

Perinatal Statistics Report

2020

Healthcare Pricing Office
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METADATA

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SUMMARY DESCRIPTION

This is a report on national data on Perinatal events in 2020. Information on every birth in the Republic of Ireland is submitted to the National Perinatal Reporting System (NPRS). All births are notified on a standard four part birth notification form (BNF01) which is completed where the birth takes place. Part 3 of this form is sent to the HPO for data entry and validation. The information collected includes data on pregnancy outcomes (with particular reference to perinatal mortality and important aspects of perinatal care), as well as descriptive social and biological characteristics of mothers giving birth. The time frame to which the information relates is from pregnancy, delivery and ends at seven completed days after birth.

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Please note that there is the potential for minor revisions to the data set analysed in this report.

Please check online at www.hpo.ie for information on updates.

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The production of this annual report requires commitment and hard work from many individuals. Responsibility for the collection of perinatal data for the National Perinatal Reporting System (NPRS) rests with colleagues in maternity hospitals and units throughout Ireland together with Self Employed Community Midwives (SECMs). We gratefully acknowledge the input of medical records staff, IT personnel, and administrative departments, together with hospital managers. We are indebted to these individuals for their support and contribution to NPRS.

The Healthcare Pricing Office (HPO) oversees a wide range of tasks related to the management of this system, including personnel training, data quality and audit, data management and analysis, and information dissemination. We acknowledge gratefully the dedication, skill and expertise that all the members of this team bring to their work on this system. Collection and preparation of the data are undertaken by Gosia Chance, Emma Keegan, Avril McManus and Izabela Sikora. The IT Department of the HPO supports the development of the NPRS software system for data entry and validation and this is gratefully acknowledged.

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Inevitably, a number of individuals have to carry most of the responsibility for producing a report of this type. In this case Karen Kearns, Laura Metcalfe, Sinead O'Hara, Rory O'Reilly and Amy Phillips were to the fore in the preparation of the report. We wish to express our sincere thanks to these colleagues for all of their hard work on the report. Their commitment, enthusiasm and professionalism are gratefully acknowledged and sincerely appreciated.

Finally we would like to acknowledge our colleague and friend Deirdre Murphy who was head of the HIPE and NPRS systems in the HPO before her retirement in July 2022. Deirdre worked with NPRS for over 20 years and made valuable contributions to the development of NPRS during this time. We wish her well in her retirement.

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KEY FINDINGS

The Perinatal Statistics Report 2020 presents national statistics on perinatal events in Ireland. This report is based on data collected from Part 3 of the Birth Notification Form (BNF01) for the National Perinatal Reporting System (NPRS) and provides information on mothers giving birth and babies born in 2020.

SUMMARY STATISTICS, 2020

Live Births, Stillbirths, Early Neonatal Deaths, Perinatal Deaths, and Adjusted Perinatal Deaths

	Total Births	Live Births	Stillbirths		Early Neonatal Deaths		Perinatal Deaths		Adjusted Perinatal Deaths ^b	
	Number	Number	Number	Rate ^a	Number	Rate ^a	Number	Rate ^a	Number	Rate ^a
Singleton	55,009	54,799	210	3.8	98	1.8	308	5.6	214	3.9
Multiple	2,055	2,046	9	4.4	13	6.4	22	10.7	16	7.8
Total	57,064	56,845	219	3.8	111	2.0	330	5.8	230	4.0

Notes: a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. See Appendix A for further details on calculation of rates.

b In this and subsequent tables, 'Adjusted Perinatal Deaths' excludes all deaths due to congenital anomalies.

BABIES, 2020

- 57,064 births were reported to NPRS in 2020, representing a 4.2 per cent decrease between 2019 and 2020
- 7% of total births were preterm (less than 37 weeks gestation)
- 6% of live births were low birthweight (less than 2,500 grams)
- 2% of live births were high birthweight (4,500 grams or more)
- 61% of babies recorded any breastfeeding in 2020 compared to 55% in 2011
- 44% of babies were exclusively breastfed in 2020
- 36% of total live births were delivered by Caesarean section, with 35% of singleton and 72% of multiple live births delivered by this method. In 2011, 28% of total live births were delivered by Caesarean section
- 95% of singleton births and 68% of multiple births were discharged from hospital within 5 days of birth
- Average total infant's length of stay was 3.0 days in 2020, compared to 3.2 days in 2011
- The perinatal mortality rate was 5.8 per 1,000 live births and stillbirths (5.6 per 1,000 singleton births and 10.7 per 1,000 multiple births). This rate has fallen by 4.9% since 2011, when it was 6.1 per 1,000 live births and stillbirths.

Mothers, 2020

- 56,039 maternities were reported to NPRS in 2020, representing a 4.1 per cent decrease between 2019 and 2020
- The average age of mothers has increased from 31.2 years in 2011 to 32.6 years in 2020
- 39% of mothers were aged 35 years or older, up from 28% in 2011
- 27% of first births were to women aged 35 years or older, compared to 14% in 2011
- 2% of total mothers giving birth were aged under 20 years, this was also 2% in 2011
- 39% of mothers gave birth for the first time, with an average age for first time mothers of 30.9 years
- 2% of mothers had a multiple pregnancy
- 61% of mothers recorded any breastfeeding compared to 55% in 2011
- 45% of mothers exclusively breastfed in 2020
- 51% of women having a singleton live birth delivered spontaneously, while deliveries by Caesarean section accounted for 35%, 3% were delivered using forceps and 11% via vacuum extractions
- 21% of women having a multiple live birth delivered spontaneously, while deliveries by Caesarean section accounted for 71%, 2% were delivered using forceps and 4% via vacuum extractions
- For women having a singleton live birth, 59% had a postnatal length of stay of 2 days or less and 38% had a postnatal length of stay of 3-5 days
- For women having a multiple live birth, 14% had a postnatal length of stay of 2 days or less and 76% had a postnatal length of stay of 3-5 days
- 24% of births in 2020 were to mothers born outside Ireland.

SECTION ONE

INTRODUCTION

INTRODUCTION

The National Perinatal Reporting System (NPRS) is the principal source of national data on perinatal events. Since the 1st January 2014, the Healthcare Pricing Office (HPO) has overseen the administration and management of this system. The HPO is responsible for overseeing all functions associated with the operation of the NPRS database, including the development and support of the data collection, processing, management, reporting, and responding to requests for information on all births nationally.¹ This reporting system is a valuable resource for informing policy and service planning. The analysis presented in this report is based on data collected from Part 3 of the Birth Notification Form (BNF01) which is used to notify local registrars of all live births and stillbirths occurring in Ireland (see Appendix B).

PURPOSE OF THIS REPORT

The principal aim of this report is to present national statistics on perinatal events for the year 2020.² In so doing, the report aims to:

- describe the fundamental social and biological characteristics of mothers and their babies
- report on pregnancy outcomes with particular reference to perinatal mortality
- highlight important aspects of perinatal care
- stimulate a wider interest in research in the area of perinatal epidemiology
- promote a general recognition of the importance of having an accurate and complete perinatal reporting system at a national level.

STRUCTURE OF THIS REPORT

SECTION ONE provides background information relating to the NPRS system, explains conventions used in the report, and provides details relating to the data elements collected in the system.

SECTION TWO contains summary data on selected variables over the past decade and trends in international comparisons, where available.

SECTION THREE contains tables relating to the following variables: maternal age, civil status, socio-economic group of mother and father (derived from collection of data on occupation), nationality of mother and father, maternal parity, distribution of previous stillbirths, interval since last birth, birthweight, gestational age, and month of birth.

¹ The NPRS was established in the 1980's and was managed in the Department of Health. From 1999 to 2013 the Economic and Social Research Institute (ESRI) oversaw the administration and management of the NPRS on behalf of the Department of Health (DoH) and the Health Service Executive (HSE).

² Previous reports in this series can be downloaded from www.hpo.ie.

SECTION FOUR presents tables relating to variables which fall more naturally into the category of the use of health care facilities and deals in particular with the following: type of antenatal care received, timing of first antenatal visit, length of mother's antenatal and postnatal stay, whether hospital admission was booked or not, mother's immunity to rubella, method of delivery, classification of outcome according to size of maternity unit, transfer of infants between hospitals, length of infant's hospital stay, and type of feeding.

SECTION FIVE deals with perinatal outcomes in detail, examining perinatal deaths by birthweight and gestational age, with particular focus on cause of death. In this section, tables are presented on the following variables: numbers of antepartum and intrapartum stillbirths and early neonatal deaths by birthweight groups and gestational age, numbers and rates for cause of death, age at death for early neonatal deaths, and percentages of stillbirths and early neonatal deaths undergoing post-mortem examinations.

APPENDICES include definitions, source data tables for figures, and other relevant information for use when reading the report. Appendix H deals with domiciliary births, including trends from 2011 to 2020. Appendix I includes data on method of delivery for primiparous and multiparous women for 2011 to 2020.

CONVENTIONS USED IN THIS REPORT

- In accordance with the World Health Organization (WHO) guidelines, only births weighing 500 grams or more are included in any analysis of NPRS data.^{3,4}
- Reporting of small numbers: The HPO does not report cells where the number of births (or maternities) reported to NPRS is five or fewer. The tables contained in this report have been suppressed in this manner by replacing such cells with ~. Where further suppression is necessary to ensure that cells with five or fewer births (or maternities) are not disclosed, the cell with the next lowest number of births (or maternities) has been replaced with *. Where cells have been suppressed, the associated percentage figures have been suppressed using ^.
- The majority of tables report total, singleton and multiple births alongside the number of maternities, where applicable. Other tables report total maternities by primiparous and multiparous women for selected variables (see Appendix A for definitions).
- Unless otherwise stated, discussion on total births in this report includes live births and stillbirths for singleton and multiple births.
- Caution should be exercised when interpreting rates based on small numbers. *Rates based on 20 observations or fewer are distinguished by italic type as a warning to the user that their reliability as a measure may be affected by the small number of observations.* For further information on calculation of rates see Appendix A.

³ See www.who.int/classifications/icd/ICD-10_2nd_ed_volume2.pdf ; pg 96, 5.7.2. Reporting Criteria

⁴ The National Perinatal Epidemiology Centre (NPEC) also publish a report on perinatal mortality in Ireland. Data published in this report are collected as a national audit on perinatal mortality based on data collected from 19 maternity units using a standardised perinatal death notification form. The NPEC report on perinatal deaths based on the criteria of at least 500g birthweight and/or at least 24 weeks gestation as well as WHO guidelines of ≥500g birthweight, irrespective of gestation. See <https://www.ucc.ie/en/npec/> for further details.

- In contrast to reports from 2012-2017, the category of 'Not Stated' (values reported by hospitals when information is not available) is only presented in data tables when there are more than five cases reported in this category. This is to avoid unnecessary suppression in the tables. 'Not Stated' values are excluded in the compilation of the figures.
- Deliveries under hospital schemes (such as domino, early transfer home, planned community midwives, and midwifery-led units) are treated as hospital births as the current birth notification form does not differentiate between different hospital schemes.
- Father's details are only required for registration purposes where mother's civil status is recorded as 'married'. As a result, there is a proportion of records for which information is incomplete, these are assigned to the category 'not applicable'. This category is combined with 'not stated' for the purposes of presenting data on father's socio-economic group⁵ and father's nationality in this report.

BIRTH NOTIFICATION AND REGISTRATION

Births are notified and registered on a standard four-part Birth Notification Form (BNF01)/electronic record which are used to notify local registrars of all live births and stillbirths occurring in Ireland. The third part of this form has all identifying information removed and is sent to the HPO (see Appendix B). Figure 1.1 provides a diagrammatic representation of the information system around the registration of births and data collection by the NPRS. All the tables and rates in this report are based on data contained in the third part of the standard form submitted to NPRS at the HPO.

The link between the Birth Notification Form and the birth registration process for the General Register Office (GRO) ensures complete coverage of all births for the NPRS. The number of total births included in the NPRS are based on the data collected by the NPRS via part 3 of the Birth Notification Form (BNF01).

It should be noted that notification of birth differs to registration of birth. While the *Civil Registration Act 2004* outlines the duty of persons attending each birth to notify the local registrar of a stillbirth or live birth, it is not a legal requirement of the parents/guardians to register stillbirths. Therefore, the GRO, and subsequently the Central Statistics Office, publish data on registered births and perinatal deaths only. This may result in differences in the number of births and perinatal deaths reported here compared to official CSO publications.⁶

⁵ In NPRS reports prior to 2012 data on mother's and father's socio-economic group were reported as occupation, however, in this report these data are reported as socio-economic group. The classification for grouping occupations into socio-economic groups used in this and previous reports has not changed. For further details see Appendix C Classification of socio-economic group.

⁶ During 2021, a NPRS Governance Group was established. This group provides strategic guidance and support to the HPO, HSE, hospitals and midwives, the Department of Health and other key stakeholders in the operation and development of the NPRS and BNF. The terms of reference for this group include support and development of the NPRS and BNF, and communication, collaboration and support between data collectors on variables and collection of data via the birth notification process.

FIGURE 1.1

National Perinatal Reporting System, Data Collection



Notes: CSO denotes Central Statistics Office. GRO denotes General Register Office. HSE denotes Health Service Executive.

NATIONAL MINIMUM DATA SET

The NPRS data set provides a national minimum data set, which is intended to serve as a basis for the analysis of key indicators over time. The data collected by the NPRS can be grouped logically into demographic, clinical, and administrative data as follows:

DEMOGRAPHIC DATA

- Date of infant's birth
- Sex of infant
- Date of father's birth, father's county and country of residence, father's occupation, father's nationality (since 2004)
- Date of mother's birth, mother's county and country of residence, mother's occupation, mother's nationality (since 2004)
- Civil status of mother and date of present marriage/civil partnership, if applicable

CLINICAL DATA

- Infant's birthweight, period of gestation, mother's obstetric history (including parity)
- Multiple birth indicator
- Autopsy indicator
- Whether stillbirth occurred before or during labour
- Main cause of death and one secondary cause of death for infant
- Maternal immunity to rubella
- Method of delivery
- Infant's BCG vaccination
- Main maternal disease or condition and one secondary maternal disease or condition affecting the infant or foetus
- Main disease or congenital malformation and one secondary disease or congenital malformation affecting the infant or foetus

ADMINISTRATIVE DATA

- Hospital number, case number (unique to hospital of birth)
- Type of birth indicator, place of birth
- Date of last birth (live birth or stillbirth)
- Type of death indicator, place of death
- Type of antenatal care received, dates of first visits to doctor and hospital during pregnancy
- Type of feeding
- Pre-booked admission indicator, dates of mother's admission and discharge, date of infant's discharge
- Infant transfer indicator for medical reasons, identification code for hospital to which infant was transferred.

DATA COLLECTION AND QUALITY

The NPRS team at the HPO carry out extensive validation directly with each maternity unit and self employed community midwives (SECMs) to confirm the total number of births, including perinatal deaths, occurring in each maternity unit/SECM each year.

With the objective of preserving confidentiality, each birth is recorded using case reference numbers unique to each hospital/maternity unit. Missing records can be identified using this unique case reference number system. Where a record is found to be missing, a request is made to the hospital/maternity unit to provide the birth notification form for any missing records. Similarly, self employed community midwives (SECMs) are requested to submit an annual summary of all births attended for a specified year, which is cross-checked against the birth notification forms received. The Maternal and Newborn Clinical Management System (MN-CMS) (see below) has been introduced into four sites and uses a national numbering system. The HPO crosscheck these numbers with the sites to ensure accuracy and completeness.

The Software Development Team at the HPO has developed a custom-designed data entry and validation software system for NPRS data for use within the HPO. Data are received, either in electronic or paper format, from the hospitals/SECMs and processed using the NPRS data system. Quality checks include the application of a comprehensive series of edits, which are built into this software system to check for completeness, validity, logic, and coding errors. If problems are identified, clarification can be sought from the hospital or midwife and corrections can be made at the point of data entry. This data validation process is continually reviewed and new checks are incorporated based on data quality activities and research. The completeness of each record is dependent on the commitment of those persons responsible for notification and registration of the births in each hospital/maternity unit throughout the country and on each SECM.

Recommendations from the Chief Medical Officer's Report into perinatal deaths in Midland Regional Hospital Portlaoise⁷ include the consolidation of national data reported on perinatal events. The National Perinatal Epidemiology Centre (NPEC) conducts clinical audit on perinatal deaths, collecting data on perinatal deaths only. The NPRS is a national data collection system and collects data on total births (including live births, stillbirths and early neonatal deaths).

In collaboration with the NPEC in University College Cork, the HPO undertook extensive reconciliation of the data reported for 2020 to both reporting systems. As a result of this data reconciliation exercise, the data reported on perinatal deaths for 2020 (NPRS), based on the World Health Organization (WHO) guidelines, is reconciled to the data reported by NPEC (see also Conventions Used in this Report on page 3 and <https://www.ucc.ie/en/npec/>⁸ for further details). See Table 1.1.

⁷ Holohan, T. (2014) HSE Midland Regional Hospital, Portlaoise Perinatal Deaths (2006-date). Dublin: Department of Health. Available at: <http://www.lenus.ie/hse/bitstream/10147/313524/1/portlaoiseperinataldeaths.pdf>

⁸ The NPEC report on perinatal deaths based on the criteria of at least 500g birthweight and/or at least 24 weeks gestation as well as WHO guidelines of ≥500g birthweight, irrespective of gestation.

Adjusted perinatal deaths are presented throughout the report. These exclude deaths due to congenital anomalies. The NPRS dataset identified 100 deaths due to congenital anomalies in 2020.

TABLE 1.1

Total births, Stillbirths, Early Neonatal Deaths and Perinatal Deaths (≥ 500 grams only), NPRS and NPEC, 2020

	NPRS		NPEC	
	Number	Rate ^a	Number	Rate
Total births	57,064	-	-	-
Stillbirths	219	3.8	219	3.8
Early neonatal deaths	111	2.0	111	2.0
Perinatal deaths	330	5.8	330	5.8
Adjusted perinatal deaths ^b	230	4.0	194	3.4

Notes: a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. See Appendix A for further details on calculation of rates.

b 'Adjusted perinatal deaths' excludes deaths due to congenital anomalies. The NPRS is a notification system recording the numbers of perinatal deaths. Where a death occurs, the NPRS dataset collects 'cause of death' in a single field. The NPEC is a clinical audit of perinatal deaths and collects a wide range of data on each perinatal death, allowing for a much greater level of evidence as to 'cause of death'. For this reason, the NPRS dataset identified 100 deaths due to congenital anomalies while the NPEC clinical audit classified a greater number of deaths due to congenital anomalies.

CURRENT DEVELOPMENTS

NPRS GOVERNANCE GROUP

In April 2021 the first NPRS Governance Group meeting was held. The NPRS Governance group will provide strategic guidance and support to the HPO, HSE, hospitals and midwives, the Department of Health and other key stakeholders in the operation and development of the NPRS and BNF. This will ensure the provision of high quality, timely, relevant BNF data to Ireland's health information system.

This is also in line with *HIQA's Information management standards for national health and social care data collections* (HIQA 2017) which states in Standard 2:

"The managing organisation of the national health and social care data collection has effective governance, leadership and management arrangements in place, with clear lines of accountability to ensure that its objectives are met."

THE MATERNAL AND NEWBORN CLINICAL MANAGEMENT SYSTEM (MN-CMS)

The MN-CMS is a national initiative to design and implement an electronic health record for all women and babies in maternity services in Ireland. One of the key objectives of this system will be to develop informed business intelligence to facilitate local and national reports to be run and exported from the system.

It is planned that all parts of the BNF01 form will be generated from the MN-CMS system which will mark a significant change for the collection of data for the NPRS. The MN-CMS project team and the NPRS team at the HPO continue to test export files which will ultimately replace the need to complete the hard copy BNF01 form.

Four maternity units have gone live with the system (as of September 2022) with two of these units submitting data since December 2017 and January 2018. The NPRS are working closely with the MN-CMS to ensure more timely and accurate data transfers from the four current sites to the NPRS national system.⁹ Further phases of the project, which will include all 19 maternity units, are planned over the next number of years.

⁹ There have been some difficulties in capturing all of the data previously returned on the BNF01 form which has led to an increase in 'not stated' values for particular variables. This is being monitored by the HPO.

SECTION TWO

TIME TRENDS AND INTERNATIONAL COMPARISONS

INTRODUCTION

This section presents selected statistics, together with data on the following three key indicators:

- 1) perinatal mortality
- 2) birth rate
- 3) fertility.

At a national level, data presented here show how these parameters have changed over time.⁹ International comparisons allow the most recent statistics for Ireland to be compared with those for other European countries.^{10,11} The indicators for Ireland were calculated using data from the NPRS for the period 2011 to 2020.¹²

TRENDS IN SELECTED STATISTICS

Table 2.1 presents trends in selected statistics and shows the following:

- Since 2011 the trend in total births has been downward, decreasing from 74,377 in 2011 to 57,064 in 2020, a decline of 23.3 per cent over the decade.
- Mothers giving birth in Ireland in 2020, with an average age of 32.6 years, were on average 1.4 years older than those who gave birth in 2011 (31.2 years) and just slightly older than those giving birth in 2019 (average age 32.5 years).
- Over the decade 2011 to 2020, the proportion of mothers giving birth for the first time generally fell for those aged less than 30 years and increased for those aged 30 years or more.
- Births to primiparous women aged less than 20 years reduced from 5.2 per cent of births in 2011 to 3.3 per cent in 2020. Births to primiparous women aged 40 years and older increased from 3.0 per cent of births in 2011 to 5.2 per cent in 2020.
- Births to multiparous women aged 40 years and older increased from 6.5 per cent of births in 2011 to 10.1 per cent in 2020.
- The percentage of women recording any breastfeeding was 55.3 per cent in 2011, increasing to 61.4 per cent in 2020.
- The percentage of women exclusively breastfeeding has decreased from 47.0 per cent in 2011 to 44.5 per cent in 2020.
- The proportion of Irish mothers exclusively breastfeeding has increased by 1.7 per cent over the decade. The proportion of mothers from the UK, EU, Asia and Africa all showed a decrease in exclusive breastfeeding at discharge over the decade.

⁹ For reports from 2018 onwards, 'Not Stated' values are excluded in the compilation of the figures and are only presented in data tables when there are more than five cases reported in this category. As a result, caution should be exercised when comparing data used in discussion in this report with data used in discussion in Perinatal Statistics Reports prior to 2018.

¹⁰ As the EU expanded over this period caution should be exercised when interpreting these data. See Appendix F for a description of the classification system for nationality.

¹¹ As European comparisons on perinatal mortality rates were not available for 2020 for the majority of EU countries at time of publication of this report, it was not feasible to present comparisons on perinatal mortality rates for Ireland for 2020 data.

¹² Previous reports in this series can be downloaded from www.hpo.ie.

- Mothers' average length of stay in hospital has remained relatively stable over the decade and has decreased from 3.5 days in 2019 to 3.2 days in 2020.

Data on parents' nationality show the following:¹³

- The percentage of births to mothers born in Ireland has decreased slightly from 76.1 per cent of births in 2011 to 75.1 per cent of births in 2020, a decrease of 1.3 per cent over the time period.

Method of delivery is reported by total live births and by total maternities.

- For total live births the percentage of spontaneous deliveries fell from 55.8 per cent in 2011 to 49.9 per cent in 2020. The upward trend in delivery by Caesarean section continues with a rate of 35.8 per cent reported in 2020 compared with 28.1 per cent in 2011.
- For total maternities, the percentage of deliveries by Caesarean section has increased from 27.3 per cent in 2011 to 34.1 per cent in 2019 and is reported at 35.1 per cent in 2020. This represents an increase of 28.6 per cent over the decade.

Regarding infant characteristics, trends have been largely consistent over the decade 2011 to 2020.

- The average birthweight for total live births was 3,441.0 grams in 2020, which is broadly consistent with the preceding decade.
- The average birthweight for both singleton (3,478.8 grams) and multiple (2,429.2 grams) births has remained largely consistent over the decade.
- The percentage of total live births recording low birthweight (<2,500 grams) was 5.2 per cent in 2011 compared with 5.5 per cent in 2020.
- The percentage of total live births classified as high birthweight (4,500 grams or more) has decreased from 2.6 per cent in 2011 to 1.9 per cent in 2020.
- For total births, infant's average length of stay in hospital has remained consistent across the decade, decreasing slightly from 3.2 days in 2011 to 3.0 days in 2020.
- In 2020, infant's average length of stay in hospital was recorded as 2.8 days for singleton births and 8.3 days for multiple births.

¹³ Based on EU27 for 2007-2013 and EU28 for 2014-2020. As the EU expanded over this period caution should be exercised when interpreting these data. See Appendix F for a description of the classification system for nationality.

Trends in Selected Statistics, 2011–2020

Trends in Maternal and Child Health Indicators, 2011-2020																
				2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% Change		
														2011-2020	2019-2020	
Total Births		N		74,377	71,986	69,267	67,610	65,869	64,097	62,070	61,258	59,536	57,064	-23.3	-4.2	
Total Maternities		N		73,008	70,709	67,952	66,338	64,624	62,871	60,910	60,119	58,450	56,039	-23.2	-4.1	
Birth Rate ¹		Per 1,000 population		16.2	15.6	15.0	14.6	14.2	13.5	12.9	12.6	12.1	11.4	-29.6	-5.8	
Maternal Characteristics																
Age of mother (years) ^{2,3}			Avg	31.2	31.4	31.6	31.8	31.9	32.2	32.3	32.4	32.5	32.6	4.5	0.3	
Mother's Civil Status	Married	%		65.2	64.0	63.8	62.6	62.2	62.2	61.3	60.8	60.6	60.2	-7.7	-0.7	
		Single	%	33.2	34.3	34.7	35.8	36.4	36.4	37.3	37.8	38.0	38.5	16.0	1.3	
		All other	%	1.6	1.7	1.5	1.5	1.4	1.4	1.5	1.4	1.4	1.3	-37.5	-16.7	
Maternal parity ²			Avg	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.0	1.0	1.0	0.0	0.0	
Births to Primiparous Women by Maternal Age ²	Under 20 Years	%		5.2	5.1	4.7	4.3	4.3	4.1	4.0	3.6	3.3	3.3	-36.5	0.0	
		20-24 Years	%	15.5	15.3	14.8	14.1	14.1	13.5	13.6	13.2	13.0	12.4	12.4	-20.0	-4.6
		25-29 Years	%	27.5	26.1	24.5	23.5	22.6	21.8	20.9	20.9	20.9	20.5	20.4	-25.8	-0.5
		30-34 Years	%	34.7	35.6	36.3	36.9	36.8	37.3	36.3	36.3	36.4	36.7	37.1	6.9	1.1
		35-39 Years	%	14.1	14.8	16.2	17.4	18.1	19.1	20.6	21.0	21.0	21.4	21.6	53.2	0.9
40 Years and Older			%	3.0	3.2	3.5	3.8	4.0	4.3	4.7	5.0	5.1	5.2	73.3	2.0	
Births to Multiparous Women by Maternal Age ²	Under 20 Years	%		0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.0	33.3	
		20-24 Years	%	6.4	6.1	6.0	5.6	5.5	5.0	5.1	5.1	5.2	4.7	4.6	-28.1	-2.1
		25-29 Years	%	19.4	18.5	17.7	17.3	16.7	15.6	15.3	14.9	14.9	14.7	14.7	-24.2	0.0
		30-34 Years	%	37.0	36.8	37.0	36.5	35.7	35.3	34.3	32.9	32.9	32.7	32.6	-11.9	-0.3
		35-39 Years	%	30.2	31.1	31.8	32.7	34.1	35.5	36.7	37.5	38.1	37.6	37.6	24.5	-1.3
40 Years and Older			%	6.5	7.0	7.2	7.6	7.7	8.3	8.2	9.1	9.5	10.1	55.4	6.3	
Number of previous stillbirths per 1,000 maternities ²			Avg	11.9	9.7	10.9	10.8	9.5	10.2	9.5	10.0	9.4	9.3	-21.8	-1.1	
Gestational age at delivery (weeks) ²			Avg	39.3	39.3	39.3	39.2	39.2	39.2	39.1	39.0	39.0	39.0	-0.8	0.0	
Interval since last birth (years) ^{3,4}			Avg	3.3	3.3	3.4	3.4	3.4	3.5	3.5	3.5	3.6	3.5	6.1	-2.8	
Immunity to rubella ^{2,14}			%	94.3	94.3	94.2	93.4	92.9	91.5	90.9	89.7	89.6	89.6	-5.0	0.0	
Any breastfeeding ^{1,2,5,6}			%	55.3	55.4	55.9	57.0	58.0	59.9	59.8	60.4	60.9	61.4	11.0	0.8	
Exclusive breastfeeding ^{1,2,5}			%	47.0	46.9	46.6	46.6	48.0	49.8	48.6	47.3	45.9	44.5	-5.3	-3.1	
Exclusive breastfeeding by Mother's Nationality ^{1,2,5}	Irish	%		40.1	40.0	40.5	41.1	42.6	44.2	43.6	42.9	41.9	40.8	1.7	-2.6	
		UK	%	51.2	51.0	54.2	50.9	53.4	51.7	50.8	48.7	50.1	47.1	-8.0	-6.0	
		EU ⁷	%	76.9	77.5	75.3	74.4	73.7	74.2	72.6	68.5	65.3	62.4	-18.9	-4.4	
		Africa	%	51.3	51.6	47.4	45.3	45.8	50.6	50.0	44.5	46.0	45.1	-12.1	-2.0	
Asia			%	60.2	58.5	54.5	53.3	55.7	58.9	54.5	48.8	47.5	44.5	-26.1	-6.3	
Mother's length of stay (days) ^{1,2,8}			Avg	3.3	3.2	3.4	3.4	3.4	3.4	3.5	3.5	3.5	3.2	-3.0	-8.6	

TABLE 2.1 Trends in Selected Statistics, 2011–2020 (contd.)

