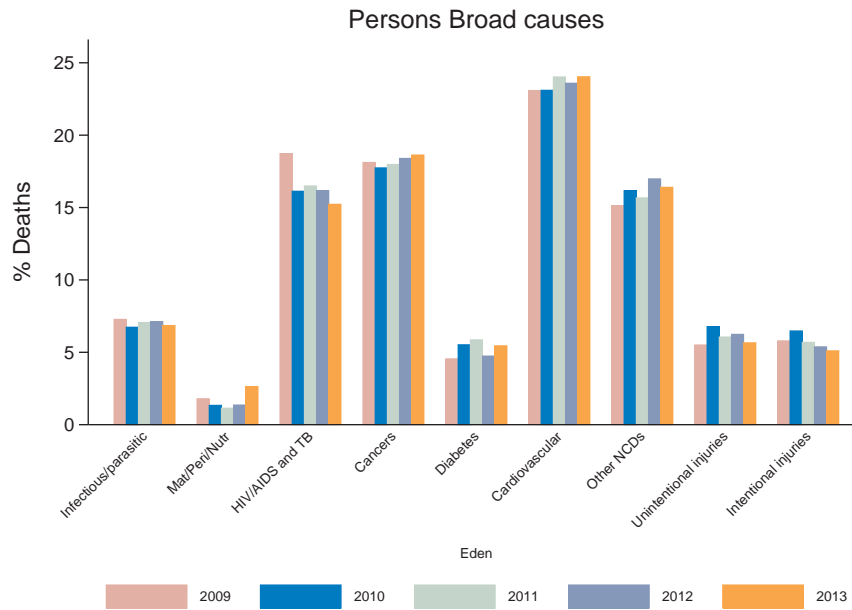


Figure 4.31: Trends in proportion of deaths for all persons by broad cause, Eden 2009 – 2013

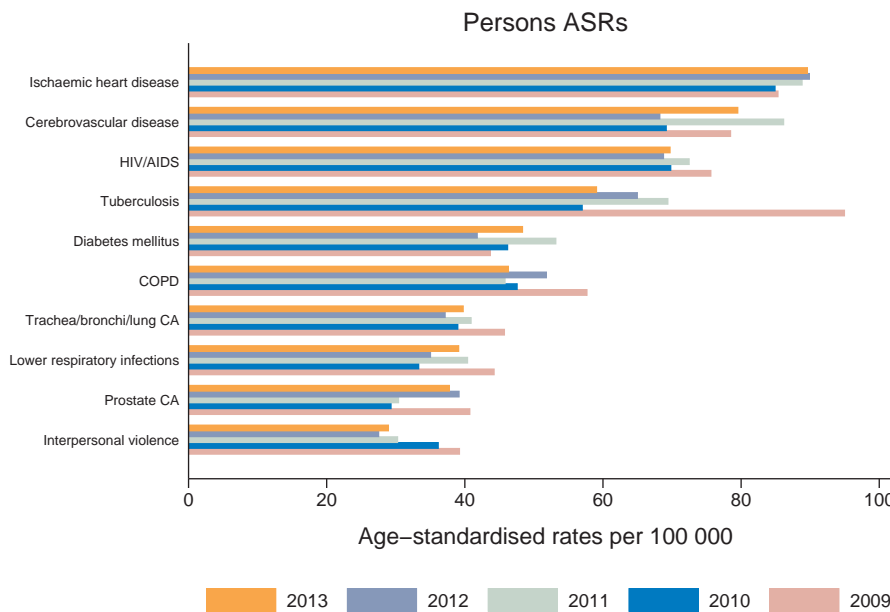


Figure 4.32: Trends in leading causes of death (ASR) for all persons, Eden 2009 – 2013

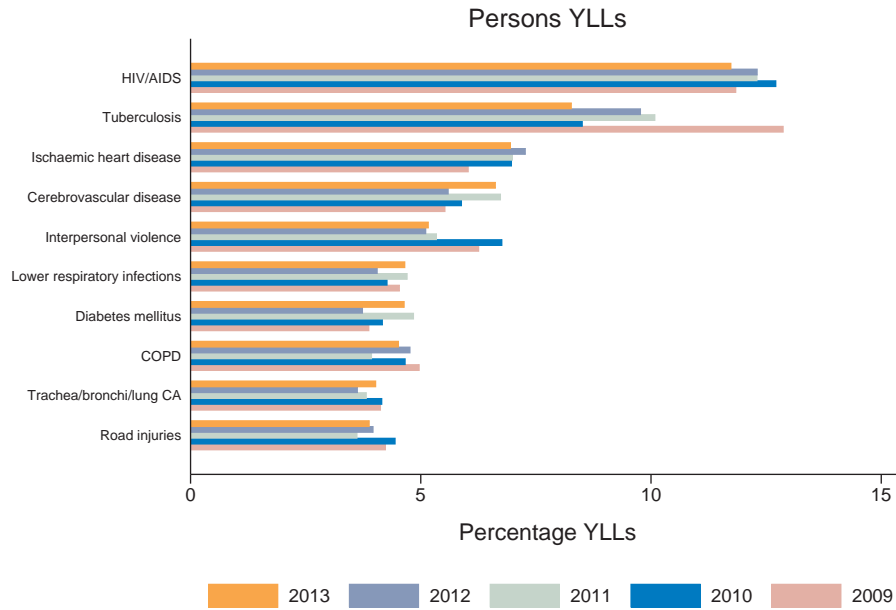


Figure 4.33: Trends in leading causes of premature mortality (YLL) for all persons, Eden 2009 – 2013

4.4.3 Eden: Males

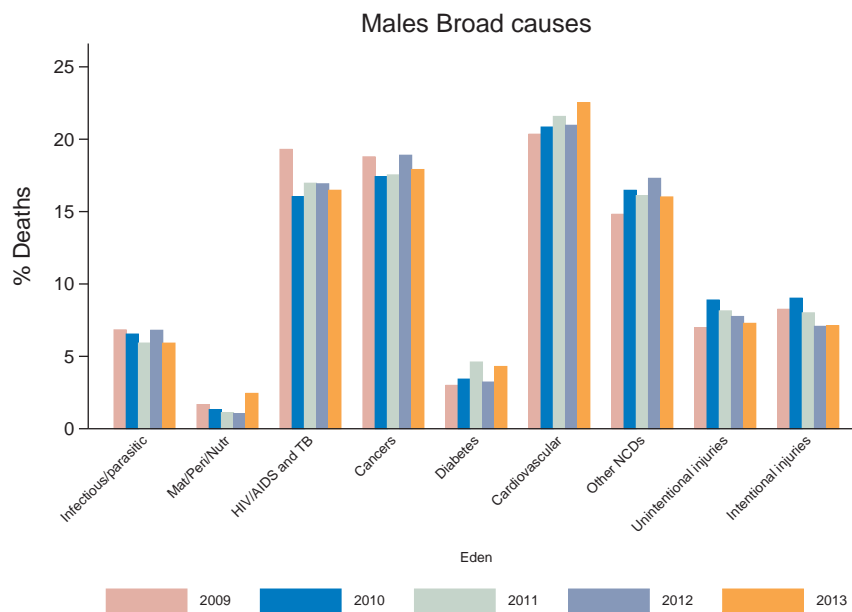


Figure 4.34: Trends in proportion of males deaths by broad cause, Eden 2009 – 2013

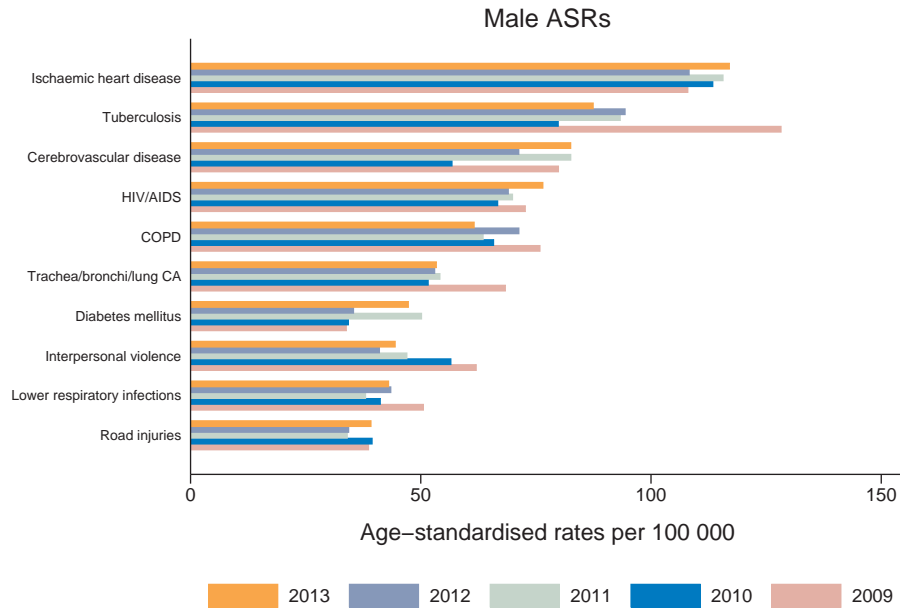


Figure 4.35: Trends in leading causes of death (ASR) for males, Eden 2009 – 2013

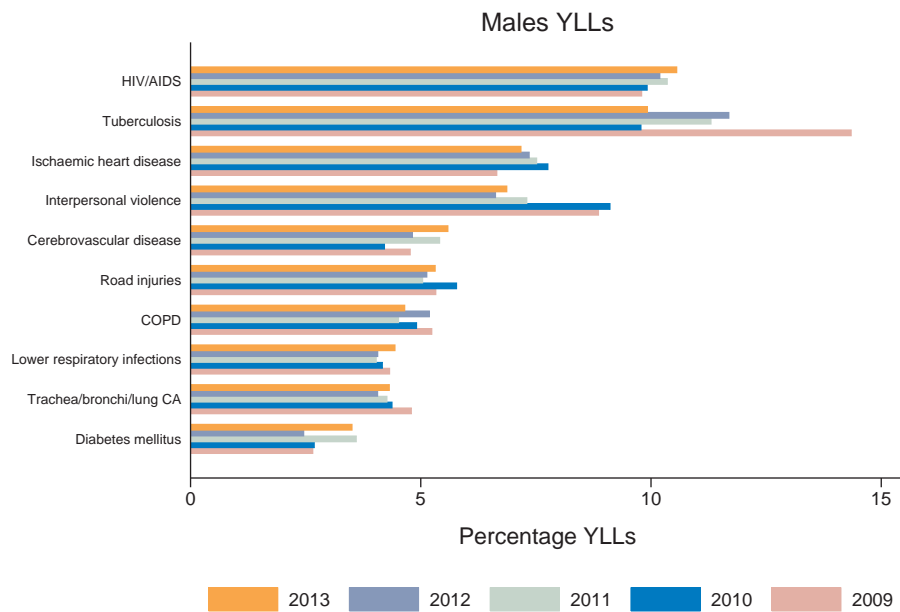


Figure 4.36: Trends in leading causes of premature (YLL) mortality for males, Eden 2009 – 2013

