Perinatal deaths in South Africa, 2016-2020

IMPROVING LIVES THROUGH DATA ECOSYSTEMS

stats sa
Department:
Statistics South Africa
REPUBLIC OF SOUTH AFRICA

30 YEARS OF FREEDOM

stats sa
Department:
Statistics South Africa
REPUBLIC OF SOUTH AFRICA

Private Bag X44, Pretoria, 0001, South Africa, ISIbalo House, Koch Street, Salvokop, Pretoria, 0002
www.statssa.gov.za, info@statssa.gov.za, Tel +27 12 310 8911

STATISTICAL RELEASE
P0309.4

Perinatal deaths in South Africa, 2016–2020

Embargoed until:
31 March 2025
10:00

ENQUIRIES:
Mr Tshwaro Gae
(012) 310-8692

FORTHCOMING ISSUE: EXPECTED RELEASE DATE

Table of Contents

List of figures

List of tables

Preface

This statistical release presents information on perinatal deaths that occurred in South Africa between 2016 and 2020. Perinatal deaths are a combination of stillbirths and early neonatal deaths that occur during the first week of life. The release is compiled using information on perinatal deaths that were registered with the national civil registration system that is maintained by the Department of Home Affairs.

The release highlights differentials in mortality by selected demographic and geographic characteristics for perinatal deaths that occurred between 1997 and 2020; and focusses on the underlying causes of deaths for the years 2016 to 2020.

Risenga Maluleke
Statistician-General

Key findings

The results of the statistical release highlight fluctuations in perinatal deaths between 1997 and 2020. Information on age differentials shows that early neonatal deaths decreased with increasing age (more deaths at day 0 compared with fewer deaths at day 7).

The sex differential indicates that male stillbirths increased from 3 207 deaths in 1997 to 8 374 deaths in 2020 (peaking at 8 592 deaths in 2004), while female stillbirths increased from 2 674 deaths in 1997 to 6 862 deaths in 2020 (peaking at 6 910 deaths in 2004). Male early neonatal deaths increased from 3 722 deaths in 1997 to 4 532 deaths in 2020 (peaking at 6 284 deaths in 2009), while female early neonatal deaths increased from 3 127 deaths in 1997 to 3 478 deaths in 2020 (peaking at 4 556 deaths in 2009).

Male perinatal deaths increased from 6 929 deaths in 1997 to 12 906 deaths in 2020 (peaking at 14 108 deaths in 2009) while female perinatal deaths increased from 5 801 deaths in 1997 to 10 340 deaths in 2020 (peaking at 10 864 deaths in 2008). The highest year-on-year percentage change was observed between 1997 and 1998 (20,3%) and 1998 and 1999 at 19,2%. The highest sex ratio at death was observed in 2006 with 135 male deaths per 100 female deaths.

Gauteng and KwaZulu-Natal recorded the highest percentages of perinatal deaths (above 20%) for all the reporting years. Although Gauteng and KwaZulu-Natal had been contributing more towards perinatal deaths in the country, Free State, Northern Cape and North West had the highest perinatal deaths per 100 000 women aged 15–49 years. Lower rates were observed in Eastern Cape with values lower than 90 perinatal deaths per 100 000 women aged 15–49 years.

Above 99% of all the early neonatal deaths for the period between 2016 and 2020 were due to natural causes and less than 1% due to non-natural causes of death. About 70% of perinatal deaths occurred in hospitals, and around 4% in homes. Information on the month and year of death highlight that the highest percentage of 9,1% was recorded each for December 2016; January 2018; May 2017 and May 2020.

The underlying cause of death of stillbirths was *foetal death of unspecified cause* (P95), while the underlying cause of early neonatal deaths for all the reporting years was *respiratory and cardiovascular disorders specific to the perinatal period* (P20-P29). The main group of underlying cause for all perinatal deaths was *certain conditions originating in the perinatal period* (P00-P96).

Chapter 1: Introduction

The World Health Organization (WHO, 2018) defines perinatal mortality as the number of stillbirths (foetal deaths) and deaths in the first week of life per 1 000 total live births. Although different definitions are often used, the perinatal period generally starts at 22 completed weeks (154 days) of gestation and ends seven completed days after birth (WHO, 2018). To aid international comparison, the WHO recommends that a 28-week gestation cut-off be used. In South Africa, the Births and Deaths Registration Act (Act No. 51 of 1992) defines a stillbirth as a foetus that had at least 26 weeks of gestation but showed no sign of life at and after complete birth (Republic of South Africa, 1992).

1.1 Background

Perinatal mortality is an indicator of maternal care and of maternal health and nutrition; it also reflects the quality of care offered during obstetric and paediatric duration. The perinatal mortality indicator is vital in providing information needed to improve the health status of pregnant women, new mothers and newborns. Analysis of perinatal mortality information allows policymakers to identify problems, track trends and disparities, and assess changes in public health policy and practice (WHO, 2006). Information on how many perinatal deaths occur constitutes the basis for evidence-based decision-making, allocation of resources and planning for both child and maternal health programmes (United Nations, 2014). The perinatal death statistics are essential for setting health targets and monitoring demographic indicators such as infant mortality (which includes early neonatal deaths) that are part of this report.

In South Africa, a medical practitioner should certify the cause of death for all deaths that occur. However, in the case of a stillbirth, a registered professional nurse may certify the causes of a natural death (Republic of South Africa, 1992). Both medical practitioners and professional nurses are mandated by the Births and Deaths Registration Act (Act No. 51 of 1992) to report any death that was due to non-natural causes to a police officer. The police officer then acts in accordance with the provisions of the Inquest Act (Act No. 58 of 1959) and investigates the death circumstances, while a forensic pathologist performs a medico-legal post-mortem to determine the cause of death (Republic of South Africa, 1992).

In 2012, South Africa adopted the National Development Plan (NDP) with an outcome of 'a long and healthy life for all South Africans' and a key developmental objective of 'Health care for all' (National Planning Commission, 2012). The NDP for South Africa asserts that reductions in infant and child mortality are important in the drive towards 'leaving no one behind' in health. Accordingly, the review of perinatal mortality, which is a subset of infant mortality, allows for the evaluation of the provision of timely and good-quality health care services to pregnant women and infants in South Africa. The latter is, however, not covered in this report. Stillbirths and early neonatal deaths are primarily due to causes that are usually similar and relatively easy to prevent or cure.

The United Nations Children's Fund (UNICEF) (2015) report argues that while there has been progress in reducing child mortality during the Millennium Development Goals (MDGs) period, the progress is mostly driven by declines in deaths during the post-neonatal phase. The report presupposes that for accelerated progress in achieving Sustainable Development Goal 3 (*"to end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1 000 live births and under 5 mortality to at least as low as 25 per 1 000 live births by 2030"*), attention should be given to deaths that occur during the perinatal phase, which includes stillbirths and early neonatal deaths (UNICEF, 2015).

1.2 Objectives of the statistical release

Stats SA publishes statistical release on perinatal deaths registered and collated through the South African civil registration system maintained by the DHA. This release provides information on levels, patterns, trends and causes of perinatal deaths in South Africa with two main objectives:

- to highlight differentials in mortality by selected demographic and geographic characteristics for perinatal deaths that occurred between 1997 and 2020; and

- to present information on stillbirths, early neonatal and perinatal deaths that occurred between 2016 and 2020, focusing on the underlying causes of death.

1.3 Scope of the statistical release

The statistical release is based on death notification forms collected from the DHA for deaths that occurred in 2020 or earlier that reached Stats SA in time for the 2023/2024 processing phase. It further focuses on the perinatal deaths (further broken down into early neonatal and stillbirths) that were registered between 2016 and 2020.

It must be noted that analysis on geographic distribution is based only on province of death occurrence and not province of usual residence. Information on the distribution of perinatal deaths at district level can be obtained from Stats SA on request. The definitions of technical terms used in this release are provided in Appendix A (see page 34).

Chapter 2: Data and methods

The chapter on data and methods presents information on the source of data, data processing (including sorting and capturing), editing procedures, and analysis.

2.1 Source of data

This statistical release on perinatal deaths uses information recorded on death notification forms (DNFs) that Stats SA received from the DHA. Whereas form BI-1663 only captures the causes of death for perinatal deaths and individual deaths, the DHA-1663 form additionally captures, in section G.2, information on the details of both the mother and the stillborn/early neonates.

2.2 Data processing

Stats SA collects all death notification forms (DNFs) from the DHA for processing at the Data Processing Centre (DPC). For further details on data processing of deaths, refer to *Mortality and causes of death in South Africa: Findings from death notification, 2020* (Stats SA, 2024).

Multiple cause-of-death statistics are coded manually using the 10th Edition of the 2019 International Statistical Classification of Diseases and Related Health Problems (ICD-10) standard developed by the WHO. All member states of the United Nations, including South Africa, agreed to use the ICD standard classification system for coding diseases, injuries and a wide range of signs, symptoms and other abnormal findings. The ICD is designed to permit countries to systematically record, analyse, interpret and compare mortality data in a standard manner. The ICD also provides the rules for selecting the underlying cause of death from several diagnoses that may be reported on the death notification form.

2.3 Data editing

Assessment of data quality for this release was done by a set of data editing rules developed by Stats SA to check for accuracy of data and highlight cases with implausible causes of death for further investigation and correction. These editing rules are applied to the perinatal deaths data when all the stages of data processing are completed. Data quality was further assessed using two electronic tools developed by the WHO, namely:

i) Version 2.0 of the *Analyzing mortality level and cause-of-death data* (ANACoD) (WHO, 2014b).
ii) Version 1.0 CoDEdit (WHO, 2014c).

2.4 Data analysis

Data analysis conducted in this statistical release is divided into two sections:

- Mortality section that described mortality levels and trends over time; and
- Analysis of the causes of death.

The mortality section uses frequency distributions and cross-tabulations to present information on the distribution of perinatal deaths disaggregated by demographic and geographical characteristics. The section also provides key mortality indicators, i.e. sex ratios at death, unadjusted stillbirths and early neonatal and perinatal mortality rates for the period 2016 to 2020. The indicators are based on the perinatal deaths from the civil registration system and estimated births published in the mid-year population estimates produced by Stats SA. Sex ratios at death for perinatal deaths were calculated by dividing the number of male perinatal deaths by the number of female perinatal deaths and multiplied by 100. Stillbirth and perinatal death rates were calculated by dividing the observed deaths by the total births (combination of live and stillbirths). However, in computing early neonatal mortality rates, only live births were used as the denominator.

The second section of analysis focuses on frequencies and cross-tabulations of the causes of death. The underlying natural causes of death were computed by ranking all underlying natural causes of death from highest to lowest percentage, with causes of death having the highest percentage forming part of the leading causes of death. The section also presents the underlying natural causes of death by selected characteristics of the stillbirths, early neonatal deaths and perinatal deaths such as province of death occurrence and institution or place of death.

In ranking the natural underlying causes of death, the category *symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)* were excluded as the information is not sufficiently detailed to be used for public health purposes.

In instances where both causes of death have the same percentage, the cause with the highest number gets a higher rank. If both the percentage and number are the same, they both get the same rank, and the next rank is skipped.

Chapter 3: Registered perinatal deaths

This chapter presents levels and trends of registered stillbirths, early neonatal deaths and perinatal deaths for the period 1997–2020 by selected socio-demographic and geographic characteristics. It further highlights levels and trends of registered stillbirths, early neonatal deaths and perinatal deaths between 2016 and 2020.

Perinatal death is defined as the death of a foetus who has more than 28 weeks of gestation or the death of an infant who is less than a month old (World Health Organization). Perinatal deaths include stillbirths and neonatal deaths (Wallbank and Robertson, 2008).

Stillbirth is defined as a baby who dies in the womb after 20 weeks of pregnancy. Most stillbirths happen before a pregnant person goes into labour, but a small number happen during labour and birth.

Neonatal death is defined as a death among live births during the first 28 completed days of life. They are subdivided into early neonatal deaths (occurring during the first 7 days of life) and late neonatal deaths (occurring after the 7th day but before the 28th completed day of life). This report highlights only information on early neonatal deaths.

3.1 Levels and trends of perinatal deaths

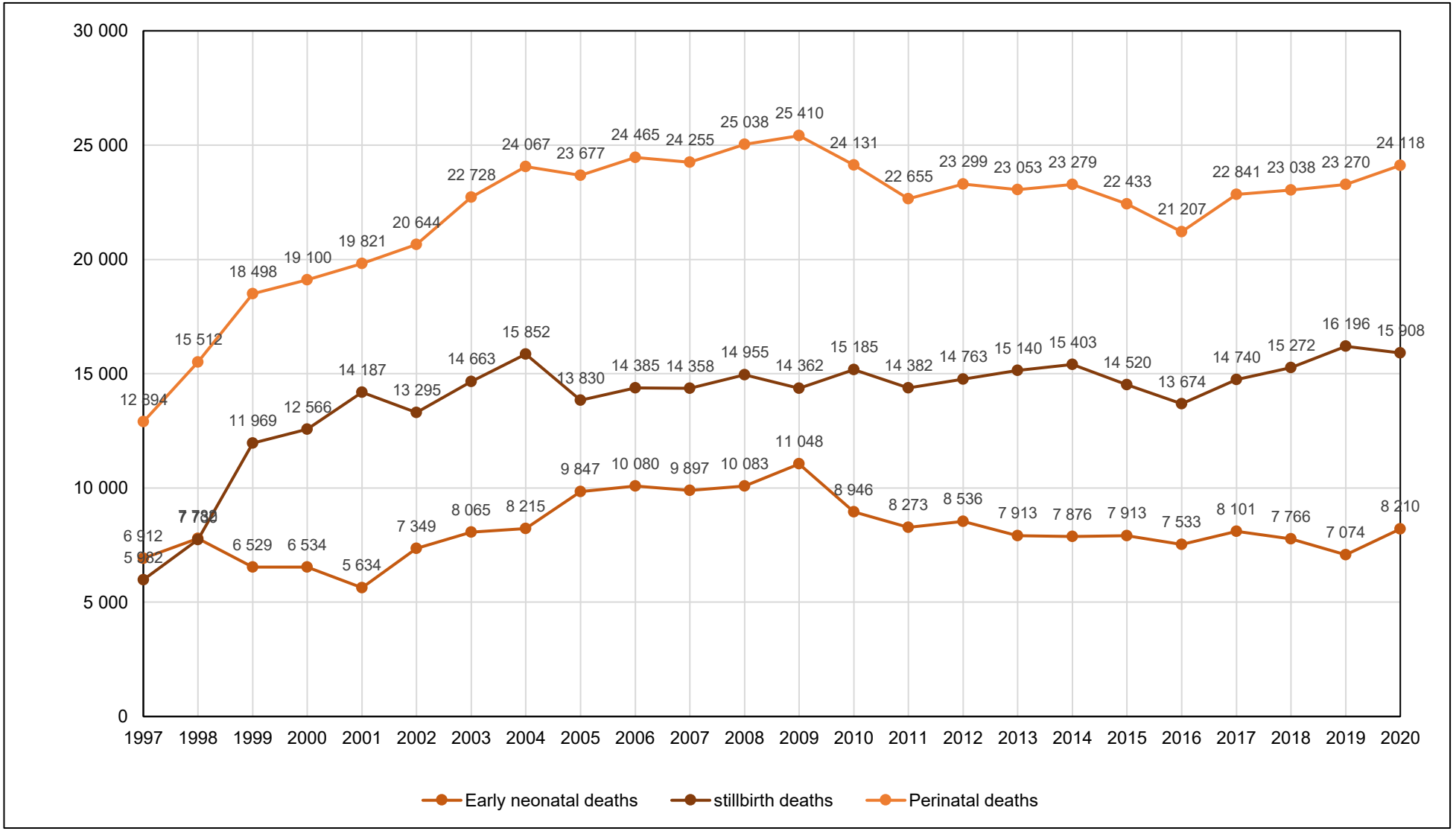
Figure 3.1 presents the number of perinatal deaths (stillbirths and early neonatal deaths) for the years 1997 to 2020. There were 24 118 perinatal deaths (15 908 stillbirths and 8 210 early neonatal deaths) registered for the year 2020.