		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% Change	
												2011–2020	2019–2020
Parents Nationality													
Mother's Nationality	Irish	%	76.1	76.0	77.1	77.8	77.5	76.3	76.9	75.5	76.2	75.1	-1.3
	UK	%	2.3	2.4	2.3	2.2	2.4	2.3	2.2	2.3	2.2	2.4	4.3
	EU ⁷	%	13.0	12.9	12.7	12.4	12.5	12.7	12.2	11.9	11.3	10.6	-18.5
	Africa	%	2.6	2.7	2.4	2.3	2.1	2.3	2.3	2.4	2.2	2.3	4.5
	Asia	%	4.0	4.0	3.4	3.2	3.2	3.7	3.4	4.1	4.2	4.9	22.5
Father's Nationality ⁹	Irish	%	59.4	57.5	57.1	56.0	58.2	58.8	59.1	56.0	51.7	49.0	-17.5
	UK	%	2.2	2.0	2.0	1.9	1.9	1.6	1.6	1.5	1.4	1.4	0.0
	EU ⁷	%	8.8	8.4	8.1	7.9	7.9	7.9	7.7	7.2	6.7	6.0	-31.8
	Africa	%	2.1	1.9	1.6	1.5	1.4	1.5	1.5	1.4	1.5	1.3	-38.1
	Asia	%	3.3	3.1	2.4	2.2	2.4	2.8	2.6	3.0	3.3	3.3	0.0
Perinatal Care													
Hospital & G.P. combined antenatal care ^{2,10}		%	77.3	77.3	79.5	80.9	81.9	81.9	81.3	82.6	85.4	87.2	12.8
Booked hospital admissions ^{2,8}		%	99.3	99.3	99.2	96.9	99.1	99.0	97.2	89.2	97.9	98.6	-0.7
Method of delivery ¹¹ Total live births ¹²	Spontaneous	%	55.8	55.6	55.1	54.2	53.5	52.2	52.5	51.3	51.2	49.9	-10.6
	Caesarean section	%	28.1	28.9	29.7	30.4	31.4	32.7	32.8	34.3	34.9	35.8	27.4
	Forceps ¹³	%	4.1	3.9	3.8	3.8	3.5	3.6	3.5	3.0	3.4	3.4	-17.1
Method of delivery ¹¹ Total maternities	Spontaneous	%	56.6	56.3	55.9	55.0	54.2	52.9	53.2	52.0	52.0	50.6	-10.6
	Caesarean section	%	27.3	28.1	28.9	29.5	30.6	31.9	32.0	33.6	34.1	35.1	28.6
	Forceps ¹³	%	4.1	3.9	3.9	3.8	3.5	3.6	3.6	3.1	3.4	3.4	-17.1
Infant Characteristics													
Birthweight (grams) ¹	Total births	Avg	3,467.0	3,464.0	3,452.4	3,448.8	3,446.9	3,444.5	3,442.6	3,435.6	3,437.5	3,441.0	-0.7
	Singleton births	Avg	3,505.0	3,502.0	3,493.2	3,488.5	3,487.2	3,485.2	3,482.4	3,473.8	3,474.8	3,478.8	-0.7
	Multiple births	Avg	2,464.6	2,420.2	2,411.7	2,428.6	2,412.2	2,415.3	2,412.4	2,434.1	2,445.6	2,429.2	-1.4
Low birthweight (<2500 grams) ¹	Total births	%	5.2	5.4	5.5	5.6	5.7	5.7	5.7	5.7	5.6	5.5	5.8
	Singleton births	%	3.6	3.8	3.8	3.9	3.9	3.9	4.0	4.1	4.0	3.9	8.3
	Multiple births	%	46.0	49.9	49.0	49.4	49.9	49.6	48.5	48.1	47.1	48.3	5.0
High birthweight (≥4500 grams) ¹	Total births	%	2.6	2.5	2.3	2.3	2.2	2.2	2.1	2.0	2.0	1.9	-26.9
	Total births	Avg	3.2	3.2	3.2	3.3	3.3	3.3	3.3	3.4	3.3	3.0	-6.3
	Singleton births	Avg	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.1	3.1	2.8	-6.7
Infant's length of stay (days) ^{15,8}	Multiple births	Avg	8.6	9.4	9.7	9.3	9.5	9.5	9.3	9.3	8.9	8.3	-3.5
Post-mortems for early neonatal deaths		%	24.8	27.3	35.2	31.6	37.8	31.5	36.1	35.6	36.2	41.4	66.9
													14.4

Notes: Percentages are subject to rounding. ¹ Based on live births. ² Based on maternities. ³ For reports from 2014 onwards the calculation of average number of years has been revised, therefore caution should be exercised when comparing this with data reported in previous publications. ⁴ Based on multiparous maternities. ⁵ Excludes early neonatal deaths. ⁶ Any breastfeeding includes type of feeding recorded as either 'breast or combined'. ⁷ Based on EU27 for 2007–2013 and EU28 for 2014–2020. As the EU expanded over this period caution should be exercised when interpreting these data. See also Appendix F. ⁸ Excludes domiciliary births. ⁹ Father's details are only required for registration purposes where mother's civil status is recorded as 'married'. As a result, there is a proportion of records for which information is incomplete, these are assigned to the category 'not applicable'. The data presented here, reports father's nationality where recorded, regardless of mother's civil status. ¹⁰ Deliveries under hospital schemes (such as domino, early transfer home, planned community midwives, and midwifery-led units) and domiciliary births were included in hospital and G.P. combined care. ¹¹ See also Appendix I 'Method of Delivery for Primiparous and Multiparous Women'. ¹² These figures were based on total live births, as each infant in a multiple pregnancy can have a different method of delivery. ¹³ Excludes breech deliveries. ¹⁴ In this table, the immunity to rubella percentage excludes two major hospitals in 2018 in which there were known technical issues with the data on the immune status of the mother. As it was not possible to accurately identify the rubella status in these hospitals, they have been excluded from the 2018 figures.

SINGLETON AND MULTIPLE BIRTHS

Table 2.2 shows the numbers of singleton and multiple births each year for the period 2011 to 2020.

- Of the 57,064 births presented in this report for 2020, 55,009 were singleton births, 2,016 were twin births and 39 were higher-order multiple births.¹⁴
- The twinning rate was 18.0 per 1,000 maternities in 2020; this represents a decrease of 0.6 per cent over the decade and an increase of 1.1 per cent between 2019 and 2020.

TABLE 2.2
Singleton and Multiple Births, 2011–2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% Change	
											2010-2020	2018-2020
Singleton births	71,651	69,452	66,650	65,070	63,384	61,655	59,749	58,996	57,377	55,009	-23.2	-4.1
Twin births	2,638	2,435	2,526	2,461	2,390	2,363	2,273	2,174	2,083	2,016	-23.6	-3.2
Higher-order multiple births	88	99	91	79	95	79	48	88	76	39	-55.7	-48.7
Twinning rate (per 1,000 maternities)	18.1	17.2	18.6	18.5	18.5	18.8	18.7	18.1	17.8	18.0	-0.6	1.1

Notes: Percentage columns are subject to rounding.
See Appendix A for details on calculation of twinning rate.
This table includes live births and stillbirths.

The numbers and rates of stillbirths, early neonatal deaths and perinatal deaths for singleton and multiple births between 2011 and 2020 are presented in Table 2.3.¹⁵

- Over the decade, higher mortality rates are observed for multiple births when compared to singleton births.
- The total perinatal mortality rate for singleton births was recorded at 5.6 in both 2011 and 2020.
- The total perinatal mortality rate for multiple births was recorded at 10.7 in 2020, compared to 17.6 per 1,000 live births and stillbirths in 2011.
- For 2020 the stillbirth mortality rate was recorded at 3.8 per 1,000 live births and stillbirths.
- The early neonatal mortality rate for 2020 was recorded at 2.0 per 1,000 live births.

¹⁴ In accordance with the World Health Organization (WHO) guidelines, only births weighing 500 grams or more are included in any analysis of NPRS data. In 2020, there were 55,082 singleton births, 2,038 twin births, 36 triplets, 4 quadruplets and 5 quintuplets reported to the NPRS; of these, 99 births weighed less than 500 grams (including 71 singleton births and 28 multiple births) and so were excluded from the analysis.

¹⁵ The number of Perinatal deaths (stillbirths and early neonatal deaths) presented here are based on the data collected by the NPRS via part 3 of the Birth Notification Form (BNF01). It should be noted that notification of birth differs to registration of birth. While the *Civil Registration Act 2004* outlines the duty of persons attending each birth to notify the local registrar of a stillbirth or live birth, it is not a legal requirement of the parents/guardians to register stillbirths. The NPRS carry out extensive validation directly with each maternity unit and self employed community midwives (SECMs) to confirm the total number of births, including Perinatal deaths, occurring in each maternity unit/SECM each year. Therefore, the GRO, and subsequently the CSO, publish data on registered births and Perinatal deaths only. This may result in differences in the number of Perinatal deaths reported here compared to official CSO publications. Caution should be exercised when analysing data on Perinatal deaths reported or collected from other data systems as these may not be comparable with data reported here.

The National Perinatal Epidemiology Centre (NPEC) also publish a report on perinatal mortality in Ireland. Data published in this report are collected as a national audit on perinatal mortality based on data collected from 19 maternity units using a standardised perinatal death notification form. The NPEC report on perinatal deaths based on the criteria of at least 500g birthweight and/or at least 24 weeks gestation. See <https://www.ucc.ie/en/npec/> for further details.

TABLE 2.3

Live Births, Stillbirths, Early Neonatal Deaths and Perinatal Deaths, Numbers and Rates, Singleton and Multiple Births, 2011–2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% Change	
	Number of Births and Perinatal Deaths										2011-2020	2019-2020
Total Births	74,377	71,986	69,267	67,610	65,869	64,097	62,070	61,258	59,536	57,064	-23.3	-4.2
Singleton	71,651	69,452	66,650	65,070	63,384	61,655	59,749	58,996	57,377	55,009	-23.2	-4.1
Multiple	2,726	2,534	2,617	2,540	2,485	2,442	2,321	2,262	2,159	2,055	-24.6	-4.8
Live Births	74,080	71,705	68,990	67,324	65,607	63,870	61,854	61,061	59,313	56,845	-23.3	-4.2
Singleton	71,375	69,188	66,386	64,803	63,151	61,440	59,549	58,813	57,164	54,799	-23.2	-4.1
Multiple	2,705	2,517	2,604	2,521	2,456	2,430	2,305	2,248	2,149	2,046	-24.4	-4.8
Stillbirths	297	281	277	286	262	227	216	197	223	219	-26.3	-1.8
Singleton	276	264	264	267	233	215	200	183	213	210	-23.9	-1.4
Multiple	21	17	13	19	29	12	16	14	10	9	-57.1	-10.0
Early Neonatal Deaths	153	143	159	136	164	124	108	104	116	111	-27.5	-4.3
Singleton	126	122	133	117	137	108	87	83	97	98	-22.2	1.0
Multiple	27	21	26	19	27	16	21	21	19	13	-51.9	-31.6
Perinatal Deaths	450	424	436	422	426	351	324	301	339	330	-26.7	-2.7
Singleton	402	386	397	384	370	323	287	266	310	308	-23.4	-0.6
Multiple	48	38	39	38	56	28	37	35	29	22	-54.2	-24.1
	Rates ^a											
Stillbirths	4.0	3.9	4.0	4.2	4.0	3.5	3.5	3.2	3.7	3.8	-5.0	2.7
Singleton	3.9	3.8	4.0	4.1	3.7	3.5	3.3	3.1	3.7	3.8	-2.6	2.7
Multiple	7.7	6.7	5.0	7.5	11.7	4.9	6.9	6.2	4.6	4.4	-42.9	-4.3
Early Neonatal Deaths	2.1	2.0	2.3	2.0	2.5	1.9	1.7	1.7	2.0	2.0	-4.8	0.0
Singleton	1.8	1.8	2.0	1.8	2.2	1.8	1.5	1.4	1.7	1.8	0.0	5.9
Multiple	10.0	8.3	10.0	7.5	11.0	6.6	9.1	9.3	8.8	6.4	-36.0	-27.3
Perinatal Deaths	6.1	5.9	6.3	6.2	6.5	5.5	5.2	4.9	5.7	5.8	-4.9	1.8
Singleton	5.6	5.6	6.0	5.9	5.8	5.2	4.8	4.5	5.4	5.6	0.0	3.7
Multiple	17.6	15.0	14.9	15.0	22.5	11.5	15.9	15.5	13.4	10.7	-39.2	-20.1

Notes: Percentage columns are subject to rounding.

- a Rates are calculated per 1,000 births. For stillbirths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

PERINATAL MORTALITY

Despite improvements in reducing perinatal mortality in recent decades, the perinatal period continues to be a time of relatively high risk.¹⁶ Stillbirths accounted for 66.4 per cent of perinatal deaths in 2020.^{17,18} Table 2.4 presents the numbers and rates for total births and perinatal deaths for Ireland from 2011 to 2020.

- In 2020 approximately 1 in every 261 births was stillborn and 1 in every 512 live births died in the first week of life.
- Over the decade, the perinatal mortality rate has fallen from 6.1 per 1,000 live births and stillbirths in 2011 to 5.8 per 1,000 live births and stillbirths in 2020. This represents a 4.9 per cent decrease over the decade. Despite a decrease over the decade, the perinatal mortality rate has increased slightly by 1.8 per cent from 2019 to 2020.
- The stillbirth rate has declined over the period from 4.0 per 1,000 live births and stillbirths in 2011 to 3.8 per 1,000 live births and stillbirths in 2020, a decline of 5.0 per cent over the decade.
- The early neonatal mortality rate has also declined from 2.1 per 1,000 live births in 2011 to 2.0 per 1,000 live births in 2020, a decline of 4.8 per cent over the decade (see Figure 2.1).

TABLE 2.4

Live Births, Stillbirths, Early Neonatal Deaths, and Perinatal Deaths, 2011–2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% Change	
	Number of Births and Perinatal Deaths										2011– 2020	2019– 2020
Total Births	74,377	71,986	69,267	67,610	65,869	64,097	62,070	61,258	59,536	57,064	-23.3	-4.2
Live Births	74,080	71,705	68,990	67,324	65,607	63,870	61,854	61,061	59,313	56,845	-23.3	-4.2
Stillbirths	297	281	277	286	262	227	216	197	223	219	-26.3	-1.8
Early Neonatal Deaths	153	143	159	136	164	124	108	104	116	111	-27.5	-4.3
Perinatal Deaths	450	424	436	422	426	351	324	301	339	330	-26.7	-2.7
Adjusted Perinatal Deaths	308	309	297	304	287	234	217	204	234	230	-25.3	-1.7
	Rates ^a											
Stillbirth	4.0	3.9	4.0	4.2	4.0	3.5	3.5	3.2	3.7	3.8	-5.0	2.7
Early Neonatal Deaths	2.1	2.0	2.3	2.0	2.5	1.9	1.7	1.7	2.0	2.0	-4.8	0.0
Perinatal Mortality	6.1	5.9	6.3	6.2	6.5	5.5	5.2	4.9	5.7	5.8	-4.9	1.8
Adjusted Perinatal Mortality	4.1	4.3	4.3	4.5	4.4	3.7	3.5	3.3	3.9	4.0	-2.4	2.6

Notes: Percentage columns are subject to rounding.

- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. For numbers and rates by singleton and multiple births see Section Two 'Singleton and Multiple Births'.

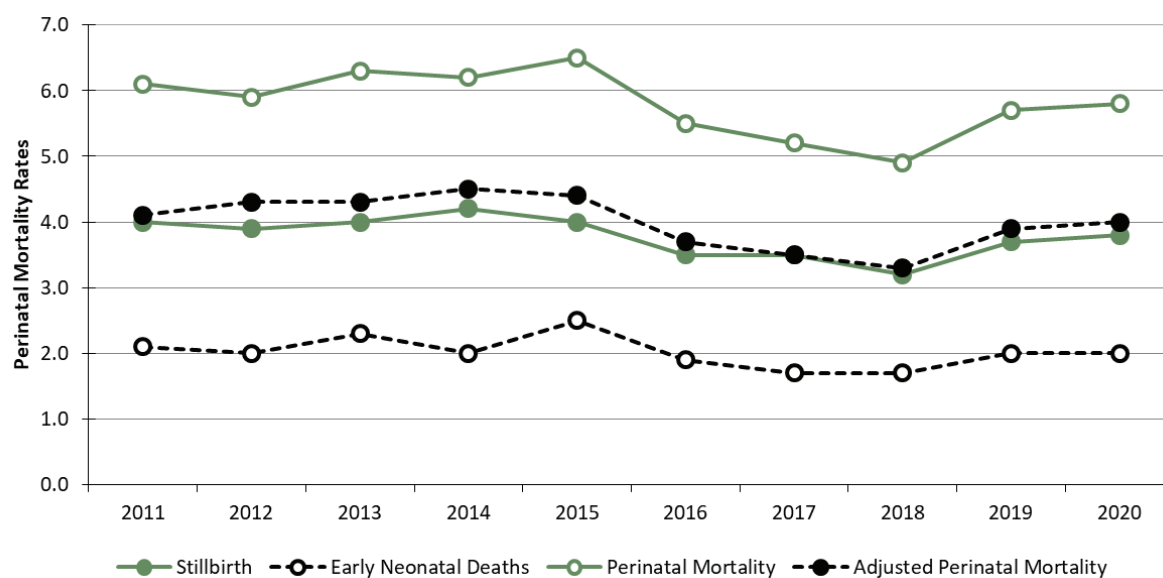
¹⁶ EURO-PERISTAT Project with SCPE and EUROCAT. *European Perinatal Health Report. The health and care of pregnant women and babies in Europe in 2010*. May 2013. Available at www.europeristat.com

¹⁷ Details on rate calculations are in Appendix A.

¹⁸ Section 5 of this report focuses on perinatal outcomes in more detail, examining perinatal deaths by birthweight and gestational age, with particular focus on cause of death.

FIGURE 2.1

Stillbirth, Early Neonatal and Perinatal Mortality Rates, Ireland, 2011–2020



Note: See Table 2.4 for data.

As European comparisons on perinatal mortality rates were not available for 2020 for the majority of EU countries at time of publication of this report, it was not feasible to present comparisons on perinatal mortality rates for Ireland for 2020 data.¹⁹

¹⁹ For the most recent available comparisons of perinatal rates (includes 2019 data) please see Perinatal Statistics Report 2019 which is available at www.hpo.ie

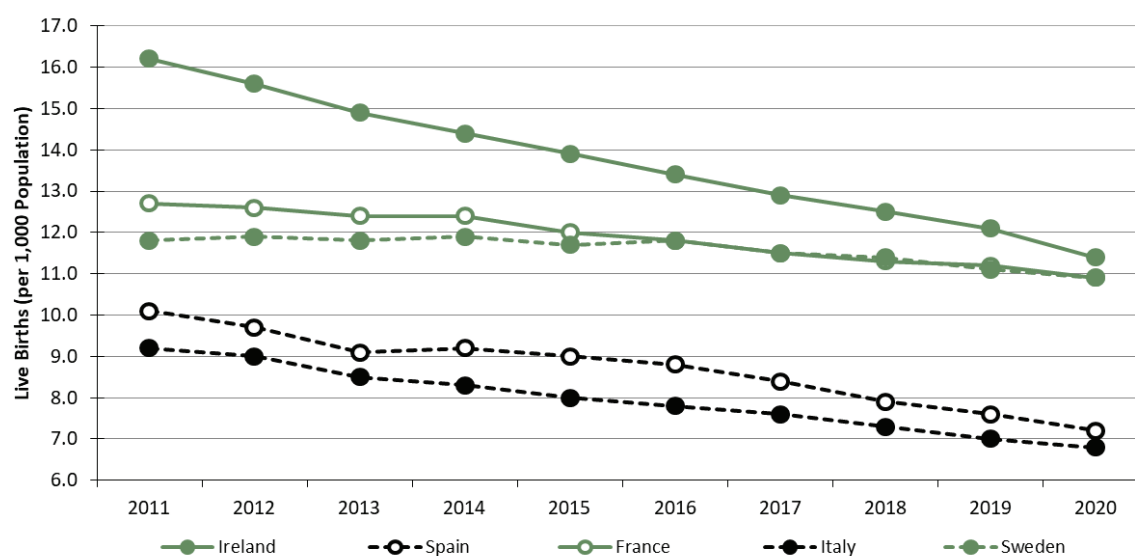
BIRTH RATES²⁰

The birth rate is based on the total number of live births per 1,000 population.²¹ Figure 2.2 presents trends in birth rates for selected EU countries over the decade 2011 to 2020. Figure 2.3 presents birth rates in 27 EU countries²² for 2020.

- The birth rate for Ireland has declined from a high of 16.2 per 1,000 population in 2011 to 11.4 per 1,000 population in 2020 (see Figure 2.2).
- Of the countries reviewed, Ireland has consistently had the highest birth rate over the period (see Figure 2.3).²³
- After Ireland, of the countries reviewed, the next highest birth rates in 2020 are reported in Cyprus (11.1), followed by France (10.9) and Sweden (10.9).
- In 2020, based on the EU countries, Italy had the lowest birth rate (6.8), followed by Spain (7.2) (see Figure 2.3).

FIGURE 2.2

Trends in Birth Rates for Selected EU Countries, 2011–2020



Sources: 'Population and social conditions', Eurostat, Data Navigation Tree, date consulted July 2022.

<http://ec.europa.eu/eurostat/data/database>

Data for Ireland are based on NPRS data on live births from 2011 onwards. The population estimates used in the denominator of the birth rate were calculated by the CSO Statistical Databases, date consulted July 2022.

www.data.cso.ie (PEA11 table)

²⁰ It should be noted that the birth rate (or crude birth rate) could rise or fall depending on the numbers of women in the age cohorts from 15 to 49 years old. Changes in the birth rate often mask underlying trends in fertility.

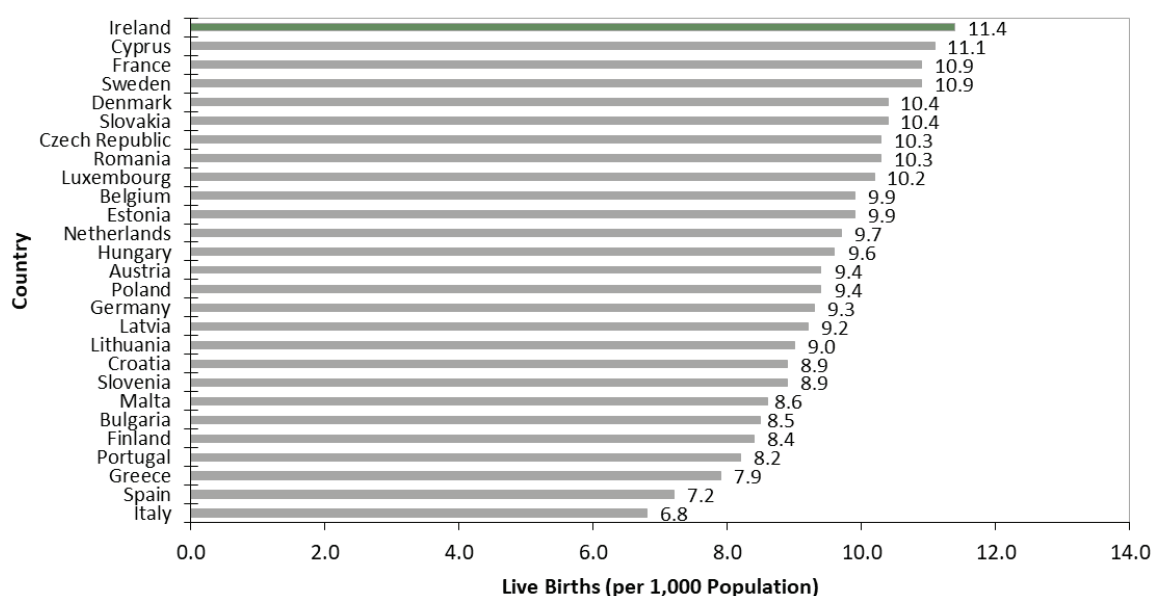
²¹ The population estimates used in the denominator of the birth rate were calculated by the CSO Statistical Databases, date consulted July 2022.

www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA11&PLanguage=0

²² Data for the United Kingdom is not presented in Figure 2.3 as data on TPFs was not available for 2020 as of July 2022.

²³ The CSO estimates the Irish birth rate at 11.2 per 1,000 population for 2020. See Vital Statistics, Yearly Summary 2020, May 2021 <https://www.cso.ie/en/releasesandpublications/ep/p-vs/vitalstatisticsyearlysummary2020/> CSO data are based on the number of births registered within the year as opposed to births occurring in the year.

FIGURE 2.3
Birth Rates per 1,000 Population for EU Countries, 2020



Sources: 'Population and social conditions', Eurostat, Data Navigation Tree, date consulted July 2022.

<http://ec.europa.eu/eurostat/data/database>

Data for the United Kingdom is not presented in this table as data on birth rates was not available for 2020 as of July 2022.

Data for Ireland are based on NPRS data on live births. The population estimates used in the denominator of the birth rate were calculated by the CSO Statistical Databases, date consulted July 2022. www.data.cso.ie (PEA11 table).

FERTILITY

The Total Period Fertility Rate (TPFR) for a given year indicates the number of children a woman could expect to have if the Age-Specific Fertility Rates (ASFR) for that year applied throughout her fertile years.²⁴ The ASFR refers to the number of live births to women in a particular age group per 1,000 women. Figure 2.4 displays the trend in the ASFR and TPFR in Ireland from 2011–2020.

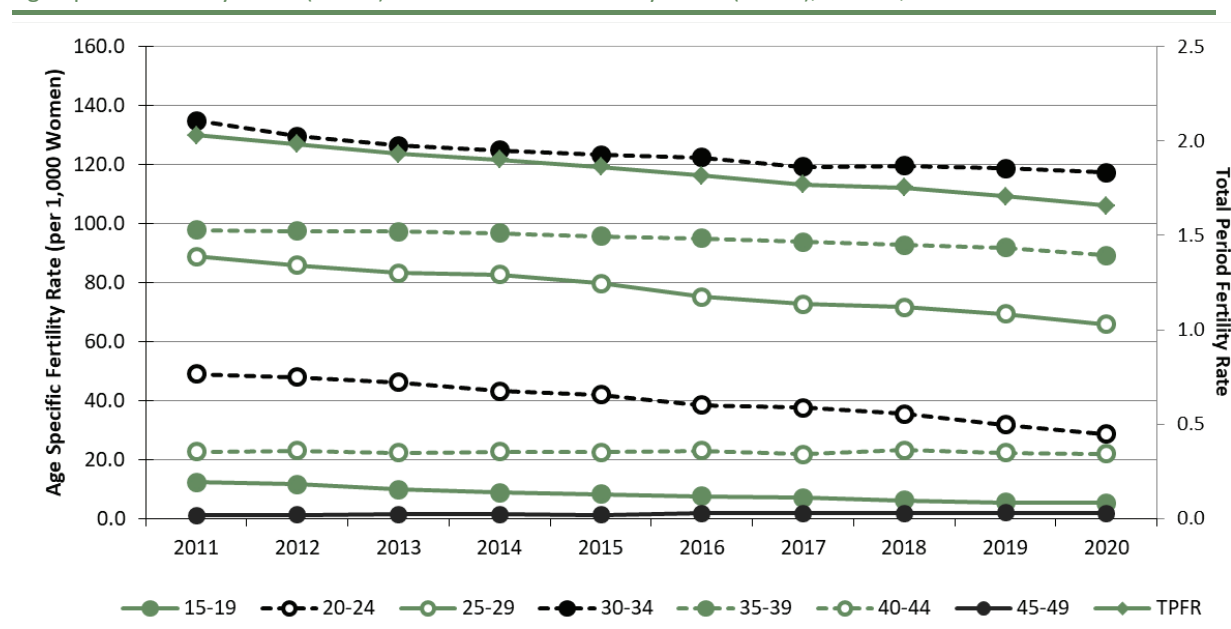
- The Irish TPFR was recorded at a high of 2.0 in 2011 and is estimated at 1.7 in 2020.²⁵
- Over the decade 2011–2020, the ASFRs for age groups under 40 years have mostly declined, while the 40 years and over age groups mainly recorded higher ASFRs over the decade.
- In all years, the 30–34 year age group recorded the highest ASFR when compared to other age groups. Apart from a slight increase seen in 2018, the ASFR has been declining in this age group over the decade.

²⁴ See Appendix A, definitions for calculation of TPFR and ASFR.

²⁵ The CSO estimates the TPFR at 1.6 for 2020. See Vital Statistics, Yearly Summary 2020, May 2021. CSO 2020 data are based on the number of births registered within the year as opposed to births occurring in the year.

FIGURE 2.4

Age-Specific Fertility Rates (ASFRs) and Total Period Fertility Rates (TPFRs), Ireland, 2011–2020



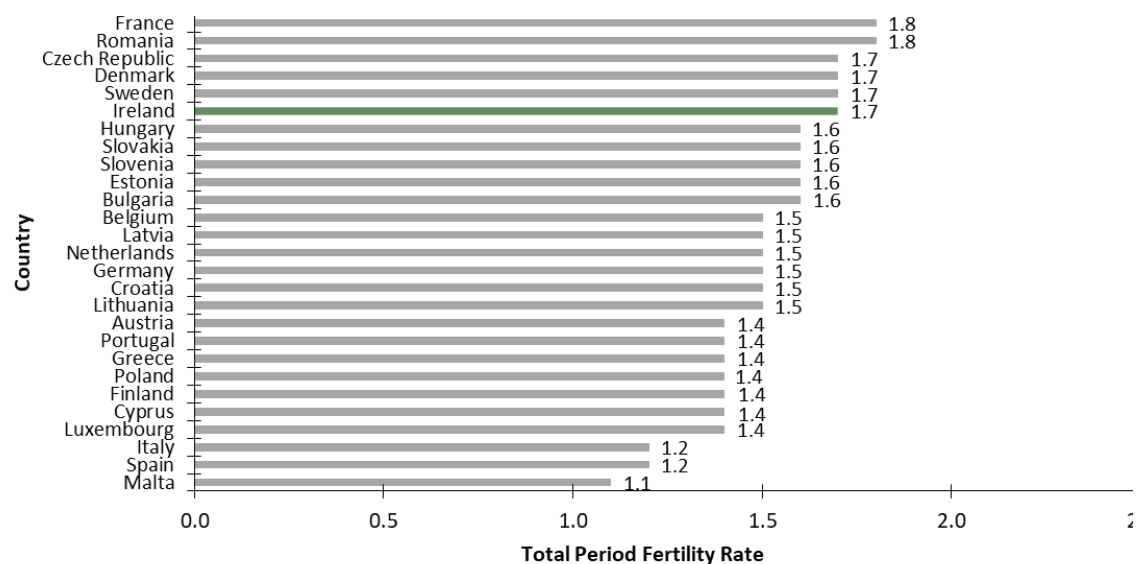
Sources: Total period fertility rates (TPFRs) and age-specific fertility rates (ASFRs) are calculated using NPRS data from 2011 onwards. Female population estimates from 2011 onwards were obtained from the CSO Statistical Databases, date consulted July 2022. www.data.cso.ie (PEA11 table).