4.4.4 Eden: Females

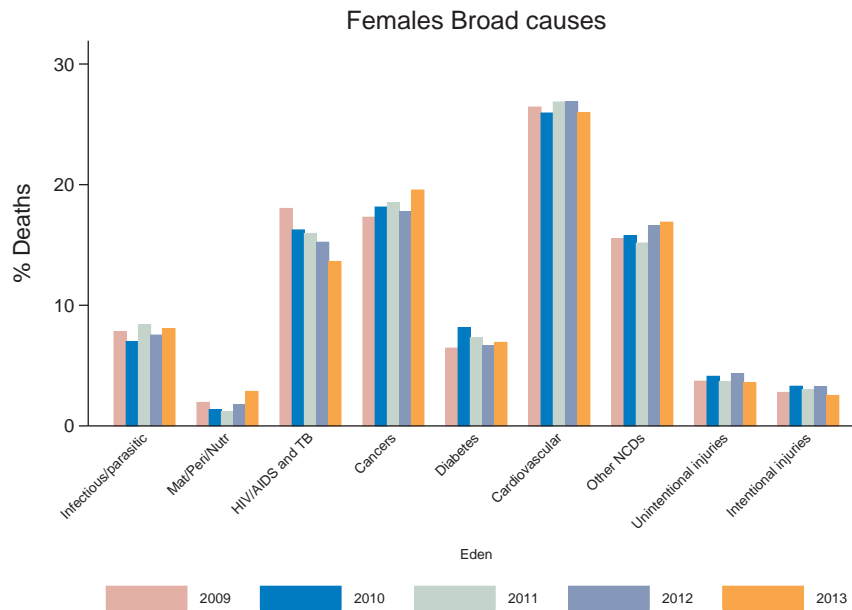


Figure 4.37: Trends in proportion of female deaths by broad cause, Eden 2009 – 2013

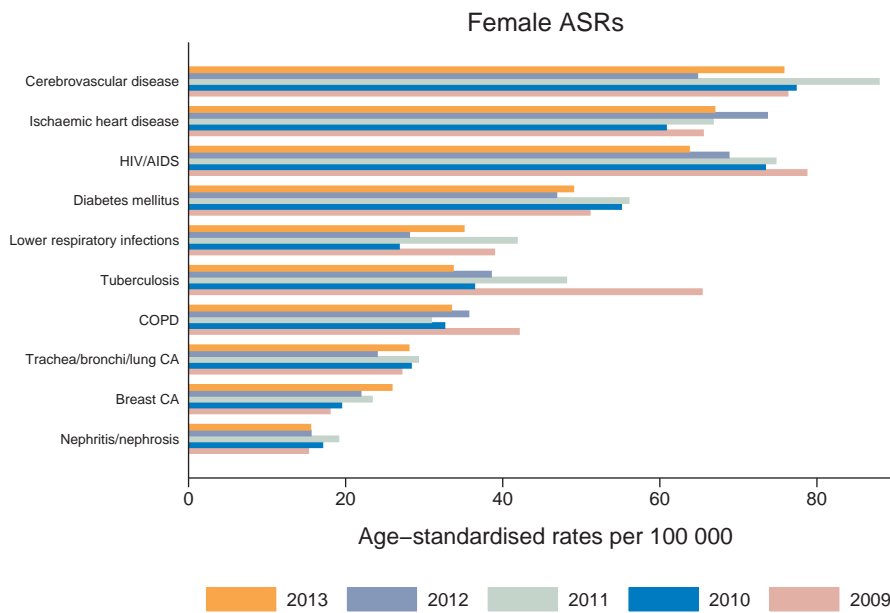


Figure 4.38: Trends in leading causes of death (ASR) for females, Eden 2009 – 2013

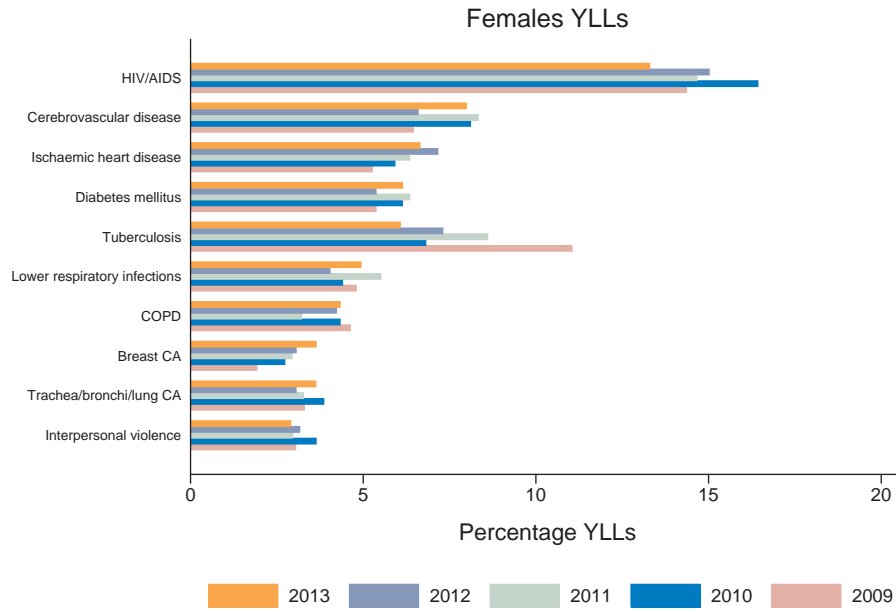


Figure 4.39: Trends in leading causes of premature mortality (YLL) for females, Eden 2009 – 2013

4.4.5 Sub-district ranking of premature mortality, 2013

Rank	Kannaland	Hessequa	Mossel Bay	George	Oudtshoorn	Bitou	Knysna	Eden
1	HIV/AIDS (12.0%)	Ischaemic heart disease (10.9%)	HIV/AIDS (9.9%)	HIV/AIDS (12.0%)	Tuberculosis (9.8%)	HIV/AIDS (16.2%)	HIV/AIDS (18.4%)	HIV/AIDS (11.7%)
2	Ischaemic heart disease (11.5%)	HIV/AIDS (7.9%)	Ischaemic heart disease (8.0%)	Tuberculosis (9.4%)	Cerebrovascular disease (9.1%)	Tuberculosis (7.4%)	Tuberculosis (7.0%)	Tuberculosis (8.3%)
3	Cerebrovascular disease (7.6%)	Trachea/bronchi/lung CA (6.4%)	Tuberculosis (7.3%)	Interpersonal violence (7.2%)	HIV/AIDS (8.8%)	Cerebrovascular disease (6.3%)	Cerebrovascular disease (6.6%)	Ischaemic heart disease (6.9%)
4	Tuberculosis (7.1%)	Road injuries (6.2%)	Cerebrovascular disease (6.8%)	Ischaemic heart disease (6.3%)	Ischaemic heart disease (6.6%)	Lower respiratory infections (6.1%)	Road injuries (5.0%)	Cerebrovascular disease (6.6%)
5	COPD (5.4%)	Cerebrovascular disease (5.9%)	Trachea/bronchi/lung CA (4.8%)	COPD (5.4%)	Diabetes mellitus (6.2%)	COPD (5.4%)	COPD (4.8%)	Interpersonal violence (5.2%)
6	Interpersonal violence (4.8%)	Tuberculosis (5.9%)	Diabetes mellitus (4.3%)	Cerebrovascular disease (5.2%)	Lower respiratory infections (5.0%)	Ischaemic heart disease (4.8%)	Ischaemic heart disease (4.2%)	Lower respiratory infections (4.7%)
7	Lower respiratory infections (4.7%)	Diabetes mellitus (5.6%)	Road injuries (4.2%)	Lower respiratory infections (5.1%)	Interpersonal violence (4.4%)	Interpersonal violence (4.3%)	Diabetes mellitus (4.0%)	Diabetes mellitus (4.6%)
8	Diabetes mellitus (4.1%)	Lower respiratory infections (5.6%)	Interpersonal violence (4.1%)	Diabetes mellitus (4.3%)	Trachea/bronchi/lung CA (4.0%)	Road injuries (3.8%)	Self-inflicted injuries (3.7%)	COPD (4.5%)
9	Trachea/bronchi/lung CA (3.9%)	Interpersonal violence (4.9%)	Lower respiratory infections (3.1%)	Road injuries (4.2%)	COPD (4.0%)	Diabetes mellitus (3.3%)	Lower respiratory infections (3.4%)	Trachea/bronchi/lung CA (4.0%)
10	Breast CA (3.6%)	COPD (4.4%)	Preterm birth complications (2.7%)	Trachea/bronchi/lung CA (3.6%)	Preterm birth complications (2.2%)	Preterm birth complications (3.1%)	Trachea/bronchi/lung CA (3.4%)	Road injuries (3.9%)

Figure 4.40: Sub-district ranking of leading causes of premature mortality, Eden 2013

4.5 Overberg

4.5.1 Summary

- There was a 3% increase in all-cause ASR in the Overberg, from 698 deaths per 100 000 population in 2009 to 715 deaths per 100 000 population in 2013 (Table 2.1).
- Between 2008 and 2013, infant mortality decreased by 19% to 22.7 deaths per 1 000 live births and under 5 mortality decreased by 24% to 26.5 deaths per 1 000 live births (Table A.2).
- Among all persons:
 - Cardiovascular diseases accounted for the greatest proportion (~22%) of deaths for all persons between 2009 and 2013 (Figure 4.41).
 - Cerebrovascular disease had the highest ASR in 2013 (67.4 deaths per 100 000 in population, Figure 4.42).
 - HIV/AIDS, IPV and TB remained the top 3 leading causes of premature mortality between 2009 and 2013 (Figure 4.43).
- Among men:
 - Cancers accounted for the largest proportion of deaths in 2013 (21%, Figure 4.23).
 - Ischaemic heart disease had the highest ASR in 2013 (84.2 deaths per 100 000 population), followed by COPD (68.2 deaths per 100 000 population, Figure 4.45).
 - IPV, TB and ischaemic heart disease were the top 3 causes of premature mortality in 2013 (Figure 4.46).
- Among women:
 - Cerebrovascular disease had the highest ASR in 2013 (67.2 deaths per 100 000 population, Figure 4.48).
 - HIV/AIDS and cerebrovascular disease remained the top 2 leading causes of premature mortality between 2009 and 2013 (Figure 4.49).
- HIV/AIDS was the leading causes of premature mortality across all sub-districts except Cape Agulhas and Swellendam, where COPD was the leading cause of premature mortality (Figure 4.50).