The number of registered stillbirths increased much more rapidly than early neonatal deaths between 1998 and 1999, and for most years thereafter. Stillbirths occurred at a higher level than early neonatal deaths for most of the reporting years except for 1997 and subsequently drive the pattern of perinatal deaths over time. There was a general increase in stillbirths from 5 982 in 1997 to 15 852 in 2004, then fluctuated between the years until 2016. There was another increase from 13 674 deaths in 2016 to 16 196 deaths in 2019, then a decline to 15 908 in 2020.

Early neonatal deaths increased from 5 634 deaths in 2001 to 11 048 deaths in 2009. The number of early neonatal deaths has been less than 10 000 for all the reporting years except for 2006, 2008 and 2009. There was an increase of 16% in early neonatal deaths between 2019 and 2020.

The pattern for perinatal deaths is almost like that of stillbirths. Generally, there was an 87% increase in perinatal deaths between 1997 and 2020. An increase was seen from 12 894 deaths in 1997 to 24 067 deaths in 2004, then fluctuations thereafter.

Figure 3.1 – Number of perinatal deaths by year of death, 1997–2020*

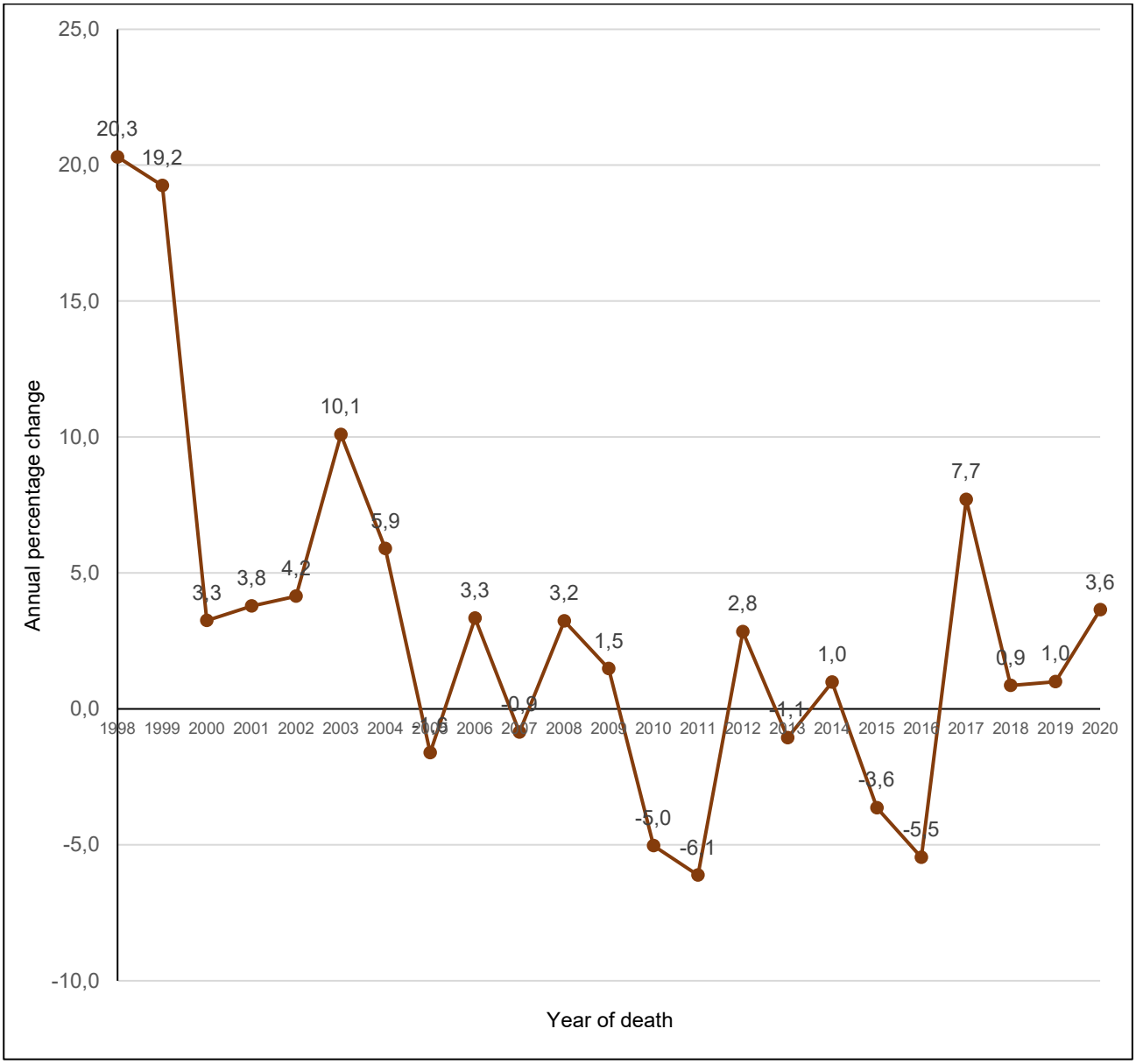


* Data for 1997–2020 have been updated with late registrations/delayed death notification forms processed in the current processing year.

3.2 Year-on-year percentage change for perinatal deaths

Figure 3.2 presents information on the year-on-year percentage change in perinatal deaths between 1998 and 2020. The highest increase in perinatal deaths occurred 1997–1998 and 1998–1999 at 20,3% and 19,2%, respectively. A huge decline occurred in 2010–2011 at -6,1% and 2015–2016 at -5,5 %.

Figure 3.2 – Year on year percentage change in perinatal deaths between 1998 and 2020

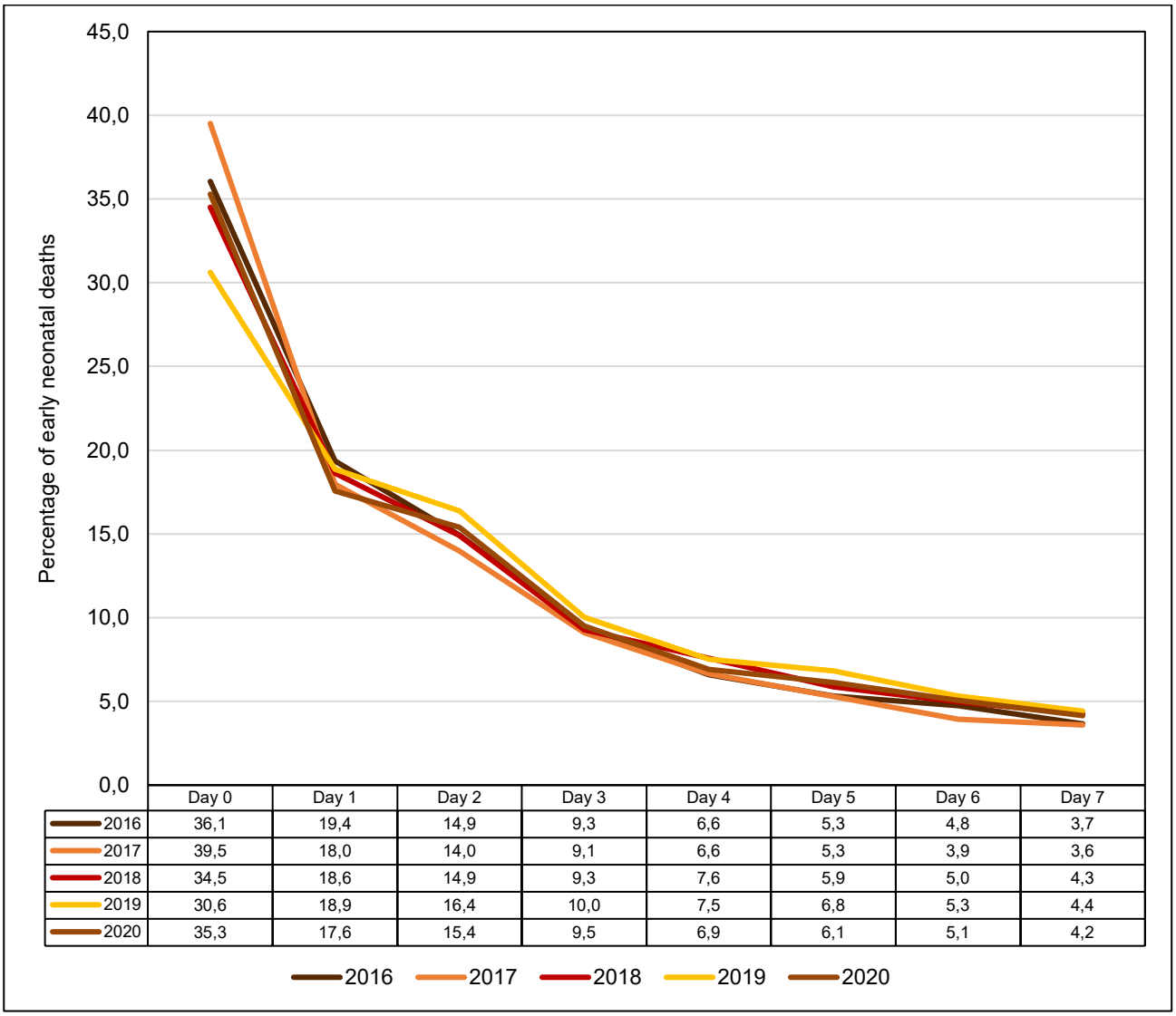


3.3 Age differentials

Figure 3.3 shows that early neonatal mortality accounts for roughly a third (on average 33,8%) of perinatal deaths over the period 2016 to 2020. **For absolute numbers, check Appendix I.**

Figure 3.3 highlights that chances of survival increase with time for all the reporting years. Most babies died within the day after birth contributing about 30% and declined with time to the ranges of 4% on day 7. In 2020, more than half of babies died by day 2, and more than two-thirds (68,2%) by day 3.

Figure 3.3 – Percentage distribution of early neonatal deaths by day and year of death, 2016–2020*



	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
2016	36,1	19,4	14,9	9,3	6,6	5,3	4,8	3,7
2017	39,5	18,0	14,0	9,1	6,6	5,3	3,9	3,6
2018	34,5	18,6	14,9	9,3	7,6	5,9	5,0	4,3
2019	30,6	18,9	16,4	10,0	7,5	6,8	5,3	4,4
2020	35,3	17,6	15,4	9,5	6,9	6,1	5,1	4,2

3.4 Sex differentials

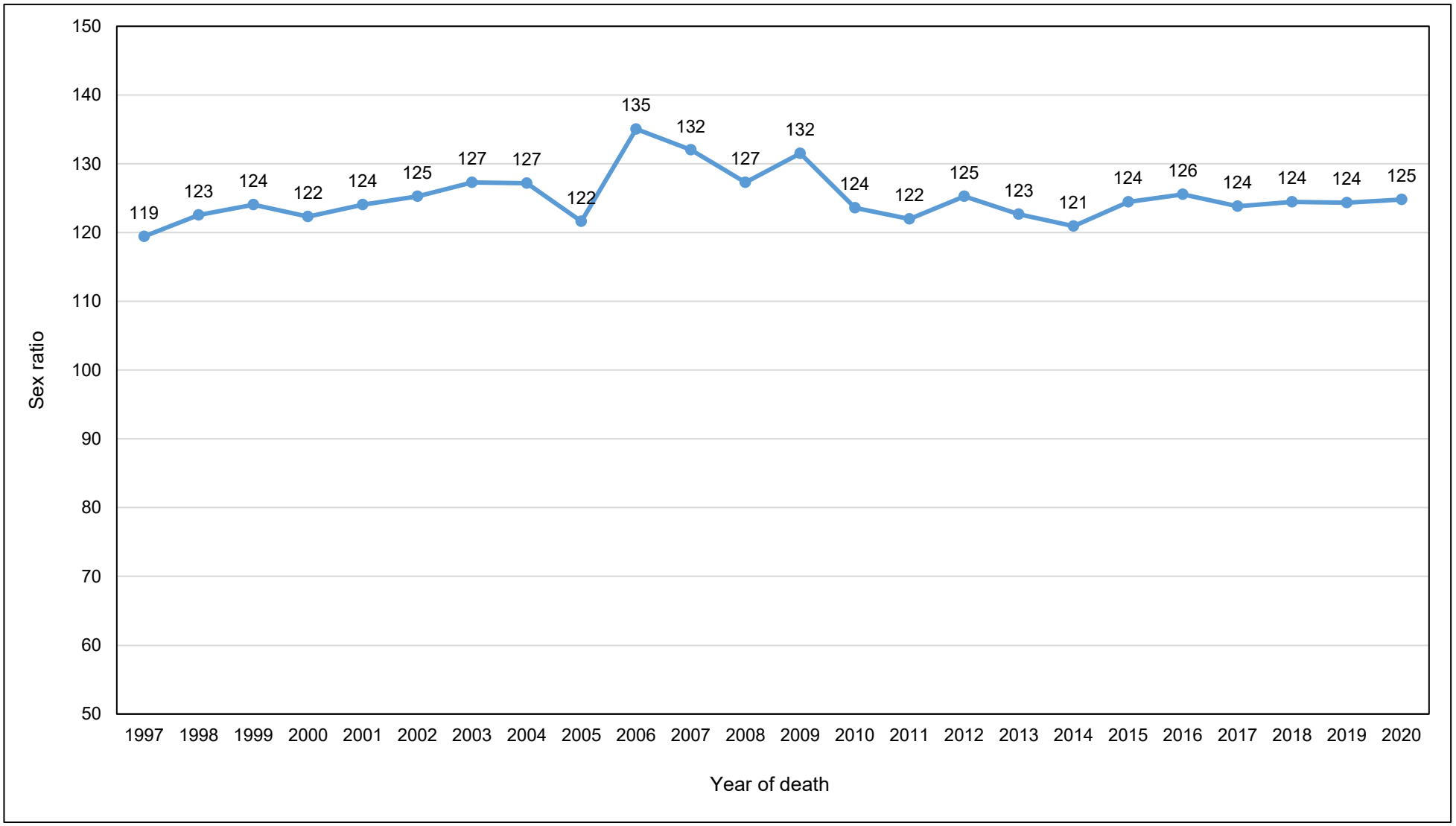
This section presents information on the sex ratio and the trend analysis of the sex differentials for stillbirths, early neonatal and perinatal deaths for the period 1997 to 2020.