The TPFR for Ireland is based on population data for 2020, and at 1.7 is below the level required for the long-term replacement of the population in the absence of any net inward migration (2.1).²⁶ Figure 2.5 presents data on TPFRs for 2020 using data from Eurostat and the NPRS.

- At 1.8, France and Romania recorded the highest TPFRs in the EU, followed by the Czech Republic, Denmark, Sweden and Ireland which each reported a TPFR of 1.7.

FIGURE 2.5

Total Period Fertility Rates for EU Countries, 2020



Sources: 'Population and Social Conditions', Eurostat, Data Navigation Tree, date consulted July 2022.

<http://ec.europa.eu/eurostat/data/database>

Data for the United Kingdom is not presented in this table as data on TPFs was not available for 2020 as of July 2022.

*Data for Ireland are based on NPRS data on live births. Female population estimates for 2020 were obtained from the CSO Statistical Databases, date consulted July 2022.

www.data.cso.ie (PEA01 table).

SECTION THREE

GENERAL CHARACTERISTICS

INTRODUCTION

This section presents more detailed analyses of data reported to the NPRS for 2020.

Data for a selection of variables are presented including:

- mother's age, civil status, county of residence, socio-economic group, nationality, parity, number of previous stillbirths, and interval since last birth
- father's socio-economic group and nationality
- infant's birthweight, gestational age, and month of birth.

For selected variables, the tables outline data for total births, live births, stillbirths, early neonatal deaths and perinatal mortality rates, as well as presenting the number of maternities.

MATERNAL AGE

Table 3.1 presents data on maternal age.

- In 2020, the highest percentage of total births were to women aged 30 to 34 years (34.3 per cent).
- Over 38 per cent of multiple births were to mothers aged 35 to 39 years.

TABLE 3.1

Age of Mother: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Under 20 Years	865	1.5	860	5.8	1.2	6.9	4.6	857
20-24 Years	4,346	7.6	4,330	3.7	2.1	5.8	3.0	4,301
25-29 Years	9,590	16.8	9,545	4.7	1.6	6.3	4.6	9,483
30-34 Years	19,598	34.3	19,529	3.5	1.5	5.1	3.8	19,264
35-39 Years	17,932	31.4	17,869	3.5	2.1	5.6	3.9	17,543
40-44 Years	4,390	7.7	4,370	4.6	3.9	8.4	5.5	4,274
45 Years and Over	342	0.6	341	2.9	5.9	8.8	-	316
Total	57,063	100	56,844	3.8	2.0	5.8	4.0	56,038
Singleton Births								
Under 20 Years	849	1.5	844	5.9	1.2	7.1	4.7	849
20-24 Years	4,254	7.7	4,238	3.8	1.9	5.6	3.1	4,254
25-29 Years	9,374	17.0	9,330	4.7	1.5	6.2	4.7	9,374
30-34 Years	18,936	34.4	18,870	3.5	1.5	5.0	3.7	18,936
35-39 Years	17,148	31.2	17,089	3.4	1.9	5.3	3.6	17,148
40-44 Years	4,158	7.6	4,139	4.6	3.4	7.9	5.3	4,158
45 Years and Over	289	0.5	288	3.5	3.5	6.9	-	289
Total	55,008	100	54,798	3.8	1.8	5.6	3.9	55,008
Multiple Births								
Under 20 Years	16	0.8	16	-	-	-	-	8
20-24 Years	92	4.5	92	0.0	10.9	10.9	0.0	47
25-29 Years	216	10.5	215	4.6	4.7	9.3	-	109
30-34 Years	662	32.2	659	4.5	3.0	7.6	7.6	328
35-39 Years	784	38.2	780	5.1	6.4	11.5	11.5	395
40-44 Years	232	11.3	231	4.3	13.0	17.2	8.7	116
45 Years and Over	53	2.6	53	-	18.9	18.9	-	27
Total	2,055	100	2,046	4.4	6.4	10.7	7.8	1,030

Notes: Percentage column is subject to rounding.

There were five or fewer births to mothers with unknown maternal age; these were excluded from this table.

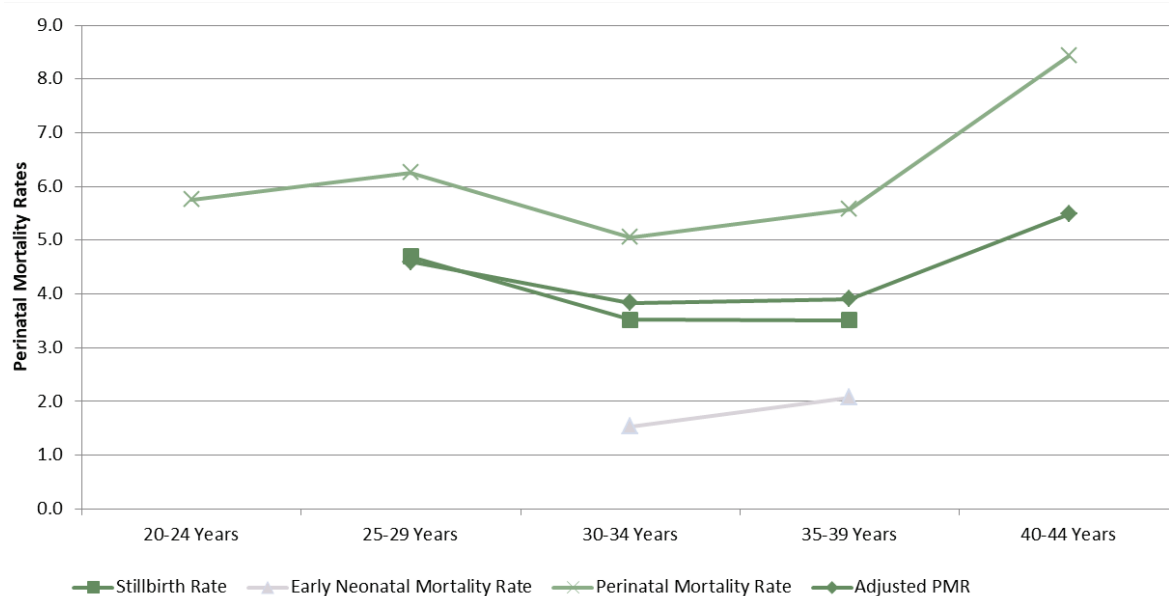
- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

Figure 3.1 presents perinatal mortality rates.²⁴

- The perinatal mortality rate was lowest for mothers aged in the 30 to 34 year age group (5.1 per 1,000 live births and stillbirths) and the adjusted perinatal mortality rate was also lowest for mothers aged in the 30 to 34 year age group (3.8 per 1,000 live births and stillbirths). The highest perinatal mortality rate of 8.4 per 1,000 live births and stillbirths was recorded for mothers aged in the 40 to 44 year age group (excludes rates based on 20 or fewer observations).
- The highest stillbirth rate was recorded for mothers in the 25 to 29 year age group (at 4.7 per 1,000 live births and stillbirths), while the lowest stillbirth rate was recorded for the 30 to 34 year age group (3.5 per 1,000 live births and stillbirths) and the 35 to 39 year age group (3.5 per 1,000 live births and stillbirths).
- The early neonatal mortality rate was lowest for mothers aged in the 30 to 34 year age group (1.5 per 1,000 live births).

FIGURE 3.1

Age-Specific Stillbirth, Early Neonatal and Perinatal Mortality Rates



Notes: See Table 3.1 for data.
 Rates based on 20 or fewer observations are not included in this Figure.
 Certain age groups are not presented due to small numbers associated with all categories within these age groups.

²⁴ Rates calculated on more than 20 observations are included in the discussion.

MOTHER'S CIVIL STATUS

Table 3.2 presents data on mother's civil status and shows that married women accounted for just over 60 per cent of total births.

TABLE 3.2

Mother's Civil Status: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Married	34,352	60.2	34,239	3.3	1.5	4.8	3.4	33,659
Single	21,944	38.5	21,844	4.6	2.6	7.2	5.0	21,629
Widowed	42	0.1	42	-	-	-	-	41
Separated	314	0.6	310	12.7	-	12.7	3.2	306
Divorced	216	0.4	215	4.6	-	4.6	4.6	209
Civil Partner†	22	0.0	22	-	-	-	-	22
Not Stated	174	0.3	173	5.7	11.6	17.2	11.6	173
Total	57,064	100	56,845	3.8	2.0	5.8	4.0	56,039
Singleton Births								
Married	32,959	59.9	32,854	3.2	1.3	4.5	3.2	32,959
Single	21,315	38.7	21,216	4.6	2.5	7.1	4.9	21,315
Widowed	*	^	*	-	-	-	-	*
Separated	299	0.5	295	13.4	-	13.4	3.4	299
Divorced	202	0.4	201	5.0	-	5.0	5.0	202
Civil Partner†	22	0.0	22	-	-	-	-	22
Not Stated	*	^	*	5.8	11.7	17.4	11.7	*
Total	55,009	100	54,799	3.8	1.8	5.6	3.9	55,009
Multiple Births								
Married	1,393	67.8	1,385	5.7	6.5	12.2	8.6	700
Single	629	30.6	628	1.6	6.4	7.9	6.4	314
Widowed	~	^	~	-	-	-	-	~
Separated	15	0.7	15	-	-	-	-	7
Divorced	14	0.7	14	-	-	-	-	7
Civil Partner†	0	0.0	0	-	-	-	-	0
Not Stated	~	^	~	-	-	-	-	~
Total	2,055	100	2,046	4.4	6.4	10.7	7.8	1,030

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^ Percentage not provided to prevent disclosure of small numbers.
- ^a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.
- † Includes civil partner, former civil partner and surviving civil partner.

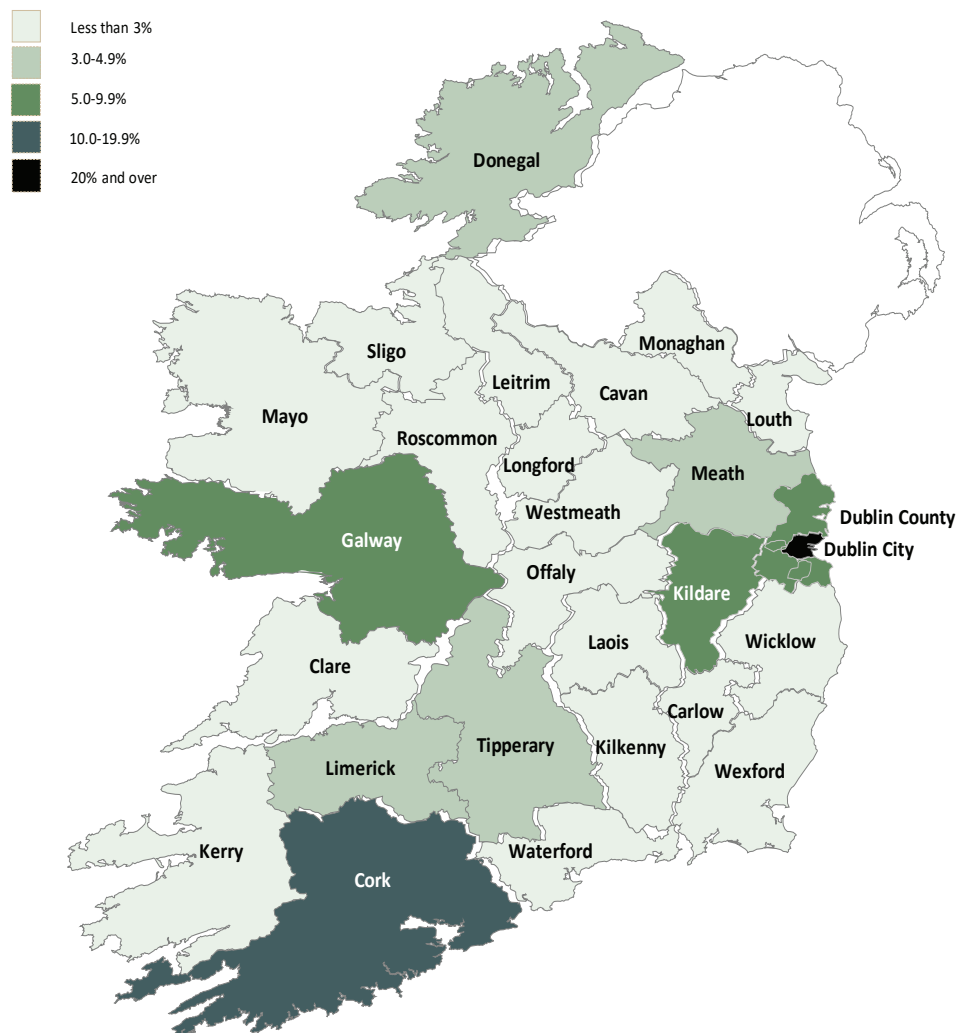
MOTHER'S COUNTY OF RESIDENCE

Figure 3.2 presents the distribution of births by mother's county of residence.

- 22.1 per cent of births were to mothers resident in Dublin City, and 11.3 per cent were to mothers resident in Cork.
- There were less than 1 per cent of births to mothers resident in Leitrim and there were also less than 1 per cent of births to mothers resident in Longford.

FIGURE 3.2

Percentage of Births by Mother's County of Residence, Total Births



Notes: See Appendix G, Table G1 for data.
 Example: 1.3 per cent of all births were to mothers resident in Carlow.
 See Appendix E for details of county of residence classification.

SOCIO-ECONOMIC GROUP

MOTHER'S SOCIO-ECONOMIC GROUP

Table 3.3 presents data on mother's socio-economic group.²⁵

- The highest proportion of total births were to mothers whose socio-economic group was classified as 'lower-professional' (22.7 per cent) followed by 'intermediate non-manual workers' (16.5 per cent) and 'other non-manual workers' (14.6 per cent).
- Mothers classified as 'home duties' accounted for a further 14.4 per cent of total births.

Where rates are calculated on more than 20 perinatal deaths (see Figure 3.3):

- The highest perinatal mortality rate of 7.1 per 1,000 live births and stillbirths was reported for mothers in the socio-economic group 'home duties' followed by 'intermediate non-manual workers' (6.6 per 1,000 live births and stillbirths).
- The lowest perinatal mortality rate was recorded for mothers in the 'lower professional' socio-economic group (4.0 per 1,000 live births and stillbirths).

²⁵ See Appendix C for a description of the classification system for socio-economic group.

TABLE 3.3

Mother's Socio-economic Group: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Farmers & Farm Managers	70	0.1	70	-	-	-	-	69
Other Agricultural Occupations & Fisherwomen	121	0.2	121	-	8.3	8.3	8.3	120
Higher Professional	4,797	8.4	4,787	2.1	1.9	4.0	2.7	4,698
Lower Professional	12,949	22.7	12,916	2.5	1.5	4.0	2.6	12,702
Employers & Managers	4,321	7.6	4,315	1.4	2.1	3.5	2.3	4,236
Salaried Employees	537	0.9	537	-	-	-	-	525
Intermediate Non-Manual Workers	9,414	16.5	9,370	4.7	1.9	6.6	4.8	9,251
Other Non-Manual Workers	8,328	14.6	8,290	4.6	1.7	6.2	4.5	8,188
Skilled Manual Workers	824	1.4	822	2.4	2.4	4.9	4.9	810
Semi-Skilled Manual Workers	1,310	2.3	1,308	1.5	3.1	4.6	4.6	1,286
Unskilled Manual Workers	9	0.0	9	-	-	-	-	9
Unemployed	2,593	4.5	2,576	6.6	1.2	7.7	4.6	2,556
Not Classifiable	1,695	3.0	1,689	3.5	-	3.5	2.4	1,663
Home Duties	8,193	14.4	8,151	5.1	2.0	7.1	5.4	8,064
Not Stated	1,903	3.3	1,884	10.0	8.5	18.4	11.1	1,862
Total	57,064	100	56,845	3.8	2.0	5.8	4.0	56,039
Singleton Births								
Farmers & Farm Managers	*	^	*	-	-	-	-	*
Other Agricultural Occupations & Fisherwomen	*	^	*	-	8.4	8.4	8.4	*
Higher Professional	4,598	8.4	4,589	2.0	1.7	3.7	2.6	4,598
Lower Professional	12,455	22.6	12,423	2.6	1.4	3.9	2.5	12,455
Employers & Managers	4,151	7.5	4,145	1.4	1.9	3.4	2.2	4,151
Salaried Employees	513	0.9	513	-	-	-	-	513
Intermediate Non-Manual Workers	9,086	16.5	9,045	4.5	1.8	6.3	4.5	9,086
Other Non-Manual Workers	8,048	14.6	8,011	4.6	1.5	6.1	4.2	8,048
Skilled Manual Workers	795	1.4	794	1.3	1.3	2.5	2.5	795
Semi-Skilled Manual Workers	1,262	2.3	1,260	1.6	3.2	4.8	4.8	1,262
Unskilled Manual Workers	9	0.0	9	-	-	-	-	9
Unemployed	2,518	4.6	2,501	6.8	1.2	7.9	4.8	2,518
Not Classifiable	1,632	3.0	1,626	3.7	-	3.7	2.5	1,632
Home Duties	7,936	14.4	7,896	5.0	1.8	6.8	5.3	7,936
Not Stated	1,819	3.3	1,800	10.4	7.8	18.1	11.1	1,819
Total	55,009	100	54,799	3.8	1.8	5.6	3.9	55,009
Multiple Births								
Farmers & Farm Managers	~	^	~	-	-	-	-	~
Other Agricultural Occupations & Fisherwomen	~	^	~	-	-	-	-	~
Higher Professional	199	9.7	198	5.0	5.1	10.1	5.1	100
Lower Professional	494	24.0	493	2.0	4.1	6.1	4.1	247
Employers & Managers	170	8.3	170	-	5.9	5.9	5.9	85
Salaried Employees	24	1.2	24	-	-	-	-	12
Intermediate Non-Manual Workers	328	16.0	325	9.1	6.2	15.2	12.2	165
Other Non-Manual Workers	280	13.6	279	3.6	7.2	10.7	10.7	140
Skilled Manual Workers	29	1.4	28	34.5	35.7	69.0	69.0	15
Semi-Skilled Manual Workers	48	2.3	48	-	-	-	-	24
Unskilled Manual Workers	0	0.0	0	-	-	-	-	0
Unemployed	75	3.6	75	-	-	-	-	38
Not Classifiable	63	3.1	63	-	-	-	-	31
Home Duties	257	12.5	255	7.8	7.8	15.6	7.8	128
Not Stated	84	4.1	84	-	23.8	23.8	12.0	43
Total	2,055	100	2,046	4.4	6.4	10.7	7.8	1,030

Notes:

Percentage column is subject to rounding.

~ Denotes five or fewer births (or maternities) reported to NPRS.

* Further suppression required to prevent disclosure of five or fewer births (or maternities).

a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

See Appendix C for a description of the classification system for socio-economic group.

FIGURE 3.3
Perinatal Mortality Rates by Mother's Socio-economic Group



Notes: See Table 3.3 for data.
Rates based on 20 or fewer observations are not included in this Figure.

FATHER'S SOCIO-ECONOMIC GROUP

Father's details are only required for registration purposes where mother's civil status is recorded as 'married'.²⁶ As a result, there is a proportion of records for which information is incomplete; these are assigned to the category 'not applicable'. This category is combined with 'not stated' for the purposes of presenting data on father's socio-economic group in this report. The data presented in the following table reports father's socio-economic group where occupation was recorded, regardless of mother's civil status.

Table 3.4 presents data on father's socio-economic group.²⁷

- 17.1 per cent of total births were to fathers whose socio-economic group was classified as 'skilled manual workers'.
- Fathers classified as 'other non-manual workers' accounted for 7.0 per cent of total births.

²⁶ See Section 22 (1) of the *Civil Registration Act 2004*
<https://www.irishstatutebook.ie/eli/2004/act/3/section/22/enacted/en/html#sec22>

²⁷ See Appendix C for a description of the classification system for socio-economic group.

TABLE 3.4

Father's Socio-economic Group: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Farmers & Farm Managers	1,197	2.1	1,193	3.3	1.7	5.0	1.7	1,175
Other Agricultural Occupations & Fishermen	483	0.8	481	4.1	2.1	6.2	6.2	475
Higher Professional	3,739	6.6	3,734	1.3	0.8	2.1	1.9	3,665
Lower Professional	3,795	6.7	3,785	2.6	1.1	3.7	2.9	3,719
Employers & Managers	3,908	6.8	3,892	4.1	0.8	4.9	3.6	3,826
Salaried Employees	543	1.0	540	5.5	-	5.5	3.7	533
Intermediate Non-Manual Workers	3,828	6.7	3,816	3.1	1.0	4.2	3.1	3,745
Other Non-Manual Workers	3,989	7.0	3,979	2.5	1.8	4.3	3.0	3,909
Skilled Manual Workers	9,767	17.1	9,745	2.3	1.1	3.4	2.1	9,593
Semi-Skilled Manual Workers	1,839	3.2	1,831	4.4	1.1	5.4	4.4	1,802
Unskilled Manual Workers	277	0.5	276	3.6	-	3.6	-	272
Unemployed	1,420	2.5	1,414	4.2	2.8	7.0	4.2	1,406
Not Classifiable	1,067	1.9	1,063	3.7	3.8	7.5	5.6	1,054
Home Duties	206	0.4	204	9.7	4.9	14.6	9.8	197
Not Stated/Not Applicable	21,006	36.8	20,892	5.4	3.1	8.5	6.0	20,668
Total	57,064	100	56,845	3.8	2.0	5.8	4.0	56,039
Singleton Births								
Farmers & Farm Managers	1,153	2.1	1,149	3.5	1.7	5.2	1.7	1,153
Other Agricultural Occupations & Fishermen	467	0.8	465	4.3	2.2	6.4	6.4	467
Higher Professional	3,591	6.5	3,587	1.1	0.8	1.9	1.7	3,591
Lower Professional	3,643	6.6	3,633	2.7	0.8	3.6	3.0	3,643
Employers & Managers	3,743	6.8	3,729	3.7	0.8	4.5	3.2	3,743
Salaried Employees	523	1.0	520	5.7	-	5.7	3.8	523
Intermediate Non-Manual Workers	3,660	6.7	3,649	3.0	1.1	4.1	3.0	3,660
Other Non-Manual Workers	3,830	7.0	3,821	2.3	1.6	3.9	2.6	3,830
Skilled Manual Workers	9,421	17.1	9,399	2.3	1.0	3.3	2.0	9,421
Semi-Skilled Manual Workers	1,762	3.2	1,756	3.4	0.6	4.0	2.8	1,762
Unskilled Manual Workers	*	^	*	3.7	-	3.7	0.0	*
Unemployed	1,391	2.5	1,386	3.6	2.9	6.5	4.3	1,391
Not Classifiable	1,041	1.9	1,037	3.8	2.9	6.7	4.8	1,041
Home Duties	*	^	*	10.6	5.4	16.0	10.7	*
Not Stated/Not Applicable	20,329	37.0	20,216	5.6	2.9	8.4	5.9	20,329
Total	55,009	100	54,799	3.8	1.8	5.6	3.9	55,009
Multiple Births								
Farmers & Farm Managers	44	2.1	44	-	-	-	-	22
Other Agricultural Occupations & Fishermen	16	0.8	16	-	-	-	-	8
Higher Professional	148	7.2	147	6.8	-	6.8	6.8	74
Lower Professional	152	7.4	152	-	6.6	6.6	-	76
Employers & Managers	165	8.0	163	12.1	0.0	12.1	12.1	83
Salaried Employees	20	1.0	20	-	-	-	-	10
Intermediate Non-Manual Workers	168	8.2	167	6.0	-	6.0	6.0	85
Other Non-Manual Workers	159	7.7	158	6.3	6.3	12.6	12.6	79
Skilled Manual Workers	346	16.8	346	-	5.8	5.8	2.9	172
Semi-Skilled Manual Workers	77	3.7	75	26.0	13.3	39.0	39.0	40
Unskilled Manual Workers	*	^	*	-	-	-	-	~
Unemployed	29	1.4	28	34.5	-	34.5	0.0	15
Not Classifiable	26	1.3	26	-	38.5	38.5	38.5	13
Home Duties	*	^	*	-	-	-	-	*
Not Stated/Not Applicable	677	32.9	676	1.5	10.4	11.8	7.4	339
Total	2,055	100	2,046	4.4	6.4	10.7	7.8	1,030

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. See Appendix C for a description of the classification system for socio-economic group.

NATIONALITY

MOTHER'S NATIONALITY

Mother's nationality relates to 'place of birth' of the mother. Table 3.5 presents data on mother's nationality.²⁸

- Just over 75 per cent of total births were recorded for babies born to mothers whose place of birth was Ireland.
- The next highest proportion of total births were to mothers from the EU15 to EU28 at 8.8 per cent.
- Births to mothers from Asia accounted for 4.9 per cent of total births, followed by 2.4 per cent to mothers from the UK and 2.3 per cent to mothers from Africa and America.
- The remainder of births were to mothers from the EU15 (excluding Ireland & UK), Rest of Europe, Australia, New Zealand and Other Oceania and Multi-Nationality.

²⁸ See Appendix F for a description of the classification system for nationality.

TABLE 3.5

Mother's Nationality: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Ireland	42,858	75.1	42,699	3.7	2.0	5.7	3.9	42,065
UK	1,376	2.4	1,367	6.5	1.5	8.0	5.1	1,343
EU15 (excluding Ireland & UK)	1,037	1.8	1,035	1.9	1.9	3.9	3.9	1,017
EU15 to EU28	5,026	8.8	5,010	3.2	1.8	5.0	3.8	4,956
Rest of Europe	910	1.6	907	3.3	2.2	5.5	3.3	891
Africa	1,328	2.3	1,318	7.5	3.8	11.3	10.6	1,300
Asia	2,823	4.9	2,815	2.8	1.1	3.9	3.2	2,782
America	1,289	2.3	1,281	6.2	-	6.2	4.7	1,273
Australia	77	0.1	77	-	-	-	-	76
New Zealand and Other Oceania	32	0.1	32	-	31.3	31.3	31.3	32
Multi-Nationality	9	0.0	9	-	-	-	-	9
Not Stated	299	0.5	295	13.4	-	13.4	6.7	295
Total	57,064	100	56,845	3.8	2.0	5.8	4.0	56,039
Singleton Births								
Ireland	41,269	75.0	41,115	3.7	1.9	5.6	3.8	41,269
UK	1,311	2.4	1,302	6.9	0.8	7.6	4.6	1,311
EU15 (excluding Ireland & UK)	996	1.8	994	2.0	2.0	4.0	4.0	996
EU15 to EU28	4,882	8.9	4,868	2.9	1.2	4.1	3.1	4,882
Rest of Europe	873	1.6	870	3.4	1.1	4.6	3.4	873
Africa	1,273	2.3	1,264	7.1	4.0	11.0	10.2	1,273
Asia	2,741	5.0	2,734	2.6	1.1	3.6	2.9	2,741
America	1,257	2.3	1,249	6.4	-	6.4	4.8	1,257
Australia	*	^	*	-	-	-	-	*
New Zealand and Other Oceania	32	0.1	32	-	31.3	31.3	31.3	32
Multi-Nationality	9	0.0	9	-	-	-	-	9
Not Stated	*	^	*	13.7	-	13.7	6.9	*
Total	55,009	100	54,799	3.8	1.8	5.6	3.9	55,009
Multiple Births								
Ireland	1,589	77.3	1,584	3.1	5.1	8.2	5.7	796
UK	65	3.2	65	-	15.4	15.4	15.4	32
EU15 (excluding Ireland & UK)	41	2.0	41	-	-	-	-	21
EU15 to EU28	144	7.0	142	13.9	21.1	34.7	28.0	74
Rest of Europe	37	1.8	37	-	27.0	27.0	-	18
Africa	55	2.7	54	18.2	-	18.2	18.2	27
Asia	82	4.0	81	12.2	-	12.2	12.2	41
America	32	1.6	32	-	-	-	-	16
Australia	~	^	~	-	-	-	-	~
New Zealand and Other Oceania	0	0.0	0	-	-	-	-	0
Multi-Nationality	0	0.0	0	-	-	-	-	0
Not Stated	*	^	*	-	-	-	-	~
Total	2,055	100	2,046	4.4	6.4	10.7	7.8	1,030

Notes:

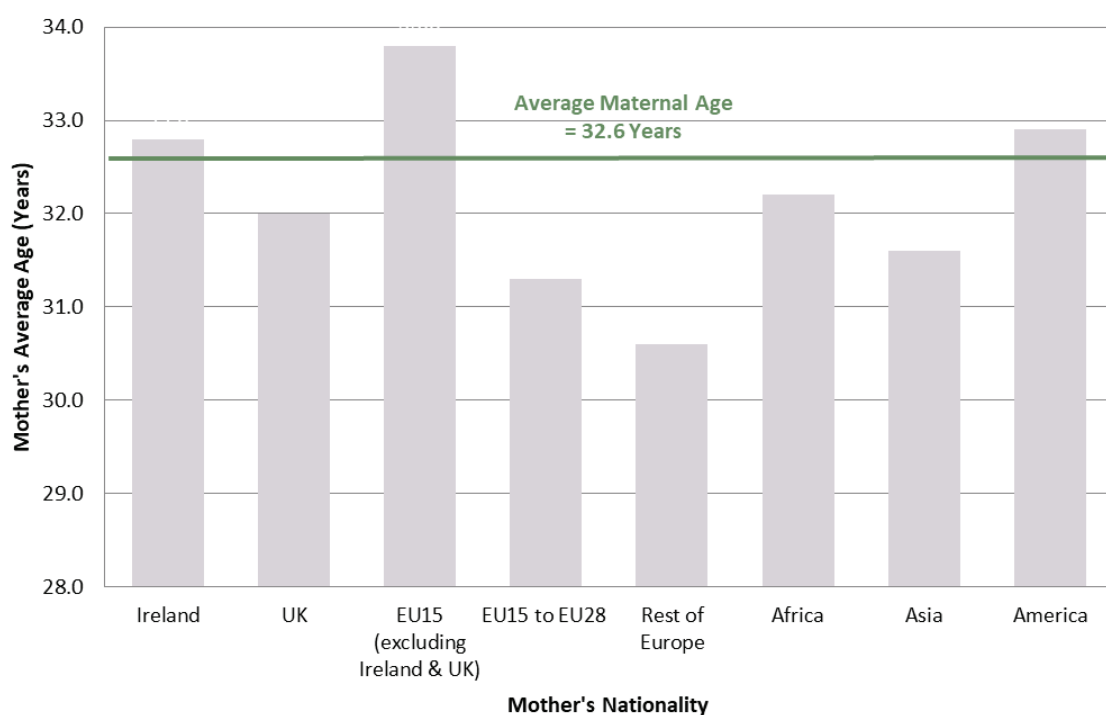
- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. See Appendix F for a description of the classification system for nationality.