4.5.2 Overberg: All persons

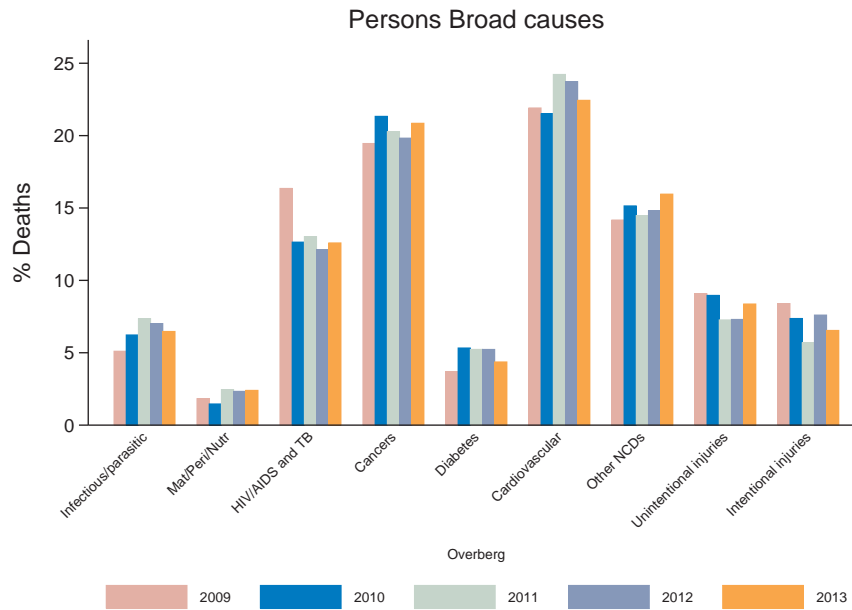


Figure 4.41: Trends in proportion of deaths for all persons by broad cause, Overberg 2009 – 2013

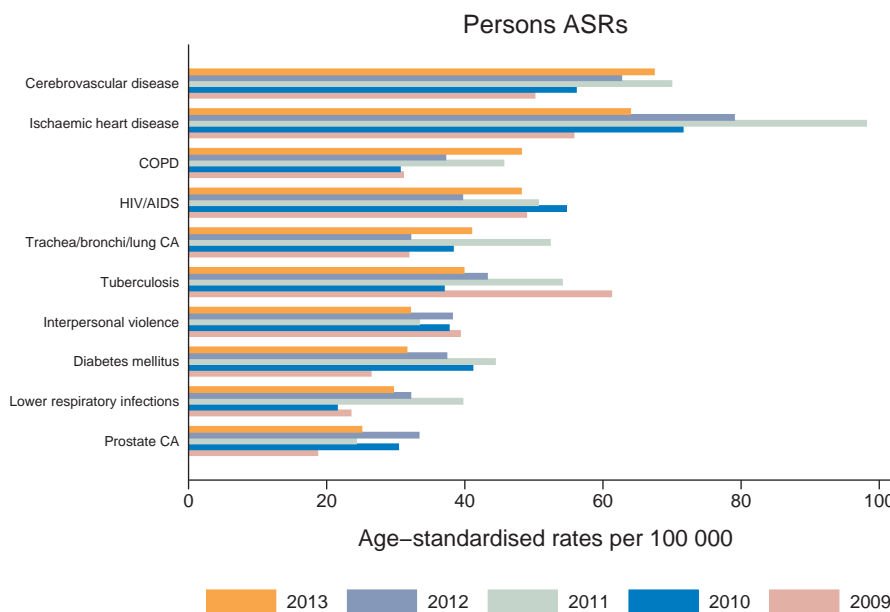


Figure 4.42: Trends in leading causes of death (ASR) for males, Overberg 2009 – 2013

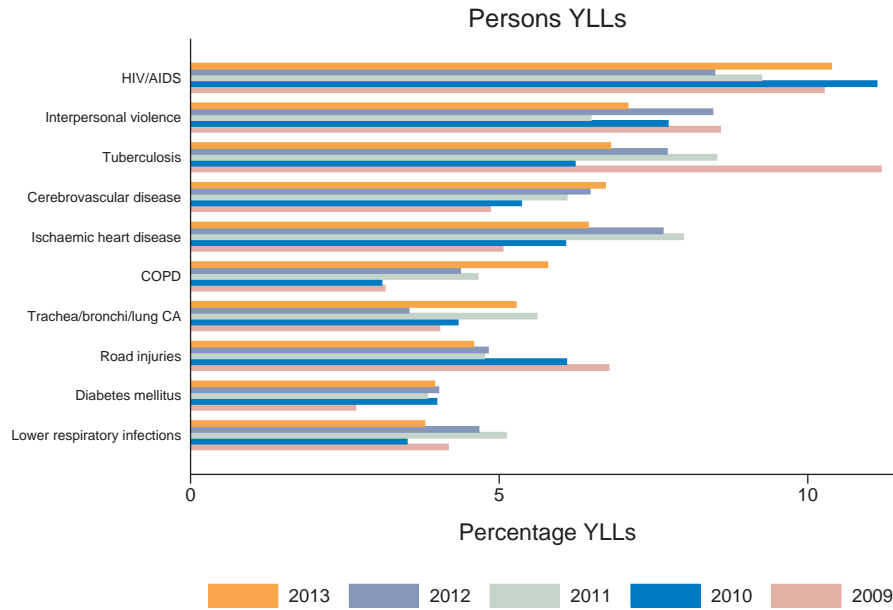


Figure 4.43: Trends in leading causes of premature mortality (YLL) for all persons, Overberg 2009 – 2013

4.5.3 Overberg: Males

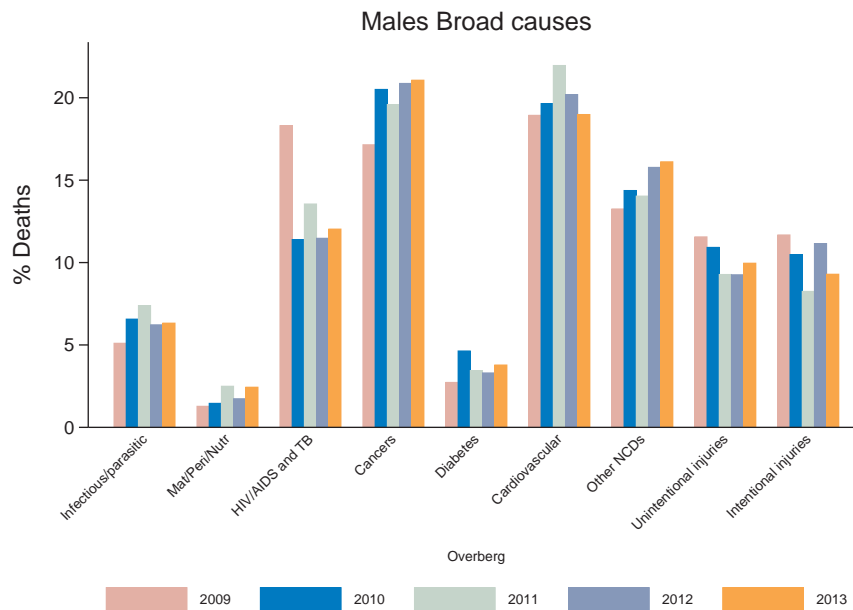


Figure 4.44: Trends in proportion of male deaths by broad cause, Overberg 2009 – 2013

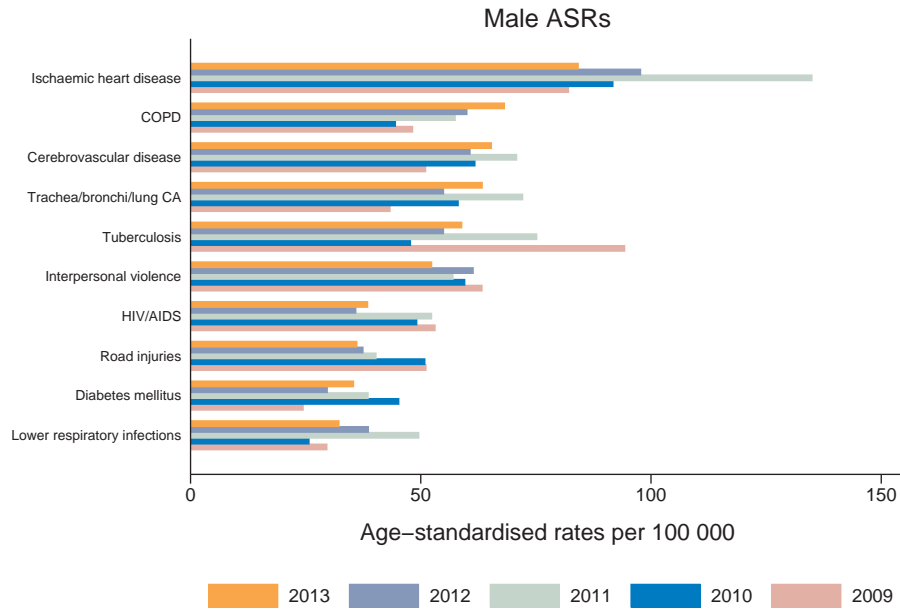


Figure 4.45: Trends in leading causes of death (ASR) for males, Overberg 2009 – 2013