3.4.1 Sex ratios

Figure 3.4 presents information on the sex ratios at death for perinatal deaths by year of death occurrence for 1997–2020. The sex ratio at death (the number of male deaths per 100 female deaths) is a demographic measure that shows the relative number of male deaths to female deaths. A ratio of 100 shows an equal number of male deaths to female deaths, a sex ratio less than 100 indicates more female death occurrences, and a sex ratio more than 100 indicates more male death occurrences.

Results show that there were more male deaths than female deaths throughout the reporting years. The highest sex ratio at death was observed in 2006 with 135 male deaths per 100 female deaths, followed by 132 deaths for both 2007 and 2009. A lower sex ratio was seen in 1997 with 119 male deaths per 100 female deaths, followed by 2014 with 121 male deaths per 100 female deaths.

Figure 3.4 – Sex ratios for perinatal deaths by year of death occurrence, 1997–2020*



* Data for 1997–2019 have been updated with late registrations/delayed death notification forms processed in 2023/2024.

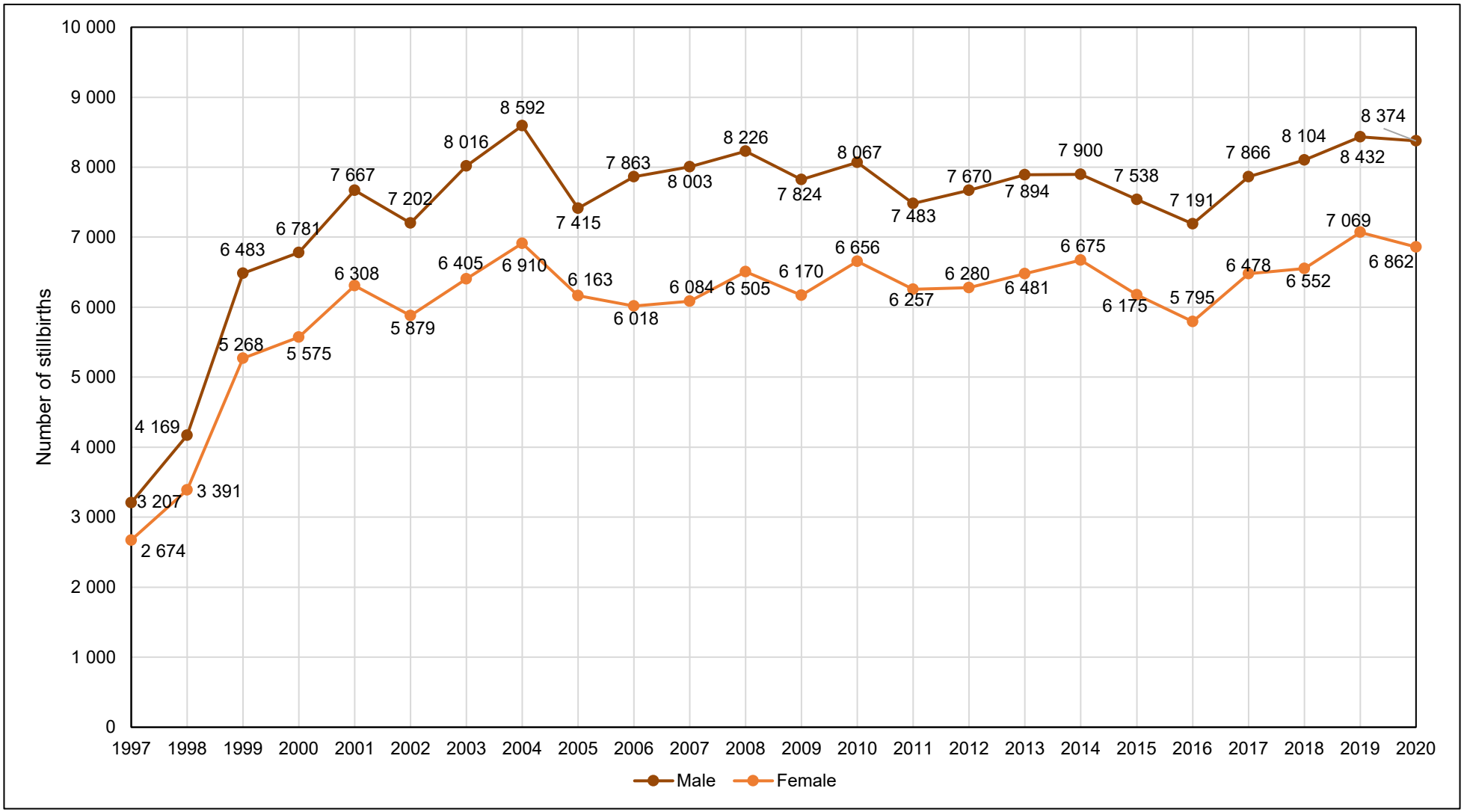
3.4.2 Sex differentials for stillbirths

Figure 3.5 presents the number of stillbirths by sex for the period 1997 to 2020. The pattern of stillbirths remained the same between males and females, but more male than female stillbirths were registered for the entire period. Male stillbirths increased from 3 207 deaths in 1997 to 8 374 deaths in 2020 (peaking at 8 592 deaths in 2004), while female stillbirths increased from 2 674 deaths in 1997 to 6 862 deaths in 2020 (peaking at 6 910 deaths in 2004).

There was an increase from 3 207 deaths in 1997 to 7 667 deaths in 2001 among male stillbirths and 2 674 deaths in 1997 to 6 308 deaths in 2001 among female stillbirths. Another increase was observed between 2002 and 2004 (7 202 deaths to 8 592 deaths among males and 5 879 deaths to 6 910 deaths among females).

The third significant pattern of increase was observed between 2016 and 2020 where the number of male stillbirths increased from 7 191 deaths to 8 432 in 2019, and slightly decreased to 8 374 deaths in 2020, while female deaths increased from 5 795 to 7 069 in 2019 then declined to 6 862 deaths in 2020.

Figure 3.5 – Number of stillbirths by sex and year of death, 1997–2020*



*Data for 1997–2019 have been updated with late registrations/delayed death notification forms processed in 2023/2024.
*Excluding perinatal deaths with unspecified sex.

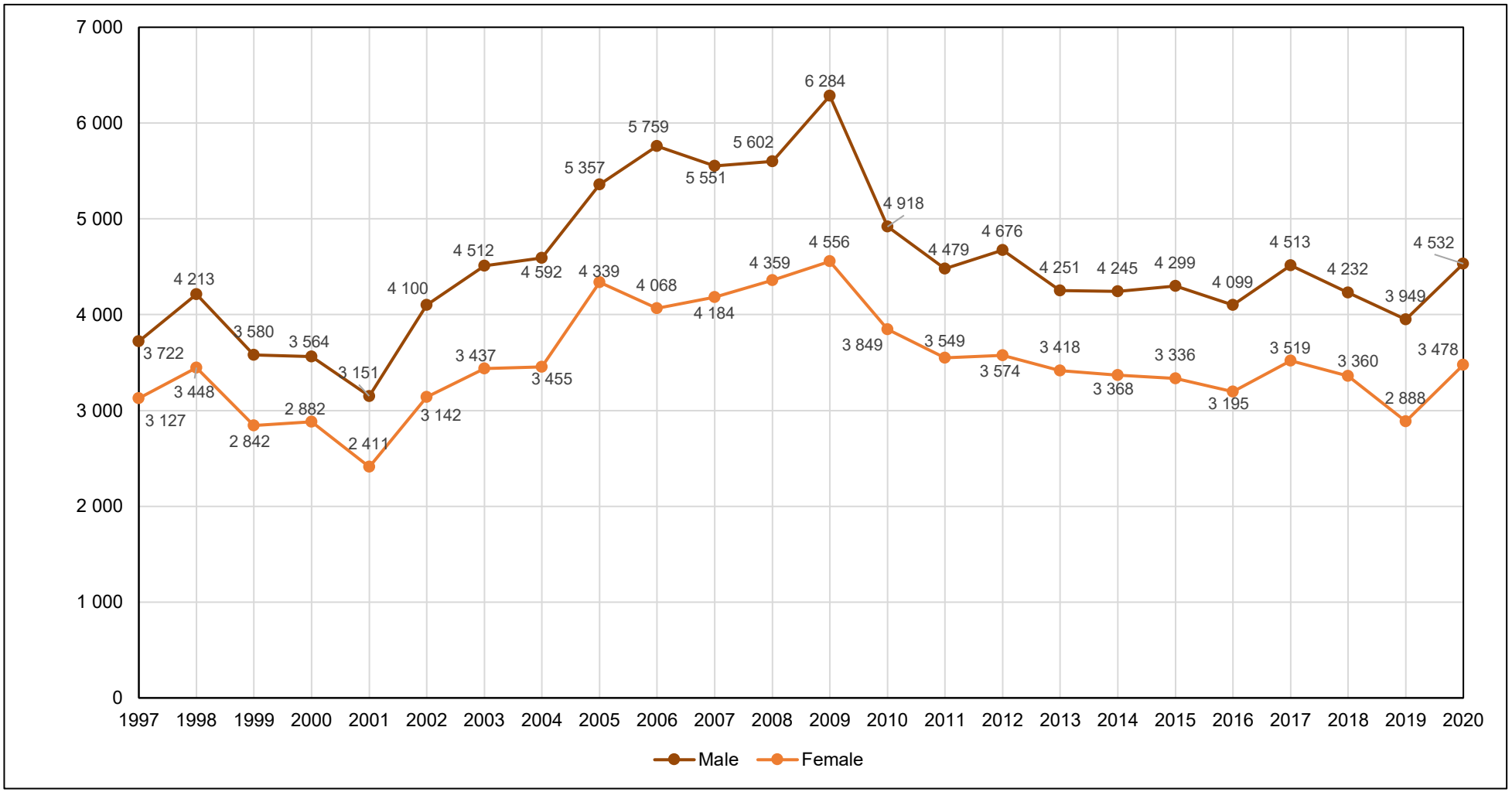
3.4.3 Sex differentials for early neonatal deaths

Figure 3.6 shows the number of early neonatal deaths by sex and year of death for the period 1997 to 2020. Consistently, there were higher numbers of male early neonatal deaths recorded throughout the reporting period. Male early neonatal deaths increased from 3 722 deaths in 1997 to 4 532 deaths in 2020 (peaking at 6 284 deaths in 2009), while female early neonatal deaths increased from 3 127 deaths in 1997 to 3 478 deaths in 2020 (peaking at 4 556 deaths in 2009).

The number of early neonatal deaths declined consistently for both males and females between 1998 and 2001, before increasing in 2009. After 2009, the total number of neonatal deaths declined for both sexes to 4 532 for males and 3 478 for females by 2020, with fluctuations in between reporting years.

Among females, a steep increase was seen between 2001 and 2005 where early neonatal deaths increased from 2 411 to 4 339, then a decline to 4 068 deaths in 2006. Males increased from 3 151 deaths in 2001 to 5 759 deaths in 2006.

Figure 3.6 – Number of early neonatal deaths by sex and year of death, 1997–2020*



*Data for 1997–2019 have been updated with late registrations/delayed death notification forms processed in 2023/2024.
*Excluding perinatal deaths with unspecified sex.