Figure 3.4 presents the average age of mother by mother's nationality for 2020.

- The average age of all mothers giving birth was 32.6 years and the average age of mothers from Ireland giving birth was slightly higher at 32.8 years.
- Mothers giving birth from the Rest of the Europe were on average younger at 30.6 years, while mothers from the EU15 (excluding Ireland and United Kingdom) recorded the highest average maternal age at 33.8 years.

FIGURE 3.4

Average Age of Mother by Mother's Nationality, Total Maternities



Notes: See Appendix G, Table G2 for data.
Average ages calculated for nationalities with greater than 100 births.

FATHER'S NATIONALITY

Father's nationality relates to 'place of birth' of the father. Father's details are only required for registration purposes where mother's civil status is recorded as 'married'.²⁹ As a result, there is a proportion of records for which information is incomplete; these are assigned to the category 'not applicable'. This category is combined with 'not stated' for the purposes of presenting data on father's nationality in this report. The data presented in the following table reports father's nationality where recorded, regardless of mother's civil status.

Table 3.6 presents information on father's nationality (where recorded).

- Births to Irish fathers accounted for 49.0 per cent of total births.
- Births to fathers from the EU15 to EU28 and Asia accounted for 4.9 per cent and 3.3 per cent of total births respectively.

²⁹ See Section 22 (1) of the *Civil Registration Act 2004*
<https://www.irishstatutebook.ie/eli/2004/act/3/section/22/enacted/en/html#sec22>

TABLE 3.6

Father's Nationality: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Ireland	27,968	49.0	27,883	3.0	1.3	4.3	2.9	27,420
UK	776	1.4	771	6.4	-	6.4	6.4	760
EU15 (excluding Ireland & UK)	628	1.1	626	3.2	1.6	4.8	4.8	622
EU15 to EU28	2,783	4.9	2,776	2.5	2.2	4.7	3.6	2,738
Rest of Europe	406	0.7	405	2.5	-	2.5	2.5	398
Africa	751	1.3	746	6.7	2.7	9.3	9.3	737
Asia	1,900	3.3	1,895	2.6	1.1	3.7	3.2	1,873
America	516	0.9	514	3.9	-	3.9	3.9	503
Australia	*	^	*	37.0	-	37.0	18.9	*
New Zealand and Other Oceania	26	0.0	26	-	38.5	38.5	38.5	26
Multi-Nationality	*	^	~	166.7	-	166.7	166.7	*
Not Stated/ Not Applicable	21,250	37.2	21,146	4.9	3.0	7.9	5.3	20,905
Total	57,064	100	56,845	3.8	2.0	5.8	4.0	56,039
Singleton Births								
Ireland	26,867	48.8	26,786	3.0	1.2	4.2	2.8	26,867
UK	742	1.3	737	6.7	-	6.7	6.7	742
EU15 (excluding Ireland & UK)	615	1.1	613	3.3	1.6	4.9	4.9	615
EU15 to EU28	2,693	4.9	2,688	1.9	1.5	3.3	2.6	2,693
Rest of Europe	391	0.7	390	2.6	-	2.6	2.6	391
Africa	724	1.3	720	5.5	2.8	8.3	8.3	724
Asia	1,847	3.4	1,842	2.7	1.1	3.8	3.3	1,847
America	*	^	*	4.1	-	4.1	4.1	*
Australia	*	^	*	41.7	-	41.7	21.3	*
New Zealand and Other Oceania	26	0.0	26	-	38.5	38.5	38.5	26
Multi-Nationality	*	^	~	166.7	-	166.7	166.7	*
Not Stated/ Not Applicable	20,560	37.4	20,458	5.0	2.7	7.6	5.1	20,560
Total	55,009	100	54,799	3.8	1.8	5.6	3.9	55,009
Multiple Births								
Ireland	1,101	53.6	1,097	3.6	2.7	6.4	4.5	553
UK	34	1.7	34	-	-	-	-	18
EU15 (excluding Ireland & UK)	13	0.6	13	-	-	-	-	7
EU15 to EU28	90	4.4	88	22.2	22.7	44.4	33.7	45
Rest of Europe	15	0.7	15	-	-	-	-	7
Africa	27	1.3	26	37.0	-	37.0	37.0	13
Asia	53	2.6	53	-	-	-	-	26
America	*	^	*	-	-	-	-	*
Australia	*	^	*	-	-	-	-	~
New Zealand and Other Oceania	0	0.0	0	-	-	-	-	0
Multi-Nationality	0	0.0	0	-	-	-	-	0
Not Stated/ Not Applicable	690	33.6	688	2.9	11.6	14.5	10.2	345
Total	2,055	100	2,046	4.4	6.4	10.7	7.8	1,030

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. See Appendix F for a description of the classification system for nationality.

MATERNAL PARITY

Maternal parity refers to a mother's total number of previous live births and stillbirths. Table 3.7 presents data on maternal parity.

- Primiparous mothers accounted for 39.4 per cent of all maternities, with 8.8 per cent of maternities having three or more previous live births or stillbirths.

TABLE 3.7

Maternal Parity: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
0	22,496	39.4	22,413	3.7	1.9	5.6	3.7	22,063
1	20,000	35.0	19,929	3.6	2.0	5.6	3.9	19,632
2	9,575	16.8	9,538	3.9	1.9	5.7	3.9	9,423
3	3,222	5.6	3,207	4.7	1.6	6.2	5.3	3,176
4	1,043	1.8	1,037	5.8	3.9	9.6	8.6	1,029
5	399	0.7	395	10.0	5.1	15.0	10.1	391
6	171	0.3	170	5.8	-	5.8	-	170
More than 6	158	0.3	156	12.7	-	12.7	12.7	155
Total	57,064	100	56,845	3.8	2.0	5.8	4.0	56,039
Singleton Births								
0	21,627	39.3	21,545	3.8	1.9	5.7	3.8	21,627
1	19,266	35.0	19,199	3.5	1.7	5.1	3.5	19,266
2	9,271	16.9	9,238	3.6	1.6	5.2	3.5	9,271
3	3,126	5.7	3,111	4.8	1.3	6.1	5.1	3,126
4	1,014	1.8	1,008	5.9	4.0	9.9	8.9	1,014
5	384	0.7	380	10.4	5.3	15.6	10.5	384
6	*	^	*	5.9	-	5.9	-	*
More than 6	*	^	*	13.2	-	13.2	13.2	*
Total	55,009	100	54,799	3.8	1.8	5.6	3.9	55,009
Multiple Births								
0	869	42.3	868	1.2	1.2	2.3	1.2	436
1	734	35.7	730	5.4	11.0	16.3	12.3	366
2	304	14.8	300	13.2	10.0	23.0	16.6	152
3	96	4.7	96	-	10.4	10.4	10.4	50
4	29	1.4	29	-	-	-	-	15
5	15	0.7	15	-	-	-	-	7
6	~	^	~	-	-	-	-	~
More than 6	*	^	*	-	-	-	-	~
Total	2,055	100	2,046	4.4	6.4	10.7	7.8	1,030

Notes:

Percentage column is subject to rounding.

~ Denotes five or fewer births (or maternities) reported to NPRS.

* Further suppression required to prevent disclosure of five or fewer births (or maternities).

^ Percentage not provided to prevent disclosure of small numbers.

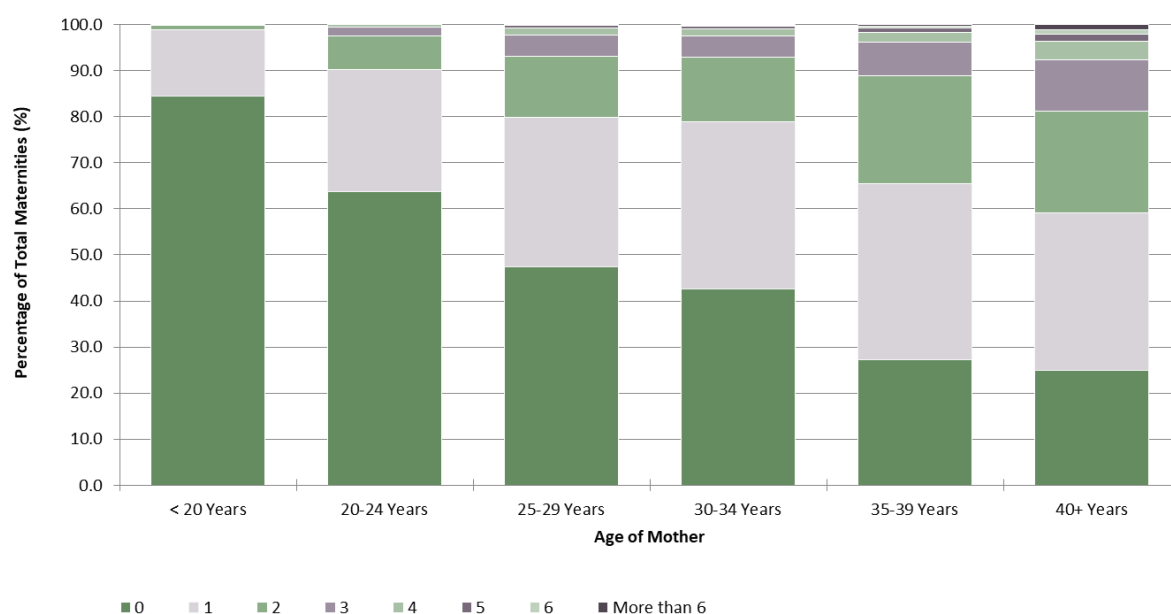
a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

Figure 3.5 shows data on maternal parity by age of mother.

- Of mothers aged less than 20 years, 84.5 per cent gave birth for the first time.
- Just under 1 in 4 women aged 40 years or more gave birth for the first time and just over 1 in 3 women in this age group delivered for the second time.

FIGURE 3.5

Parity by Age of Mother, Total Maternities



Note: See Appendix G, Table G3 for data.

NUMBER OF PREVIOUS STILLBIRTHS

Table 3.8 shows the number of previous stillbirths for multiparous women.

- In 2020, 98.6 per cent of multiparous women giving birth recorded no previous stillbirths while 1.3 per cent recorded one or more previous stillbirths.

TABLE 3.8

Previous Stillbirths: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
0	34,075	98.6	33,952	3.6	2.0	5.6	4.0	33,490
1	463	1.3	451	25.9	2.2	28.1	21.7	456
2 and Over	30	0.1	29	33.3	-	33.3	33.3	30
Total	34,568	100	34,432	3.9	2.0	5.9	4.2	33,976
Singleton Births								
0	32,903	98.6	32,788	3.5	1.7	5.2	3.7	32,903
1	449	1.3	437	26.7	2.3	29.0	22.4	449
2 and Over	30	0.1	29	33.3	-	33.3	33.3	30
Total	33,382	100	33,254	3.8	1.7	5.5	3.9	33,382
Multiple Births								
0	1,172	98.8	1,164	6.8	10.3	17.1	12.9	587
1	14	1.2	14	-	-	-	-	7
2 and Over	0	0.0	0	-	-	-	-	0
Total	1,186	100	1,178	6.7	10.2	16.9	12.7	594

Notes:

- Percentage column is subject to rounding.
 - ~ Denotes five or fewer births (or maternities) reported to NPRS.
 - * Further suppression required to prevent disclosure of five or fewer births (or maternities).
 - ^ Percentage not provided to prevent disclosure of small numbers.
 - a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.
- This table only includes women having second and subsequent births. Primiparous women (i.e. women who have had no previous pregnancy resulting in a live birth or stillbirth) are not included in this table.

INTERVAL SINCE LAST BIRTH

Table 3.9 shows the interval since the last birth for multiparous women.

- An interval of 1 year or less was recorded for 1.1 per cent of all multiparous mothers.
- Almost 26 per cent recorded an interval of between two and three years since the last birth.
- 16.8 per cent had their previous birth more than six years earlier.

TABLE 3.9

Interval in Years since Last Birth: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
1 year or less	375	1.1	373	5.3	5.4	10.7	10.7	356
>1 year to 2 years	7,497	21.7	7,472	3.3	1.1	4.4	3.6	7,385
>2 years to 3 years	8,965	25.9	8,940	2.8	1.9	4.7	2.8	8,806
>3 years to 4 years	5,218	15.1	5,197	4.0	2.5	6.5	4.2	5,122
>4 years to 5 years	3,416	9.9	3,401	4.4	2.1	6.4	5.3	3,355
>5 years to 6 years	2,217	6.4	2,208	4.1	1.8	5.9	4.1	2,194
More than 6 years	5,802	16.8	5,777	4.3	2.1	6.4	4.8	5,689
Not Stated	1,078	3.1	1,064	13.0	5.6	18.6	12.1	1,069
Total	34,568	100	34,432	3.9	2.0	5.9	4.2	33,976
Singleton Births								
1 year or less	339	1.0	337	5.9	5.9	11.8	11.8	339
>1 year to 2 years	7,270	21.8	7,247	3.2	0.8	4.0	3.3	7,270
>2 years to 3 years	8,645	25.9	8,623	2.5	1.7	4.3	2.5	8,645
>3 years to 4 years	5,028	15.1	5,007	4.2	2.4	6.6	4.2	5,028
>4 years to 5 years	3,294	9.9	3,281	3.9	1.2	5.2	4.3	3,294
>5 years to 6 years	2,171	6.5	2,162	4.1	1.9	6.0	4.2	2,171
More than 6 years	5,576	16.7	5,552	4.3	1.4	5.7	4.3	5,576
Not Stated	1,059	3.2	1,045	13.2	5.7	18.9	12.4	1,059
Total	33,382	100	33,254	3.8	1.7	5.5	3.9	33,382
Multiple Births								
1 year or less	36	3.0	36	-	-	-	-	17
>1 year to 2 years	227	19.1	225	8.8	8.9	17.6	13.3	115
>2 years to 3 years	320	27.0	317	9.4	6.3	15.6	9.4	161
>3 years to 4 years	190	16.0	190	-	5.3	5.3	5.3	94
>4 years to 5 years	122	10.3	120	16.4	25.0	41.0	33.1	61
>5 years to 6 years	46	3.9	46	-	-	-	-	23
More than 6 years	226	19.1	225	4.4	17.8	22.1	17.8	113
Not Stated	19	1.6	19	-	-	-	-	10
Total	1,186	100	1,178	6.7	10.2	16.9	12.7	594

Notes:

Percentage column is subject to rounding.

- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. This table only includes women having second and subsequent births. Primiparous women (i.e. women who have had no previous pregnancy resulting in a live birth or stillbirth) are not included in this table.

BIRTHWEIGHT

The birthweight of a baby is widely used as a key indicator of health status. According to the World Health Organization (WHO), low birthweight babies are defined as weighing less than 2,500 grams. This is further divided into very low birthweight (weighing less than 1,500 grams) and extremely low birthweight (weighing less than 1,000 grams). Low birthweight babies are more likely to have poor perinatal outcomes with consequences for later life experience.³⁰

- The average birthweight for live births was 3,478.8 grams for singletons, 2,429.2 grams for multiples, and 3,441.0 grams for total live births.
- The average birthweight for live births was 3,501.5 grams for males compared to 3,376.9 grams for females.

Table 3.10 and Figures 3.6 – 3.8 present data on birthweight.

- The percentage of total live births classified as low birthweight was 5.5 per cent (3.9 per cent of singletons and 48.3 per cent of multiples).
- There was considerable variation in very low birthweight rates between singleton and multiple live births with 0.6 per cent of singleton live births weighing less than 1,500 grams compared to 7.4 per cent for multiple births (see Figure 3.6).
- 92.6 per cent of total live births were in the healthy birthweight category weighing between 2,500 and 4,499 grams (see Figure 3.7).
- A smaller proportion of male live births were low birthweight (4.8 per cent) compared with female live births (6.3 per cent) (see Figure 3.8).
- The percentage of total live births weighing 4,500 grams and over was 1.9 per cent (2.6 per cent of males compared to 1.1 per cent of females) (see Figure 3.8).

³⁰ EURO-PERISTAT Project with SCPE and EUROCAT. *European Perinatal Health Report. The health and care of pregnant women and babies in Europe in 2010*. May 2013. Available at www.europeristat.com

TABLE 3.10

Birthweight (grams): Total Births, Live Births, Mortality Rates, and Maternities

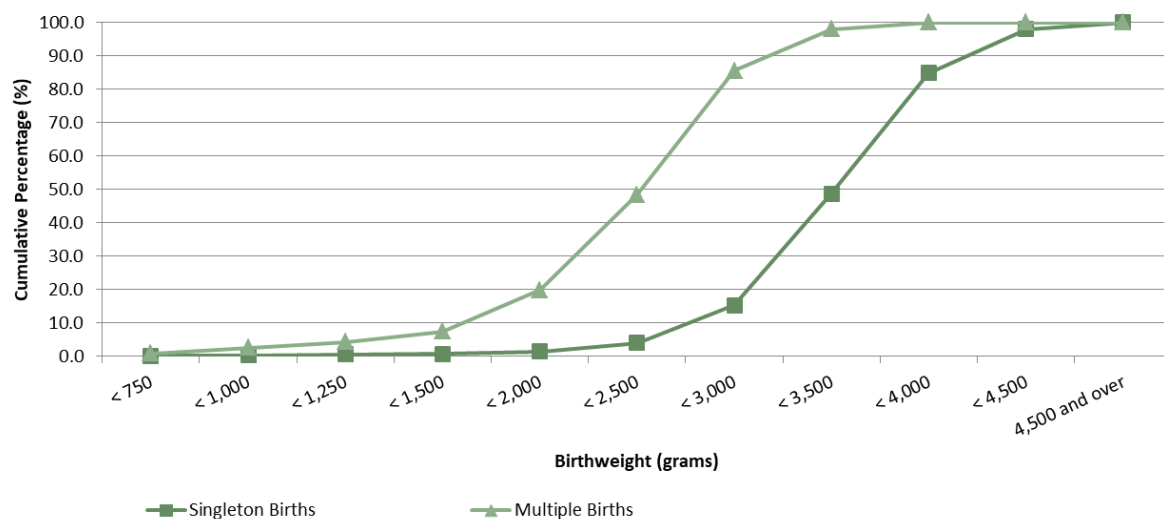
	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
500-749	130	0.2	79	392.3	253.2	546.2	463.6	117
750-999	124	0.2	103	169.4	97.1	250.0	191.3	108
1000-1249	137	0.2	125	87.6	64.0	146.0	93.0	119
1250-1499	177	0.3	165	67.8	36.4	101.7	47.9	134
1500-1999	648	1.1	629	29.3	14.3	43.2	26.7	519
2000-2499	2,079	3.6	2,052	13.0	8.3	21.2	13.1	1,771
2500-2999	6,937	12.2	6,909	4.0	2.5	6.5	4.6	6,577
3000-3499	18,678	32.7	18,652	1.4	0.7	2.1	1.7	18,557
3500-3999	19,835	34.8	19,819	0.8	0.2	1.0	0.9	19,818
4000-4499	7,242	12.7	7,237	0.7	0.8	1.5	1.2	7,242
4500 and Over	1,075	1.9	1,073	1.9	0.9	2.8	2.8	1,075
Total	57,062	100	56,843	3.8	2.0	5.8	4.0	56,037
Singleton Births								
500-749	107	0.2	62	420.6	290.3	588.8	500.0	107
750-999	90	0.2	69	233.3	130.4	333.3	268.3	90
1000-1249	103	0.2	91	116.5	54.9	165.0	104.2	103
1250-1499	111	0.2	99	108.1	50.5	153.2	78.4	111
1500-1999	393	0.7	376	43.3	16.0	58.5	33.9	393
2000-2499	1,493	2.7	1,467	17.4	10.9	28.1	16.9	1,493
2500-2999	6,176	11.2	6,148	4.5	2.6	7.1	5.0	6,176
3000-3499	18,421	33.5	18,395	1.4	0.7	2.1	1.7	18,421
3500-3999	19,796	36.0	19,780	0.8	0.2	1.0	0.9	19,796
4000-4499	7,242	13.2	7,237	0.7	0.8	1.5	1.2	7,242
4500 and Over	1,075	2.0	1,073	1.9	0.9	2.8	2.8	1,075
Total	55,007	100	54,797	3.8	1.8	5.6	3.9	55,007
Multiple Births								
500-749	23	1.1	17	260.9	117.6	347.8	318.2	10
750-999	34	1.7	34	-	29.4	29.4	-	18
1000-1249	34	1.7	34	-	88.2	88.2	60.6	16
1250-1499	66	3.2	66	-	15.2	15.2	-	23
1500-1999	255	12.4	253	7.8	11.9	19.6	15.7	126
2000-2499	586	28.5	585	1.7	1.7	3.4	3.4	278
2500-2999	761	37.0	761	-	1.3	1.3	1.3	401
3000-3499	257	12.5	257	-	-	-	-	136
3500-3999	39	1.9	39	-	25.6	25.6	-	22
4000-4499	0	0.0	0	-	-	-	-	0
4500 and Over	0	0.0	0	-	-	-	-	0
Total	2,055	100	2,046	4.4	6.4	10.7	7.8	1,030

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. Birthweight tables by primiparous and multiparous women are provided in Appendix G, Tables G4 and G5.

FIGURE 3.6

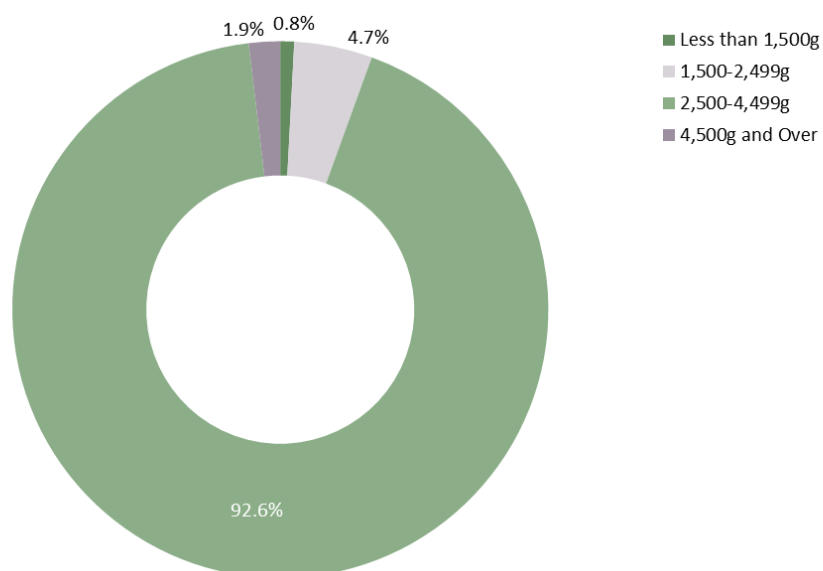
Birthweight: Cumulative Percentages of Total Live Births



Note: See Table 3.10 for data.

FIGURE 3.7

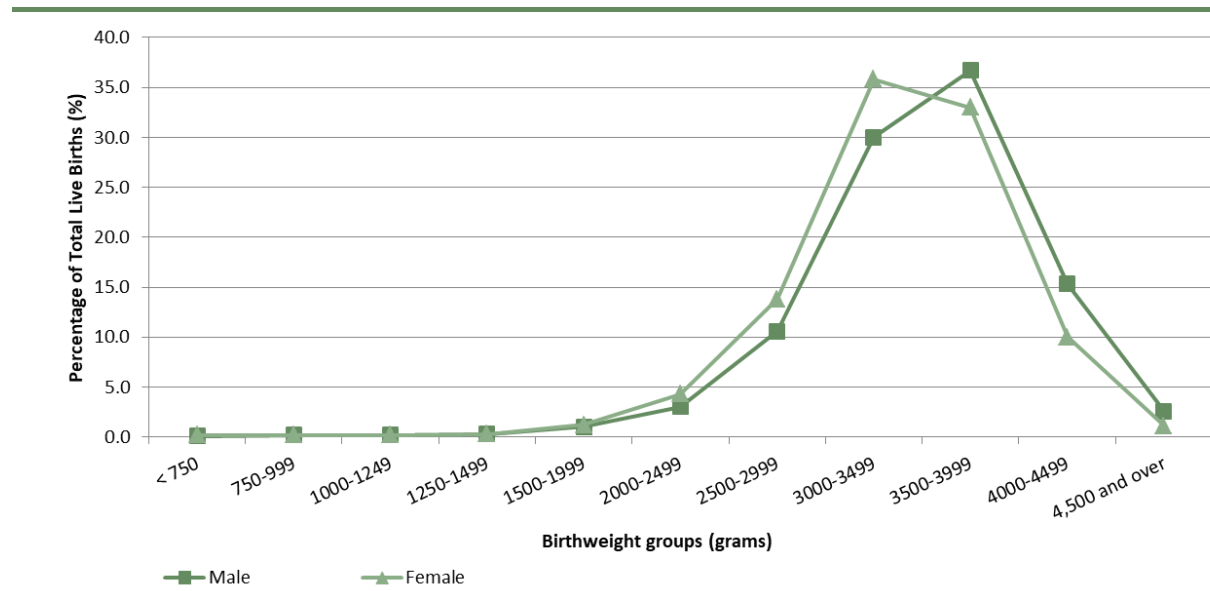
Percentage of Births by Birthweight Groups, Total Live Births



Note: See Table 3.10 for data.

FIGURE 3.8

Percentage Distribution for Males and Females across Birthweight Groups, Total Live Births



Note: See Appendix G, Table G6 for data.

GESTATIONAL AGE

Based on maternities, the average gestational age for total births was 39.0 weeks. Live births reported an average gestational age of 38.9 weeks and stillbirths reported an average gestational age of 32.1 weeks. The average gestational age for singleton live births was 39.1 weeks compared with 35.4 weeks for live twin births and 32.4 weeks for higher-order multiple live births.

Table 3.11 presents data on gestational age.

- Just over 92 per cent of all babies were born at term (37 to 41 weeks).
- Preterm birth (born before 37 weeks) occurred in 6.7 per cent of live births (4.8 per cent for singleton births and 58.0 per cent for multiple births).

TABLE 3.11

Gestational Age (weeks) at Delivery: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Less than 23	14	0.0	7	500.0	1,000.0	1,000.0	1,000.0	14
23-27	223	0.4	167	251.1	149.7	363.2	271.8	200
28-31	404	0.7	370	84.2	24.3	106.4	81.4	342
32-36	3,341	5.9	3,288	15.9	8.2	23.9	14.5	2,827
37-41	52,543	92.1	52,476	1.3	0.8	2.0	1.6	52,117
42 and Over	533	0.9	531	3.8	3.8	7.5	3.8	533
Not Stated	6	0.0	6	-	166.7	166.7	-	6
Total	57,064	100	56,845	3.8	2.0	5.8	4.0	56,039
Singleton Births								
Less than 23	14	0.0	7	500.0	1,000.0	1,000.0	1,000.0	14
23-27	172	0.3	121	296.5	190.1	430.2	324.1	172
28-31	282	0.5	249	117.0	20.1	134.8	106.2	282
32-36	2,318	4.2	2,268	21.6	8.8	30.2	17.9	2,318
37-41	51,684	94.0	51,617	1.3	0.8	2.1	1.6	51,684
42 and Over	533	1.0	531	3.8	3.8	7.5	3.8	533
Not Stated	6	0.0	6	-	166.7	166.7	-	6
Total	55,009	100	54,799	3.8	1.8	5.6	3.9	55,009
Multiple Births								
Less than 23	0	0.0	0	-	-	-	-	0
23-27	51	2.5	46	98.0	43.5	137.3	120.0	28
28-31	122	5.9	121	8.2	33.1	41.0	25.0	60
32-36	1,023	49.8	1,020	2.9	6.9	9.8	6.9	509
37-41	859	41.8	859	-	-	-	-	433
42 and Over	0	0.0	0	-	-	-	-	0
Not Stated	0	0.0	0	-	-	-	-	0
Total	2,055	100	2,046	4.4	6.4	10.7	7.8	1,030

Notes:

Percentage column is subject to rounding.

- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. Gestational age tables by primiparous and multiparous women are provided in Appendix G, Tables G7 and G8.

MONTH OF BIRTH

Table 3.12 presents data on the month of birth.

- Total births were fairly evenly spread throughout the year, with the lowest proportion of births occurring in February (7.7 per cent) and the highest occurring in July (8.9 per cent).
- July recorded the highest proportion of both singleton births (8.9 per cent) and multiple births (10.3 per cent) (see Figure 3.9).