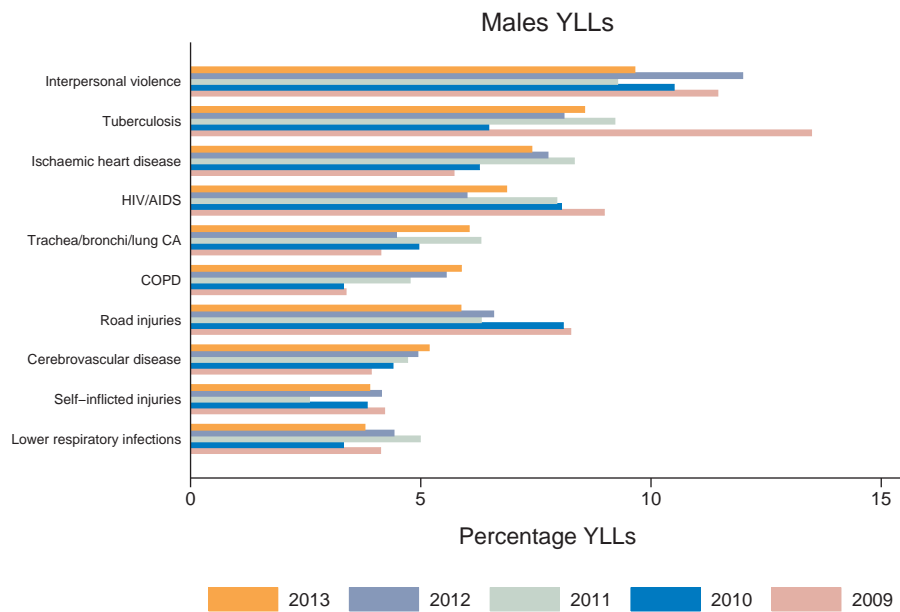


Figure 4.46: Trends in leading causes of premature mortality (YLL) for males, Overberg 2009 – 2013

4.5.4 Overberg: Females

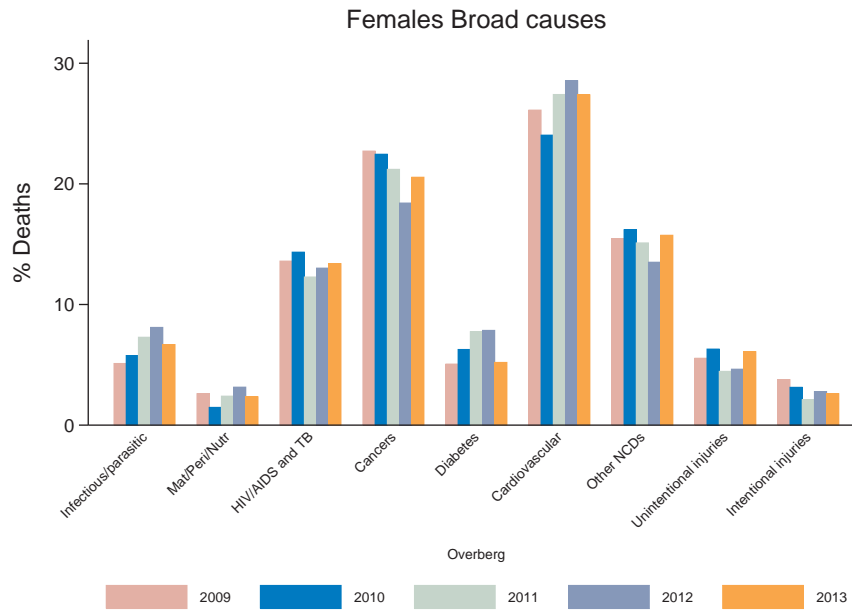


Figure 4.47: Trends in proportion of female deaths by broad cause, Overberg 2009 – 2013

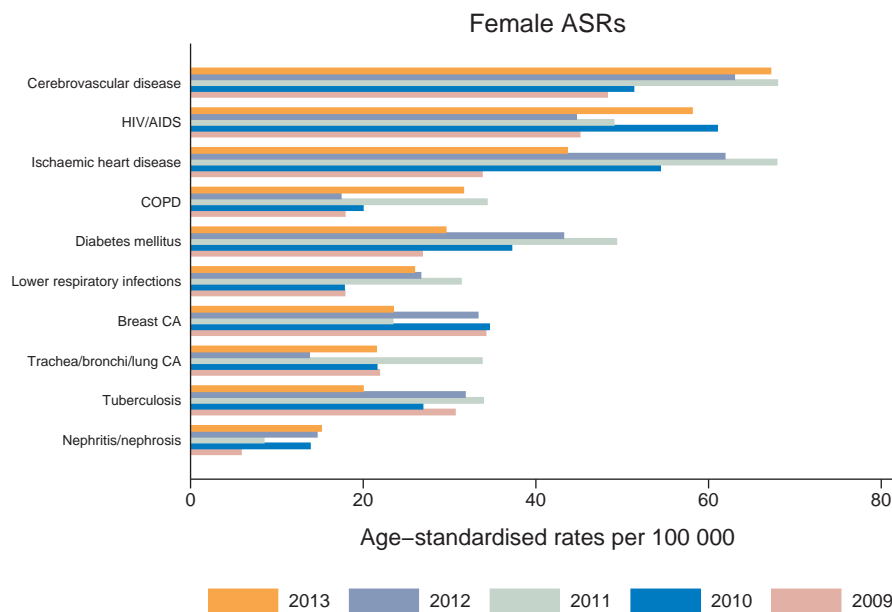


Figure 4.48: Trends in leading causes of death (ASR) for females, Overberg 2009 – 2013

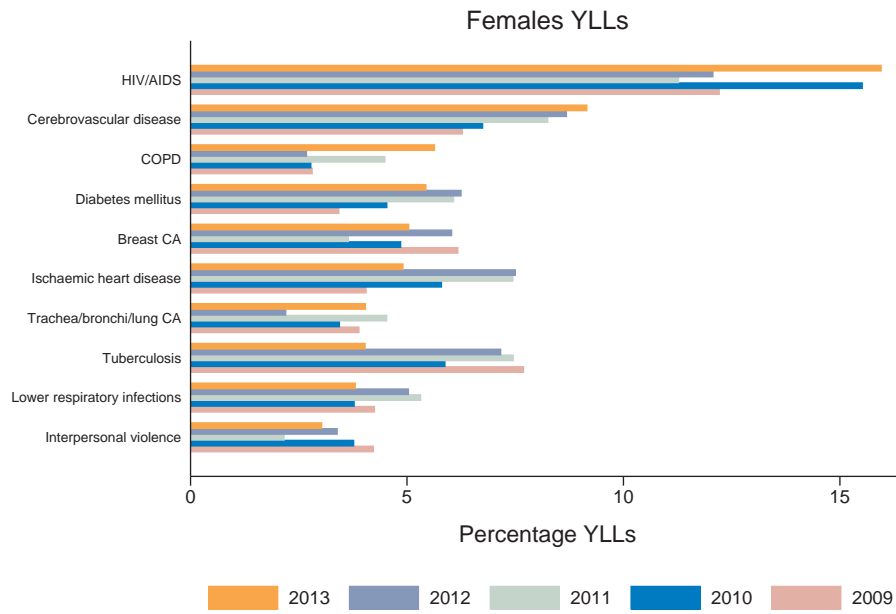


Figure 4.49: Trends in leading causes of premature mortality (YLL) for females, Overberg 2009 – 2013

4.5.5 Sub-district ranking of premature mortality, 2013

Rank	Theewaterskloof	Overstrand	Cape Agulhas	Swellendam	Overberg
1	HIV/AIDS (12.2%)	HIV/AIDS (10.3%)	COPD (12.1%)	COPD (8.6%)	HIV/AIDS (10.4%)
2	Interpersonal violence (8.2%)	Ischaemic heart disease (8.1%)	Cerebrovascular disease (8.3%)	Tuberculosis (7.5%)	Interpersonal violence (7.1%)
3	Tuberculosis (6.9%)	Tuberculosis (7.2%)	Ischaemic heart disease (7.0%)	HIV/AIDS (7.2%)	Tuberculosis (6.8%)
4	Cerebrovascular disease (6.1%)	Cerebrovascular disease (7.1%)	Interpersonal violence (6.2%)	Road injuries (7.0%)	Cerebrovascular disease (6.7%)
5	COPD (5.4%)	Interpersonal violence (6.0%)	HIV/AIDS (6.1%)	Cerebrovascular disease (6.5%)	Ischaemic heart disease (6.4%)
6	Trachea/bronchi/lung CA (5.4%)	Trachea/bronchi/lung CA (5.5%)	Self-inflicted injuries (5.7%)	Ischaemic heart disease (6.4%)	COPD (5.8%)
7	Road injuries (5.3%)	Diabetes mellitus (4.4%)	Trachea/bronchi/lung CA (4.9%)	Interpersonal violence (6.2%)	Trachea/bronchi/lung CA (5.3%)
8	Ischaemic heart disease (5.3%)	Self-inflicted injuries (3.5%)	Tuberculosis (4.6%)	Lower respiratory infections (4.9%)	Road injuries (4.6%)
9	Lower respiratory infections (4.3%)	COPD (3.2%)	Road injuries (3.7%)	Trachea/bronchi/lung CA (4.6%)	Diabetes mellitus (4.0%)
10	Diabetes mellitus (3.9%)	Lower respiratory infections (3.1%)	Diabetes mellitus (3.7%)	Diabetes mellitus (3.1%)	Lower respiratory infections (3.8%)

Figure 4.50: Sub-district ranking of leading causes of premature mortality (YLL), Overberg 2013

4.6 West Coast

4.6.1 Summary

- There was a 6% decrease in all-cause ASR in the West Coast, from 909 deaths per 100 000 population in 2009 to 852 deaths per 100 000 population in 2013 (Table 2.1).
- Between 2008 and 2013, infant mortality decreased by 21% to 22.5 deaths per 1 000 live births and under 5 mortality decreased by 25% to 25.5 deaths per 1 000 live births (Table A.2).
- Among all persons:
 - Cardiovascular diseases accounted for the greatest proportion (~21%) of deaths for all persons between 2009 and 2013 (Figure 4.51).
 - Ischaemic heart disease ASR remained the highest between 2009 and 2013 (~100 deaths per 100 000 in population, Figure 4.52).
 - TB and HIV/AIDS remained the top 2 leading causes of premature mortality between 2009 and 2013 (Figure 4.53).
- Among men:
 - Ischaemic heart disease had the highest ASR in 2013 (125.8 deaths per 100 000 population), followed by TB (107.3 deaths per 100 000 population, Figure 4.55).
 - TB, HIV/AIDS and ischaemic heart disease were the top 3 causes of premature mortality in 2013 (Figure 4.56).
- Among women:
 - Ischaemic heart disease had the highest ASR in 2013 (70.5 deaths per 100 000 population, Figure 4.58)
 - HIV/AIDS, TB and diabetes mellitus were the top 3 leading causes of premature mortality between in 2013 (Figure 4.59).
- TB and HIV/AIDS were the top 2 leading causes of premature mortality across all sub-districts except Cederberg, where TB ranked 1st and IPV ranked 2nd (Figure 4.60).