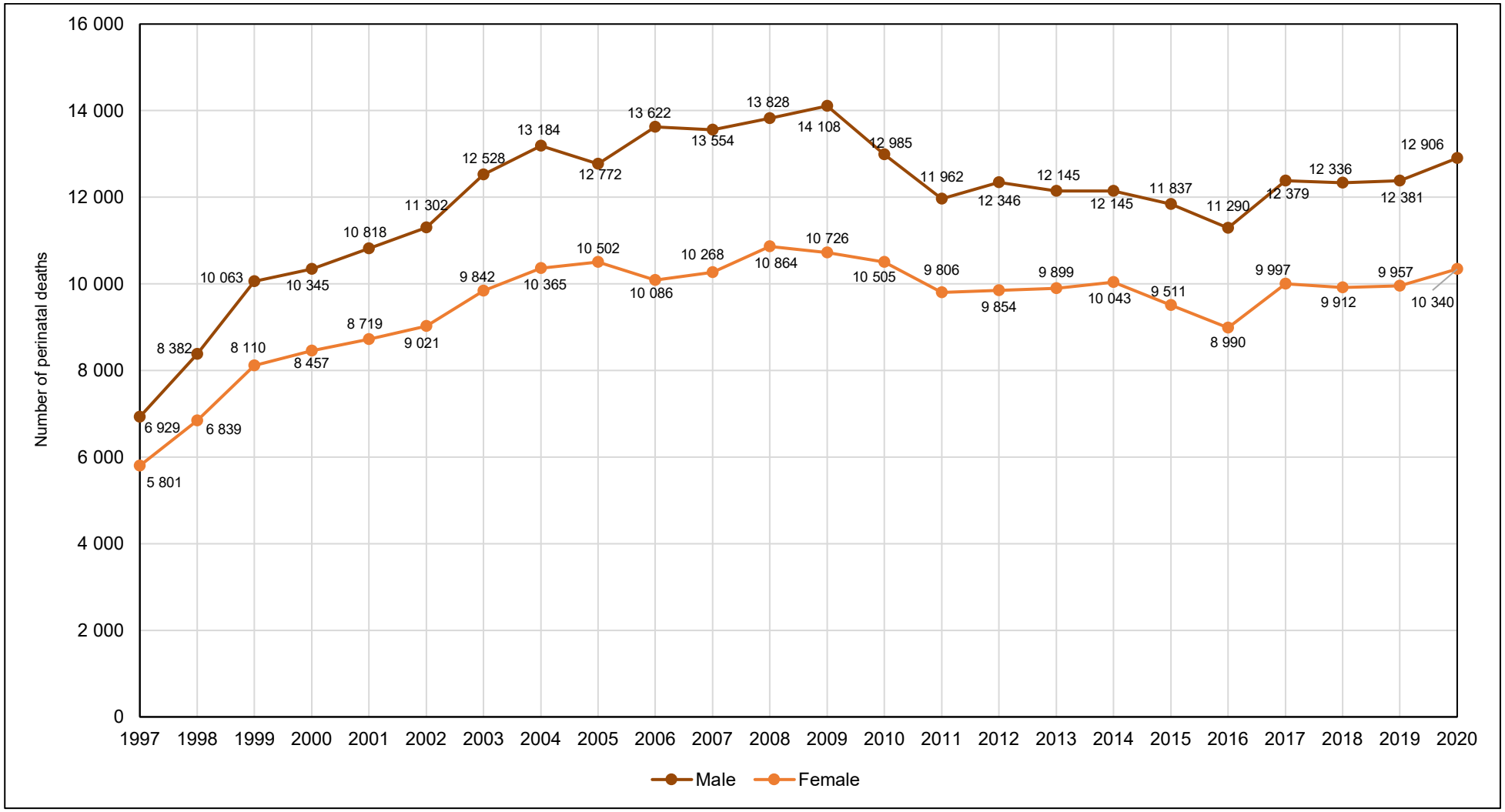
3.4.4 Sex differentials for perinatal deaths

Figure 3.7 presents the sex distribution of perinatal deaths between 1997 and 2020. There was no difference in the pattern of perinatal deaths between males and females, although deaths for males were at higher levels than those of their female counterparts for all the years. Male perinatal deaths increased from 6 929 deaths in 1997 to 12 906 deaths in 2020 (peaking at 14 108 deaths in 2009) while female perinatal deaths increased from 5 801 deaths in 1997 to 10 340 deaths in 2020 (peaking at 10 864 deaths in 2008).

Even though male deaths were always higher than female deaths, the pattern was exactly the same between 2016 and 2020. There was an increase between 1997 and 2004 (6 929 to 13 184 deaths for males) and 5 801 to 10 502 deaths for females between 1997 and 2005.

A decrease was seen among male deaths from 14 108 deaths in 2009 to 11 962 deaths in 2011, while females also showed a decrease between 2008 and 2011 (10 864 deaths to 9 806 deaths). There was another decrease between 2014 and 2016 (12 145 to 11 290 deaths for males and 10 043 to 8 990 deaths for females).

Figure 3.7 – Number of perinatal deaths by sex and year of death, 1997–2020*



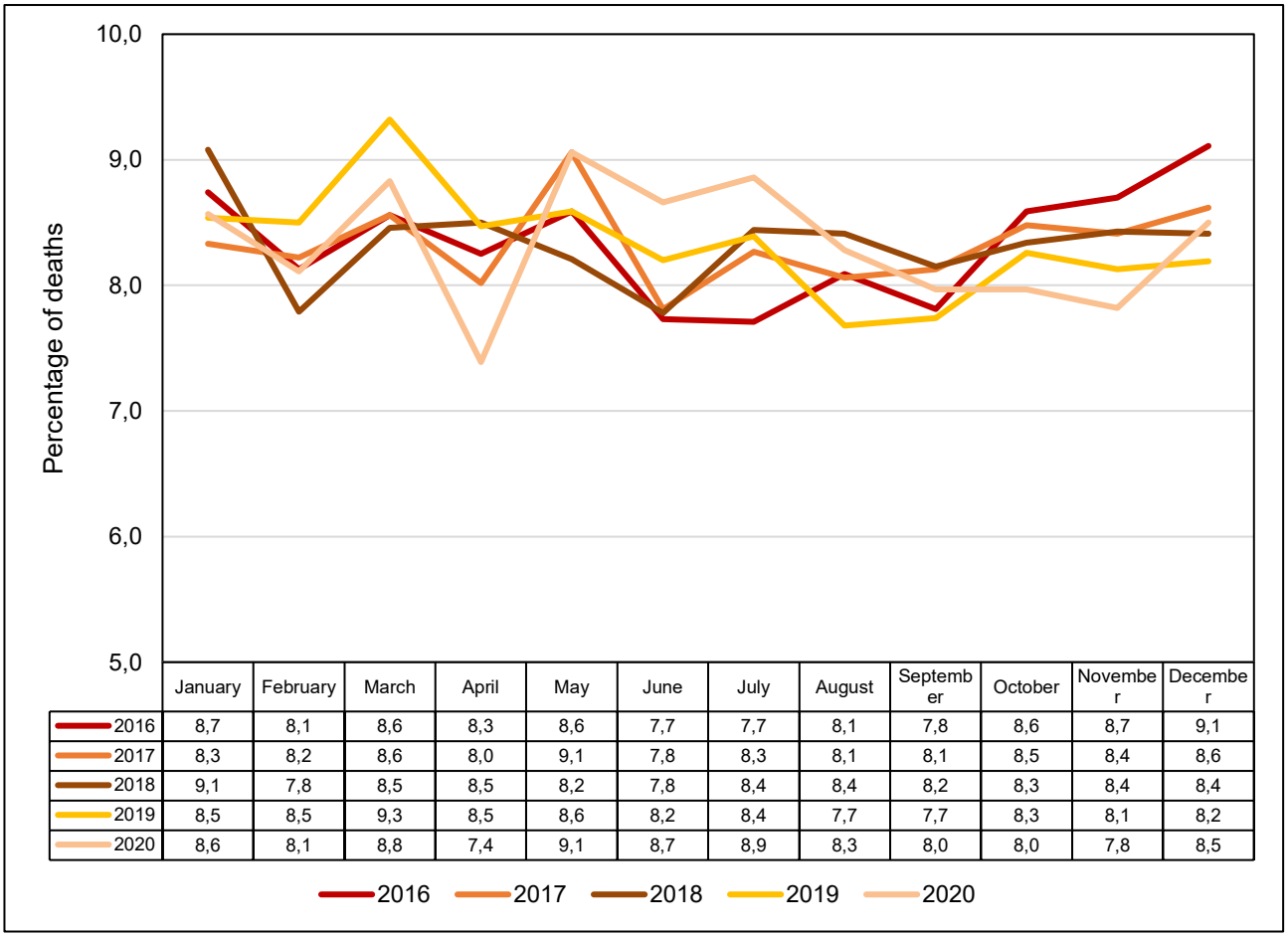
* Data for 1997–2019 have been updated with late registrations/delayed death notification forms processed in 2023/2024.
* Excluding perinatal deaths with unspecified sex.

3.5 Month of death

Figure 3.8 presents the percentage distribution of perinatal deaths by month for deaths that occurred between 2016 and 2020. **See Appendix II for absolute numbers.**

Results show that March 2019 recorded the highest percentage (9,3%) above other months and years, followed by December 2016, May 2017 and 2020; and also January 2018 (recording 9,1% each). There was a noticeable decrease in perinatal deaths from 8,8% in March to 7,4% in April 2020 before increasing to 9,1% in May 2020. Perinatal deaths increased from 7,8% in September to 9,1% in December 2016.

Figure 3.8 – Percentage distribution of perinatal deaths by month and year of death, 2016–2020



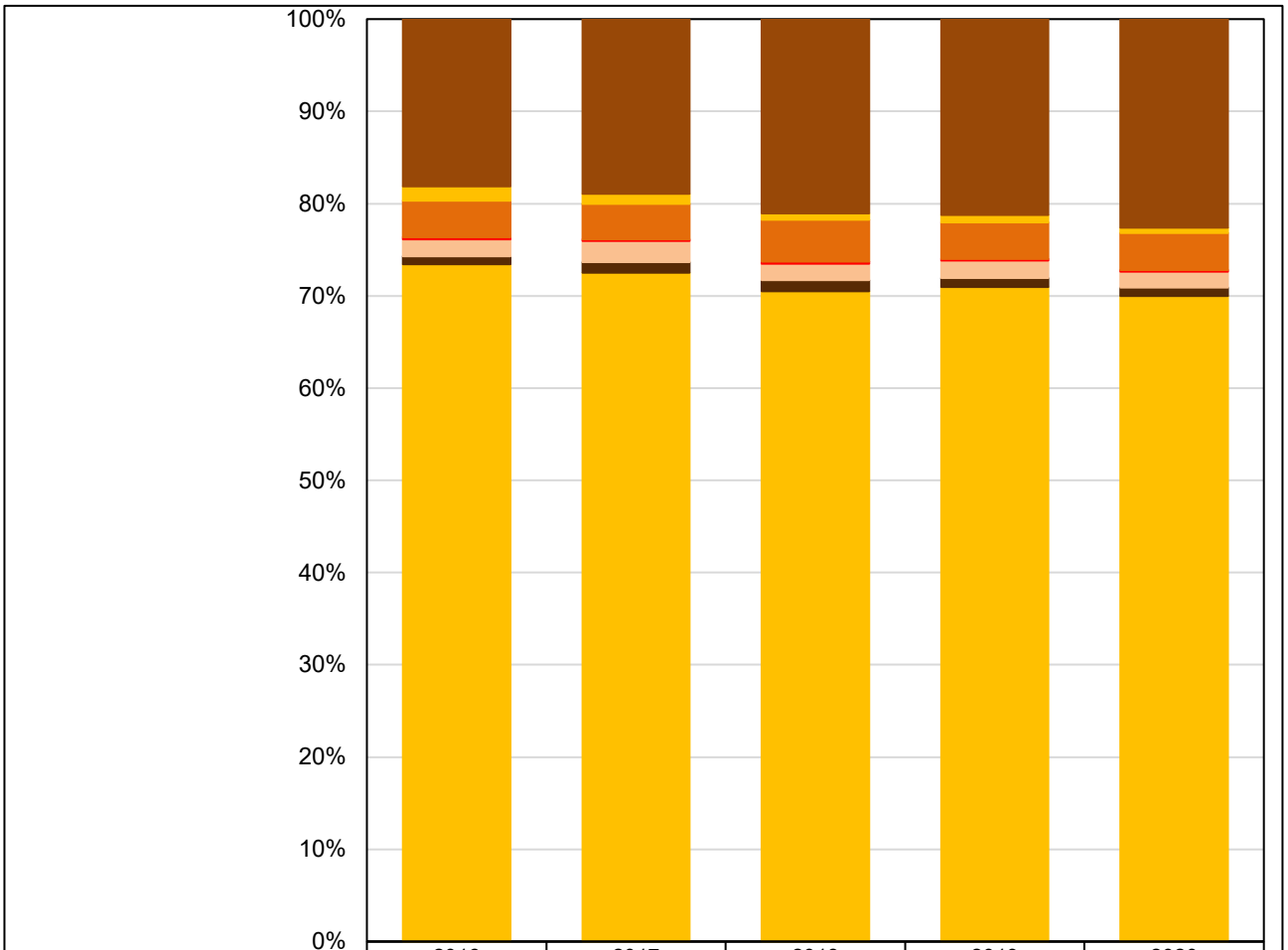
	January	February	March	April	May	June	July	August	September	October	November	December
2016	8,7	8,1	8,6	8,3	8,6	7,7	7,7	8,1	7,8	8,6	8,7	9,1
2017	8,3	8,2	8,6	8,0	9,1	7,8	8,3	8,1	8,1	8,5	8,4	8,6
2018	9,1	7,8	8,5	8,5	8,2	7,8	8,4	8,4	8,2	8,3	8,4	8,4
2019	8,5	8,5	9,3	8,5	8,6	8,2	8,4	7,7	7,7	8,3	8,1	8,2
2020	8,6	8,1	8,8	7,4	9,1	8,7	8,9	8,3	8,0	8,0	7,8	8,5

3.6 Place of death

This section presents information on the place of death: such as hospitals, homes, emergency rooms, nursing homes or whether deaths occurred before arriving at any of these places (where the death actually took place). **See Appendix III for absolute numbers.**

Figure 3.9 presents the place where perinatal deaths occurred. It shows that approximately 20% of place of death was unspecified each year, increasing from 18,2% in 2016 to 22,6% in 2020. Approximately seven-tenths of all deaths took place in hospitals (about 70%), followed by about 4% at home. Deaths that occurred in emergency rooms slightly increased from 0,8% to 0,9% while those that occurred before reaching the health facility (dead on arrival) fluctuated around 2% between 2016 and 2020.