TABLE 3.12

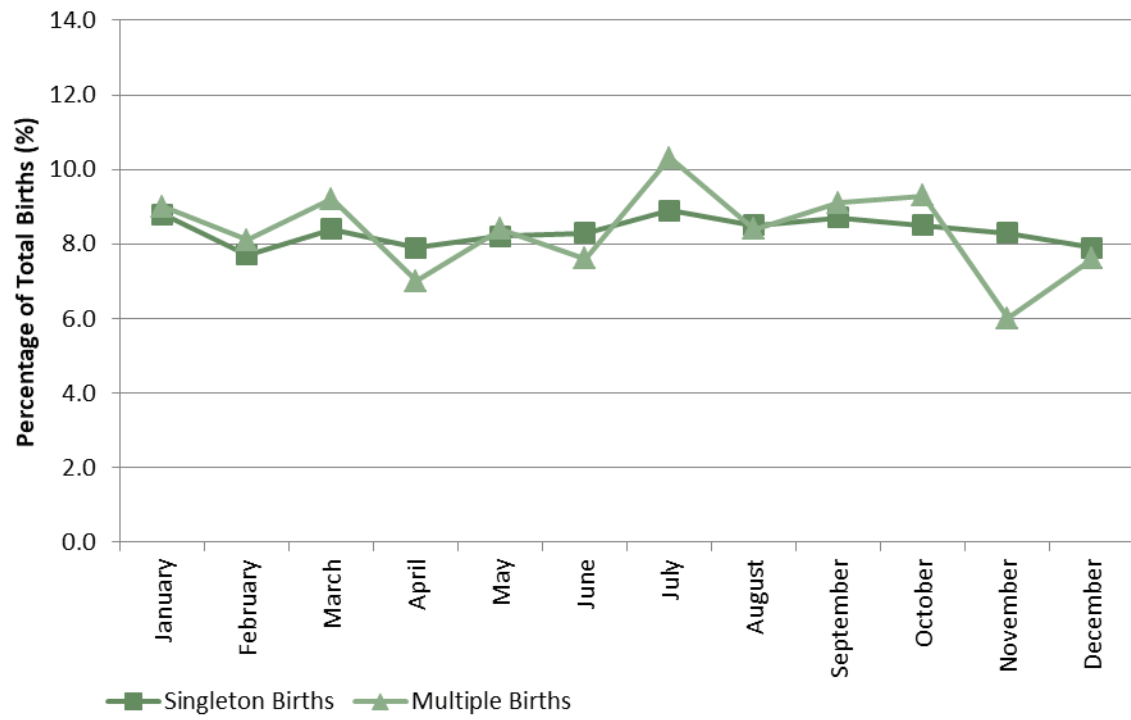
Month of Birth: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
January	5,001	8.8	4,980	4.2	2.4	6.6	4.8	4,910
February	4,377	7.7	4,360	3.9	1.8	5.7	4.3	4,294
March	4,789	8.4	4,773	3.3	1.7	5.0	3.3	4,695
April	4,513	7.9	4,489	5.3	1.1	6.4	5.5	4,441
May	4,706	8.2	4,686	4.2	1.7	5.9	3.6	4,620
June	4,706	8.2	4,689	3.6	1.9	5.5	3.6	4,629
July	5,104	8.9	5,086	3.5	1.8	5.3	4.1	5,000
August	4,854	8.5	4,834	4.1	1.9	6.0	3.9	4,768
September	4,968	8.7	4,954	2.8	2.6	5.4	3.0	4,873
October	4,847	8.5	4,832	3.1	2.5	5.6	3.9	4,751
November	4,684	8.2	4,667	3.6	1.5	5.1	4.1	4,622
December	4,515	7.9	4,495	4.4	2.4	6.9	4.2	4,436
Total	57,064	100	56,845	3.8	2.0	5.8	4.0	56,039
Singleton Births								
January	4,817	8.8	4,797	4.2	2.5	6.6	4.8	4,817
February	4,211	7.7	4,194	4.0	1.7	5.7	4.3	4,211
March	4,600	8.4	4,584	3.5	1.5	5.0	3.5	4,600
April	4,369	7.9	4,345	5.5	1.2	6.6	5.7	4,369
May	4,533	8.2	4,514	4.2	1.8	6.0	3.5	4,533
June	4,549	8.3	4,534	3.3	1.5	4.8	2.9	4,549
July	4,893	8.9	4,879	2.9	1.8	4.7	3.7	4,893
August	4,682	8.5	4,662	4.3	1.5	5.8	3.9	4,682
September	4,781	8.7	4,767	2.9	2.3	5.2	2.9	4,781
October	4,655	8.5	4,640	3.2	2.4	5.6	3.9	4,655
November	4,560	8.3	4,544	3.5	1.1	4.6	3.7	4,560
December	4,359	7.9	4,339	4.6	2.1	6.7	4.1	4,359
Total	55,009	100	54,799	3.8	1.8	5.6	3.9	55,009
Multiple Births								
January	184	9.0	183	5.4	-	5.4	5.4	93
February	166	8.1	166	-	6.0	6.0	6.0	83
March	189	9.2	189	-	5.3	5.3	-	95
April	144	7.0	144	-	-	-	-	72
May	173	8.4	172	5.8	-	5.8	5.8	87
June	157	7.6	155	12.7	12.9	25.5	25.5	80
July	211	10.3	207	19.0	-	19.0	14.3	107
August	172	8.4	172	-	11.6	11.6	5.8	86
September	187	9.1	187	-	10.7	10.7	5.4	92
October	192	9.3	192	-	5.2	5.2	5.2	96
November	124	6.0	123	8.1	16.3	24.2	16.3	62
December	156	7.6	156	-	12.8	12.8	6.5	77
Total	2,055	100	2,046	4.4	6.4	10.7	7.8	1,030

Notes: Percentage column is subject to rounding.

- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

FIGURE 3.9
Percentage of Births by Month of Birth, Singleton and Multiple Births



Note: See Table 3.12 for data.

SECTION FOUR

PERINATAL CARE

INTRODUCTION

This section presents a detailed review of aspects of perinatal care for the mother and baby. Tables and figures are presented for a number of variables, including:

- type of antenatal care
- timing of first antenatal visit
- mother's antenatal and postnatal length of stay
- method of delivery
- mother's immunity to rubella
- infant's length of stay
- type of feeding

For selected variables, the tables outline data for total births, live births and perinatal mortality rates, as well as presenting the number of maternities.

TYPE OF ANTENATAL CARE

Table 4.1 presents type of antenatal care.

- The preferred choice of antenatal care was combined hospital and G.P., which accounted for 87.2 per cent of total maternities.
- Hospital/Obstetrician care was more common for maternities delivering multiple births (19.7 per cent) than those delivering singleton births (10.8 per cent).

TABLE 4.1

Type of Antenatal Care: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Hospital/Obstetrician	6,328	11.1	6,300	4.4	2.1	6.5	4.4	6,126
General Practitioner only	25	0.0	25	-	-	-	-	25
Hospital & G.P. combined	49,681	87.1	49,506	3.5	1.8	5.3	3.7	48,880
None	91	0.2	88	33.0	22.7	54.9	44.4	90
Not Stated	939	1.6	926	13.8	8.6	22.4	12.9	918
Total	57,064	100	56,845	3.8	2.0	5.8	4.0	56,039
Singleton Births								
Hospital/Obstetrician	5,923	10.8	5,898	4.2	2.0	6.2	4.4	5,923
General Practitioner only	25	0.0	25	-	-	-	-	25
Hospital & G.P. combined	48,077	87.4	47,908	3.5	1.6	5.1	3.6	48,077
None	*	^	*	33.7	23.3	56.2	45.5	*
Not Stated	*	^	*	14.5	7.9	22.3	13.5	*
Total	55,009	100	54,799	3.8	1.8	5.6	3.9	55,009
Multiple Births								
Hospital/Obstetrician	405	19.7	402	7.4	2.5	9.9	5.0	203
General Practitioner only	0	0.0	0	-	-	-	-	0
Hospital & G.P. combined	1,604	78.1	1,598	3.7	6.9	10.6	8.7	803
None	~	^	~	-	-	-	-	~
Not Stated	*	^	*	-	22.7	22.7	-	*
Total	2,055	100	2,046	4.4	6.4	10.7	7.8	1,030

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. Deliveries under hospital schemes (including domino, early transfer home, planned community midwives, and midwifery-led units) and domiciliary births were included in hospital and G.P. combined care.

DURATION OF PREGNANCY AT FIRST ANTENATAL VISIT

Table 4.2 presents the time of first antenatal visit.

- The first antenatal visit was within the first 12 weeks of pregnancy for 69.5 per cent of total maternities.
- Maternities recording a first antenatal visit at 20 weeks and over accounted for 4.2 per cent of total maternities.

TABLE 4.2

Time of First Visit (weeks) to Doctor or Hospital during Pregnancy: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
0-12	39,678	69.5	39,538	3.5	1.5	5.0	3.5	38,949
13-19	14,554	25.5	14,499	3.8	2.1	5.9	4.3	14,333
20 and over	2,419	4.2	2,405	5.8	5.8	11.6	7.5	2,359
Not Stated	413	0.7	403	24.2	17.4	41.2	24.6	398
Total	57,064	100	56,845	3.8	2.0	5.8	4.0	56,039
Singleton Births								
0-12	38,217	69.5	38,083	3.5	1.4	4.9	3.4	38,217
13-19	14,109	25.6	14,055	3.8	1.8	5.7	4.2	14,109
20 and over	2,299	4.2	2,286	5.7	5.7	11.3	7.0	2,299
Not Stated	384	0.7	375	23.4	16.0	39.1	23.8	384
Total	55,009	100	54,799	3.8	1.8	5.6	3.9	55,009
Multiple Births								
0-12	1,461	71.1	1,455	4.1	4.1	8.2	6.9	732
13-19	445	21.7	444	2.2	11.3	13.5	6.8	224
20 and over	120	5.8	119	8.3	8.4	16.7	16.7	60
Not Stated	29	1.4	28	34.5	35.7	69.0	35.7	14
Total	2,055	100	2,046	4.4	6.4	10.7	7.8	1,030

Notes: Percentage column is subject to rounding.

- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. Although 87.1 per cent of total births were recorded as receiving combined antenatal care, the date of the first visit to the doctor was recorded as 'not known' for 26.9 per cent of these births. As a result of the absence of these data, the timing of first contact with health professionals within this category may reflect the date of the first hospital visit, even though this is likely to have been later than the first doctor visit. Consequently, caution should be exercised in interpreting the data presented here on the timing of the first visit to health services.

ADVANCE HOSPITAL BOOKINGS

- Almost 99 per cent of total births had an advance hospital booking at time of admission to hospital (see Table 4.3).

TABLE 4.3

Advance Hospital Bookings: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Booked	56,001	98.6	55,793	3.7	1.8	5.5	3.8	55,008
Not Booked	801	1.4	791	12.5	16.4	28.7	21.4	769
Not Stated	8	0.0	8	-	-	-	-	8
Total	56,810	100	56,592	3.8	2.0	5.8	4.0	55,785
Singleton Births								
Booked	54,010	98.6	53,811	3.7	1.6	5.3	3.7	54,010
Not Booked	737	1.3	727	13.6	15.1	28.5	20.5	737
Not Stated	8	0.0	8	-	-	-	-	8
Total	54,755	100	54,546	3.8	1.8	5.6	3.9	54,755
Multiple Births								
Booked	1,991	96.9	1,982	4.5	5.5	10.0	7.1	998
Not Booked	64	3.1	64	-	31.3	31.3	31.3	32
Not Stated	0	0.0	0	-	-	-	-	0
Total	2,055	100	2,046	4.4	6.4	10.7	7.8	1,030

Notes: Percentage column is subject to rounding.

- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. Domiciliary births, of which there were 254 in 2020, are excluded from this table. See Appendix H for detailed analysis.

MOTHER'S ANTENATAL LENGTH OF STAY

The average antenatal length of stay was less than one day (0.8 days) for singleton births and 2.1 days for multiple births.

Table 4.4 presents data on mother's antenatal length of stay.

- 88.3 per cent of singleton births and 77.6 per cent of multiple births were delivered within a day of mother's admission to hospital.
- For total births, 2.0 per cent were delivered more than 5 days after mother's admission to hospital.

TABLE 4.4

Mother's Antenatal Length of Stay: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
0-1 Days	49,932	87.9	49,760	3.4	1.8	5.2	3.7	49,138
2 Days	3,950	7.0	3,928	5.6	1.5	7.1	3.8	3,883
3-5 Days	1,776	3.1	1,759	9.6	4.0	13.5	9.6	1,713
6-8 Days	436	0.8	432	9.2	6.9	16.1	16.1	401
9-11 Days	217	0.4	215	9.2	9.3	18.4	9.3	199
12-14 Days	135	0.2	135	-	7.4	7.4	7.4	124
More than 2 Weeks	333	0.6	332	3.0	9.0	12.0	9.0	296
Not Stated	31	0.1	31	-	-	-	-	31
Total	56,810	100	56,592	3.8	2.0	5.8	4.0	55,785
Singleton Births								
0-1 Days	48,337	88.3	48,172	3.4	1.7	5.1	3.6	48,337
2 Days	3,815	7.0	3,794	5.5	1.6	7.1	3.9	3,815
3-5 Days	1,650	3.0	1,634	9.7	3.7	13.3	9.1	1,650
6-8 Days	366	0.7	362	10.9	5.5	16.4	16.4	366
9-11 Days	181	0.3	179	11.0	-	11.0	5.6	181
12-14 Days	113	0.2	113	-	8.8	8.8	8.8	113
More than 2 Weeks	262	0.5	261	3.8	11.5	15.3	11.5	262
Not Stated	31	0.1	31	-	-	-	-	31
Total	54,755	100	54,546	3.8	1.8	5.6	3.9	54,755
Multiple Births								
0-1 Days	1,595	77.6	1,588	4.4	5.7	10.0	7.5	801
2 Days	135	6.6	134	7.4	-	7.4	-	68
3-5 Days	126	6.1	125	7.9	8.0	15.9	15.9	63
6-8 Days	70	3.4	70	-	14.3	14.3	14.3	35
9-11 Days	36	1.8	36	-	55.6	55.6	28.6	18
12-14 Days	22	1.1	22	-	-	-	-	11
More than 2 Weeks	71	3.5	71	-	-	-	-	34
Not Stated	0	0.0	0	-	-	-	-	0
Total	2,055	100	2,046	4.4	6.4	10.7	7.8	1,030

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. Domiciliary births, of which there were 254 in 2020, are excluded from this table. See Appendix H for detailed analysis.

MOTHER'S POSTNATAL LENGTH OF STAY

Maternal postnatal length of stay can be influenced by factors such as method of delivery, post-delivery complications, neonatal mortality, and hospital discharge policies. Average maternal postnatal lengths of stay for singleton and multiple births were 2.4 days and 3.9 days respectively.

Table 4.5 presents data on mother's postnatal length of stay.

- 59.3 per cent of maternities delivering singleton births remained in hospital for up to 2 days following delivery, compared to 13.8 per cent of maternities delivering multiple births.
- For maternities, 38.3 per cent of singleton births and 75.0 per cent of multiple births were discharged 3 to 5 days post delivery.
- 2.5 per cent of total maternities had a postnatal length of stay of 6 or more days (2.3 per cent of singleton births and 11.2 per cent of multiple births).

TABLE 4.5

Mother's Postnatal Length of Stay: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
0-1 Days	14,254	25.1	14,141	7.9	3.0	10.9	6.9	14,229
2 Days	18,502	32.6	18,446	3.0	1.1	4.1	3.2	18,387
3-5 Days	22,539	39.7	22,499	1.8	1.7	3.5	2.5	21,769
6-8 Days	1,312	2.3	1,307	3.8	5.4	9.1	7.6	1,213
9-11 Days	118	0.2	117	8.5	8.5	16.9	16.9	105
12-14 Days	30	0.1	29	33.3	-	33.3	33.3	28
More than 2 Weeks	39	0.1	39	-	25.6	25.6	25.6	38
Not Stated	16	0.0	14	125.0	-	125.0	125.0	16
Total	56,810	100	56,592	3.8	2.0	5.8	4.0	55,785
Singleton Births								
0-1 Days	14,202	25.9	14,091	7.8	2.9	10.7	6.7	14,202
2 Days	18,272	33.4	18,218	3.0	1.0	3.9	3.0	18,272
3-5 Days	20,996	38.3	20,958	1.8	1.6	3.4	2.5	20,996
6-8 Days	1,114	2.0	1,110	3.6	4.5	8.1	7.2	1,114
9-11 Days	91	0.2	91	-	11.0	11.0	11.0	91
12-14 Days	*	^	*	-	-	-	-	*
More than 2 Weeks	*	^	*	-	-	-	-	*
Not Stated	16	0.0	14	125.0	-	125.0	125.0	16
Total	54,755	100	54,546	3.8	1.8	5.6	3.9	54,755
Multiple Births								
0-1 Days	52	2.5	50	38.5	40.0	76.9	58.8	27
2 Days	230	11.2	228	8.7	8.8	17.4	17.4	115
3-5 Days	1,543	75.1	1,541	1.3	3.9	5.2	2.6	773
6-8 Days	198	9.6	197	5.1	10.2	15.2	10.2	99
9-11 Days	27	1.3	26	37.0	-	37.0	37.0	14
12-14 Days	~	^	~	333.3	-	333.3	333.3	~
More than 2 Weeks	~	^	~	-	500.0	500.0	500.0	~
Not Stated	0	0.0	0	-	-	-	-	0
Total	2,055	100	2,046	4.4	6.4	10.7	7.8	1,030

Notes:

Percentage column is subject to rounding.

~ Denotes five or fewer births (or maternities) reported to NPRS.

* Further suppression required to prevent disclosure of five or fewer births (or maternities).

^ Percentage not provided to prevent disclosure of small numbers.

a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

Domiciliary births, of which there were 254 in 2020, are excluded from this table. See Appendix H for detailed analysis.

Figures 4.1 and 4.2 present data on mother's postnatal length of stay by method of delivery for singleton and multiple births.

- The postnatal length of stay for mothers differed by method of delivery and plurality.
- Mother's postnatal length of stay was 2 days or less for 84.2 per cent of singleton spontaneous deliveries compared to 42.8 per cent of multiple spontaneous deliveries.
- For Caesarean section deliveries, mother's postnatal length of stay was greater than 6 days for 3.9 per cent of singleton deliveries compared to 14.1 per cent for multiple deliveries.

FIGURE 4.1
Mother's Postnatal Length of Stay by Method of Delivery, Singleton Births

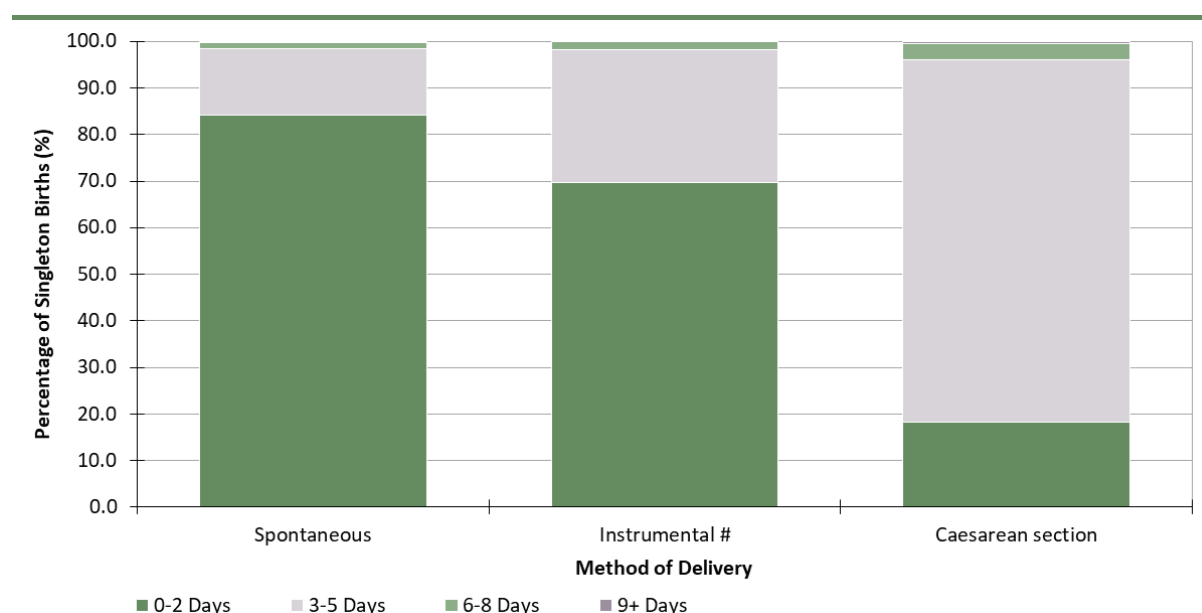
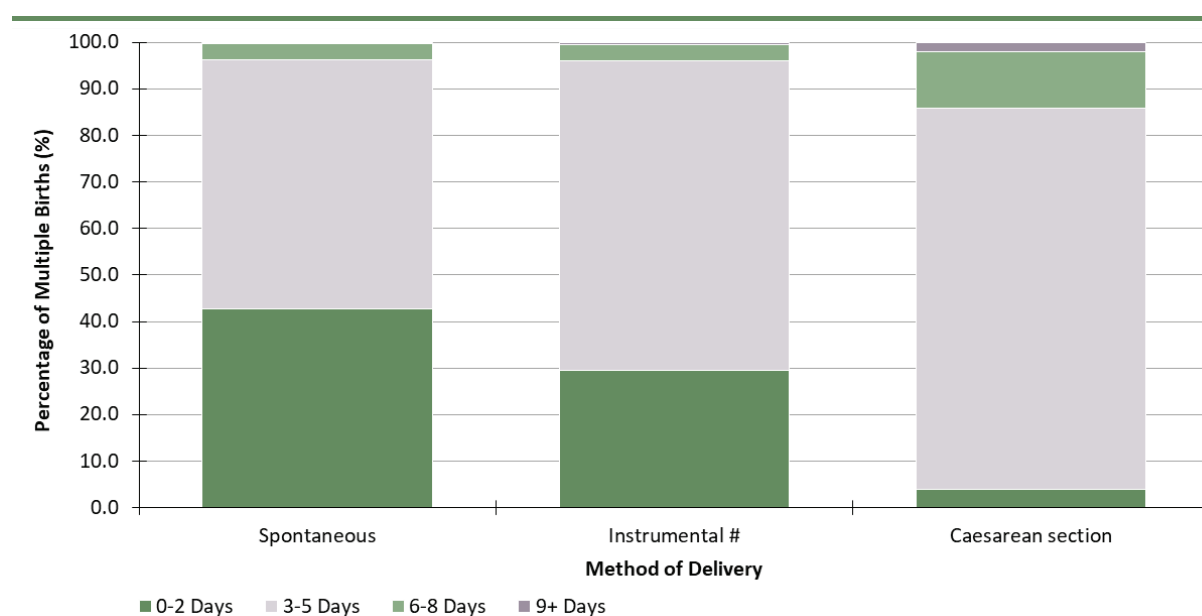


FIGURE 4.2
Mother's Postnatal Length of Stay by Method of Delivery, Multiple Births



Notes: See Appendix G, Table G9 for data.
Instrumental delivery includes breech/forceps, forceps or vacuum extraction.

RUBELLA: IMMUNE STATUS OF MOTHER

The rubella immune status of the mother is presented in Table 4.6, showing that 89.6 per cent of total maternities were rubella immune.²⁶

TABLE 4.6

Rubella: Immune Status of Mother, Numbers and Percentages

Rubella Immunity	Number of Maternities	Per Cent
Total Births		
Immune	50,191	89.6
Not Immune	3,654	6.5
Not known	2,194	3.9
Total	56,039	100
Singleton Births		
Immune	49,285	89.6
Not Immune	3,576	6.5
Not known	2,148	3.9
Total	55,009	100
Multiple Births		
Immune	906	88.0
Not Immune	78	7.6
Not known	46	4.5
Total	1,030	100

Note: Percentage column is subject to rounding.

METHOD OF DELIVERY²⁷

METHOD OF DELIVERY BY BIRTHS AND PLURALITY

Table 4.7a and Figure 4.3 present data on method of delivery for total births.

- There were 20,370 live births delivered by Caesarean section, representing 35.8 per cent of total live births (34.5 per cent of live singleton births, and 71.6 per cent of live multiple births).
- 49.9 per cent of total live births delivered spontaneously (51.0 per cent of live singleton births and 18.5 per cent of live multiple births).
- Over 14 per cent of total live births were born by instrumental delivery (either breech/forceps, forceps or vacuum extraction) with higher percentages for live singleton births (14.5 per cent) compared with live multiple births (10.0 per cent).

²⁶ For further discussion and analysis on this issue see O'Dwyer V, Bonham S, Mulligan A, O'Connor C, Farah N, Kennelly MM, Turner MJ. *Antenatal rubella immunity in Ireland*. IMJ 2013;106:232-5

²⁷ Throughout this section, method of delivery recorded as 'Other specified & combined' are not presented in the figures displaying data on method of delivery.

TABLE 4.7a

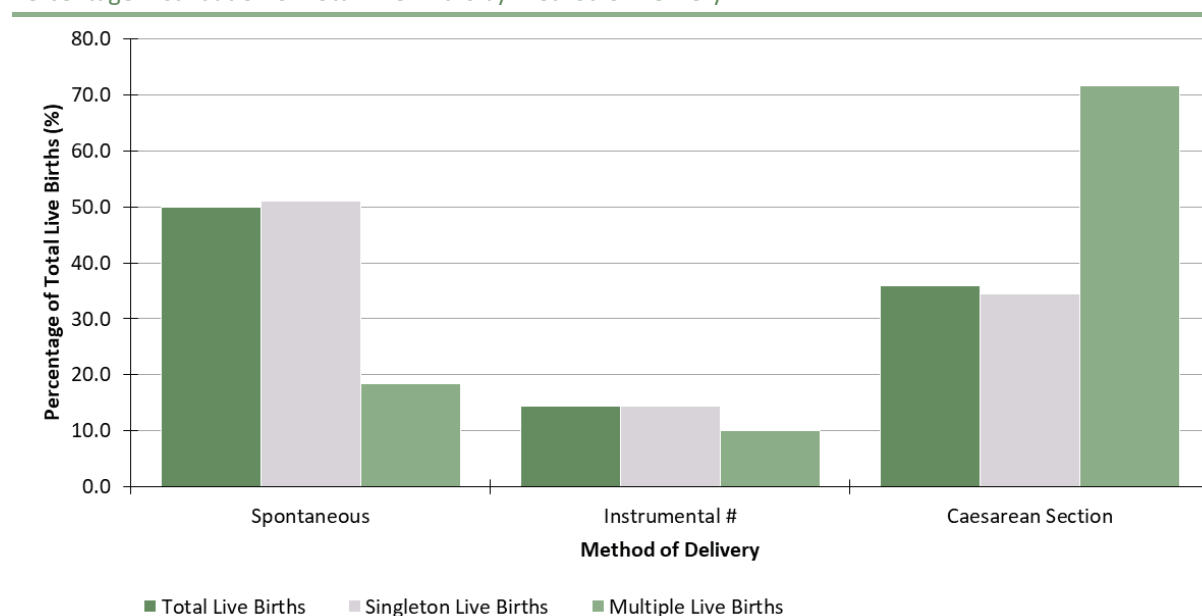
Method of Delivery: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Spontaneous	28,514	50.0	28,342	6.0	1.5	7.5	5.3	28,347
Breech / Forceps	*	^	*	56.4	31.9	86.5	47.1	*
Forceps	1,941	3.4	1,938	1.5	2.1	3.6	3.1	1,927
Vacuum extraction	5,944	10.4	5,943	0.2	1.2	1.3	0.8	5,898
Caesarean section	20,398	35.7	20,370	1.4	2.4	3.8	2.7	19,658
Other specified & combined ^b	~	^	~	-	1,000.0	1,000.0	-	~
Total	57,064	100	56,845	3.8	2.0	5.8	4.0	56,039
Singleton Births								
Spontaneous	28,133	51.1	27,964	6.0	1.4	7.4	5.2	28,133
Breech / Forceps	*	^	*	83.3	48.5	127.8	71.0	*
Forceps	1,911	3.5	1,908	1.6	1.6	3.1	2.6	1,911
Vacuum extraction	5,856	10.6	5,855	0.2	1.2	1.4	0.9	5,856
Caesarean section	18,928	34.4	18,906	1.2	2.1	3.2	2.4	18,928
Other specified & combined ^b	~	^	~	-	1,000.0	1,000.0	-	~
Total	55,009	100	54,799	3.8	1.8	5.6	3.9	55,009
Multiple Births								
Spontaneous	381	18.5	378	7.9	5.3	13.1	10.5	214
Breech / Forceps	86	4.2	86	-	-	-	-	28
Forceps	30	1.5	30	-	33.3	33.3	33.3	16
Vacuum extraction	88	4.3	88	-	-	-	-	42
Caesarean section	1,470	71.5	1,464	4.1	6.8	10.9	7.5	730
Other specified & combined ^b	0	0.0	0	-	-	-	-	0
Total	2,055	100	2,046	4.4	6.4	10.7	7.8	1,030

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.
- b The Other specified & combined category includes, for example, a combination of spontaneous delivery followed by a vacuum extraction or caesarean section.

FIGURE 4.3
Percentage Distribution of Total Live Births by Method of Delivery



Notes: See Table 4.7a for data.
The percentages in this figure exclude 'Other specified & combined' and 'Not Stated' method of delivery and may differ slightly from the percentages in the corresponding table.

Instrumental delivery includes breech/forceps, forceps or vacuum extraction.

METHOD OF DELIVERY BY MATERNAL AGE

Table 4.7b presents method of delivery by maternal age.