4.6.2 West Coast: All persons

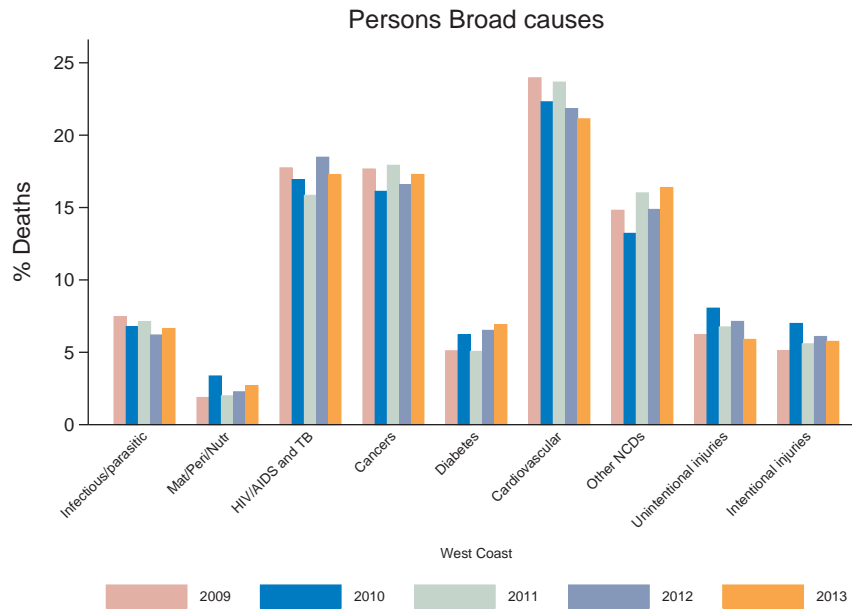


Figure 4.51: Trends in proportion of deaths for all persons by broad cause, West Coast 2009 – 2013

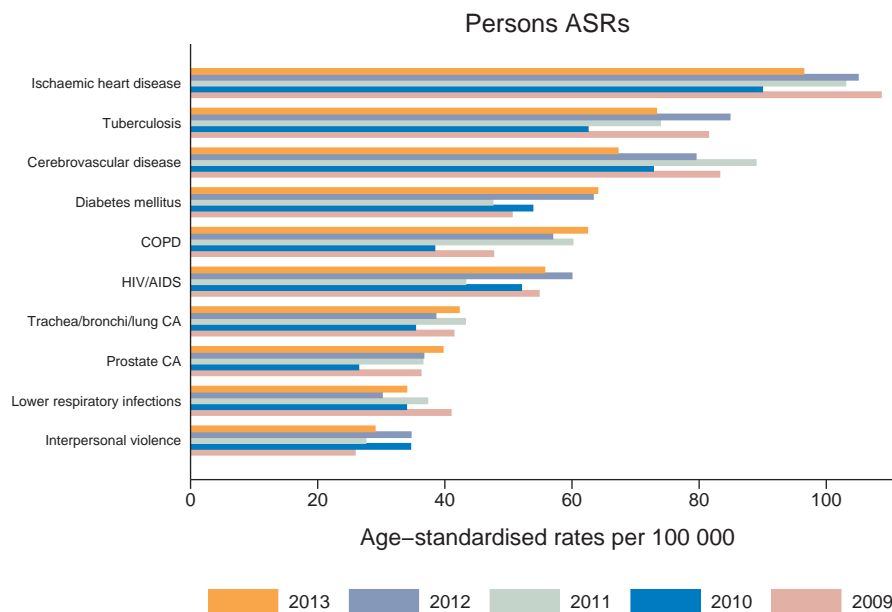


Figure 4.52: Trends in leading causes of death (ASR) for all persons, West Coast 2009 – 2013

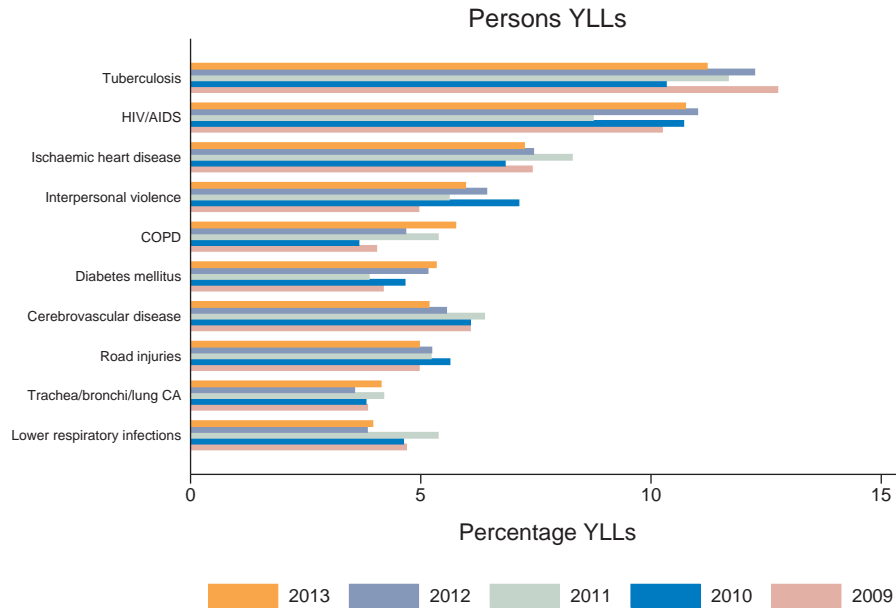


Figure 4.53: Trends in leading causes of premature mortality (YLL) for all persons, West Coast 2009 – 2013

4.6.3 West Coast: Males

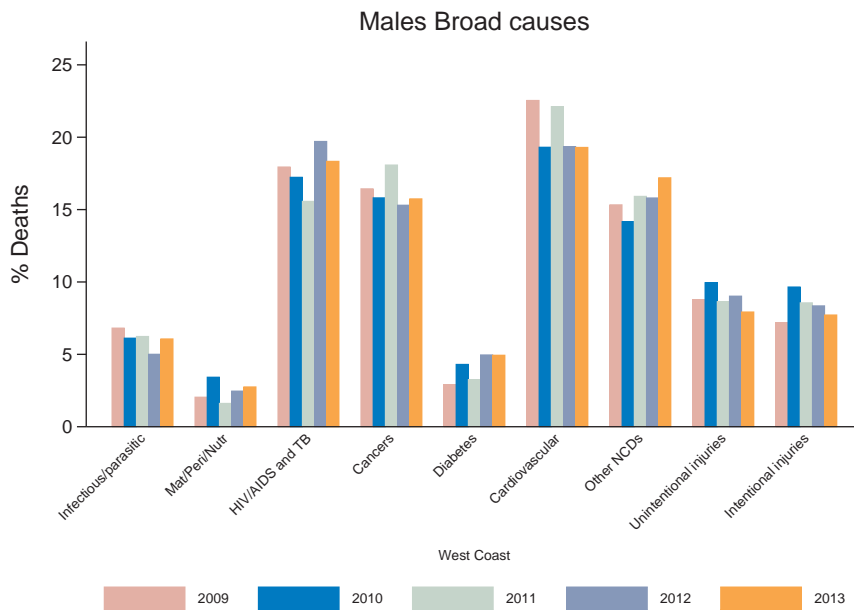


Figure 4.54: Trends in proportion of male deaths by broad cause, West Coast 2009 – 2013

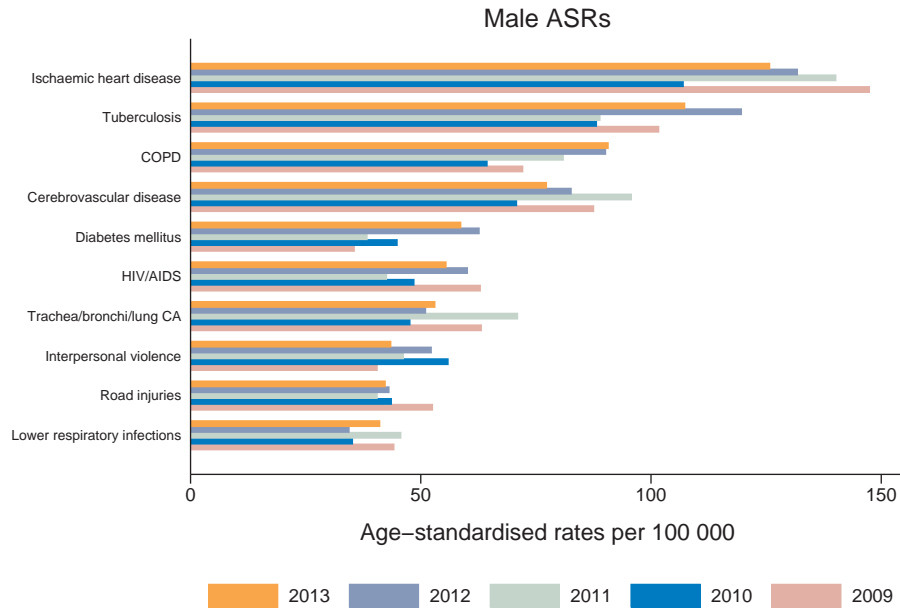


Figure 4.55: Trends in leading causes of death (ASR) for males, West Coast 2009 – 2013