Figure 3.9 – Percentage distribution of perinatal deaths by place of death and year of death, 2016–2020

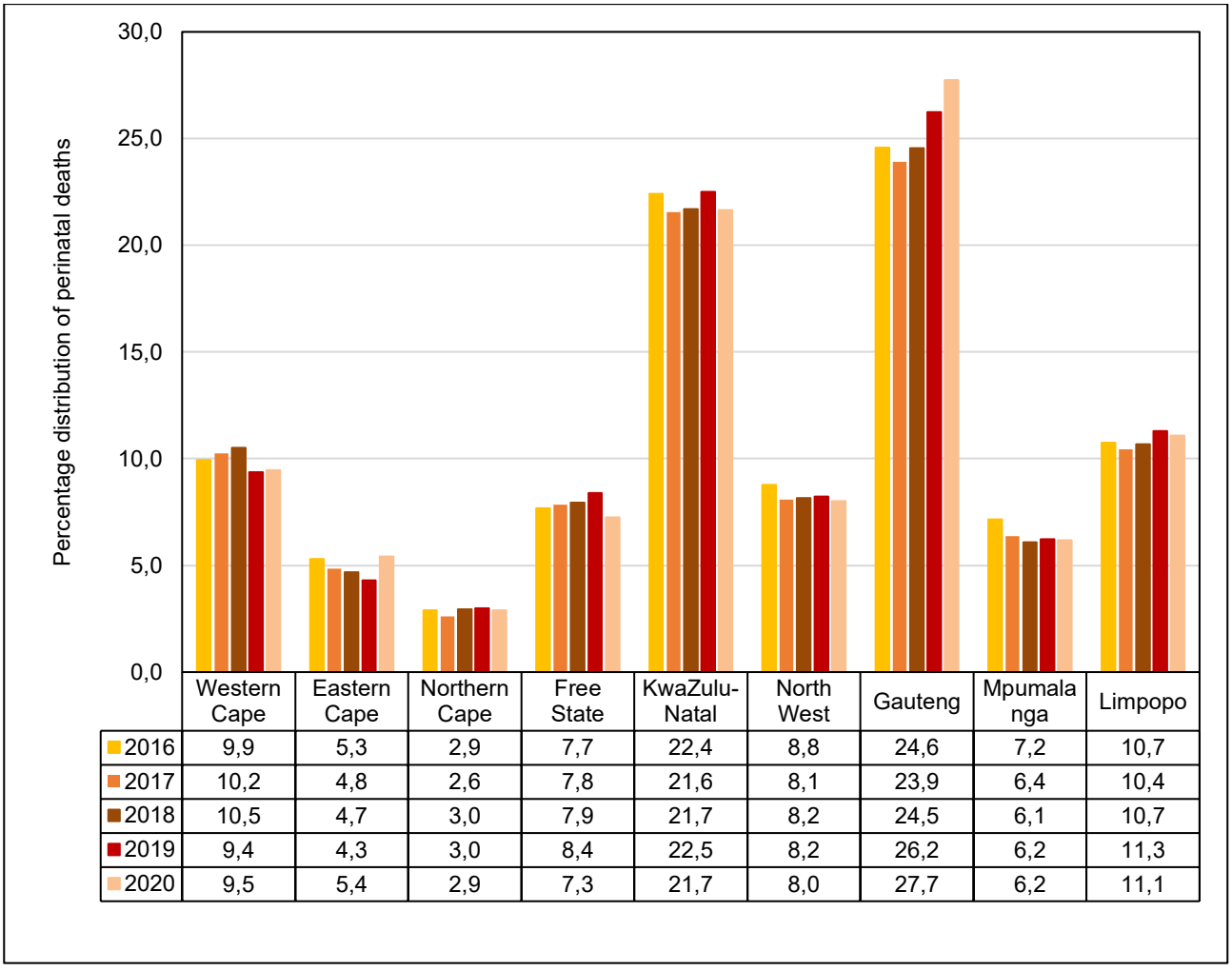


	2016	2017	2018	2019	2020
Unknown/unspecified	18,2	18,9	21,1	21,2	22,6
Other	1,5	1,1	0,7	0,8	0,6
Home	4,0	3,9	4,5	3,9	4,0
Nursing home	0,2	0,2	0,2	0,2	0,2
Dead on arrival	1,9	2,3	1,8	1,9	1,8
Emergency room / Out patient	0,8	1,2	1,2	1,0	0,9
Hospital	73,5	72,5	70,5	71,0	70,0

3.7 Province of death

Figure 3.10 presents the distribution of perinatal deaths by province and year of death. For the period 2016–2020, Gauteng and KwaZulu-Natal recorded the highest percentages (between 20% and 30%) of all perinatal deaths. The Northern Cape recorded the lowest percentages below 5% for the period 2016–2020. In 2020 the highest percentage was recorded in Gauteng (27,7%), followed by KwaZulu-Natal at 21,7%; Northern Cape had the lowest proportion of 2,9%. **For more information, refer to Appendix IV.**

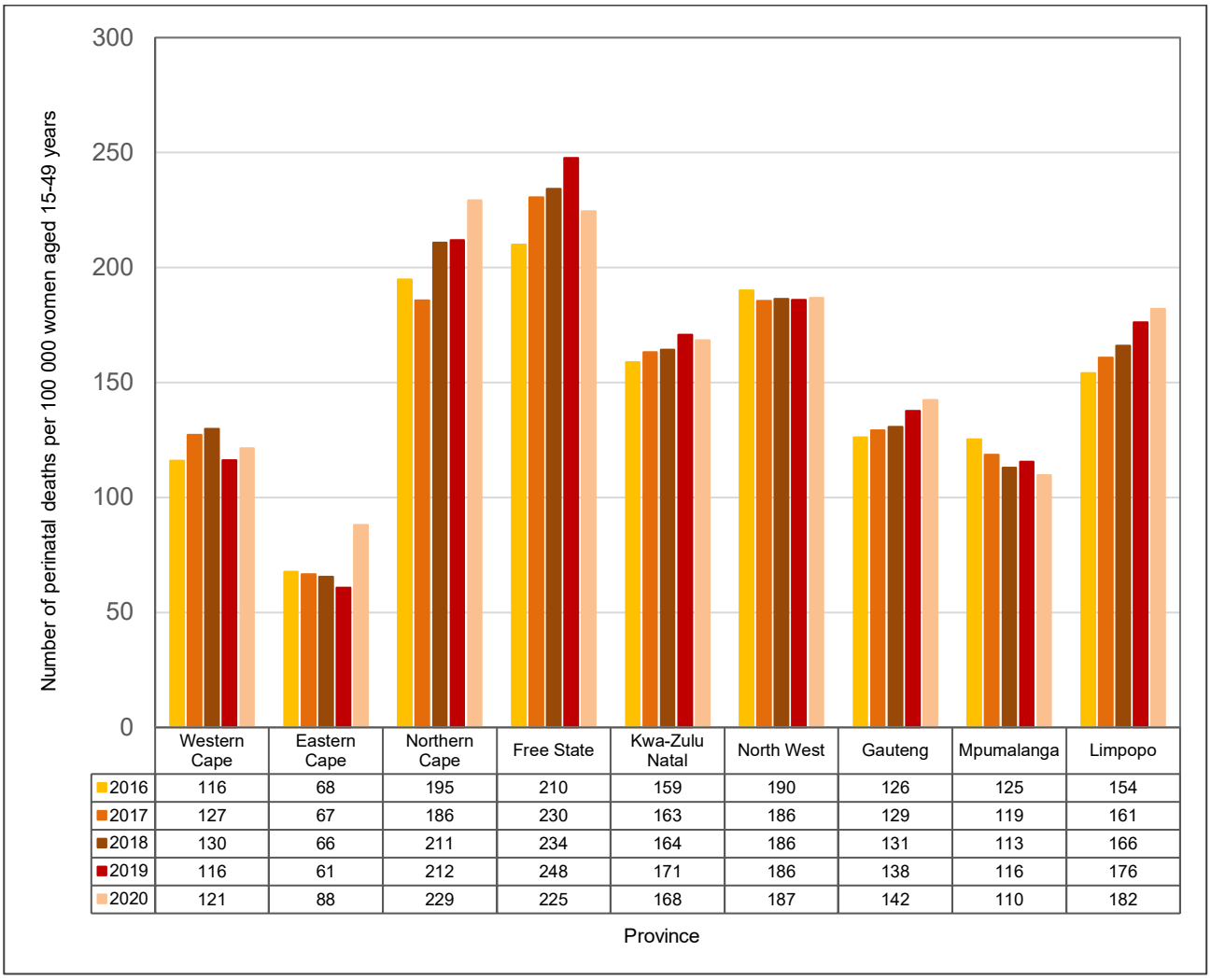
Figure 3.10 – Percentage distribution of perinatal deaths by province of death and year of death, 2016–2020



	Western Cape	Eastern Cape	Northern Cape	Free State	KwaZulu-Natal	North West	Gauteng	Mpumalanga	Limpopo
2016	9,9	5,3	2,9	7,7	22,4	8,8	24,6	7,2	10,7
2017	10,2	4,8	2,6	7,8	21,6	8,1	23,9	6,4	10,4
2018	10,5	4,7	3,0	7,9	21,7	8,2	24,5	6,1	10,7
2019	9,4	4,3	3,0	8,4	22,5	8,2	26,2	6,2	11,3
2020	9,5	5,4	2,9	7,3	21,7	8,0	27,7	6,2	11,1

Figure 3.11. presents information of perinatal deaths per 100 000 women aged 15-49 years. Although Gauteng and KwaZulu-Natal had been contributing more towards perinatal deaths in the country; Free State, Northern Cape and North West had the highest perinatal deaths per 100 000 women aged 15–49 years. Lower rates were observed in Eastern Cape with values lower than 70 perinatal deaths per 100 000 women aged 15–49 years in between 2016 and 2019 with exception of 2020 where a value of 88 perinatal deaths per 100 000 women aged 15–49 years was recorded.

Figure 3.11 – Number of perinatal deaths per 100 000 women aged 15–49 by province and year of death, 2016–2020



	Western Cape	Eastern Cape	Northern Cape	Free State	Kwa-Zulu Natal	North West	Gauteng	Mpumalanga	Limpopo
2016	116	68	195	210	159	190	126	125	154
2017	127	67	186	230	163	186	129	119	161
2018	130	66	211	234	164	186	131	113	166
2019	116	61	212	248	171	186	138	116	176
2020	121	88	229	225	168	187	142	110	182

Chapter 4: Causes of death for perinatal deaths

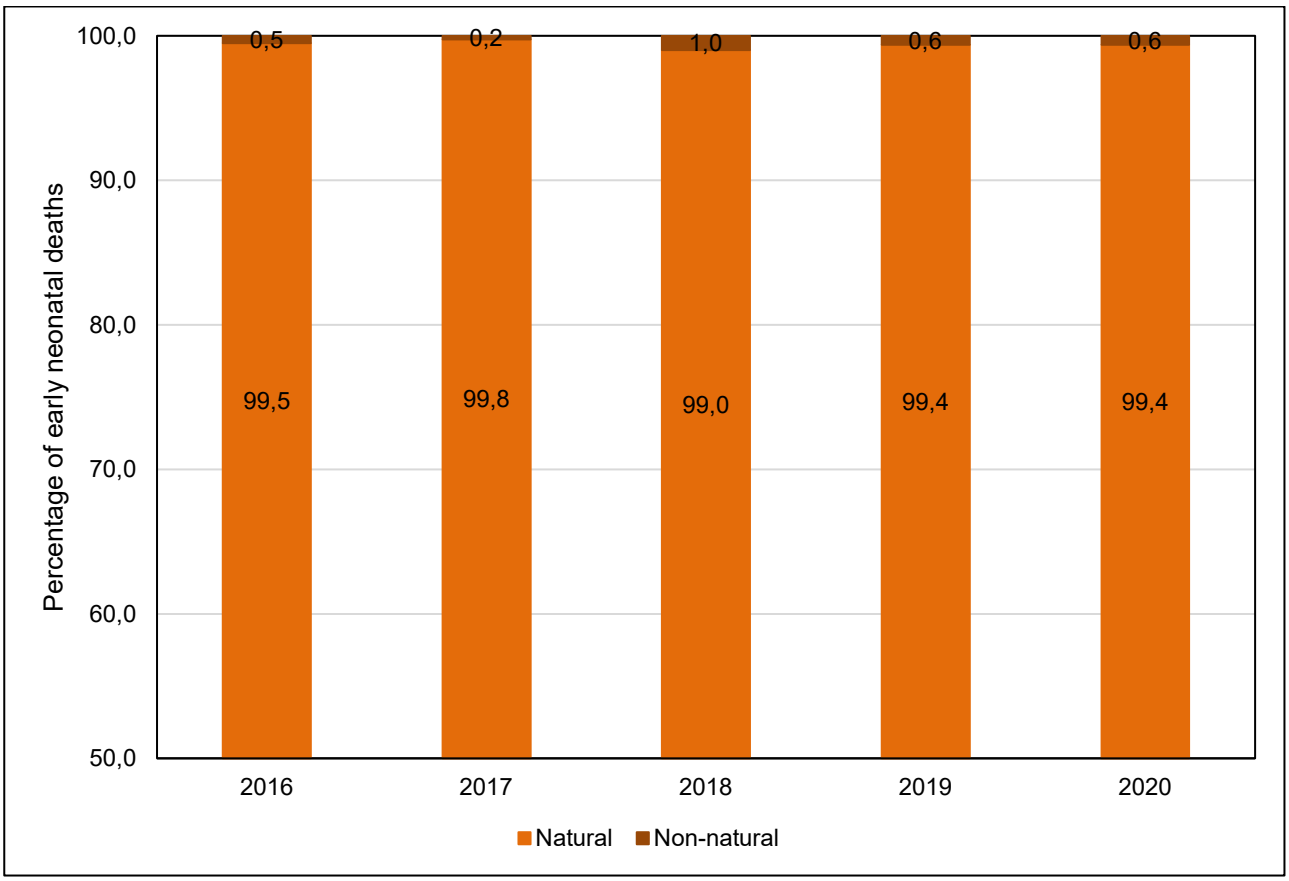
This chapter presents information on the underlying causes of deaths for stillbirths, early neonatal and perinatal deaths that occurred between 2016 and 2020. Causes of death are classified using the 10th revision of the International Classification of Diseases (ICD-10). Analysis undertaken focuses mainly on the underlying cause of death (WHO, 1992). It further includes deaths due to natural or non-natural causes (only covering early neonatal deaths as it is the group that experienced life at birth compared to stillbirths, where there was no sign of life at birth).

4.1 Natural and non-natural causes among early neonatal deaths

This section presents information on whether deaths were due to natural or non-natural causes. Stillbirths are due to natural causes, and that is the reason they not included in the analysis of natural and non-natural causes in this section.