- The percentage of babies delivered spontaneously declined with maternal age and was reported at 62.7 per cent for mothers aged less than 20 years compared to 40.0 per cent to mothers aged 40 years and over.
- Caesarean section rates ranged from 18.3 per cent for mothers aged less than 20 years to 51.4 per cent for mothers aged 40 years and over (see Figure 4.4).

TABLE 4.7b

Method of Delivery by Maternal Age

Frequency Col. Per Cent	Age of Mother						Total
	Under 20 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40 Years and Over	
Spontaneous	542 62.7	2,459 56.6	5,315 55.4	9,703 49.5	8,600 48.0	1,894 40.0	28,513 50.0
Breech/Forceps	7 0.8	24 0.6	* ^	85 0.4	77 0.4	17 0.4	* ^
Forceps	36 4.2	208 4.8	346 3.6	751 3.8	492 2.7	108 2.3	1,941 3.4
Vacuum extraction	122 14.1	523 12.0	1,097 11.4	2,302 11.7	1,617 9.0	283 6.0	5,944 10.4
Caesarean section	158 18.3	1,132 26.0	2,775 28.9	6,757 34.5	7,146 39.9	2,430 51.4	20,398 35.7
Other specified & combined ^a	0 0.0	0 0.0	~ ^	0 0.0	0 0.0	0 0.0	~ ^
Total	865 100	4,346 100	9,590 100	19,598 100	17,932 100	4,732 100	57,063 100

Notes: Percentage columns are subject to rounding.

~ Denotes five or fewer births (or maternities) reported to NPRS.

* Further suppression required to prevent disclosure of five or fewer births (or maternities).

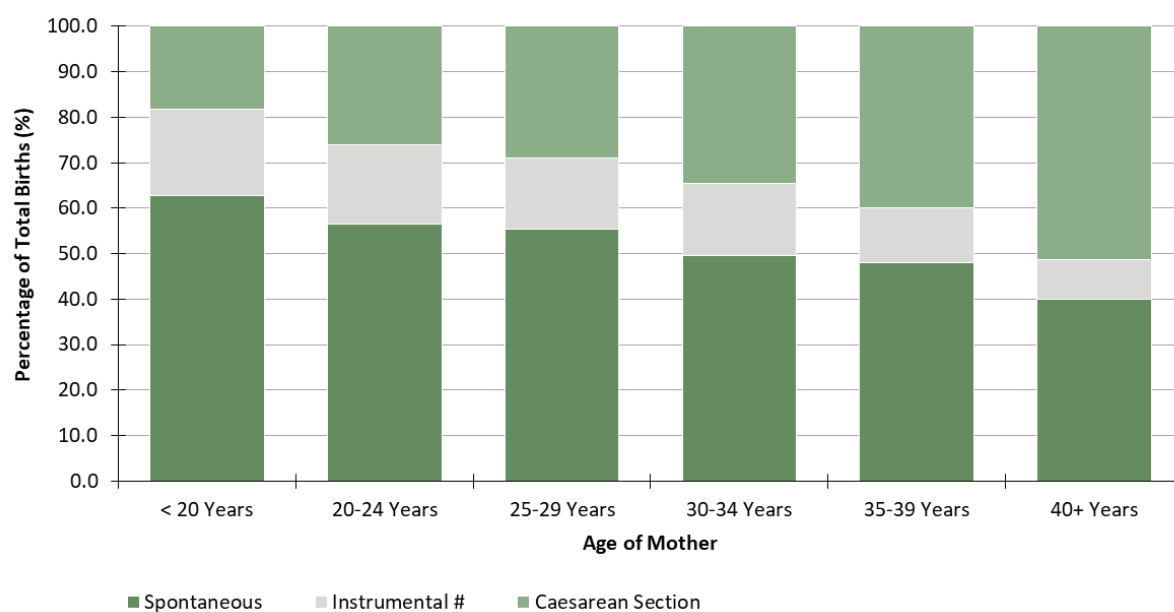
^ Percentage not provided to prevent disclosure of small numbers.

There were five or fewer births to mothers with unknown maternal age; these were excluded from this table.

a The Other specified & combined category includes, for example, a combination of spontaneous delivery followed by a vacuum extraction or caesarean section.

FIGURE 4.4

Percentage of Total Births by Method of Delivery and Age of Mother



Notes:

See Table 4.7b for data.

The percentages in this figure exclude 'Other specified & combined' and 'Not Stated' method of delivery and may differ slightly from the percentages in the corresponding table.

Instrumental delivery includes breech/forceps, forceps or vacuum extraction.

DISTRIBUTION OF BIRTHS BY SIZE OF MATERNITY UNIT

Analysis of births by size of maternity unit is based on births registered by either maternity hospitals or hospitals with dedicated maternity units. Table 4.8 presents data on the size of maternity units.

- Over a quarter (28.4 per cent) of total births took place in 11 maternity units accommodating between 1,000 and 1,999 births each annually.
- One maternity unit accommodated 8,000 or more births, accounting for 14.6 per cent of total births (see Figure 4.5).

TABLE 4.8

Size of Maternity Unit (Number of Live Births and Stillbirths Annually) by Number of Units: Total Births, Live Births, Stillbirths, Early Neonatal Deaths and Mortality Rates

	Number of Units [#]	Total Births	Total Births %	Live Births	Stillbirths	Stillbirth Rate ^a	Early Neonatal Deaths	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a
Less than 999	1	782	1.4	779	~	^	~	^	^	^
1000-1999	11	16,133	28.4	16,082	51	3.2	18	1.1	4.3	3.0
2000-2999	2	5,454	9.6	5,426	28	5.1	19	3.5	8.6	6.8
4000-4999	1	4,136	7.3	4,116	*	^	~	^	^	^
7000-7999	3	21,993	38.7	21,909	84	3.8	52	2.4	6.2	4.5
8000 and Over	1	8,311	14.6	8,279	32	3.9	18	2.2	6.0	3.5
Total	19	56,809	100	56,591	218	3.8	111	2.0	5.8	4.0

Notes:

Percentage column is subject to rounding.

~ Denotes five or fewer births (or maternities) reported to NPRS.

* Further suppression required to prevent disclosure of five or fewer births (or maternities).

^ Rate not provided to prevent disclosure of small numbers.

a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

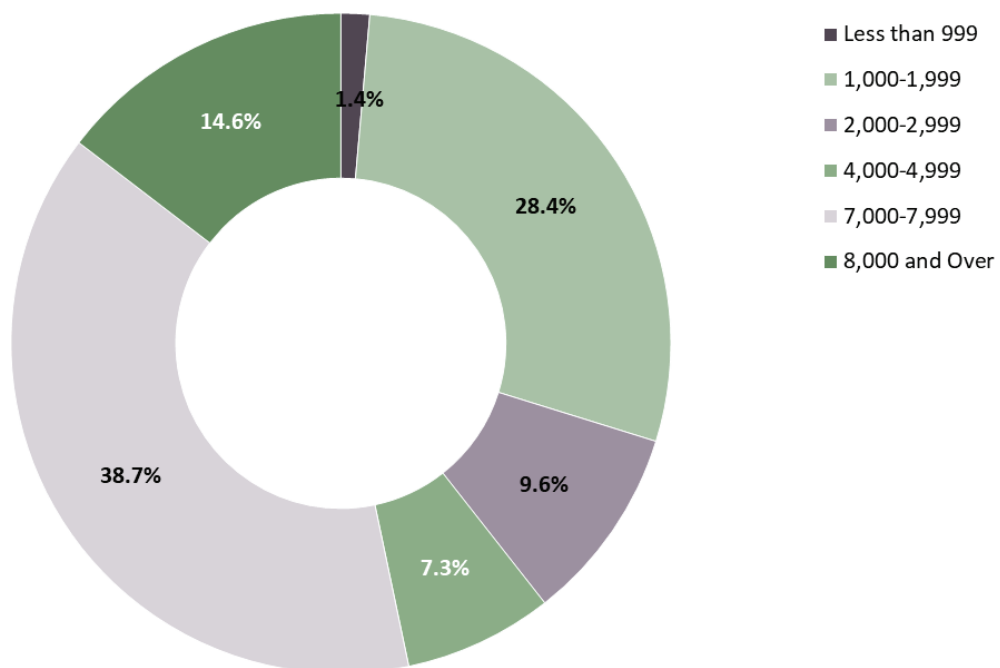
This table is based on the 19 maternity units reporting to NPRS. No unit delivered between 3,000 and 3,999 births or between 5,000 and 6,999 births.

Only births from maternity units are included in this table.

Domiciliary births, of which there were 254 in 2020, are excluded from this table. See Appendix H for detailed analysis.

FIGURE 4.5

Percentage Distribution of Births by Size of Maternity Unit, Total Births



Notes: See Table 4.8 for data. The size of the maternity unit refers to the number of live births and stillbirths occurring in 2020.

INTER-HOSPITAL TRANSFER OF INFANTS

Table 4.9 presents data on inter-hospital transfer of infants.

- Over 99 per cent of infants remained in the hospital in which they were born until they were discharged.
- 4.2 per cent of multiple births were transferred to another hospital.

TABLE 4.9
Inter-Hospital Transfer of Infants

	Live Births	Per Cent Live Births
Total Births		
Transferred	492	0.9
Not Transferred	56,091	99.1
Not Stated	9	0.0
Total	56,592	100
Singleton Births		
Transferred	407	0.7
Not Transferred	54,130	99.2
Not Stated	9	0.0
Total	54,546	100
Multiple Births		
Transferred	85	4.2
Not Transferred	1,961	95.8
Not Stated	0	0.0
Total	2,046	100

Notes: Percentage column is subject to rounding.
Domiciliary births, of which there were 254 in 2020, are excluded from this table. See Appendix H for detailed analysis.

INFANT'S LENGTH OF STAY

The mean length of stay for infants was 3.0 days. When analysed by birth weight, low birthweight babies (weighing less than 2,500 grams) recorded a mean length of stay of 12.6 days, while babies weighing 2,500 grams and over reported a mean length of stay of 2.5 days. Preterm births (born before 37 weeks) reported a mean length of stay of 11.3 days while babies born at term reported a mean length of stay of 2.5 days. Over 95 per cent of infants were discharged home within the perinatal period (before the 7th day of life).

Table 4.10 and Figure 4.6 present data relating to infant's length of stay in hospital.

- Over half (58.6 per cent) of singleton live births were discharged from hospital within 2 days, compared to just 11.5 per cent of multiple live births.
- Just over 95 per cent of singleton live births were discharged from hospital within 5 days of birth, compared to 68.1 per cent of multiple live births.
- 5.5 per cent of total live births had a length of stay of 6 or more days (4.5 per cent for singleton live births compared to 31.9 per cent for multiple births).

TABLE 4.10

Infant's Length of Stay (days) in Hospital, Live Births

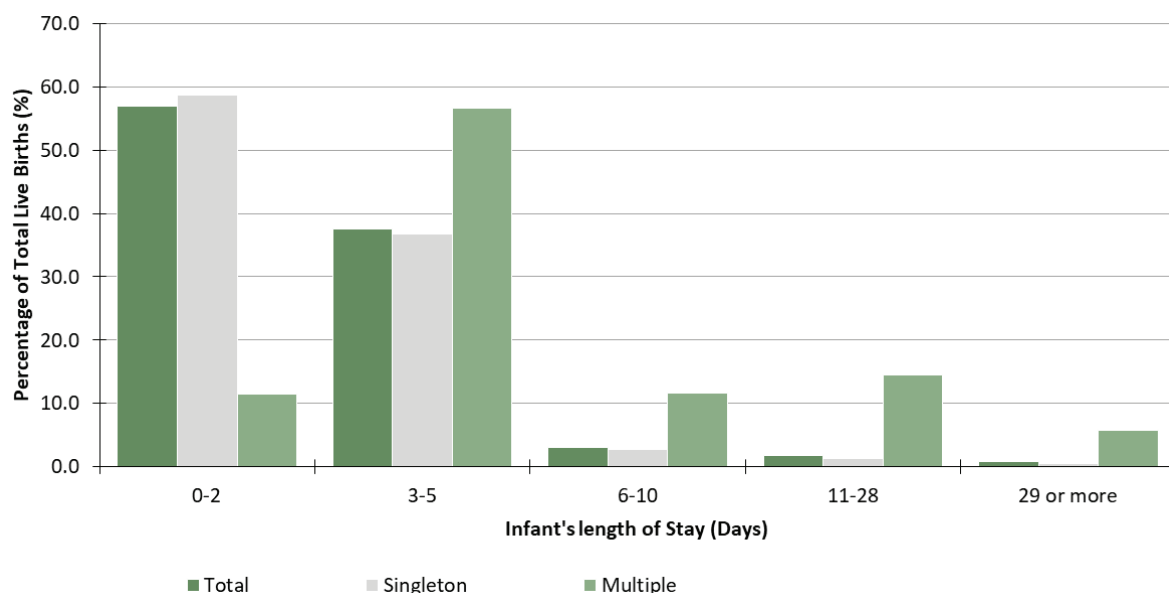
	Live Births	Per Cent Live Births
Total Births		
0-2 Days	32,166	57.0
3-5 Days	21,196	37.5
6-10 Days	1,735	3.1
11-28 Days	961	1.7
29 Days or more	410	0.7
Not Stated	13	0.0
Total	56,481	100
Singleton Births		
0-2 Days	31,932	58.6
3-5 Days	20,045	36.8
6-10 Days	1,499	2.8
11-28 Days	666	1.2
29 Days or more	293	0.5
Not Stated	13	0.0
Total	54,448	100
Multiple Births		
0-2 Days	234	11.5
3-5 Days	1,151	56.6
6-10 Days	236	11.6
11-28 Days	295	14.5
29 Days or more	117	5.8
Not Stated	0	0.0
Total	2,033	100

Notes:

Percentage column is subject to rounding.

This table does not include domiciliary births and early neonatal deaths.

FIGURE 4.6
Percentage Distribution of Total Live Births by Infant's Length of Stay



Note: See Table 4.10 for data.
The percentages in this figure exclude 'Not Stated' and may differ slightly from the percentages in the corresponding table.

INFANT'S TYPE OF FEEDING

Type of feeding is recorded at the time of discharge from hospital or by midwife attending a domiciliary birth. The presentation of type of feeding in this report is based on live births only and excludes early neonatal deaths.

Table 4.11 and Figure 4.7 present type of feeding by age of mother.²⁸

- At 44.2 per cent, a higher proportion of total births were breastfed compared to 38.7 per cent reporting artificial feeding.
- Artificial feeding was more common for multiple births (42.3 per cent) compared to singleton births (38.6 per cent), while breastfeeding was more common for singleton births (44.9 per cent for singleton births compared to 26.3 per cent for multiple births).
- Breastfeeding rates increased with mothers age up to the 35 to 39 year age group, after which the rate declined. Mothers in the 35 to 39 year age group reported the highest breastfeeding rate at 50.4 per cent.
- Just under one-fifth (18.9 per cent) of infants born to mothers aged under 20 years were exclusively breastfed.

²⁸ Throughout this section, discussion of breastfeeding refers to exclusive breastfeeding only.

TABLE 4.11
Age of Mother by Infant's Type of Feeding, Numbers and Percentages, Total Live Births

Frequency Row Per Cent Col. Per Cent	Type of Feeding														
	Total Births					Singleton Births					Multiple Births				
	Artificial	Breast	Combined	Not Stated	Total	Artificial	Breast	Combined	Not Stated	Total	Artificial	Breast	Combined	Not Stated	Total
Under 20 Years	629 73.2 2.9	162 18.9 0.6	68 7.9 0.7	0 0.0 0.0	859 100.0 1.5	621 73.7 2.9	* ^ ^	* ^ ^	0 0.0 0.0	843 100.0 1.5	8 50.0 0.9	~ ^ ^	* ^ ^	0 0.0 0.0	16 100.0 0.8
20-24 Years	2,711 62.7 12.3	1,112 25.7 4.4	* ^ ^	~ ^ ^	4,321 100.0 7.6	2,657 62.8 12.6	1,089 25.7 4.4	* ^ ^	~ ^ ^	4,230 100.0 7.7	54 59.3 6.3	23 25.3 4.3	14 15.4 2.2	0 0.0 0.0	91 100.0 4.5
25-29 Years	4,622 48.5 21.0	3,432 36.0 13.7	1,476 15.5 15.2	0 0.0 0.0	9,530 100.0 16.8	4,508 48.4 21.4	3,391 36.4 13.8	1,417 15.2 15.7	0 0.0 0.0	9,316 100.0 17.0	114 53.3 13.3	41 19.2 7.7	59 27.6 9.2	0 0.0 0.0	214 100.0 10.5
30-34 Years	6,881 35.3 31.3	9,170 47.0 36.6	* ^ ^	~ ^ ^	19,499 100.0 34.4	6,599 35.0 31.3	8,989 47.7 36.6	* ^ ^	~ ^ ^	18,842 100.0 34.4	282 42.9 32.8	181 27.5 33.8	194 29.5 30.4	0 0.0 0.0	657 100.0 32.3
35-39 Years	5,672 31.8 25.8	8,991 50.4 35.8	* ^ ^	~ ^ ^	17,832 100.0 31.4	5,360 31.4 25.4	8,781 51.5 35.8	* ^ ^	~ ^ ^	17,057 100.0 31.2	312 40.3 36.3	210 27.1 39.3	253 32.6 39.7	0 0.0 0.0	775 100.0 38.1
40-44 Years	1,328 30.5 6.0	2,095 48.1 8.4	* ^ ^	~ ^ ^	4,353 100.0 7.7	1,260 30.5 6.0	2,026 49.1 8.3	* ^ ^	~ ^ ^	4,125 100.0 7.5	68 29.8 7.9	69 30.3 12.9	91 39.9 14.3	0 0.0 0.0	228 100.0 11.2
45 Years and Over	119 35.1 0.5	119 35.1 0.5	101 29.8 1.0	0 0.0 0.0	339 100.0 0.6	97 33.8 0.5	* ^ ^	* ^ ^	0 0.0 0.0	287 100.0 0.5	22 42.3 2.6	* ^ ^	* ^ ^	0 0.0 0.0	52 100.0 2.6
Total	21,962 38.7 100	25,081 44.2 100	9,681 17.1 100	9 0.0 100	56,733 100.0 100	21,102 38.6 100	24,546 44.9 100	9,043 16.5 100	9 0.0 100	54,700 100.0 100	860 42.3 100	535 26.3 100	638 31.4 100	0 0.0 100	2,033 100.0 100

Notes:

~ Percentage rows and columns are subject to rounding.

* Denotes five or fewer births (or maternities) reported to NPRS.

^ Further suppression required to prevent disclosure of five or fewer births (or maternities).

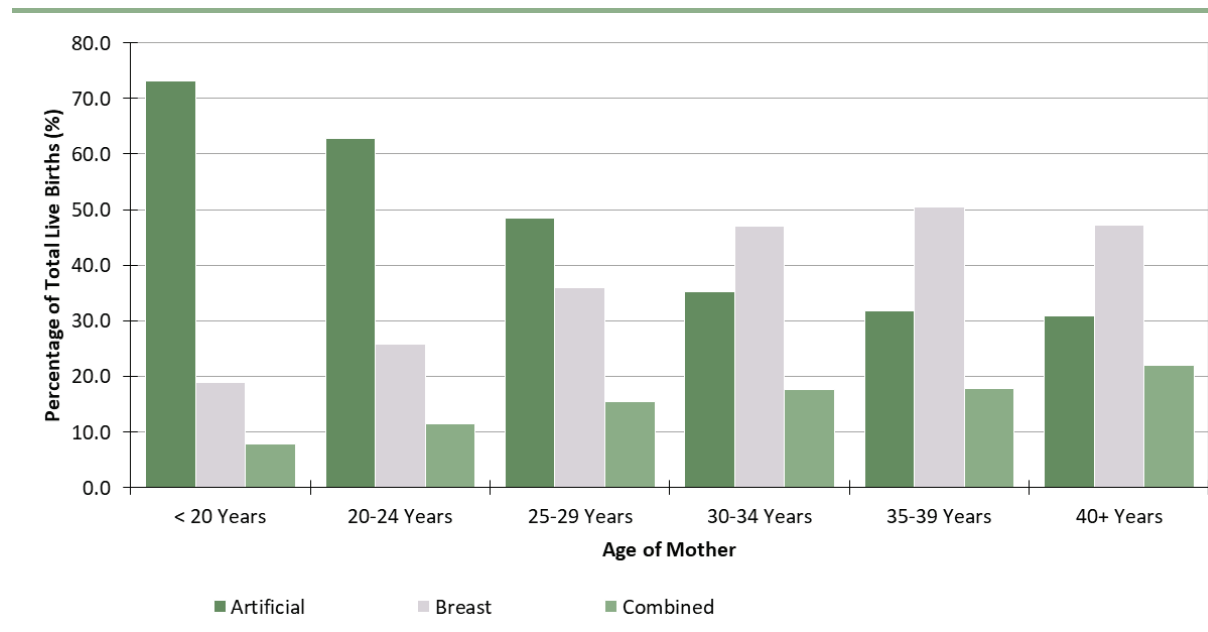
Percentage not provided to prevent disclosure of small numbers.

This table excludes early neonatal deaths.

There were five or fewer births to mothers with unknown maternal age; these were excluded from this table.

FIGURE 4.7

Percentage Distribution of Infant's Type of Feeding by Age of Mother, Total Live Births



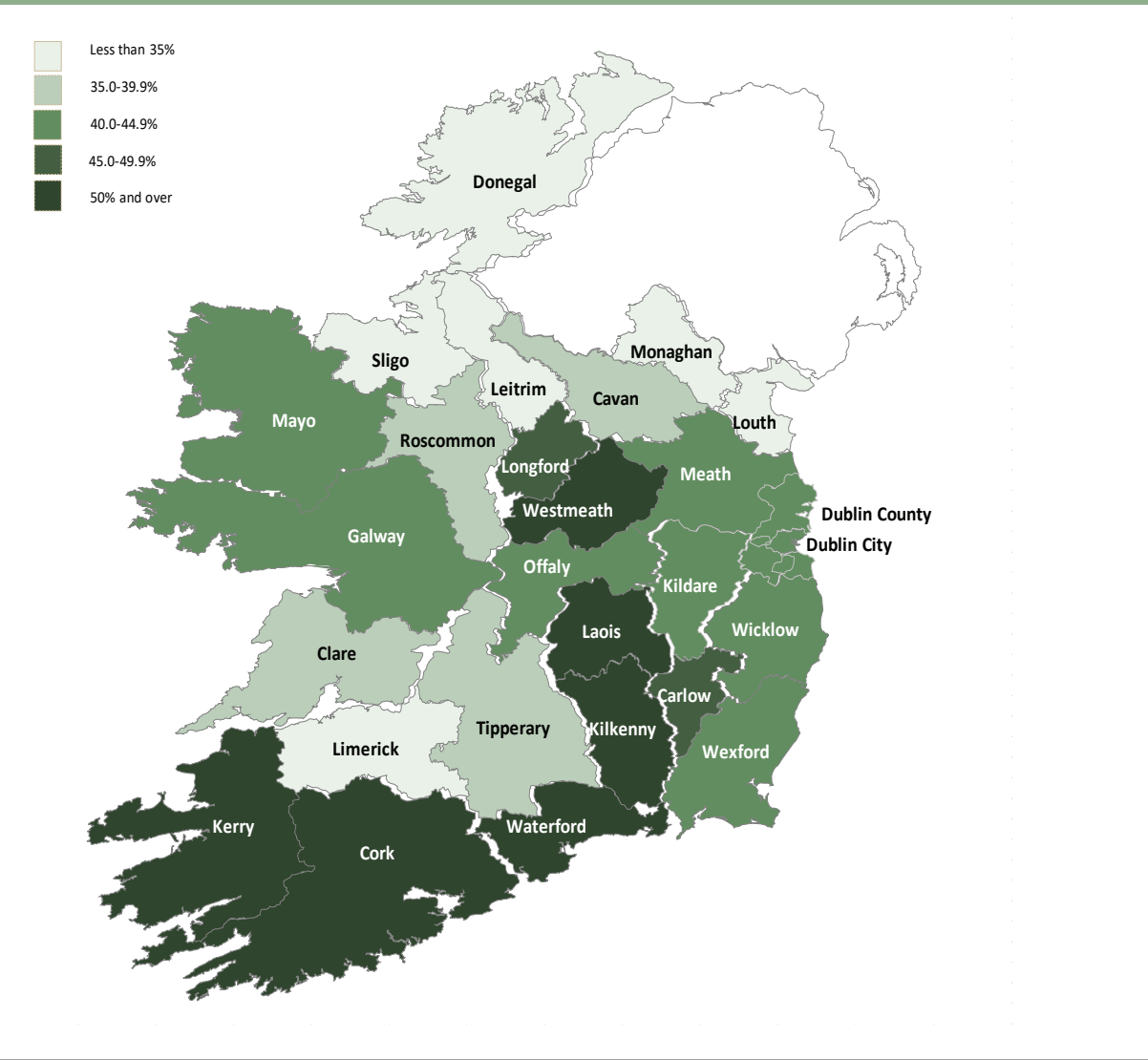
Note: See Table 4.11 for data.

The percentages in this figure exclude 'Not Stated' and may differ slightly from the percentages in the corresponding table.

Figure 4.8 presents the rate of exclusive breastfeeding by geographic location.

- Infants born to mothers resident in Cork recorded the highest rate of breastfeeding at 62.7 per cent, with Kilkenny and Kerry reporting rates at 61.9 per cent and 58.7 per cent respectively.
- Other counties reporting exclusive breastfeeding rates higher than the national rate of 44.2 per cent include Waterford, Laois, Westmeath, Longford, Carlow, Dublin County and Mayo.

FIGURE 4.8
Percentage Distribution of Exclusively Breastfed Infants by Mother's County of Residence, Total Live Births



Notes: See Appendix G, Table G10 for data.
Example: Of all live births to mothers resident in Carlow, 48.9 per cent were breastfed.

Table 4.12 and Figure 4.9 present data on type of feeding by mother's socio-economic group.

- Breastfeeding was most common among mothers in the 'higher professional' (61.2 per cent) socio-economic group. Breastfeeding was least common among 'unemployed' mothers (27.8 per cent).
- Artificial feeding was most common among 'unemployed' mothers with a rate of 61.3 per cent.

TABLE 4.12

Mother's Socio-economic Group by Infant's Type of Feeding, Total Live Births

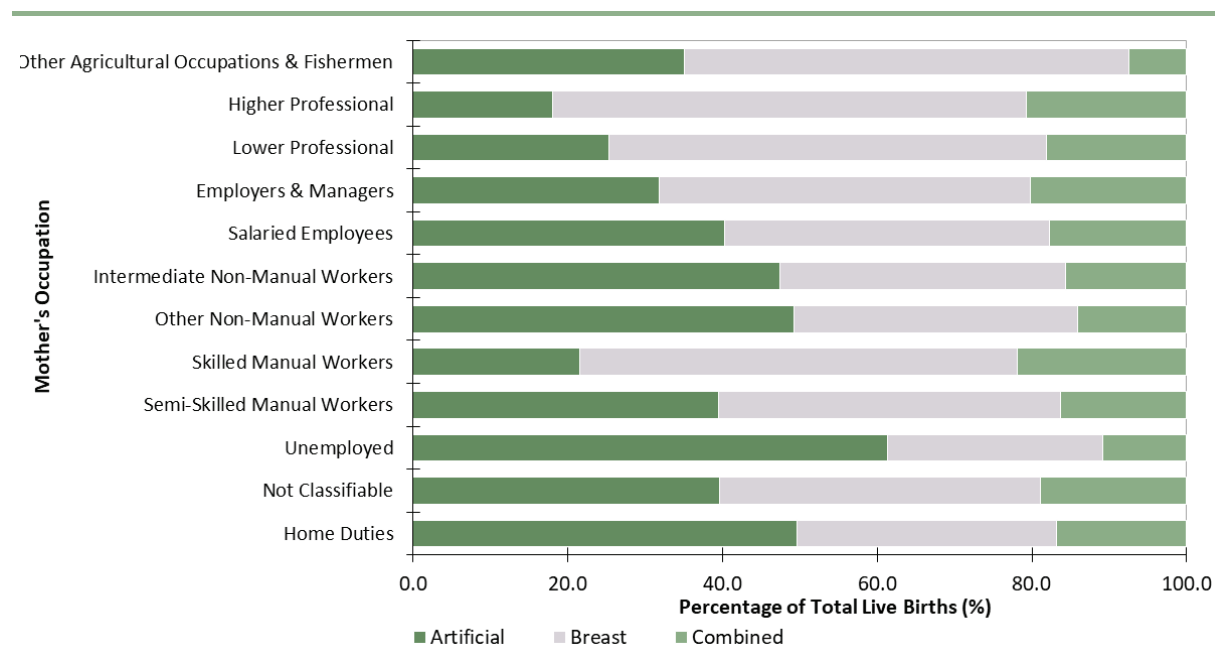
Frequency Row Per Cent	Type of Feeding				
	Artificial	Breast	Combined	Not Stated	Total
Farmers & Farm Managers	* ^	* ^	11 15.7	0 0.0	70 100.0
Other Agricultural Occupations & Fisherwomen	42 35.0	69 57.5	9 7.5	0 0.0	120 100
Higher Professional	859 18.0	2,926 61.2	* ^	~ ^	4,778 100
Lower Professional	3,266 25.3	7,294 56.6	2,337 18.1	0 0.0	12,897 100
Employers & Managers	1,367 31.7	2,071 48.1	868 20.2	0 0.0	4,306 100
Salaried Employees	216 40.2	226 42.1	95 17.7	0 0.0	537 100
Intermediate Non-Manual Workers	4,429 47.4	3,456 37.0	* ^	~ ^	9,352 100
Other Non-Manual Workers	4,075 49.2	3,034 36.7	1,167 14.1	0 0.0	8,276 100
Skilled Manual Workers	177 21.6	463 56.5	180 22.0	0 0.0	820 100
Semi-Skilled Manual Workers	514 39.4	578 44.3	212 16.3	0 0.0	1,304 100
Unskilled Manual Workers	~ ^	~ ^	~ ^	0 0.0	9 100
Unemployed	1,577 61.3	715 27.8	* ^	~ ^	2,573 100
Not Classifiable	669 39.6	699 41.4	* ^	~ ^	1,689 100
Home Duties	4,040 49.7	2,720 33.4	* ^	~ ^	8,135 100
Not Stated	702 37.6	793 42.5	* ^	~ ^	1,868 100
Total	21,963 38.7	25,081 44.2	9,681 17.1	9 0.0	56,734 100

Notes:

- Percentage rows are subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^ Percentage not provided to prevent disclosure of small numbers.
- This table excludes early neonatal deaths.