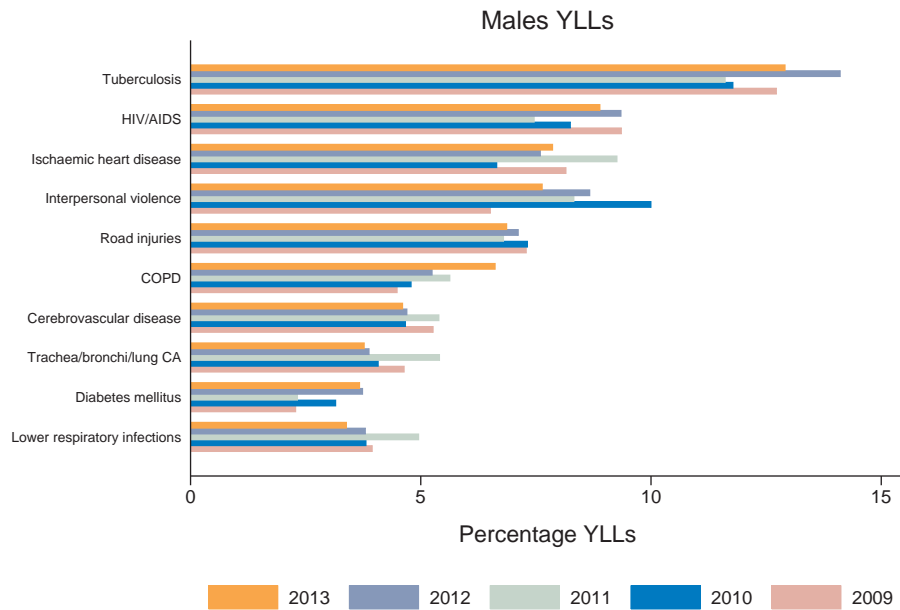


Figure 4.56: Trends in leading causes of premature mortality (YLL) for males, West Coast 2009 – 2013

4.6.4 West Coast: Females

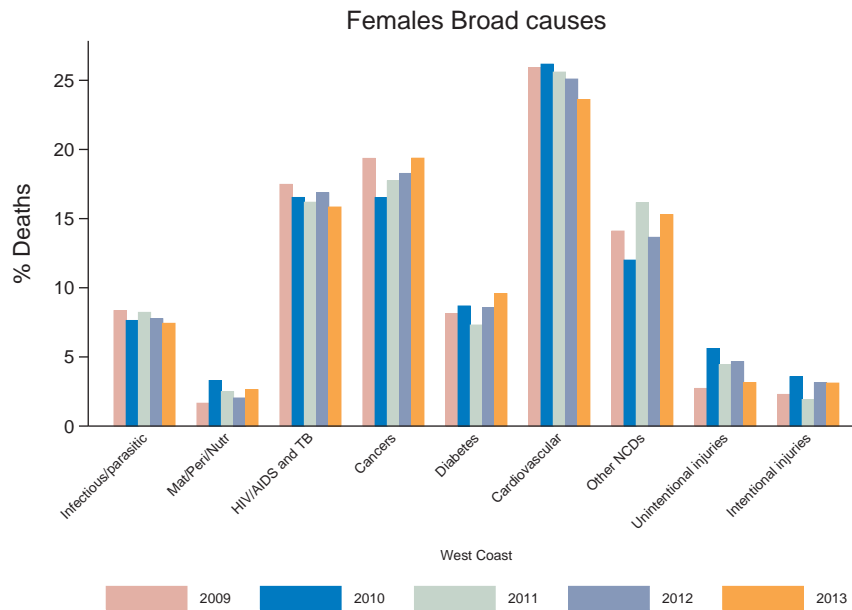


Figure 4.57: Trends in proportion of female deaths by broad cause, West Coast 2009 – 2013

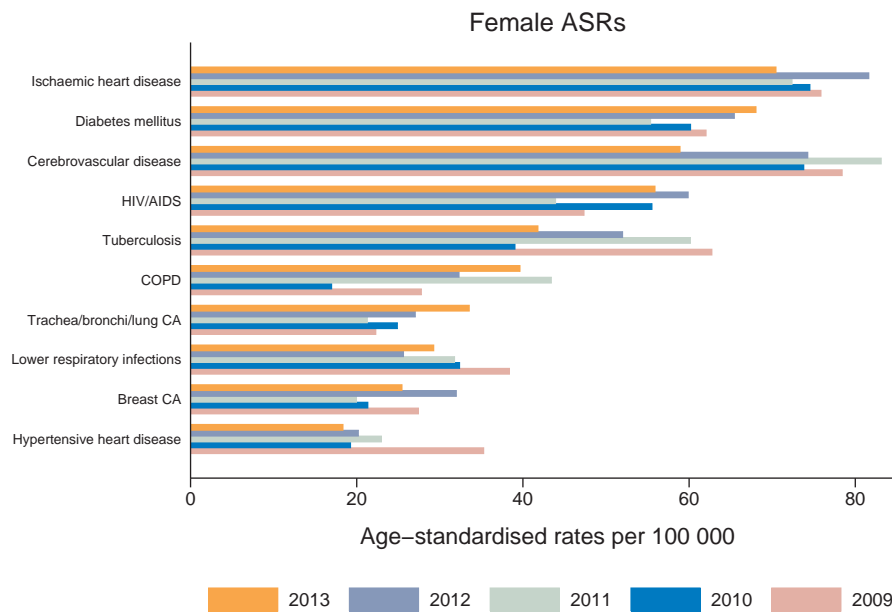


Figure 4.58: Trends in leading causes of death (ASR) for females, West Coast 2009 – 2013

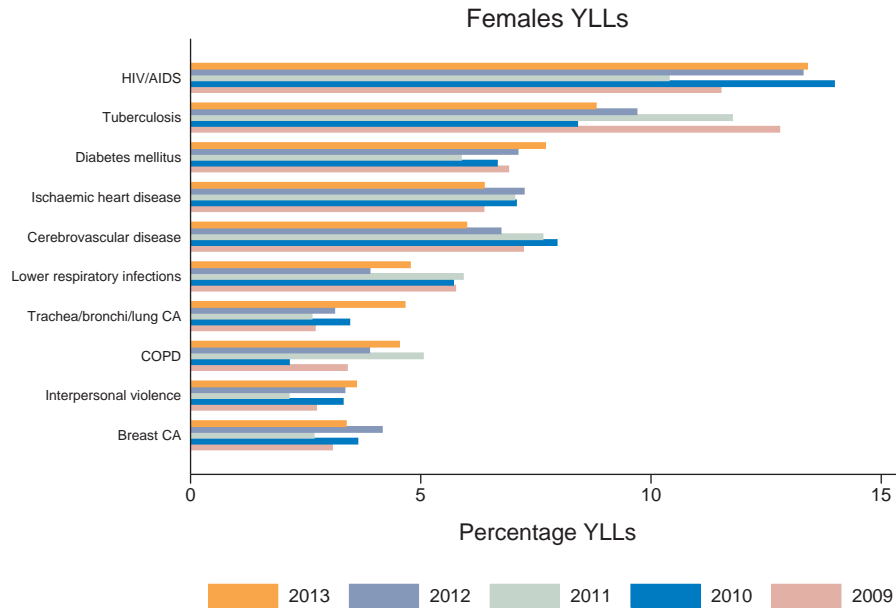


Figure 4.59: Trends in leading causes of premature mortality (YLL) for females, West Coast 2009 – 2013

4.6.5 Sub-district ranking of premature mortality, 2013

Rank	Matzikama	Cederberg	Bergrivier	Saldanha Bay	Swartland	West Coast
1	Tuberculosis (16.0%)	Tuberculosis (11.7%)	HIV/AIDS (9.1%)	HIV/AIDS (10.9%)	HIV/AIDS (10.8%)	Tuberculosis (11.2%)
2	HIV/AIDS (12.9%)	Interpersonal violence (9.0%)	Tuberculosis (8.9%)	Tuberculosis (10.5%)	Tuberculosis (9.4%)	HIV/AIDS (10.8%)
3	Interpersonal violence (8.2%)	HIV/AIDS (8.8%)	COPD (8.6%)	Ischaemic heart disease (8.7%)	Ischaemic heart disease (7.3%)	Ischaemic heart disease (7.3%)
4	Ischaemic heart disease (6.1%)	Road injuries (7.7%)	Ischaemic heart disease (8.2%)	Diabetes mellitus (7.8%)	COPD (5.7%)	Interpersonal violence (6.0%)
5	Cerebrovascular disease (4.9%)	COPD (7.4%)	Diabetes mellitus (6.5%)	Interpersonal violence (6.1%)	Cerebrovascular disease (5.4%)	COPD (5.8%)
6	Road injuries (4.8%)	Cerebrovascular disease (6.3%)	Lower respiratory infections (6.4%)	COPD (5.8%)	Road injuries (5.2%)	Diabetes mellitus (5.3%)
7	Drowning (3.9%)	Ischaemic heart disease (5.4%)	Cerebrovascular disease (4.6%)	Cerebrovascular disease (4.8%)	Trachea/bronchi/lung CA (5.0%)	Cerebrovascular disease (5.2%)
8	Preterm birth complications (3.6%)	Trachea/bronchi/lung CA (3.8%)	Trachea/bronchi/lung CA (4.5%)	Road injuries (4.2%)	Diabetes mellitus (5.0%)	Road injuries (5.0%)
9	Trachea/bronchi/lung CA (3.3%)	Diabetes mellitus (3.8%)	Interpersonal violence (3.9%)	Lower respiratory infections (4.0%)	Lower respiratory infections (4.3%)	Trachea/bronchi/lung CA (4.1%)
10	Diabetes mellitus (3.1%)	Lower respiratory infections (3.6%)	Road injuries (3.2%)	Trachea/bronchi/lung CA (3.8%)	Interpersonal violence (3.7%)	Lower respiratory infections (4.0%)

Figure 4.60: Sub-district ranking of leading causes of premature mortality (YLL), West Coast 2013

A APPENDICES

A.1 Methods

A.1.1 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 (LMSS). Information on the manner of death for those due to unnatural causes was collected by FPS (Provincial Injury Mortality Surveillance System – PIMSS).