Figure 4.1 indicates the proportion of early neonatal deaths that occurred due to natural or non-natural causes for the period 2016–2020. According to the ICD-10, deaths in Chapters 1–18 are classified as of natural causes while those in Chapter 19 are classified as of non-natural deaths. Results show that almost all deaths among the early neonates were due to natural causes for all the years, with 1% or less due to non-natural causes.

Figure 4.1 – Percentage distribution of natural and non-natural causes for early neonatal deaths, 2016–2020

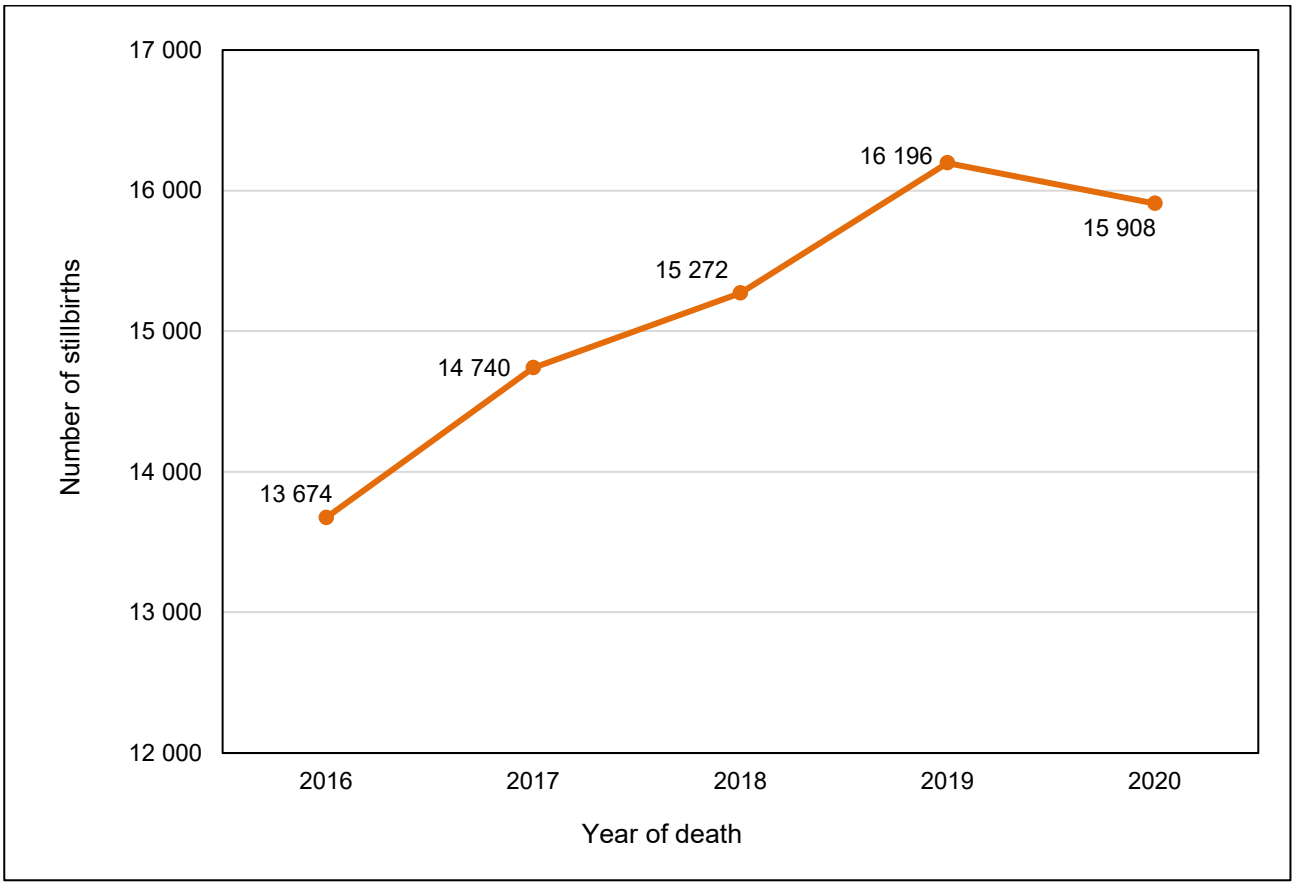


4.2 Stillbirths

This section presents information on the number of stillbirths; and outlines the main and broad groups of underlying causes for stillbirths that occurred between 2016 and 2020. Main groups are a bigger category of causes of death while broad groups are subcategories within the main groups of causes of death.

Figure 4.2 shows that the number of stillbirths increased between 2016 and 2019 (13 674 to 16 196 deaths), then decreased to 15 908 deaths in 2020.

Figure 4.2 – Total number of stillbirths that occurred between 2016 and 2020



4.2.1 Main groups of stillbirths

Table 4.1 presents the number and percentage distribution of the underlying causes of stillbirths for 2016–2020. Causes of stillbirths are classified into two main groups, i.e. *certain conditions originating in the perinatal period* (P00-P96) contributing 97,1% and *congenital malformations* (Q00-Q99*)* contributing 2,9% of stillbirths.

4.2.2 Broad groups of stillbirths

Broad groups are small categories within the main groups as depicted on Table 4.1. When the main group of *certain conditions originating in the perinatal period* is unpacked, *foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery* was the leading cause of stillbirths for all the years 2016 to 2020, with the highest percentage in 2018 (47,1%).

The second cause of stillbirths was *respiratory and cardiovascular disorders specific to the perinatal period* for all the reporting years, with the highest percentage in 2018 (9,5%), then *disorders related to length of gestation and foetal growth* ranking third with the highest percentage in 2018 (8,6%). The fourth cause of stillbirth was *infections specific to the perinatal period* (P35_P39) for all the years, with the highest of 2,2% in 2018. *Haemorrhagic and haematological disorders of foetus and newborn* ranked fifth for all the reporting years, with the highest percentage in 2018 (1,2%).

When the main group of *congenital malformations* is unpacked, the leading cause of stillbirths was *congenital malformations of the nervous system* (Q00-Q07) and *congenital malformations of the circulatory system* (Q20-Q28) with the highest percentage in 2018 (1,4% each). The third cause was *congenital malformations and deformations of the musculoskeletal system* (Q65-Q79) for all the years, with a higher percentage of (0,5%) in 2018.

Table 4.1 – Number and percentage distribution of stillbirths by main and broad groups of underlying causes of death, 2016–2020*

Main group of underlying causes	Broad group of underlying causes	Number					Percentage				
		2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Certain conditions originating in the perinatal period (P00_P96)	Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04)	4 150	4 084	3 933	3 965	3 884	30,5	29,0	47,1	25,7	24,4
	Disorders related to length of gestation and fetal growth (P05_P08)	520	731	719	726	644	3,8	5,2	8,6	4,7	4,1
	Birth trauma (P10_P15)	*	*	*	8	*	*	*	*	0,1	*
	Respiratory and cardiovascular disorders specific to the perinatal period (P20_P29)	684	637	793	879	567	5,0	4,5	9,5	5,7	3,6
	Infections specific to the perinatal period (P35_P39)	28	28	180	69	24	0,2	0,2	2,2	0,5	0,2
	Haemorrhagic and haematological disorders of fetus and newborn (P50_P61)	41	39	98	98	41	0,3	0,3	1,2	0,6	0,3
	Transitory endocrine and metabolic disorders specific to foetus and newborn (P70_P74)	22	113	72	78	90	0,2	0,8	0,9	0,5	0,6
	Digestive system disorders of foetus and newborn (P75_P78)	5	8	54	23	9	0,0	0,1	0,6	0,1	0,1
	Conditions involving the integument and temperature regulation of foetus and newborn (P80_P83)	24	25	23	50	30	0,2	0,2	0,3	0,2	0,2
	Other disorders originating in the perinatal period (P90_P96)	7 736	8 057	1 808	9 106	10 252	56,9	57,1	21,7	59,0	64,5
Congenital malformations (Q00_Q99)	Congenital malformations of the nervous system (Q00_Q07)	67	77	117	55	64	0,5	0,6	1,4	0,4	0,4
	Congenital malformations of eye, ear, face and neck (Q10_Q18)	6	*	*	*	*	0,0	*	*	*	*
	Congenital malformations of the circulatory system (Q20_Q28)	24	25	118	46	20	0,2	0,2	1,4	0,3	0,1
	Congenital malformations of the respiratory system (Q30_Q34)	6	10	*	*	*	0,0	0,1	*	*	*
	Cleft lip and cleft palate (Q35_Q37)	*	*	*	*	*	*	*	*	*	*
	Other congenital malformations of the digestive system (Q38_Q45)	*	*	45	7	*	*	*	0,5	0,1	*
	Congenital malformations of genital organs (Q50_Q56)	*	*	*	*	*	*	*	*	*	*
	Congenital malformations of the urinary system (Q60_Q64)	7	*	10	*	5	0,1	*	0,1	*	0,0
	Congenital malformations and deformations of the musculoskeletal system (Q65_Q79)	15	25	45	26	20	0,1	0,2	0,5	0,2	0,1
	Other congenital malformations (Q80_Q89)	212	204	250	245	205	1,6	1,5	3,0	1,6	1,3
	Chromosomal abnormalities, not elsewhere classified (Q90_Q99)	48	28	78	55	39	0,4	0,2	0,9	0,4	0,3
All		**13 604**	**14 107**	**8 3455**	**15 447**	**15 908**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**

Note: cases with values less than 5 are indicated with * for confidentiality purposes.
Totals include values represented by *

4.2.3 Underlying causes of stillbirths

Table 4.2 presents the number and percentage of the underlying causes of stillbirths for the years 2016 to 2020.

When we unpack the broad group of *foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery* (P00-P04), a higher percentage was contributed by *foetus and newborn affected by maternal conditions that may be unrelated to present pregnancy* between 2016 to 2020, with the highest percentage of 27,1% in 2018. The second underlying cause was followed by *foetus and newborn affected by complications of placenta, cord and membranes* for all the years and a higher percentage in 2018 (18,3%).

Within the broad group of *disorders related to length of gestation and foetal growth* (P05-P08), *disorders related to short gestation and low birth weight, not elsewhere classified* recorded higher percentages across the reporting years, with the highest in 2018 (8,7%).

The *respiratory and cardiovascular disorders specific to the perinatal period* (P20-P29) broad group had *intrauterine hypoxia* contributing the highest percentage in 2018 (5,6%).

The broad group of *infections specific to the perinatal period* (P35-P39) had *bacterial sepsis of newborn* recording a higher percentage above other broad group of 2,2% in 2018.

Transitory disorders of carbohydrate metabolism specific to fetus and newborn recorded a higher percentage of 0,9% in 2018 for the broad group of *transitory endocrine and metabolic disorders specific to fetus and newborn* (P70_P74).

Table 4.2 – Number and percentage distribution of the underlying causes of stillbirths, 2016–2020*

Broad group of underlying causes	Underlying cause of death	Year of death									
		Number					%				
		2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00-P04)	Foetus and newborn affected by maternal conditions that may be unrelated to present pregnancy	2 198	1 814	2 080	1 852	2 059	16,6	13,2	27,1	12,4	13,3
	Foetus and newborn affected by maternal complications of pregnancy	193	308	228	339	278	1,5	2,2	3,0	2,3	1,8
	Foetus and newborn affected by complications of placenta, cord and membranes	1 561	1 728	1 409	1 529	1 379	11,8	12,6	18,3	10,2	8,9
	Foetus and newborn affected by other complications of labour and delivery	172	194	200	225	145	1,3	1,4	2,6	1,5	0,9
	Foetus and newborn affected by noxious influences transmitted via placenta or breast milk	26	40	15	20	23	0,2	0,3	0,2	0,1	0,2
Disorders related to length of gestation and foetal growth (P05-P08)	Slow foetal growth and foetal malnutrition	27	43	50	33	27	0,2	0,3	0,7	0,2	0,2
	Disorders related to short gestation and low birth weight, not elsewhere classified	493	685	668	680	612	3,7	5,0	8,7	4,5	3,9
	Disorders related to long gestation and high birth weight	*	*	*	13	5	*	*	*	0,1	0,0
Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	Intrauterine hypoxia	490	537	430	305	406	3,7	3,9	5,6	2,0	2,6
	Birth asphyxia	47	31	62	142	33	0,4	0,2	0,8	1,0	0,2
	Respiratory distress of newborn	68	24	103	194	3	0,5	0,2	1,3	1,3	0,0
	Congenital pneumonia	8	7	44	30	24	0,1	0,1	0,6	0,2	0,2
	Neonatal aspiration syndromes	27	18	51	88	21	0,2	0,1	0,7	0,6	0,1
	Interstitial emphysema and related conditions originating in the perinatal period	*	*	6	*	*	*	*	0,1	*	*
	Pulmonary haemorrhage originating in the perinatal period	8	*	22	18	*	0,1	*	0,3	0,1	*
	Chronic respiratory disease originating in the perinatal period	*	*	*	13	*	*	*	*	0,1	*
	Other respiratory conditions originating in the perinatal period	13	5	16	30	*	0,1	0,0	0,2	0,2	*
	Cardiovascular disorders originating in the perinatal period	22	12	58	58	71	0,2	0,1	0,8	0,4	0,5

Table 4.2 – Number and percentage distribution of stillbirths by broad groups of underlying causes of death, 2016–2020* (continued)