FIGURE 4.9

Percentage Distribution of Infant's Type of Feeding by Mother's Socio-economic Group, Total Live Births



Notes: See Table 4.12 for data.

Categories where percentages are based on <100 births are not included.

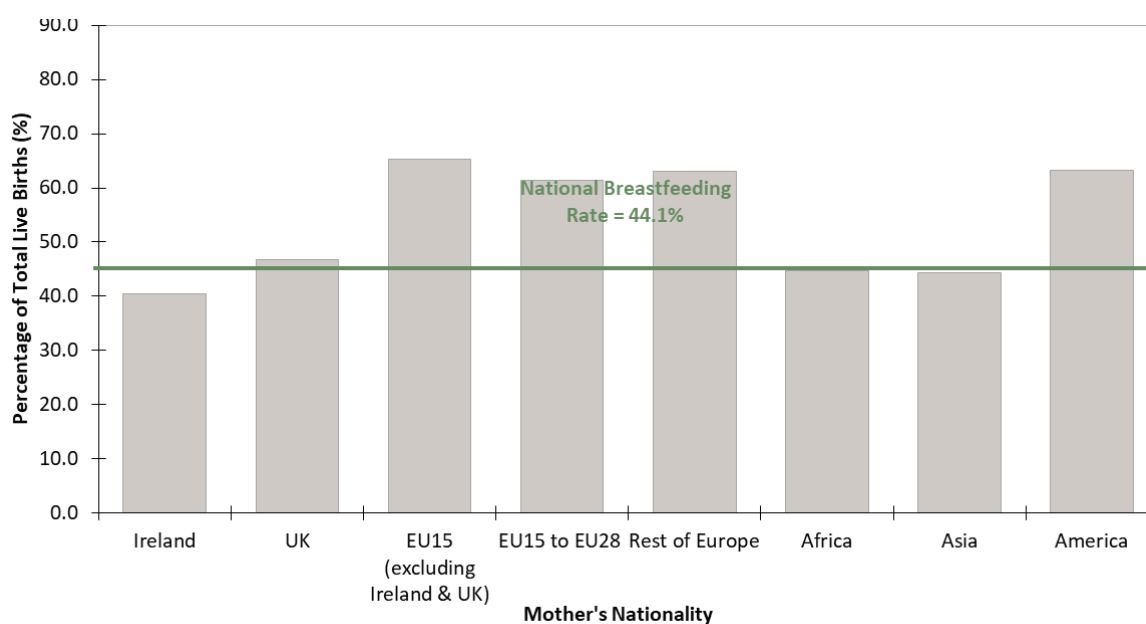
The percentages in this figure exclude 'Not Stated' and may differ slightly from the percentages in the corresponding table.

Figure 4.10 presents the rate of exclusive breastfeeding by mother's nationality.²⁹

- At 40.5 per cent, births to mothers from Ireland recorded the lowest proportion of breastfeeding.
- Births to mothers from the EU15 (excluding Ireland and UK) reported the highest proportion of breastfeeding at 65.2 per cent.

FIGURE 4.10

Percentage Distribution of Exclusively Breastfed Infants by Mother's Nationality, Total Live Births



Notes: See Appendix G, Table G11 for data.

Categories where percentages are based on <100 live births are not included.

²⁹ For further discussion and analysis on this issue see Brick, A. & Nolan, A. (2014) Maternal country of birth differences in breastfeeding at hospital discharge in Ireland. *The Economic and Social Review*, 45(4), 455-484 and Brick, A. & Nolan, A. (2014) Explaining the increase in breastfeeding at hospital discharge in Ireland, 2004–2010. *Irish Journal of Medical Science*, 183(3), 333-339.

SECTION FIVE

PERINATAL OUTCOMES

INTRODUCTION

This section presents a detailed review of aspects of perinatal outcomes for infants. Cause of death is examined according to the guidelines set out by the WHO in the International Classification of Diseases (ICD-10).³⁰ A detailed description of the cause of death classification and the coding rules applied is available in Appendix D.

Of the 57,064 births recorded by the NPRS in 2020, 219 were stillbirths and 111 were early neonatal deaths, giving a total of 330 perinatal deaths and a perinatal mortality rate of 5.8 per 1,000 live births and stillbirths.

The number of perinatal deaths is broken down by type of death (antepartum and intrapartum stillbirths and early neonatal deaths), with tables presenting data in relation to

- birthweight distribution by parity and cause of death
- gestational age at delivery and cause of death
- cause of death categorised by ICD-10 codes
- age at death for early neonatal deaths
- post-mortem examinations.

MORTALITY BY BIRTHWEIGHT AND PARITY

Table 5.1 presents mortality rates by birthweight and parity.^{31,32}

- Over 64 per cent of total perinatal deaths weighed less than 2,500 grams, 63.2 per cent for primiparous women and 64.9 per cent for multiparous women (see Figure 5.1).
- The perinatal mortality rate for low birthweight babies (weighing less than 2,500 grams) was 64.3 per 1,000 live births and stillbirths (50.1 per 1,000 for primiparous women and 77.4 per 1,000 for multiparous women).
- The early neonatal mortality rate for low birthweight babies (weighing less than 2,500 grams) was 22.2 per 1,000 live births (17.7 per 1,000 for primiparous women and 26.4 per 1,000 for multiparous women).
- The stillbirth rate for low birthweight babies (weighing less than 2,500 grams) was 43.1 per 1,000 live births and stillbirths (33.0 per 1,000 for primiparous women and 52.4 per 1,000 for multiparous women).
- For births weighing 2,500 grams or more, the perinatal mortality rate was 2.2 per 1,000 live births and stillbirths (2.2 for both primiparous women and multiparous women).
- Higher perinatal mortality rates for all births were recorded for births less than 1,500 grams at 246.5 per 1,000 live births and stillbirths and an adjusted perinatal mortality rate of 178.5 per 1,000 live births and stillbirths (see Figure 5.2).

³⁰ World Health Organisation, 2005, *International Statistical Classification of Diseases and Related Health Problems*, 10th Revision, Vols. 1-3. Geneva: World Health Organisation

³¹ For details of birthweight by plurality for total births, antepartum and intrapartum stillbirths, early neonatal deaths and associated rates see Appendix G, Table G12.

³² Tables and figures presented in this section exclude cases for which parity and birthweight was unknown.

TABLE 5.1

Birthweight (grams): Total Perinatal Deaths, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates by Parity

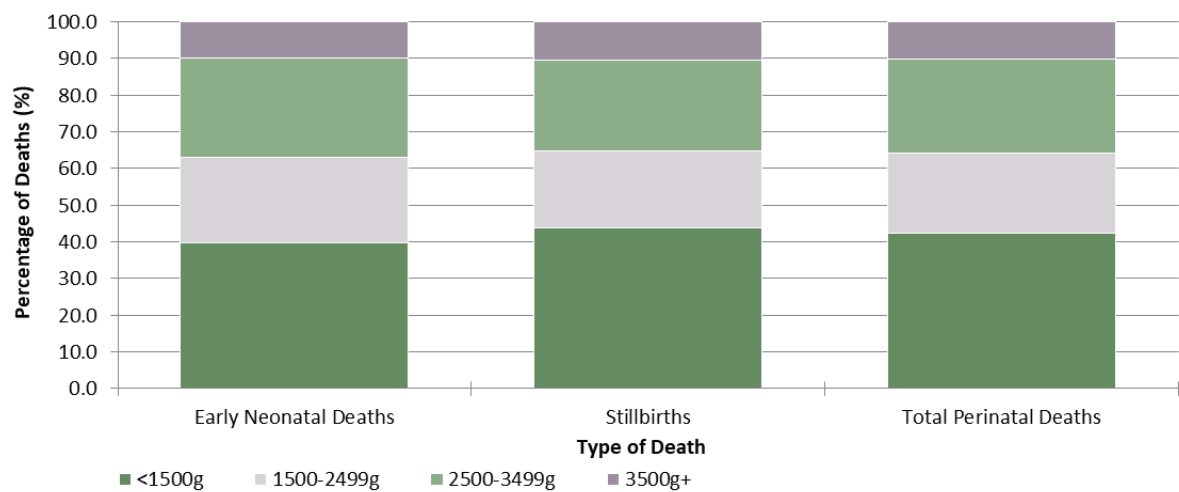
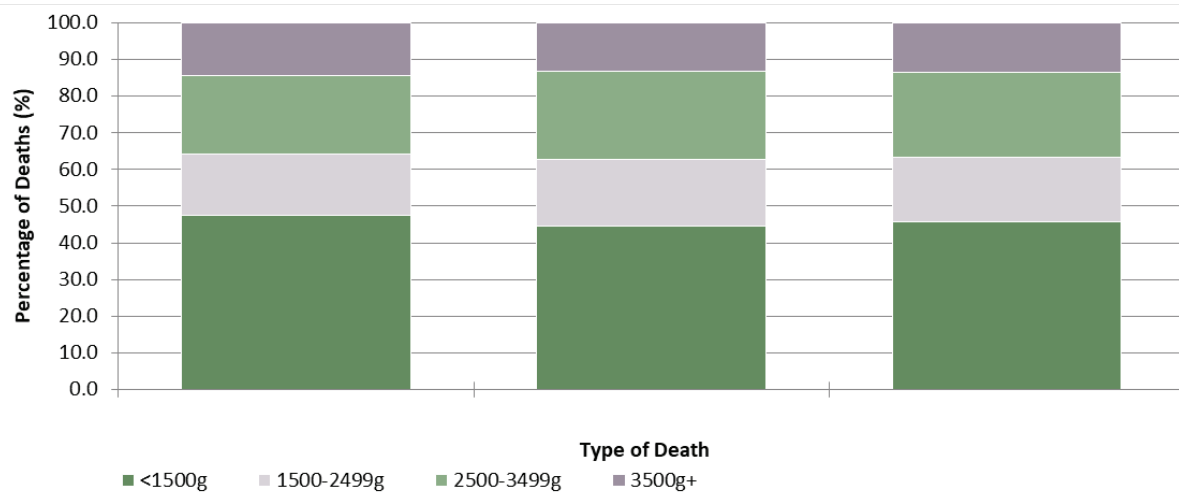
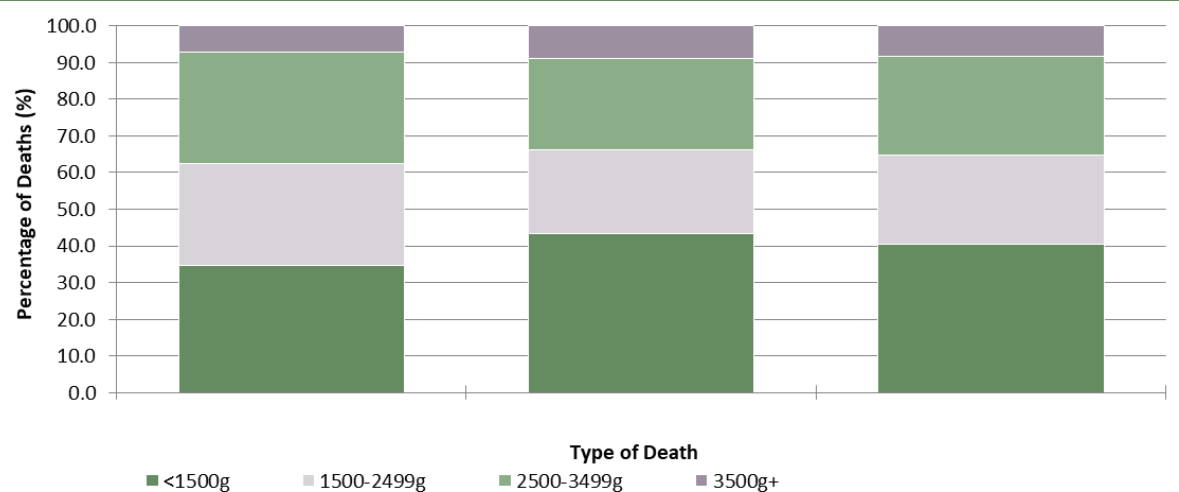
	Total Perinatal Deaths	Total Perinatal Deaths %	Ante-partum Stillbirths	Intra-Partum Stillbirths	Not Stated	Stillbirth Rate ^a	Early Neonatal Deaths	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adj. PMR ^a
Total										
500-749	71	21.5	43	~	~	392.3	20	253.2	546.2	463.6
750-999	31	9.4	20	0	~	169.4	10	97.1	250.0	191.3
1000-1249	20	6.1	12	0	0	87.6	8	64.0	146.0	93.0
1250-1499	18	5.5	9	~	~	67.8	6	36.4	101.7	47.9
1500-1999	28	8.5	17	~	0	29.3	9	14.3	43.2	26.7
2000-2499	44	13.3	22	~	~	13.0	17	8.3	21.2	13.1
2500-2999	45	13.6	26	0	~	4.0	17	2.5	6.5	4.6
3000-3499	39	11.8	24	~	~	1.4	13	0.7	2.1	1.7
3500-3999	20	6.1	15	~	0	0.8	~	0.2	1.0	0.9
4000-4499	*	^	~	0	0	0.7	6	0.8	1.5	1.2
4500 and over	~	^	~	0	~	1.9	~	0.9	2.8	2.8
Total	330	100	194	11	14	3.8	111	2.0	5.8	4.0
Primiparous Women										
500-749	26	20.8	13	~	~	298.2	9	225.0	456.1	354.2
750-999	17	13.6	11	0	~	181.8	~	92.6	257.6	169.5
1000-1249	6	4.8	~	0	0	29.0	~	59.7	87.0	45.5
1250-1499	8	6.4	~	~	~	75.0	~	27.0	100.0	27.0
1500-1999	7	5.6	~	0	0	12.2	~	9.3	21.4	15.4
2000-2499	15	12.0	9	~	0	11.3	~	4.1	15.4	10.3
2500-2999	14	11.2	8	0	~	2.9	~	1.6	4.5	3.2
3000-3499	15	12.0	10	0	~	1.4	~	0.5	1.9	1.5
3500-3999	10	8.0	8	0	0	1.1	~	0.3	1.4	1.2
4000-4499	7	5.6	~	0	0	1.3	~	1.7	2.9	2.5
4500 and over	0	0.0	0	0	0	-	0	-	-	-
Total	125	100	72	~	7	3.7	42	1.9	5.6	3.7
Multiparous Women										
500-749	45	22.0	30	~	~	465.8	11	282.1	616.4	548.4
750-999	14	6.8	9	0	0	155.2	~	102.0	241.4	214.3
1000-1249	14	6.8	*	0	0	147.1	~	69.0	205.9	142.9
1250-1499	10	4.9	~	0	~	61.9	~	44.0	103.1	64.5
1500-1999	21	10.2	*	~	0	46.7	6	19.6	65.4	38.5
2000-2499	29	14.1	13	~	~	14.5	13	12.0	26.3	15.6
2500-2999	31	15.1	18	0	~	4.9	12	3.1	8.0	5.7
3000-3499	24	11.7	14	~	0	1.4	9	0.8	2.2	1.8
3500-3999	10	4.9	7	~	0	0.6	~	0.2	0.8	0.6
4000-4499	~	^	~	0	0	0.4	~	0.4	0.8	0.6
4500 and over	~	^	~	0	~	2.6	~	1.3	3.9	3.9
Total	205	100	122	7	7	3.9	69	2.0	5.9	4.2

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^ Percentage not provided to prevent disclosure of small numbers.
- ^a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

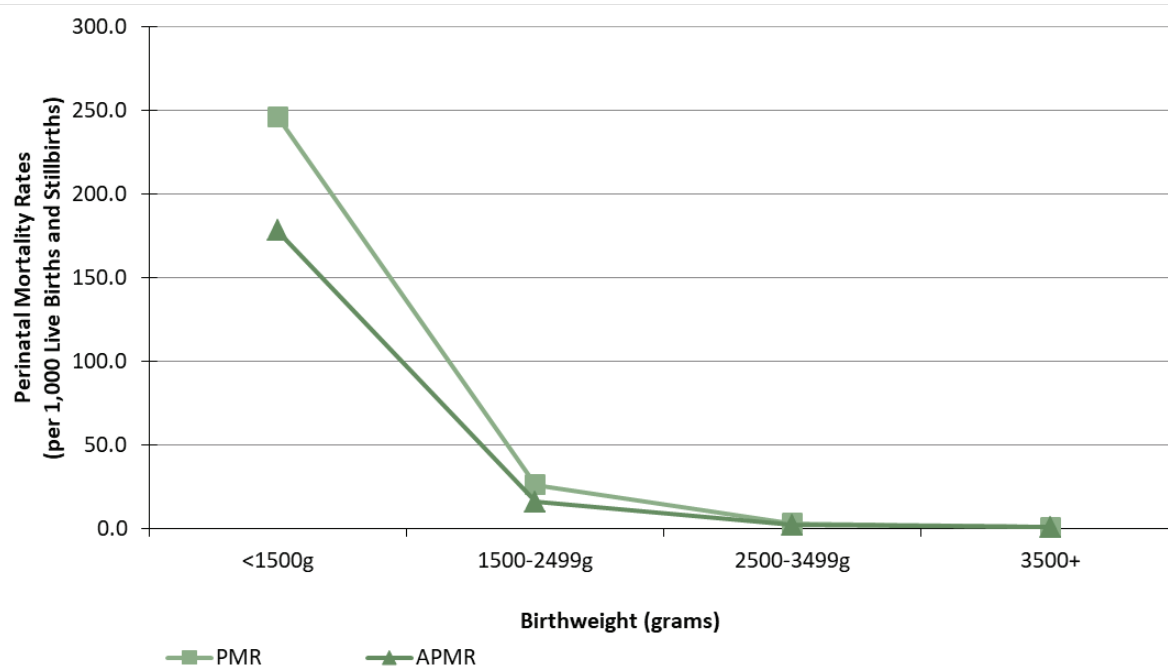
FIGURE 5.1

Perinatal Deaths by Birthweight Groups and Parity

Total Perinatal Deaths**Perinatal Deaths: Primiparous Women****Perinatal Deaths: Multiparous Women**

Note: See Table 5.1 for data.

FIGURE 5.2
Perinatal Mortality Rates by Birthweight Groups



Note: See Table 5.1 for data.

CAUSE OF DEATH BY BIRTHWEIGHT

Cause of death data are recorded using the WHO ICD-10 classification.³³ Under this system, the main cause of death is defined as the pathological condition of the infant or foetus which, in the opinion of the certifier, made the greatest contribution towards the death.³⁴

Table 5.2 presents cause of death by birthweight for total, singleton and multiple births.

- Congenital malformations (Q00-Q99) accounted for the largest proportion of total perinatal deaths (30.3 per cent) followed by maternal factors (P00-P04), which accounted for 27.0 per cent.
- Approximately 64 per cent of perinatal deaths weighed <2,500 grams, and of these 35.4 per cent were due to congenital malformations (Q00-Q99), followed by maternal factors (P00-P04) which accounted for 26.9 per cent (see Figure 5.3).
- Approximately 36 per cent of perinatal deaths weighed $\geq 2,500$ grams, and of these maternal factors (P00-P04) accounted for 27.1 per cent (see Figure 5.4).

³³ World Health Organisation, *op. cit.*

³⁴ See Appendix D for more detail.

TABLE 5.2
Total Perinatal Deaths: Cause of Death by ICD-10 Chapter by Birthweight, Perinatal Mortality Rate^a and Numbers (Total)

ICD-10 Code		Birthweight (grams)											Total		PMR ^a
		500 - 749	750 - 999	1000 - 1249	1250 - 1499	1500 - 1999	2000 - 2499	2500 - 2999	3000 - 3499	3500 - 3999	4000 - 4499	4500 and over			
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery		192.3	56.5	14.6	11.3	7.7	7.7	1.4	0.6	0.4	0.3	-	89	1.6	
Disorders related to length of gestation and foetal growth		107.7	8.1	21.9	-	1.5	0.5	-	-	-	-	-	20	0.4	
Respiratory and cardiovascular disorders specific to the perinatal period		38.5	48.4	21.9	5.6	4.6	1.4	1.2	0.2	0.1	0.1	1.9	38	0.7	
Infections specific to the perinatal period		7.7	8.1	-	-	-	0.5	0.1	0.2	-	-	-	8	0.1	
Haemorrhagic and haematological disorders of foetus and newborn		7.7	16.1	-	-	1.5	0.5	-	-	0.1	-	-	7	0.1	
Transitory endocrine and metabolic disorders specific to foetus and newborn		-	-	-	-	-	-	-	-	-	0.3	-	~	0.0	
Digestive system disorders of foetus and newborn		-	-	-	-	1.5	-	-	-	-	-	-	~	0.0	
Conditions involving the integument and temperature regulation of foetus and newborn		15.4	24.2	7.3	11.3	-	-	0.1	0.1	-	-	-	10	0.2	
Other disorders originating in the perinatal period		P900-P949 P960-P968	-	-	11.3	-	-	-	0.1	-	-	-	~	0.1	
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified		23.1	16.1	21.9	5.6	9.3	2.4	1.7	0.4	0.3	0.6	0.9	50	0.9	
Congenital malformations of the nervous system		Q00-Q07	15.4	24.2	7.3	11.3	3.1	0.1	0.1	-	-	-	13	0.2	
Congenital malformations of eye, ear, face and neck		Q10-Q18	-	-	-	5.6	-	-	-	-	-	-	~	0.0	
Congenital malformations of the circulatory system		Q20-Q28	15.4	8.1	7.3	5.6	-	1.4	0.1	0.1	0.1	-	14	0.2	
Congenital malformations of the respiratory system		Q30-Q34	-	-	-	-	-	0.3	-	-	0.1	-	~	0.1	
Other congenital malformations of the digestive system		Q38-Q45	-	-	-	-	-	1.0	-	-	-	-	~	0.0	
Congenital malformations of the urinary system		Q60-Q64	15.4	-	-	-	1.5	0.5	-	0.1	0.1	-	7	0.1	
Congenital malformations and deformations of the musculoskeletal system		Q65-Q79	15.4	-	-	11.3	-	1.9	0.3	0.1	-	-	11	0.2	
Other congenital malformations		Q80-Q89	30.8	-	21.9	5.6	4.6	0.5	0.6	-	-	-	16	0.3	
Chromosomal abnormalities, not elsewhere classified		Q90-Q99	61.5	40.3	21.9	16.9	7.7	2.9	0.3	0.1	-	-	33	0.6	
All other causes		A00.0-O99.9, R00.0-Z99.9	-	-	-	-	-	-	-	0.1	-	-	~	0.0	
Total	N	71	31	20	18	28	44	45	39	20	*	~	330	-	
	PMR	546.2	250.0	146.0	101.7	43.2	21.2	6.5	2.1	1.0	1.5	2.8	-	5.8	

TABLE 5.2

Singleton Perinatal Deaths: Cause of Death by ICD-10 Chapter by Birthweight, Perinatal Mortality Rate^a and Numbers (Total)

ICD-10 Code	Birthweight (grams)												Total	PMR ^a
	500 - 749	750 - 999	1000 - 1249	1250 - 1499	1500 - 1999	2000 - 2499	2500 - 2999	3000 - 3499	3500 - 3999	4000 - 4499	4500 and over	N		
P00-P04 Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	196.3	77.8	19.4	18.0	10.2	10.0	1.5	0.7	0.4	0.3	-	82	1.5	
P05-P08 Disorders related to length of gestation and foetal growth	121.5	11.1	19.4	-	-	0.7	-	-	-	-	-	17	0.3	
P20-P29 Respiratory and cardiovascular disorders specific to the perinatal period	37.4	66.7	19.4	9.0	7.6	2.0	1.3	0.2	0.1	0.1	1.9	36	0.7	
P35-P39 Infections specific to the perinatal period	-	11.1	-	-	-	0.7	0.2	0.2	-	-	-	7	0.1	
P50-P61 Haemorrhagic and haematological disorders of foetus and newborn	9.3	22.2	-	-	2.5	0.7	-	-	0.1	-	-	7	0.1	
P70-P74 Transitory endocrine and metabolic disorders specific to foetus and newborn	-	-	-	-	-	-	-	-	-	0.3	-	~	0.0	
P80-P83 Conditions involving the integument and temperature regulation of foetus and newborn	18.7	33.3	9.7	18.0	-	-	0.2	0.1	-	-	-	10	0.2	
P900-P949 P960-P968 Other disorders originating in the perinatal period	-	-	-	18.0	-	-	-	0.1	-	-	-	~	0.1	
P95, P96.9 Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	28.0	22.2	29.1	9.0	12.7	2.7	1.9	0.4	0.3	0.6	0.9	48	0.9	
Q00-Q07 Congenital malformations of the nervous system	18.7	22.2	9.7	18.0	5.1	-	0.2	0.1	-	-	-	12	0.2	
Q10-Q18 Congenital malformations of eye, ear, face and neck	-	-	-	9.0	-	-	-	-	-	-	-	~	0.0	
Q20-Q28 Congenital malformations of the circulatory system	18.7	11.1	9.7	9.0	-	2.0	0.2	0.1	0.1	0.1	-	14	0.3	
Q30-Q34 Congenital malformations of the respiratory system	-	-	-	-	-	-	0.3	-	-	0.1	-	~	0.1	
Q38-Q45 Other congenital malformations of the digestive system	-	-	-	-	-	1.3	-	-	-	-	-	~	0.0	
Q60-Q64 Congenital malformations of the urinary system	18.7	-	-	-	2.5	0.7	0.2	0.1	-	-	-	6	0.1	
Q65-Q79 Congenital malformations and deformations of the musculoskeletal system	18.7	-	-	18.0	0.0	2.7	0.3	0.1	-	-	-	11	0.2	
Q80-Q89 Other congenital malformations	28.0	-	29.1	9.0	5.1	0.7	0.6	-	-	-	-	14	0.3	
Q90-Q99 Chromosomal abnormalities, not elsewhere classified	74.8	55.6	19.4	18.0	12.7	4.0	0.3	0.1	-	-	-	31	0.6	
A00.0-O99.9, R00.0-Z99.9 All other causes	-	-	-	-	-	-	-	0.1	-	-	-	~	0.0	
Total	63	30	17	17	23	42	44	39	19	*	~	308	-	
PMR	588.8	333.3	165.0	153.2	58.5	28.1	7.1	2.1	1.0	1.5	2.8	-	5.6	

TABLE 5.2
Multiple Perinatal Deaths: Cause of Death by ICD-10 Chapter by Birthweight, Perinatal Mortality Rate^a and Numbers (Total)

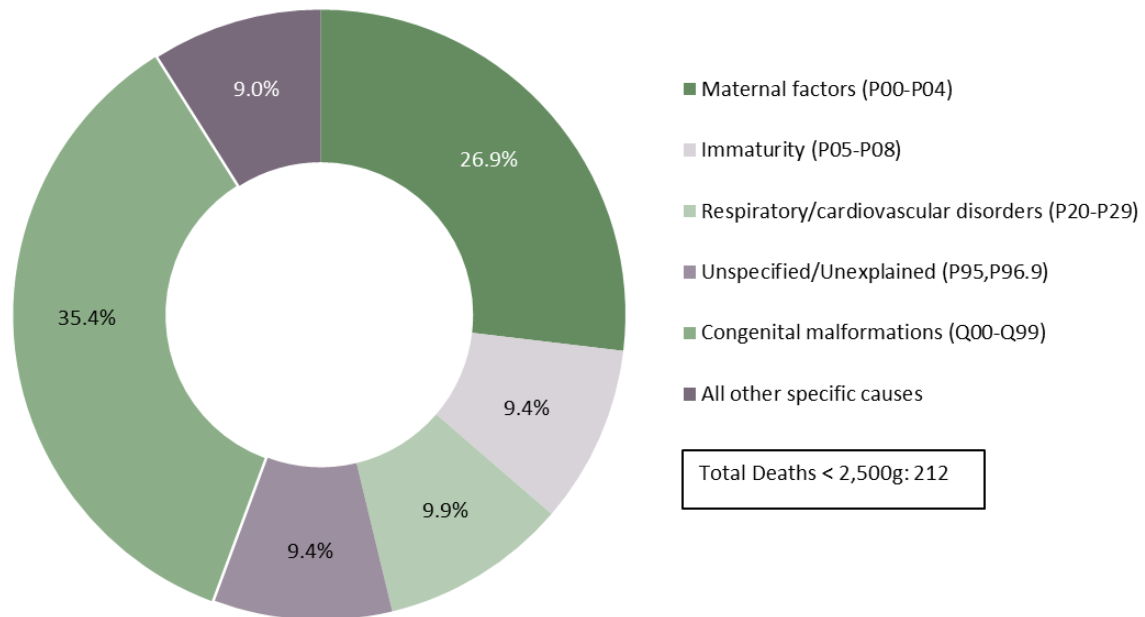
ICD-10 Code	Birthweight (grams)												Total
	500 - 749	750 - 999	1000 - 1249	1250 - 1499	1500 - 1999	2000 - 2499	2500 - 2999	3000 - 3499	3500 - 3999	4000 - 4499	4500 and over	N	
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	P00-P04	173.9	-	-	-	3.9	1.7	-	-	-	-	7	3.4
Disorders related to length of gestation and foetal growth	P05-P08	43.5	-	29.4	-	-	-	-	-	-	-	~	1.5
Respiratory and cardiovascular disorders specific to the perinatal period	P20-P29	-	-	29.4	0.0	-	-	-	-	-	-	~	1.0
Infections specific to the perinatal period	P35-P39	43.5	-	-	-	-	-	-	-	-	-	~	0.5
Digestive system disorders of foetus and newborn	P75-P78	-	-	-	-	3.9	-	-	-	-	-	~	0.5
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	P95, P96.9	-	-	-	-	3.9	1.7	-	-	-	-	~	1.0
Congenital malformations of the nervous system	Q00-Q07	-	29.4	-	-	-	-	-	-	-	-	~	0.5
Congenital malformations of the urinary system	Q60-Q64	-	-	-	-	-	-	-	3.9	-	-	~	0.5
Other congenital malformations	Q80-Q89	43.5	-	-	-	3.9	-	-	-	-	-	~	1.0
Chromosomal abnormalities, not elsewhere classified	Q90-Q99	-	-	29.4	15.2	-	-	-	-	-	-	~	1.0
Total	N	8	~	~	~	~	~	~	~	0	0	22	-
	PMR	347.8	29.4	88.2	15.2	19.6	3.4	1.3	3.9	-	-	-	10.7

Notes: ~ Denotes five or fewer births reported to NPRS.

a Rates are calculated per 1,000 births. For perinatal deaths, rates are calculated on total live births and stillbirths.