Statistics South Africa (StatsSA) provided cause of death data for the Western Cape for 2007 – 2013 from the National Vital Registration System. This data was used to assess completeness in death registration of the LMSS data (Appendix Table A.1) and, together with StatsSA recorded live births, used to calculate infant and child mortality rates (Appendix tables A.3 and A.4).

A.1.2 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. Stillbirths, non-viable foetuses and abortions, and non-residents, were excluded from analysis.

PIMSS data were linked with cases in the LMSS data using the unique DNF serial number and/or mortuary reference number. 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.

The number of deaths by age and place of registration (mortuary vs. non-mortuary) registered in the Western Cape between 2011 and 2013 is shown in Figure A.1. Western Cape FPS accepts all unnatural deaths (such as suicides, homicides, and other injury deaths) and any sudden unexpected and unexplained deaths which also have to undergo a medico-legal post-mortem examination to establish cause of death. On post-mortem examination the cause of death may however be found to be natural.

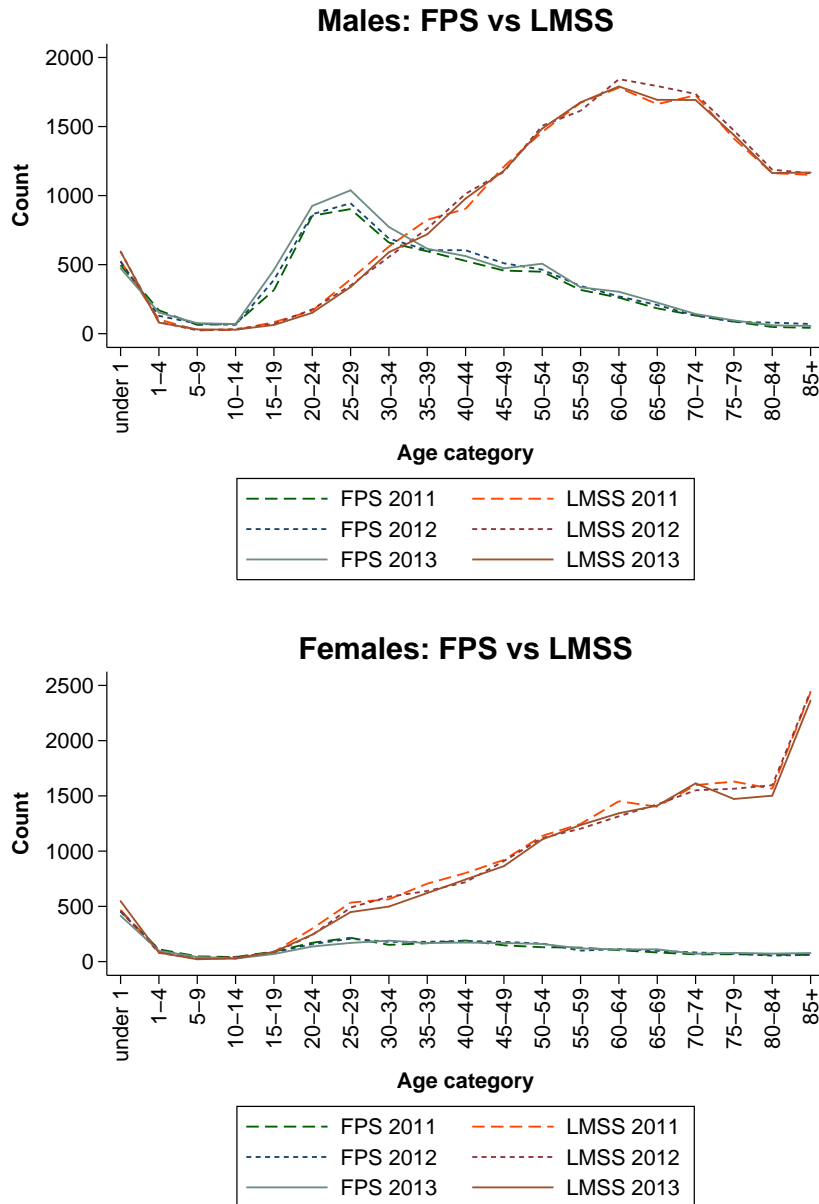


Figure A.1: Age-specific trends in death certification in the Western Cape, 2011 – 2013

A.1.3 Cause of death coding

Natural causes were coded to ICD-10¹ (4 character) and the underlying cause was selected using the automated coding software, IRIS.² The unnatural deaths from PIMSS were coded directly to ICD-10 (3 character), using a look-up table based on the apparent manner and external cause information.

Ill-defined natural deaths are often the result of delays in test results or information on cause not being updated onto the PIMSS dataset. For 2011 PIMSS data, all deaths in children under five years with ill-defined causes (ICD-10 codes R00-R99) were identified. A medical doctor reviewed the forensic mortuary records for additional information on the underlying cause and/or place of death. In

¹World Health Organization. International classification of diseases and related health problems. Tenth Revision. Geneva: World Health Organization; 1992.

²Johansson 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 2013.

cases where the cause of death was not clearly stated, it was discussed with the investigating forensic pathologist or reviewed by a senior pathologist in the mortuary in order to establish the cause. For cases where the cause remained unclear, records were missing, or the investigation had not been finalised at the time of the review, the cause remained ill-defined. For 2012 and 2013 PIMSS data, all deaths with ill-defined underlying causes from the two largest mortuaries (Salt River and Tygerberg) were followed up for additional information on underlying cause of death. This review was done by a senior forensic pathologist based at each mortuary. The consolidated datasets were updated accordingly.

The ICD codes were aggregated into 215 National Burden of Disease (NBD) analysis codes³ distinguishing causes in the NBD list, general garbage codes and specific garbage codes.

A.1.4 Analysis

A.1.4.1 Redistribution

In order to provide a comprehensive profile of the causes of death, adjustments were made to account for the remaining 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 and sex within each cause of death. The number of deaths misclassified to ill-defined signs and symptoms (R00-R99) and assigned to garbage codes are shown in Table A.1).

A.1.4.2 Data calculations

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 26⁴, 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 study⁵.

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)⁶. 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 method⁷ 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 standard⁸ to calculate the age-standardised mortality rates.

³Pillay-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.

⁴Coale AJ & Demeny P (1966). *Regional Model Life Tables and Stable Population*, Princeton University Press, Princeton, N.J. 1966.

⁵Bradshaw 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.

⁶Dorrington R.E. (2013) *Alternative South African mid-year estimates, 2013*. Centre for Actuarial Research Monograph 13, University of Cape Town.

⁷Shryock, H. S. and J. S. Siegel (1976). *The Methods and Materials of Demography (Condensed Edition)*. San Diego, Academic Press.

⁸Ahmad 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.

A.2 Data tables

A.2.1 Data completeness

Table A.1: Completeness and proportion ill-defined and garbage codes by district, 2009 – 2013

	Year	Cape Winelands	Central Karoo	Cape Metro	Eden	Overberg	West Coast	Western Cape
Deaths	2009	6,444	812	29,272	5,086	1,745	2,894	46,254
	2010	5,680	628	26,852	4,444	1,898	2,565	42,067
	2011	5,778	696	26,681	4,927	2,106	2,850	43,038
	2012	5,653	667	27,208	4,818	1,831	3,076	43,253
	2013	5,349	592	27,150	4,951	1,871	2,987	42,900
Completeness (%)	2009	89.1	91.3	84.4	86.3	72.2	64.7	83.7
	2010	83.1	77.1	96.3	93.0	88.1	80.8	92.0
	2011	86.9	79.9	100.8	97.5	95.2	86.4	94.1
	2012	85.0	89.2	97.5	92.8	86.3	100.2	94.6
	2013	84.5	85.4	96.3	98.8	88.3	90.5	94.0
Ill-defined (%)	2009	9.2	13.4	9.3	9.8	10.7	7.5	9.4
	2010	7.9	14.5	8.6	7.1	7.5	6.4	8.2
	2011	6.6	7.8	5.8	4.2	7.1	5.8	5.8
	2012	11.3	8.5	6.8	5.9	8.4	5.4	7.3
	2013	9.6	7.6	4.0	4.5	12.0	6.6	5.4
Garbage (%)	2009	16.7	23.1	20.0	20.2	19.7	17.8	19.5
	2010	18.8	26.4	19.3	16.6	21.1	16.5	19.0
	2011	15.6	19.4	16.2	13.7	18.7	16.9	16.1
	2012	21.3	20.1	18.0	16.5	19.4	15.5	18.2
	2013	18.8	19.8	15.3	14.8	24.2	16.4	16.2

A.2.2 Deaths and Live births, Western Cape

Table A.2: Trends in IMR and U5MR in Western Cape districts, 2008 – 2013 Stats SA

	IMR per 1,000 live births* (Stats SA) ¹						U5MR per 1,000 live births* (Stats SA)					
	2008	2009	2010	2011	2012	2013	2008	2009	2010	2011	2012	2013
Cape Winelands	22.7	25.5	24.8	20.7	17.9	15.1	30.1	31.4	30.9	26.0	22.0	19.2
Central Karoo	44.0	40.3	34.0	33.8	29.6	22.6	58.4	51.2	44.1	41.0	32.7	31.1
Cape Metro	21.6	22.8	22.4	17.3	18.2	19.4	26.5	27.4	27.6	21.8	21.9	24.2
Eden	23.2	24.0	18.8	20.1	18.5	19.8	29.2	28.6	23.3	24.2	23.4	23.2
Overberg	27.9	29.7	32.1	30.5	27.7	22.7	34.9	34.8	44.6	38.2	33.7	26.5
West Coast	28.4	23.9	29.4	22.4	20.8	22.5	33.9	27.2	34.5	28.1	26.1	25.5
Western Cape	22.7	23.7	23.1	19.3	18.9	19.3	28.2	28.4	28.6	24.2	23.0	23.8