Broad group of underlying causes	Underlying cause of death	Year of death									
		Number					%				
		2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Infections specific to the perinatal period (P35-P39)	Congenital viral diseases	*	*	*	*	12	*	*	*	*	0,1
	Bacterial sepsis of newborn	18	17	169	47	*	0,1	0,1	2,2	0,3	*
	Other congenital infectious and parasitic diseases	*	*	*	13	*	*	*	*	0,1	*
	Other infections specific to the perinatal period	9	8	9	9	*	0,1	0,1	0,1	0,1	*
Haemorrhagic and haematological disorders of foetus and newborn (P50-P61)	Foetal blood loss	*	*	*	*	*	*	*	*	*	*
	Umbilical haemorrhage of newborn	*	*	*	*	*	*	*	*	*	*
	Intracranial nontraumatic haemorrhage of foetus and newborn	7	7	27	9	7	0,1	0,1	0,4	0,1	0,1
	Haemorrhagic disease of foetus and newborn	*	*	*	*	*	*	*	*	*	*
	Other neonatal haemorrhages	*	*	6	*	*	*	*	0,1	*	*
	Haemolytic disease of foetus and newborn	11	16	12	14	9	0,1	0,1	0,2	0,1	0,1
	Hydrops fetalis due to haemolytic disease	*	*	*	*	*	*	*	*	*	*
	Kernicterus	*	*	16	11	*	*	*	0,2	0,1	*
	Neonatal jaundice due to other excessive haemolysis	*	*	*	*	*	*	*	*	*	*
	Neonatal jaundice from other and unspecified causes	*	*	9	11	*	*	*	0,1	0,1	*
	Disseminated intravascular coagulation of foetus and newborn	*	*	5	5	*	*	*	0,1	0,0	*
	Other perinatal haematological disorders	12	9	18	32	17	0,1	0,1	0,2	0,2	0,1
Transitory endocrine and metabolic disorders specific to foetus and newborn (P70-P74)	Transitory disorders of carbohydrate metabolism specific to foetus and newborn	22	113	72	78	90	0,2	0,8	0,9	0,5	0,6
Digestive system disorders of foetus and newborn (P75-P78)	Other intestinal obstruction of newborn	*	*	*	8	*	*	*	*	0,1	*
	Necrotizing enterocolitis of foetus and newborn	*	7	46	6	*	*	0,1	0,6	0,0	*
	Other perinatal digestive system disorders	*	*	8	9	7	*	*	0,1	0,1	0,1

Table 4.2 – Number and percentage distribution of stillbirths by broad groups of underlying causes of death, 2016–2020* (concluded)

Broad group of underlying causes	Underlying cause of death	Year of death									
		Number					%				
		2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Conditions involving the integument and temperature regulation of foetus and newborn (P80-P83)	Hypothermia of newborn	*	*	*	10	*	*	*	*	0,1	*
	Other disturbances of temperature regulation of newborn	*	*	*	*	*	*	*	*	*	*
	Other conditions of integument specific to foetus and newborn	21	23	19	37	30	0,2	0,2	0,3	0,3	0,2
Other disorders originating in the perinatal period (P90-P96)	Convulsions of newborn	*	*	8	*	*	*	*	*	*	*
	Other disturbances of cerebral status of newborn	8	*	42	68	*	0,1	*	0,6	0,5	*
	Feeding problems of newborn	*	*	*	*	*	*	*	*	*	*
	Reactions and intoxications due to drugs administered to foetus and newborn	*	*	*	*	*	*	*	*	*	*
	Disorders of muscle tone of newborn	*	*	*	*	*	*	*	*	*	*
	Foetal death of unspecified cause	7 673	8 020	1 703	9 023	10 251	58,1	58,4	22,2	60,2	66,0
	Other conditions originating in the perinatal period	47	35	55	11	0	0,4	0,3	0,7	0,1	0,0
Total		**13 214**	**13 723**	**7 682**	**15002**	**15 541**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**

* Data for 1997−2019 have been updated with late registrations/delayed death notification forms processed in 2023/2024.

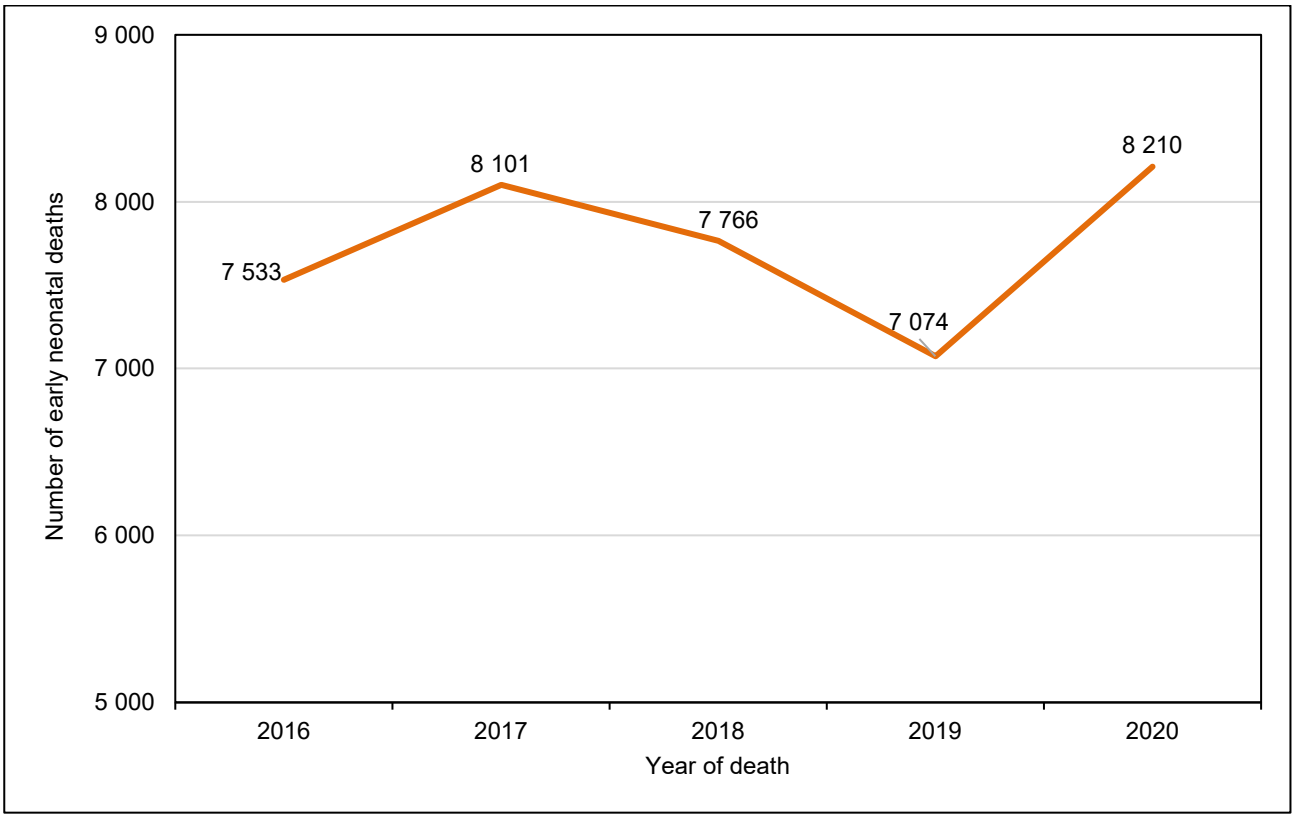
Note 1: Cases with values less than 5 are indicated with * for confidentiality purposes.
Note 2: Some broad underlying causes are excluded due to small numbers.
Note 3: Total is for main group P00-P96.

4.3 Early neonatal deaths

This section presents information on the number of early neonatal deaths that occurred between 2016 and 2020. It also highlights the underlying causes of early neonatal deaths, divided into deaths that occurred in less than a day and those that occurred between day 1 and day 7.

Figure 4.3 shows that there was an increase from 7 533 deaths in 2016 to 8 101 deaths in 2017, then a decrease to 7 074 deaths in 2019 before increasing again to 8 210 deaths in 2020.

Figure 4.3 – Total number of early neonatal deaths that occurred between 2016 and 2020



4.3.1 Underlying causes of early neonatal deaths

This section presents early neonatal deaths that occurred within a day of life and those that occurred between day and day 7 of life.

4.3.2 Early neonatal deaths that occurred in less than a day

Table 4.3 shows that *respiratory and cardiovascular disorders specific to the perinatal period (P20–P29)* was the leading underlying cause of deaths for deaths that occurred in less than a day for all the reporting years 2016–2020, decreasing from 34,4% of deaths in 2016 to 30,7% of deaths in 2020.

Disorders related to length of gestation and foetal growth (P05-P08) ranked second in the underlying causes of early neonates in all the reported years except in 2017 where it ranked third. It contributed 17,9% of early neonatal deaths that occurred in less than a day in 2017, with 17,1% of deaths in 2018, 18,5% of deaths in 2019 and 18,7% of deaths in 2020.

Fetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00_P04was the third contributing underlying cause of death to children under a day but swapped position with other disorders originating in the perinatal period (P90-96) which had been ranking fourth.

The fifth underlying cause was *other congenital malformations (Q80-Q89)*, having a higher percentage of 6,2% in 2017.

Table 4.3 – The ten underlying natural causes of death for early neonates that died within a day of birth, 2016–2020

Causes of death (based on ICD-10)	2016			2017			2018			2019			2020		
	No	%	Rank	No	%	Rank	No	%	Rank	No	%	Rank	No	%	Rank
Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	933	34,4	1	1 098	34,3	1	923	34,4	1	620	28,6	1	890	30,7	1
Disorders related to length of gestation and foetal growth (P05-P08)	445	16,4	3	573	17,9	2	457	17,1	2	400	18,5	2	543	18,7	2
Other disorders originating in the perinatal period (P90-P96)	353	13,0	4	394	12,3	4	286	10,7	4	229	10,6	4	507	17,5	3
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00-P04)	449	16,5	2	543	17,0	3	331	12,4	3	303	14,0	3	317	10,9	4
Other congenital malformations (Q80-Q89)	140	5,2	5	198	6,2	5	144	5,4	5	127	5,9	5	143	4,9	5
Infections specific to the perinatal period (P35-P39)	83	3,1	6	84	2,6	6	71	2,6	6	67	3,1	6	95	3,3	6
Other diseases of the respiratory system (J95-J99)	…	…	…	…	…	…	…	…	…	…	…	…	47	1,6	7
Haemorrhagic and haematological disorders of foetus and newborn (P50-P61)	35	1,3	10	37	1,2	8	50	1,9	8	50	2,3	7	41	1,4	8
Congenital malformations of the circulatory system (Q20-Q28)	39	1,4	8	34	1,1	9	61	2,3	7	33	1,5	9	35	1,2	9
Chromosomal abnormalities, not elsewhere classified (Q90-Q99)	…	…	…	33	1,0	10				30	1,4	10	33	1,1	10
Conditions involving the integument and temperature regulation of foetus and newborn (P80-P83)	52	1,9	7	45	1,4	7	31	1,2	10	39	1,8	8	…	…	…
Congenital malformations of the nervous system (Q00-Q07)	36	1,3	9	…	…	…	49	1,8	9	…	…		…	…	…
Other natural	132	4,9		154	4,8		249	9,3		258	11,9		228	7,9	
Non-natural	19	0,7		8	0,2		28	1,0		10	0,5		18	0,6	
All causes	**2 716**	**100,0**		**3 201**	**100,0**		**2 680**	**100,0**		**785**	**100,0**		**2 897**	**100,0**	

4.3.3 Early neonatal deaths that occurred between day 1 and day 7

This section presents early neonatal deaths that occurred between day 1 and day 7 of life. Table 4.4 shows that *respiratory and cardiovascular disorders specific to the perinatal period* (P20-P29) was the leading underlying cause of deaths that occurred between day 1 and day 7 for all the reporting years, decreasing from 36,5% of deaths in 2016 to 28,6% in 2020.

Disorders related to length of gestation and foetal growth (P05-P08) was the second leading cause only in 2019, and ranked third for all other years, contributing to 11,3% of deaths in 2016, increasing to 14,9% of deaths in 2020.

Infections specific to the perinatal period (P35-P39) also formed part of the leading causes of death with 11,0% of deaths in 2016, 11,5% of deaths in 2017, 10,8% of deaths in 2018, 12,0% of deaths in 2019 and 12,2% of deaths in 2020.

Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00-P04) was also in the leading causes with 10,9% of deaths in 2016, 10,5% of deaths in 2017, 9,4% of deaths in 2018, 9,3% of deaths in 2019 and 7,7% of deaths in 2020.

Haemorrhagic and haematological disorders of foetus and newborn (P50-P61) contributed to deaths that occurred between day 1 and day 7 as follows: 4,5% of deaths in 2016; 4,8% of deaths in 2017; 6,1% of deaths in 2018; 4,9% of deaths in 2019; and 3,7% of deaths in 2020.