* Rates recalculated yearly to include late registrations of births

Table A.3: Deaths in children under 5 years, Stats SA

	DEATHS (Stats SA)											
	2008 ²		2009 ³		2010 ⁴		2011 ⁵		2012 ⁶		2013 ⁷	
	0	1-4	0	1-4	0	1-4	0	1-4	0	1-4	0	1-4
Cape Winelands	309	100	343	79	334	82	279	71	252	58	202	55
Central Karoo	55	18	48	13	37	11	38	8	37	4	29	11
Cape Metro	1,658	376	1,686	336	1,623	377	1233	321	1,352	267	1,220	305
Eden	245	63	240	46	182	44	192	39	186	49	203	35
Overberg	83	21	83	14	93	36	87	22	88	19	78	13
West Coast	174	34	144	20	170	30	132	34	126	32	128	17
Western Cape	2,542	612	2,545	509	2,439*	581*	2,012*	509*	2062*	440*	1,872*	437*

*Excluding deaths from unspecified districts

Table A.4: Live births, Western Cape

	STATS SA LIVE BIRTHS ¹						SINJANI LIVE BIRTHS		
	2008	2009	2010	2011	2012	2013	2011	2012	2013
Cape Winelands	13,593	13,450	13,468	13,470	14,066	13,403	14,637	14,614	14,561
Central Karoo	1,250	1,191	1,089	1,123	1,252	1,286	1,175	1,199	1,162
Cape Metro	76,867	73,895	72,504	71,440	74,374	62,995	72,480	73,007	75,775
Eden	10,540	10,007	9,702	9,565	10,050	10,271	9,910	9,835	9,826
Overberg	2,980	2,971	2,895	2,854	3,173	3,433	3,241	3,263	3,207
West Coast	6,132	6,019	5,792	5,898	6,058	5,686	5,498	5,493	5,464
Western Cape	111,362	107,353	105,450	104,350	108,973	97,074	106,941	107,411	109,995

Sources:

1. StatsSA. Recorded Live Births, 2013. 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, 2012.
5. Stats SA. Mortality and causes of death in South Africa, 2011. Statistical Release P0309.3. Pretoria: Statistics South Africa, 2013.
6. Stats SA. Mortality and causes of death in South Africa, 2013. Statistical Release P0309.3. Pretoria: Statistics South Africa, 2014.
7. Stats SA. Mortality and causes of death in South Africa, 2013. Statistical Release P0309.3. Pretoria: Statistics South Africa, 2015.

A.2.3 Cause-specific trends in mortality

Table A.5: Trends in percentage of deaths by broad cause disease category in the Western Cape, 2009 – 2013

	Year	Infectious/ Parasitic	Mat/Peri/ Nutr	HIV/AIDS and TB	Cancers	Diabetes	Cardio-vascular	Other NCDs	Unintentional injuries	Intentional injuries
Persons	2009	8.0	2.2	19.1	16.9	5.5	21.1	13.7	6.4	7.0
	2010	7.8	2.3	16.9	17.3	6.2	20.2	14.7	7.2	7.4
	2011	7.9	1.7	16.0	18.0	5.9	21.2	15.8	6.4	7.1
	2012	7.3	1.9	14.6	17.9	5.6	21.5	16.2	7.0	8.0
	2013	7.1	2.2	14.0	18.5	5.5	21.1	16.7	6.3	8.6
Males	2009	7.3	2.1	19.2	16.4	4.0	18.6	13.5	8.3	10.6
	2010	7.0	2.2	16.6	16.7	4.7	17.7	14.6	9.1	11.5
	2011	6.9	1.6	16.3	17.3	4.3	18.9	15.3	8.2	11.2
	2012	6.4	1.8	14.8	17.4	4.1	18.8	15.8	8.7	12.1
	2013	6.3	2.0	13.9	17.5	4.0	18.8	16.0	8.0	13.4
Females	2009	8.9	2.3	19.1	17.6	7.4	24.4	13.9	4.0	2.5
	2010	8.8	2.4	17.3	18.0	8.2	23.2	14.9	4.9	2.4
	2011	9.0	1.8	15.6	18.9	7.8	24.0	16.5	4.2	2.2
	2012	8.5	2.0	14.3	18.5	7.4	25.0	16.6	4.8	2.7
	2013	8.2	2.5	14.1	19.7	7.4	24.1	17.6	4.2	2.3

A.2.4 Leading causes: ASR

Table A.6: Trends in top 10 ASRs in the Western Cape, 2009 – 2013

Persons						
Rank 2013	Cause	2009	2010	2011	2012	2013
1	Ischaemic heart disease	87.5	88.0	93.5	93.9	89.4
2	Cerebrovascular disease	71.6	68.3	71.1	69.7	67.2
3	HIV/AIDS	79.3	68.5	63.8	60.3	57.8
4	Diabetes mellitus	59.0	60.3	56.8	53.2	50.7
5	Interpersonal violence	40.7	39.4	38.1	42.2	46.2
6	COPD	42.3	40.6	43.6	45.6	45.7
7	TB	77.0	55.7	55.5	47.8	44.2
8	Trachea/bronchi/lung CA	39.8	31.2	37.3	35.9	33.4
9	Lower respiratory infections	39.8	31.2	37.3	35.9	33.4
10	Prostate CA	31.8	30.7	34.7	34.3	31.8
Males						
Rank 2013	Cause	2009	2010	2011	2012	2013
1	Ischaemic heart disease	111.0	111.1	121.0	119.2	117.4
2	Interpersonal violence	69.6	69.1	67.2	73.6	83.6
3	Cerebrovascular disease	75.0	68.7	74.1	71.6	70.3
4	COPD	58.8	59.6	61.5	66.6	66.3
5	Trachea/bronchi/lung CA	63.2	58.5	61.1	63.4	63.6
6	TB	103.9	76.3	76.4	67.4	61.8
7	HIV/AIDS	80.0	66.5	65.0	63.5	59.1
8	Diabetes mellitus	53.2	55.8	52.6	50.7	48.4
9	Lower respiratory infections	45.0	34.8	39.1	40.6	39.1
10	Road injuries	45.5	41.3	35.6	37.2	35.8
Females						
Rank 2013	Cause	2009	2010	2011	2012	2013
1	Ischaemic heart disease	68.9	69.6	71.9	73.6	67.8
2	Cerebrovascular disease	67.9	66.9	68.0	67.3	63.7
3	HIV/AIDS	79.6	71.1	63.0	58.0	56.7
4	Diabetes mellitus	62.7	62.7	59.7	54.8	52.0
5	COPD	29.6	26.1	30.2	29.9	30.1
6	TB	53.4	37.7	37.5	30.8	28.9
7	Trachea/bronchi/lung CA	27.2	24.9	27.5	24.7	28.8
8	Lower respiratory infections	35.6	28.5	35.6	31.8	28.8
9	Breast CA	25.0	27.1	28.7	28.4	27.3
10	Nephritis/Nephrosis	15.0	18.7	19.9	18.3	18.9

A.2.5 Leading causes: YLLs

Table A.7: Trends in top 10 YLLs in the Western Cape, 2009 – 2013

Persons						
Rank 2013	Cause	2009	2010	2011	2012	2013
1	HIV/AIDS	13.7	13.2	12.4	11.7	11.3
2	Interpersonal violence	7.6	8.3	8.3	9.2	10.3
3	TB	10.9	8.6	8.6	7.4	6.8
4	Ischaemic heart disease	5.3	5.9	6.6	6.7	6.6
5	Cerebrovascular disease	4.6	4.8	5.1	5.2	5.2
6	Diabetes mellitus	4.3	4.6	4.5	4.3	4.3
7	Road injuries	4.8	5.1	4.5	4.6	4.3
8	Lower respiratory tract infection	4.1	4.1	4.8	4.2	4.2
9	Trachea/bronchi/lung	3.4	3.5	3.8	3.7	4.1
10	COPD	3.2	3.2	3.5	3.8	3.9
Males						
Rank 2013	Cause	2009	2010	2011	2012	2013
1	Interpersonal violence	11.5	12.8	12.8	13.9	15.8
2	HIV/AIDS	11.2	10.5	10.4	9.8	9.3
3	TB	11.8	9.5	9.4	8.1	7.4
4	Ischaemic heart disease	5.5	6.0	6.9	6.8	6.7
5	Road injuries	6.4	6.4	5.8	5.9	5.6
6	Trachea/bronchi/lung	3.9	4.0	4.3	4.2	4.5
7	COPD	3.4	3.6	3.8	4.1	4.2
8	Cerebrovascular disease	3.8	3.8	4.1	4.1	4.2
9	Lower respiratory infections	3.8	3.6	4.2	3.9	3.9
10	Self-inflicted injuries	2.9	2.9	2.9	3.2	3.1
Females						
Rank 2013	Cause	2009	2010	2011	2012	2013
1	HIV/AIDS	16.8	16.9	15.0	14.4	14.1
2	Cerebrovascular disease	5.6	6.2	6.4	6.7	6.6
3	Ischaemic heart disease	5.1	5.8	6.3	6.6	6.5
4	Diabetes mellitus	5.8	6.1	6.2	6.1	6.1
5	TB	9.8	7.5	7.5	6.3	6.0
6	Lower respiratory tract infections	4.6	4.6	5.6	4.6	4.7
7	Breast CA	2.8	2.8	3.1	2.9	3.6
8	Trachea/bronchi/lung CA	2.8	2.8	3.1	2.9	3.6
9	COPD	2.8	2.7	3.2	3.4	3.5
10	Road injuries	2.8	3.4	2.8	2.8	2.4

A.2.6 Comparison of cause of WC injury deaths reported by StatsSA and WC LMSS, 2011

Table A.8: Comparison of cause of WC injury deaths reported by StatsSA and WC LMSS, 2011

	Injury deaths 2011		% Total injuries	
	SSA	LMSS	SSA	LMSS
Accidents	3391	2445	62.6	42.2
Transport Injuries	494	1403	9.1	24.2
Unspecified factor	1292	94	23.9	1.6
Accidental gunshot	552	4	10.2	0.1
Fire	327	366	6.0	6.3
Accidental hanging	326	0	6.0	0.0
Drowning	180	219	3.3	3.8
Other accidents specified	161	150	3.0	2.6
Falls	37	157	0.7	2.7
Accidental poisoning	22	56	0.4	1.0
Suicide	87	630	1.6	10.9
Homicide (IPV)	1036	2356	19.1	40.7
Undetermined intent	701	225	12.9	3.9
Medical/Surgical	191	132	3.5	2.3
Sequelae	9	4	0.2	0.1