Table 4.4 – The ten underlying natural causes of death for early neonates that died between one and seven days after birth, 2016–2020

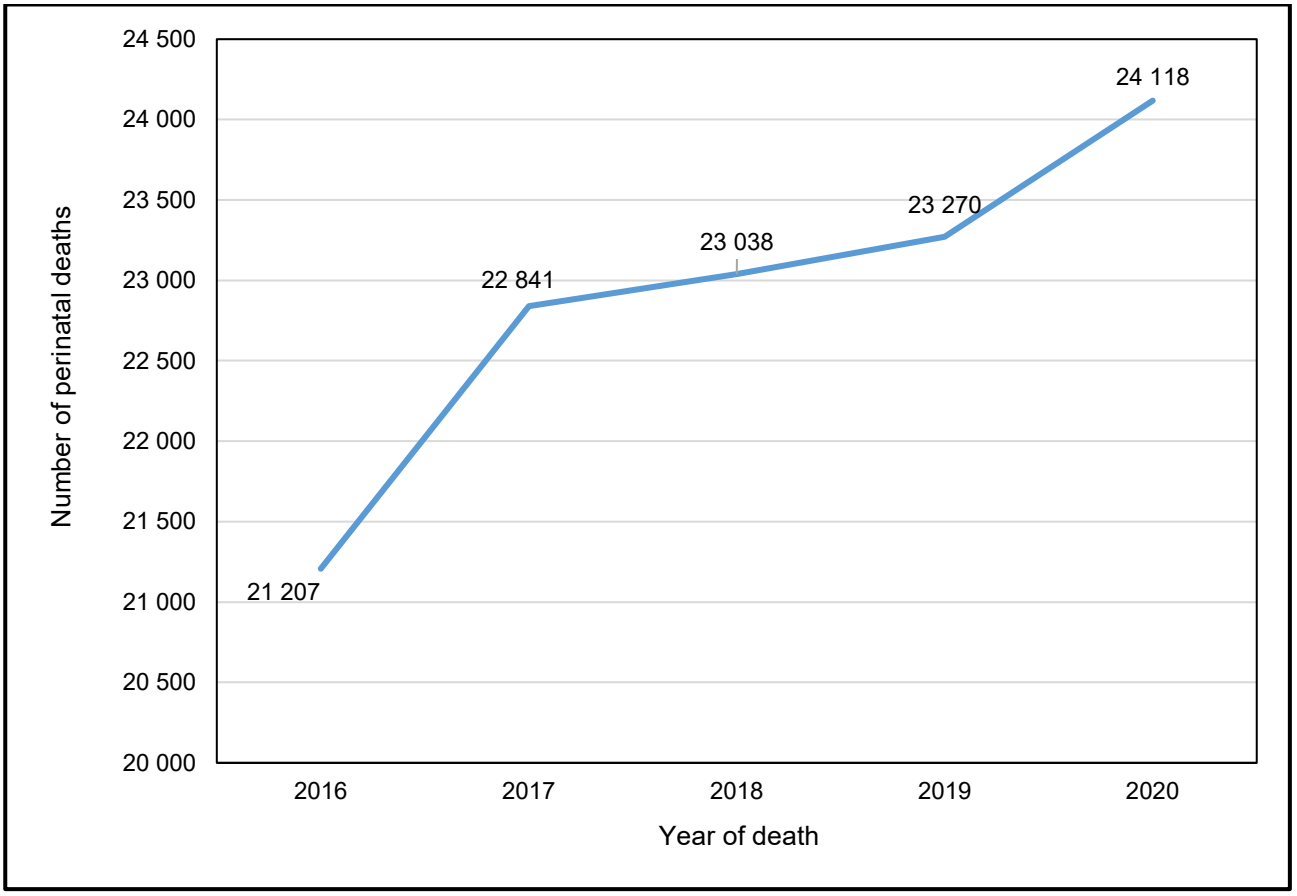
Causes of death (based on ICD-10)	2016			2017			2018			2019			2020		
	No	%	Rank	No	%	Rank	No	%	Rank	No	%	Rank	No	%	Rank
Respiratory and cardiovascular disorders specific to the perinatal period (P20-P29)	1 759	36,5	1	1 721	35,1	1	1 639	32,2	1	1 526	31,1	1	1 520	28,6	1
Other disorders originating in the perinatal period (P90-P96)	560	11,6	2	504	10,3	5	510	10,0	3	461	9,4	4	914	17,2	2
Disorders related to length of gestation and foetal growth (P05-P08)	543	11,3	3	561	11,4	3	504	9,9	4	611	12,4	2	791	14,9	3
Infections specific to the perinatal period (P35-P39)	532	11,0	4	564	11,5	2	550	10,8	2	590	12,0	3	647	12,2	4
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery (P00-P04)	526	10,9	5	516	10,5	4	479	9,4	5	454	9,3	5	410	7,7	5
Haemorrhagic and haematological disorders of foetus and newborn (P50-P61)	219	4,5	6	234	4,8	6	310	6,1	6	240	4,9	6	197	3,7	6
Other congenital malformations (Q80-Q89)	118	2,4	8	121	2,5	8	121	2,4	9	239	2,8	7	115	2,2	7
Congenital malformations of the circulatory system (Q20-Q28)	131	2,7	7	122	2,5	7	132	2,6	7	112	2,3	9	113	2,1	8
Digestive system disorders of foetus and newborn (P75-P78)	109	2,3	9	116	2,4	9	159	2,5	8	124	2,5	8	112	2,1	9
Chromosomal abnormalities, not elsewhere classified (Q90-Q99)	57	1,2	10	70	1,4	10	71	1,4	10	79	1,6	10	72	1,4	10
Other Natural	243	5,0		359	7,3		597	11,7		538	11,0		389	7,3	
Non-natural	20	0,4		12	0,2		48	0,9		34	0,7		33	0,6	
Total	**4 817**	**100,0**		**4 900**	**100,0**		**5 086**	**100,0**		**4908**	**100,0**		**5 313**	**100,0**	

4.4 Perinatal deaths

This section presents information on the number of perinatal deaths and the main groups of the underlying causes of death for all perinatal deaths between 2016 and 2020.

Figure 4.4 shows the total number of perinatal deaths that occurred between 2016 and 2020. There was an increase from 21 207 deaths in 2016 to 2020 to 24 118 deaths in 2020.

Figure 4.4 – Total number of perinatal deaths that occurred between 2016 and 2020



4.4.1 Main groups of perinatal deaths

Table 4.5 presents the distribution of the main groups of causes of perinatal deaths that occurred between 2016 and 2020. The year 2018 had higher percentages of the leading causes of perinatal deaths above other reporting years. The most common cause of perinatal deaths in 2020 was *certain conditions originating in the perinatal period* (93,9%), followed by *congenital malformations* (Q00-Q99) at 4,4%. Other main groups of causes of perinatal deaths had percentages below 1% in 2020.

Certain conditions originating in the perinatal period contributed the highest percentage of perinatal deaths in 2016 (93,8%), then dropped to 91,1% in 2017 and 61,0% in 2018 and increased to 89,5% in 2019 and 93,9% in 2020. C*ongenital malformations* (6,6%), *external causes of morbidity and mortality* (7,5%), and *certain infections and parasitic diseases* (7,1%) increased substantially in 2018.

Congenital malformations recorded 5,3% in 2016, then decreased to 5,2% deaths in 2017. The year 2018 observed an increase to 6,6%, then decreased to 5,0% deaths in 2019 and further decreased to 4,4% deaths in 2020.

The year 2020 was the time when the country experienced the COVID-19 pandemic. Results show that one of the causes of perinatal deaths was *COVID* (U071-U072) with four (4) cases in 2020, but no cases for other reporting years.

Table 4.5 – Number and percentage distribution of perinatal deaths by main groups of underlying causes of death, 2016–2020*

Main groups	Year of death									
	Number					%				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Certain infectious and parasitic diseases (A00-B99)	27	97	1 635	132	109	0,1	0,4	7,1	0,6	0,5
Neoplasms (C00-D48)	*	39	369	6	*	*	0,2	1,6	0,0	*
Diseases of the blood and immune mechanism (D50-D89)	*	11	204	6	6	*	0,0	0,9	0,0	0,0
Endocrine, nutritional and metabolic diseases (E00-E90)	*	33	254	32	18	*	0,1	1,1	0,1	0,1
Mental and behavioural disorders (F00-F99)	*	*	27	*	*	*	*	0,1	*	*
Diseases of the nervous system (G00-G99)	*	27	159	31	46	*	0,1	0,7	0,1	0,2
Diseases of the circulatory system (I00-I99)	*	45	653	35	62	*	0,2	2,8	0,2	0,3
Diseases of the respiratory system (J00-J99)	*	94	706	60	88	*	0,4	3,1	0,3	0,4
Diseases of the digestive system (K00-K93)	6	8	179	8	9	0,0	0,0	0,8	0,0	0,0
Diseases of the skin and subcutaneous tissue (L00-L99)	*	*	6	*	*	*	*	0,0	0,0	*
Diseases of the musculoskeletal system, etc. (M00-M99)	*	*	16	*	*	*	*	0,1	0,0	*
Diseases of the genitourinary system (N00-N99)	*	12	109	7	14	*	0,1	0,5	0,0	0,1
Pregnancy, childbirth and puerperium (O00-O99)	*	*	16	*	*	*	*	0,1	0,0	*
Certain conditions originating in the perinatal period (P00-P96)	19 895	20 814	14 045	20 827	22 642	93,8	91,1	61,0	89,5	93,9
Congenital malformations (Q00-Q99)	1 133	1 194	1 527	1 165	1 048	5,3	5,2	6,6	5,0	4,4
Symptoms and signs not elsewhere classified (R00-R99)	73	274	1 405	892	18	0,3	1,2	6,1	3,8	0,1
Covid (U071-U072)	*	*	*	*	4	*	*	*	*	0,0
External causes of morbidity and mortality (V01-Y98)	57	185	1 728	66	51	0,3	0,8	7,5	0,3	0,2
Total	**21 207**	**22 841**	**23 038**	**23 270**	**24 118**	**100,0**	**100,0**	**100,0**	**100,0**	**100,0**

* Data for 1997−2019 have been updated with late registrations/delayed death notification forms processed in 2023/2024.

Note 1: Cases with values less than 5 are indicated with * for confidentiality purposes.

Summary

This statistical release highlights levels and trends of registered stillbirths, early neonatal deaths and perinatal deaths for the period 1997–2020 by selected socio-demographic and geographic characteristics. It further covers the underlying causes of stillbirths, early neonatal deaths and perinatal deaths that occurred between 2016 and 2020.

Results on age differentials for early neonatal deaths show that vulnerability of babies to death was higher at earlier days (more deaths around day 0 compared to deaths around day 7). The proportion of early neonatal deaths decreased with an increasing age-in-days.

Stillbirths by sex show a steep increase in both sexes between 1997 and 1999, with another increase seen between 2016 and 2019. Early neonatal deaths by sex show a decline for both sexes between 1998 and 2001, and between 2009 and 2016. Another decrease among early neonatal deaths was observed between 2017 and 2019.

Most (about 70%) perinatal deaths occurred in hospitals. Information on the month and year of death highlight that the highest percentage of 9,1% was recorded each for December 2016; January 2018; May 2017 and May 2020.

Gauteng and KwaZulu-Natal recorded the highest percentages of perinatal deaths (above 20%) for all the reporting years. Although Gauteng and KwaZulu-Natal had been contributing more towards perinatal deaths in the country, Free State, Northern Cape and North West had higher perinatal deaths per 100 000 women aged 15–49 years. Lower rates were observed in Eastern Cape with values lower than 90 perinatal deaths per 100 000 women aged 15–49 years.

Information on whether deaths were due to natural of non-natural causes show that above 99% of early neonatal deaths between 2016 and 2020 were due to natural causes and less than 1% due to non-natural causes of death.

Results on the underlying cause of death for stillbirths was *foetal death of unspecified cause,* while the underlying cause of early neonatal deaths was *respiratory and cardiovascular disorders specific to the perinatal period*. The main group of underlying cause for all perinatal deaths was *certain conditions originating in the perinatal period*.

Appendices

Appendix A: Definitions of concepts used

Death

The permanent disappearance of all evidence of life at any time after a live birth has taken place. This definition excludes foetal deaths.

Stillbirth

A stillborn in relation to a child means that it had at least 26 weeks of intra-uterine existence but showed no sign of life after complete birth.

Early neonatal death

The death of a live-born infant during the first seven completed days of life.

Perinatal death

Perinatal deaths are a combination of foetuses of at least 26 weeks that are born dead (stillbirths) and infants that die within the first week after live birth (early neonatal deaths).

Neonatal death

The death of a live-born infant during the first 28 completed days of life.

Live birth

The complete expulsion or extraction from its mother's womb of a product of conception, irrespective of the duration of pregnancy, which after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached.

Main groups

A bigger category of causes of death, represented with an ICD-10 of P00-P96

Broad groups

Subcategories within the main groups of causes of death, represented with an ICD-10 code of P00-P04

Appendix B: Tables

Appendix I: Number of stillbirths and early neonatal deaths by age in days, 2016–2020

Deaths	Year of death				
	Number				
	2016	2017	2018	2019	2020
Stillbirths	13 675	14 743	15 272	16 187	15 908
Early neonatal deaths	7 533	8 101	7 765	7 072	8 210
Perinatal deaths	**21 208**	**22 844**	**23 037**	**23 259**	**24 118**
Age in days					
Day 0	2 716	3 200	2 680	2 165	2 897
Day 1	1 458	1 456	1 446	1 335	1 441
Day 2	1 125	1 132	1 159	1 159	1 264
Day 3	703	736	720	710	781
Day 4	496	539	586	531	567
Day 5	401	428	456	482	504
Day 6	358	319	387	377	415
Day 7	276	291	331	313	341
Total	**7 533**	**8 101**	**7 765**	**7 072**	**8 210**

Appendix II: Number of perinatal deaths by month of death occurrence, 2016–2020

Month of death occurrence	Year of death occurrence				
	2016	2017	2018	2019	2020
	Number of deaths				
January	1 853	1 904	2 088	1 973	2 066
February	1 724	1 885	1 797	1 965	1 957
March	1 817	1 963	1 951	2 142	2 130
April	1 749	1 838	1 960	1 956	1 782
May	1 821	2 073	1 898	1 986	2 184
June	1 640	1 795	1 799	1 880	2 088
July	1 634	1 891	1 946	1 936	2 136
August	1 714	1 843	1 937	1 773	1 998
September	1 658	1 861	1 881	1 787	1 921
October	1 823	1 940	1 928	1 915	1 921
November	1 844	1 928	1 951	1 875	1 887
December	1 934	1 984	1 940	1 893	2 050
Perinatal deaths	**21 211**	**22 905**	**23 076**	**23 081**	**24 120**

Appendix III: Number of perinatal deaths by place and year of death, 2016–2020

Place of death occurrence	Year of death occurrence				
	2016	2017	2018	2019	2020
	Number of death occurrence				
Hospital	15 580	16 605	16 269	16 376	16 876
Emergency room/Outpatient	177	270	275	224	223
Dead on arrival	395	521	416	442	423
Nursing home	48	35	56	40	40
Home	841	887	1 040	910	966
Other	320	254	156	190	136
Unknown/unspecified	3 850	4 333	4 864	4 899	5 456
Perinatal deaths	**21 211**	**22 905**	**23 076**	**23 081**	**24 120**

Appendix IV: Number of perinatal deaths by province of death occurrence, 2016–2020

Province of death	Year of death occurrence				
	2016	2017	2018	2019	2020
	Number of perinatal deaths				
Western Cape	2 108	2 345	2 425	2 166	2 283
Eastern Cape	1 126	1 109	1 081	994	1 305
Northern Cape	616	595	681	687	698
Free State	1 627	1 796	1 829	1 938	1 748
KwaZulu-Natal	4 754	4 936	5 008	5 194	5 221
North West	1 862	1 851	1 880	1 900	1 929
Gauteng	5 214	5 479	5 663	6 053	6 690
Mpumalanga	1 517	1 457	1 404	1 435	1 492
Limpopo	2 279	2 389	2 465	2 607	2 669
Other	108	948	640	107	85
Perinatal deaths	**21 211**	**22 905**	**23 076**	**23 081**	**24 120**

RELEASE NUMBER: P0309.4