FIGURE 5.3

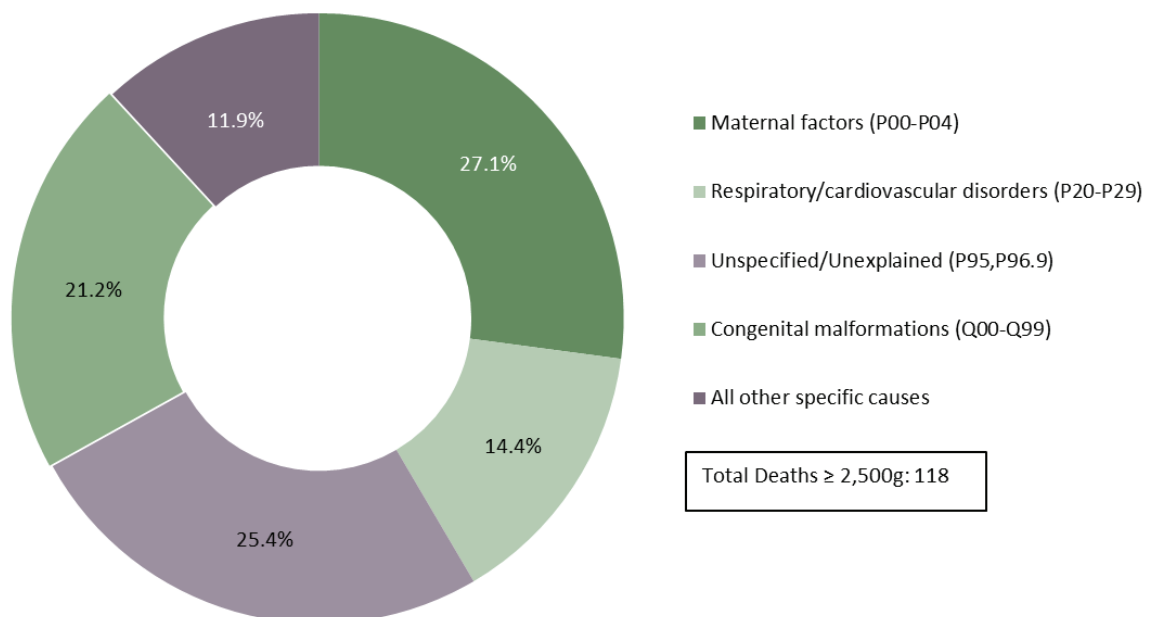
Total Perinatal Deaths with Birthweight < 2,500 grams by Cause of Death



Note: See Table 5.2 for data.

FIGURE 5.4

Total Perinatal Deaths with Birthweight ≥ 2,500 grams by Cause of Death



Note: See Table 5.2 for data.

MORTALITY BY GESTATIONAL AGE

Table 5.3 presents data on mortality by gestational age.

- Prematurity has a significant impact on stillbirth and early neonatal mortality rates with over two-thirds of total perinatal deaths born preterm.^{35,36}
- Over 63 per cent of singleton perinatal deaths and 100 per cent of multiple perinatal deaths were preterm.
- Just over 29 per cent of early neonatal deaths recorded a gestational age of less than 28 completed weeks compared to 28.8 per cent of stillbirths (see Figure 5.5).
- The perinatal mortality rate for babies born before 37 completed weeks of gestation was 54.7 per 1,000 live births and stillbirths (70.4 per 1,000 singleton births and 18.4 per 1,000 multiple births).
- For babies born at 37 or more completed weeks of gestation, the perinatal mortality rate was 2.1 per 1,000 live births and stillbirths.

³⁵ Preterm is defined as less than 37 completed weeks of gestation.

³⁶ In 2020, 7.0 per cent of total births were preterm.

TABLE 5.3

Gestational Age (weeks): Total Perinatal Deaths, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates

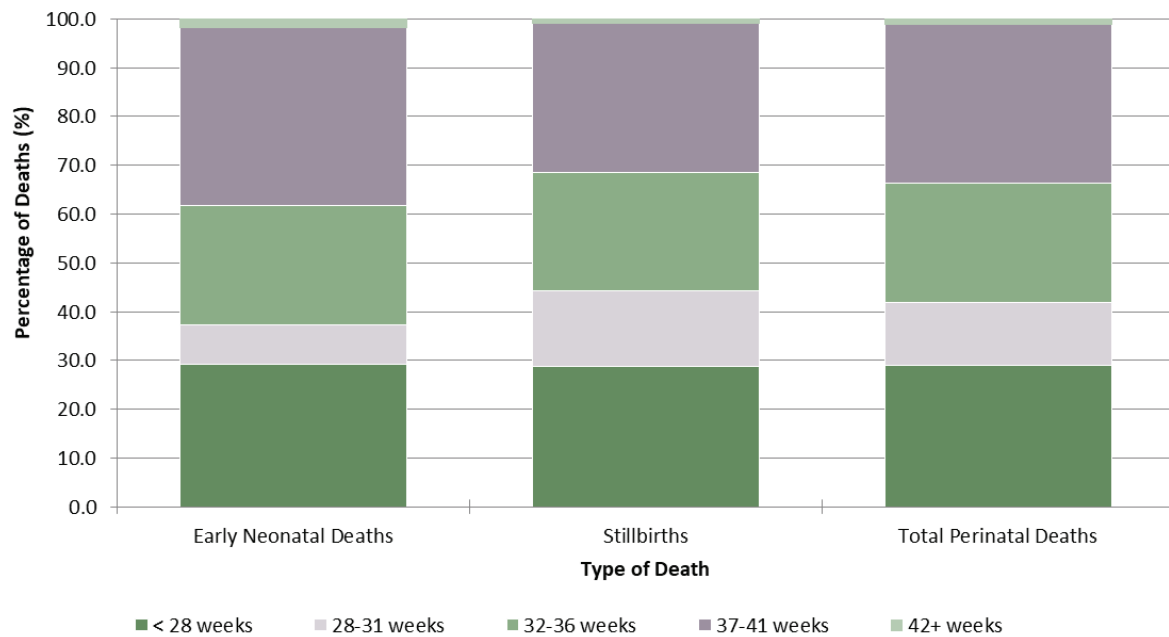
	Total Perinatal Deaths	Total Perinatal Deaths %	Ante- Partum Stillbirths	Intra- Partum Stillbirths	Not Stated	Stillbirth Rate ^a	Early Neonatal Deaths	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adj. PMR ^a
Total Births										
Less than 23	14	4.3	6	0	~	500.0	7	1000.0	1000.0	1000.0
23-27	81	24.6	*	~	~	251.1	25	149.7	363.2	271.8
28-31	*	^	30	~	~	84.2	*	24.3	106.4	81.4
32-36	80	24.3	45	~	~	15.9	27	8.2	23.9	14.5
37-41	107	32.5	62	~	~	1.3	40	0.8	2.0	1.6
42 and Over	~	^	~	0	0	3.8	~	3.8	7.5	3.8
Total	329	100	194	11	14	3.8	110	1.9	5.8	4.0
Singleton Births										
Less than 23	14	4.6	6	0	~	500.0	7	1000.0	1000.0	1000.0
23-27	*	^	45	~	~	296.5	*	190.1	430.2	324.1
28-31	*	^	30	~	~	117.0	~	20.1	134.8	106.2
32-36	70	22.8	*	~	~	21.6	20	8.8	30.2	17.9
37-41	107	34.9	62	~	~	1.3	40	0.8	2.1	1.6
42 and Over	~	^	~	0	0	3.8	~	3.8	7.5	3.8
Total	307	100	*	*	*	3.8	97	1.8	5.6	3.9
Multiple Births										
Less than 23	0	0.0	0	0	0	-	0	-	-	-
23-27	*	^	~	~	0	98.0	~	43.5	137.3	120.0
28-31	~	^	0	~	0	8.2	~	33.1	41.0	25.0
32-36	10	45.5	~	~	~	2.9	7	6.9	9.8	6.9
37-41	0	0.0	0	0	0	-	0	-	-	-
42 and Over	0	0.0	0	0	0	-	0	-	-	-
Total	22	100	~	~	~	4.4	13	6.4	10.7	7.8

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births.
- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.
- There were five or fewer perinatal deaths with gestation unknown which are not presented in this table; total perinatal deaths therefore differs to the figures presented in other tables.

FIGURE 5.5

Total Perinatal Deaths by Gestational Age (weeks)

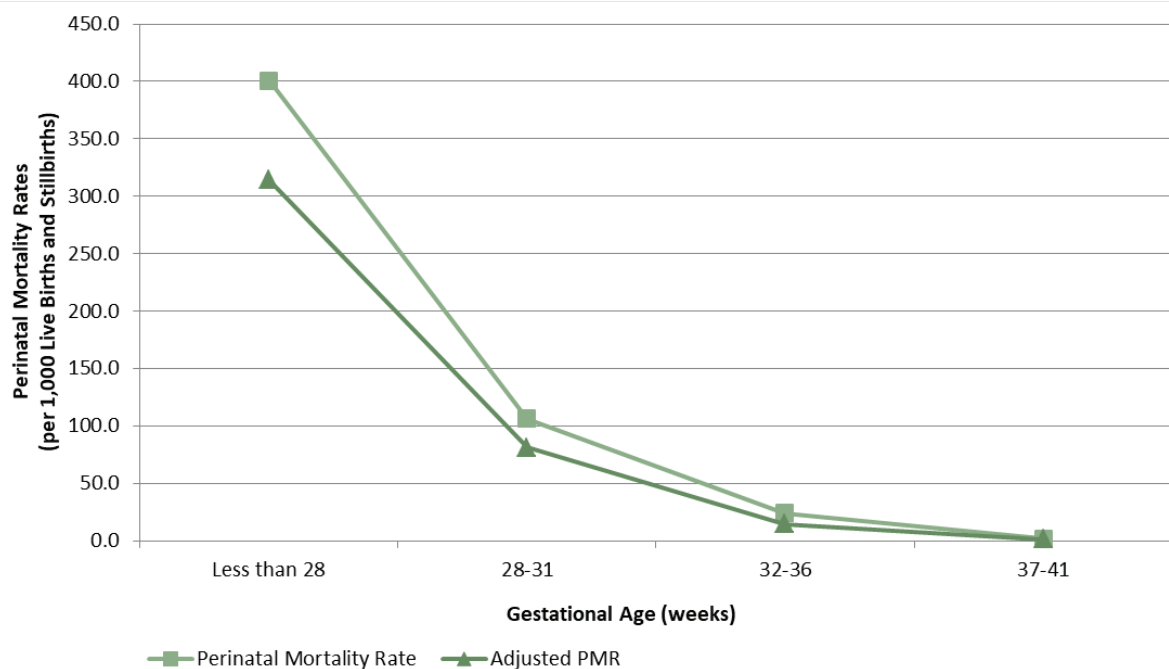


Note: See Table 5.3 for data.

Figure 5.6 shows the perinatal mortality rates by gestational age at delivery, illustrating the higher rates associated with lower gestational age.

FIGURE 5.6

Perinatal Mortality Rates by Gestational Age (weeks) at Delivery



Notes: See Table 5.3 for data.
Rates based on 20 or fewer observations are not included in this Figure.

CAUSE OF DEATH

Cause of death data and mortality rates for stillbirths, early neonatal deaths and total perinatal deaths are presented in Table 5.4.

Figures 5.7-5.9 show the percentage distribution of stillbirths, early neonatal deaths and total perinatal deaths categorised into groups by cause of death.

Figure 5.9 shows that 15.2 per cent of total perinatal deaths were classified as 'unspecified/unexplained' (P95, P96.9). The fact that just under 50 per cent of all perinatal deaths in Ireland do not undergo post-mortem examinations may be a contributing factor to the numbers assigned to this category (see also Table 5.5).

TABLE 5.4
Cause of Death by ICD-10 Chapter and Subcategories, Mortality Rates^a and Numbers (Total)

ICD-10 Code	Total Deaths			Singleton Deaths			Multiple Deaths		
	Stillbirths	Early Neonatal Deaths	Total Perinatal Deaths	Stillbirths	Early Neonatal Deaths	Total Perinatal Deaths	Stillbirths	Early Neonatal Deaths	Total Perinatal Deaths
	Rate	Rate	N	Rate	Rate	N	Rate	Rate	N
P00-P04	1.4	0.2	89	1.3	1.6	82	1.5	0.5	7
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery									
Foetus and newborn affected by maternal complications of pregnancy	0.1	0.0	~	0.1	0.1	~	0.1	-	0
Foetus and newborn affected by complications of placenta, cord and membranes	1.3	0.1	83	1.3	1.5	76	1.4	0.5	7
Foetus and newborn affected by other complications of labour and delivery	0.0	-	~	0.0	0.0	~	0.0	-	0
Disorders related to length of gestation and foetal growth	0.1	0.3	20	0.1	0.4	17	0.3	0.5	1.5
Slow foetal growth and foetal malnutrition	0.0	0.0	~	-	0.1	~	0.0	0.5	~
Disorders related to short gestation and low birth weight, not elsewhere classified	0.1	0.2	17	0.3	0.1	16	0.3	-	0.5
Respiratory and cardiovascular disorders specific to the perinatal period	0.4	0.3	38	0.4	0.7	36	0.7	1.0	1.0
Intrauterine hypoxia	0.3	-	15	0.3	0.3	15	0.3	-	0
Birth asphyxia	-	0.1	~	-	0.1	~	0.1	-	0
Respiratory distress of newborn	-	0.0	~	-	0.0	~	0.0	0.5	~
Interstitial emphysema and related conditions originating in the perinatal period	-	0.0	~	-	0.0	0	-	0.5	~
Pulmonary haemorrhage originating in the perinatal period	-	0.0	~	-	0.0	~	0.0	-	0
Other respiratory conditions originating in the perinatal period	0.0	0.1	10	0.0	0.2	10	0.2	-	0
Cardiovascular disorders originating in the perinatal period	0.1	0.0	~	0.1	0.1	~	0.1	-	0
Infections specific to the perinatal period	0.1	0.1	8	0.1	0.1	7	0.1	0.5	0.5
Bacterial sepsis of newborn	0.0	0.1	~	0.0	0.0	~	0.1	-	0.5
Other infections specific to the perinatal period	0.1	-	~	0.1	0.1	~	0.1	-	0
Haemorrhagic and haematological disorders of foetus and newborn	0.1	0.0	7	0.1	0.1	7	0.1	-	0
Foetal blood loss	0.1	-	~	0.1	0.1	~	0.1	-	0
Umbilical haemorrhage of newborn	0.0	-	~	0.0	0.0	~	0.0	-	0
Intracranial nontraumatic haemorrhage of foetus and newborn	-	0.0	~	-	0.0	~	0.0	-	0
Haemolytic disease of foetus and newborn	0.0	-	~	0.0	0.0	~	0.0	-	0
Other perinatal haematological disorders	-	0.0	~	-	0.0	~	0.0	-	0
Transitory endocrine and metabolic disorders specific to foetus and newborn	0.0	0.0	~	0.0	0.0	~	0.0	-	0

TABLE 5.4
Cause of Death by ICD-10 Chapter and Subcategories, Mortality Rates^a and Numbers (Total) (cont.)

ICD-10 Code	Total Deaths				Singleton Deaths				Multiple Deaths			
	Stillbirths	Early Neonatal Deaths	Total Perinatal Deaths		Stillbirths	Early Neonatal Deaths	Total Perinatal Deaths		Stillbirths	Early Neonatal Deaths	Total Perinatal Deaths	
	Rate	Rate	N	Rate	Rate	Rate	N	Rate	Rate	Rate	N	Rate
Transitory disorders of carbohydrate metabolism specific to foetus and newborn	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Other transitory neonatal electrolyte and metabolic disturbances	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Digestive system disorders of foetus and newborn	-	0.0	~	0.0	-	-	0	-	-	0.5	~	0.5
Other perinatal digestive system disorders	-	0.0	~	0.0	-	-	0	-	-	0.5	~	0.5
Conditions involving the integument and temperature regulation of foetus and newborn	0.1	0.0	10	0.2	0.1	0.0	10	0.2	-	-	0	-
Other conditions of integument specific to foetus and newborn	0.1	0.0	10	0.2	0.1	0.0	10	0.2	-	-	0	-
Other disorders originating in the perinatal period	0.7	0.2	54	0.9	0.7	0.2	52	0.9	0.5	0.5	~	1.0
Other disturbances of cerebral status of newborn	0.0	0.0	~	0.1	0.0	0.0	~	0.1	-	-	0	-
Other conditions originating in the perinatal period	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Foetal death of unspecified cause, Condition origination in the perinatal period, unspecified	0.7	0.2	50	0.9	0.7	0.2	48	0.9	0.5	0.5	~	1.0
Congenital malformations of the nervous system	0.1	0.1	13	0.2	0.1	0.1	12	0.2	-	0.5	~	0.5
Anencephaly and similar malformations	0.0	0.1	7	0.1	0.0	0.1	6	0.1	-	0.5	~	0.5
Encephalocele	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Congenital hydrocephalus	0.0	0.0	~	0.1	0.0	0.0	~	0.1	-	-	0	-
Other congenital malformations of the brain	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Congenital malformations of eye, ear, face and neck	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Other congenital malformations of face and neck	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Congenital malformations of the circulatory system	0.1	0.1	14	0.2	0.1	0.1	~	0.3	-	-	0	-
Congenital malformations of cardiac chambers and connections	0.0	0.0	~	0.0	0.0	0.0	~	0.0	-	-	0	-
Congenital malformations of cardiac septa	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Congenital malformations of pulmonary and tricuspid valves	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Congenital malformations of aortic and mitral valves	-	0.0	~	0.0	-	0.0	~	0.0	-	-	0	-
Other congenital malformations of heart	0.1	0.1	8	0.1	0.1	0.1	8	0.1	-	-	0	-
Congenital malformations of the respiratory system	-	0.1	~	0.1	-	0.1	~	0.1	-	-	0	-
Congenital malformations of lung	-	0.1	~	0.1	-	0.1	~	0.1	-	-	0	-
Other congenital malformations of the digestive system	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-
Congenital malformations of oesophagus	0.0	-	~	0.0	0.0	-	~	0.0	-	-	0	-

TABLE 5.4
Cause of Death by ICD-10 Chapter and Subcategories, Mortality Rates^a and Numbers (Total) (cont.)

	ICD-10 Code	Total Deaths			Singleton Deaths			Multiple Deaths		
		Stillbirths	Early Neonatal Deaths	Total Perinatal Deaths	Stillbirths	Early Neonatal Deaths	Total Perinatal Deaths	Stillbirths	Early Neonatal Deaths	Total Perinatal Deaths
		Rate	Rate	N	Rate	Rate	N	Rate	Rate	N
Congenital absence, atresia and stenosis of small intestine	Q410 - Q419	0.0	-	~	0.0	-	~	0.0	-	0
Congenital malformations of the urinary system	Q60-Q64	0.0	0.1	7	0.1	0.1	6	0.1	0.5	~ 0.5
Renal agenesis and other reduction defects of kidney	Q600 - Q606	0.0	0.1	~	0.0	0.1	~	0.1	-	0
Cystic kidney disease	Q610 - Q619	-	0.0	~	-	0.0	~	0.0	0.5	~ 0.5
Congenital malformations and deformations of the musculoskeletal system	Q65-Q79	0.1	0.1	11	0.1	0.1	11	0.2	-	0
Osteochondrodysplasia with defects of growth of tubular bones and spine	Q770 - Q779	0.1	0.0	~	0.1	0.0	~	0.1	-	0
Other osteochondrodysplasias	Q780 - Q789	-	0.0	~	0.0	-	~	0.0	-	0
Congenital malformations of musculoskeletal system, not elsewhere classified	Q790 - Q799	0.0	0.1	6	0.1	0.1	6	0.1	-	0
Other congenital malformations	Q80-Q89	0.2	0.1	16	0.3	0.2	14	0.3	0.5	~ 1.0
Other specified congenital malformation syndromes affecting multiple systems	Q870 - Q878	0.0	0.0	~	0.1	0.0	~	0.1	-	0
Other congenital malformations, not elsewhere classified	Q890 - Q899	0.1	0.1	13	0.2	0.1	11	0.2	0.5	~ 1.0
Chromosomal abnormalities, not elsewhere classified	Q90-Q99	0.4	0.2	33	0.6	0.4	31	0.6	1.0	~ 1.0
Downs syndrome	Q900 - Q909	0.1	-	~	0.1	0.1	~	0.1	-	0
Edwards syndrome and Patau's syndrome	Q910 - Q917	0.3	0.1	23	0.4	0.3	21	0.4	1.0	~ 1.0
Other trisomies and partial trisomies of the autosomes, not elsewhere classified	Q920 - Q929	0.0	-	~	0.0	0.0	~	0.0	-	0
Monosomies and deletions from the autosomes, not elsewhere classified	Q930 - Q939	-	0.0	~	0.0	-	~	0.0	-	0
Turner's syndrome	Q960 - Q969	0.0	-	~	0.0	0.0	~	0.0	-	0
Other chromosome abnormalities, not elsewhere classified	Q990 - Q999	0.0	-	~	0.0	0.0	~	0.0	-	0
All other causes	A00.0-Q99.9, R00.0-Z99.9	0.0	-	~	0.0	0.0	~	0.0	-	0
Total		3.8	2.0	330	5.8	3.8	308	5.6	6.4	22 10.7

Notes: ~ Denotes five or fewer births reported to NPRS.

* Further suppression required to prevent disclosure of five or fewer births.

a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

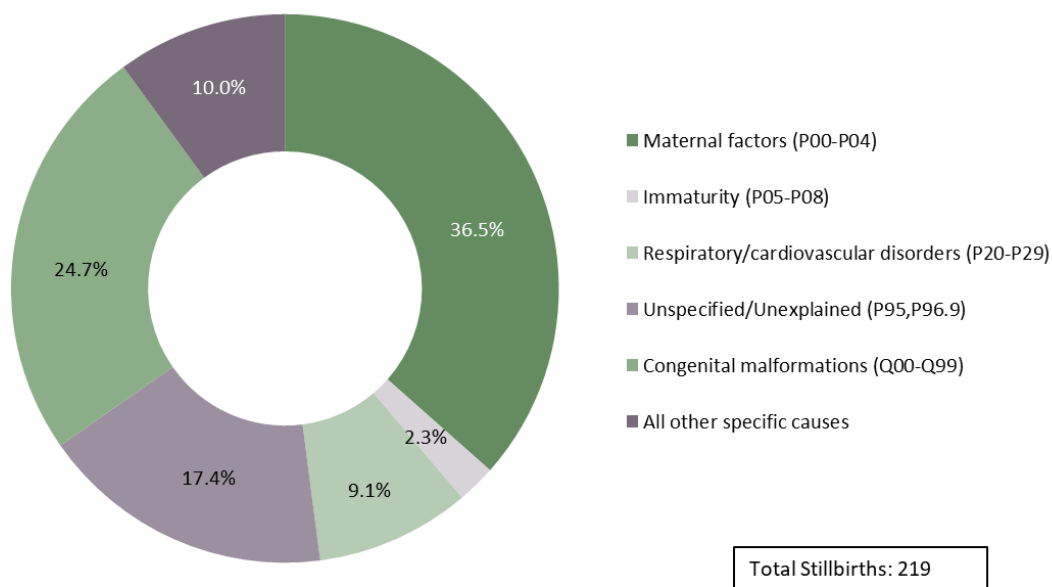
STILLBIRTHS

Figure 5.7 presents the main cause of death for stillbirths.

- Maternal factors (P00-P04) were the leading cause of death for total stillbirths (36.5 per cent).
- The cause of death was congenital malformations (Q00-Q99) for 24.7 per cent of total stillbirths.

FIGURE 5.7

Total Stillbirths by Cause of Death



Notes: Percentages are subject to rounding.
See Appendix G, Table G13 for data.

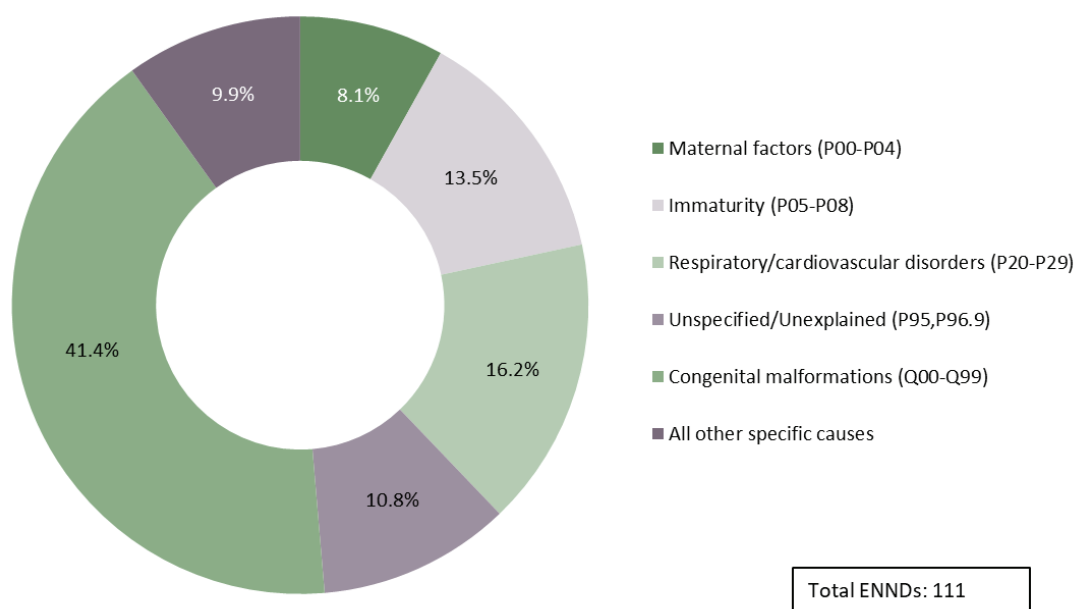
EARLY NEONATAL DEATHS

Figure 5.8 presents the main cause of death for early neonatal deaths.

- Congenital malformations (Q00-Q99) was recorded as the leading cause of death for total early neonatal deaths (41.4 per cent).
- The cause of death was respiratory/cardiovascular disorders (P20-P29) for 16.2 per cent of total early neonatal deaths.

FIGURE 5.8

Total Early Neonatal Deaths by Cause of Death



Notes: Percentages are subject to rounding.
See Appendix G, Table G13 for data.

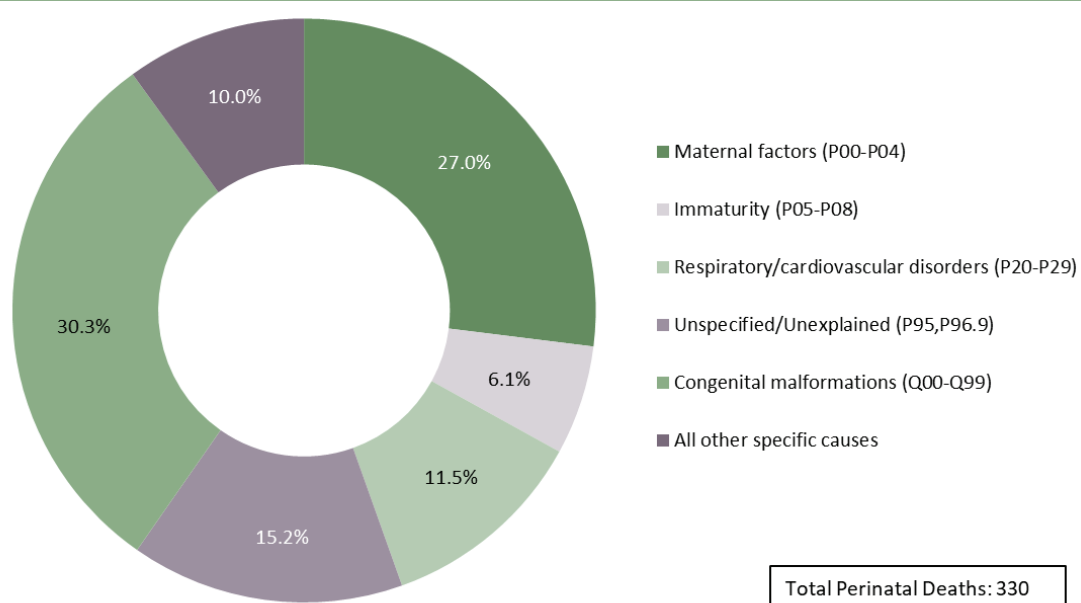
TOTAL PERINATAL DEATHS

Figure 5.9 presents data on all perinatal deaths.

- Congenital malformations (Q00-Q99) accounted for almost 1 in 3 total perinatal deaths (30.3 per cent).
- Maternal factors (P00-P04) was reported for cause of death for 27.0 per cent of total perinatal deaths.
- The cause of death was unspecified/unexplained (P95, P96.9) for 15.2 per cent of total perinatal deaths.

FIGURE 5.9

Total Perinatal Deaths by Cause of Death



Notes: Percentages are subject to rounding
See Table 5.4 and Appendix G, Table G13 for data.

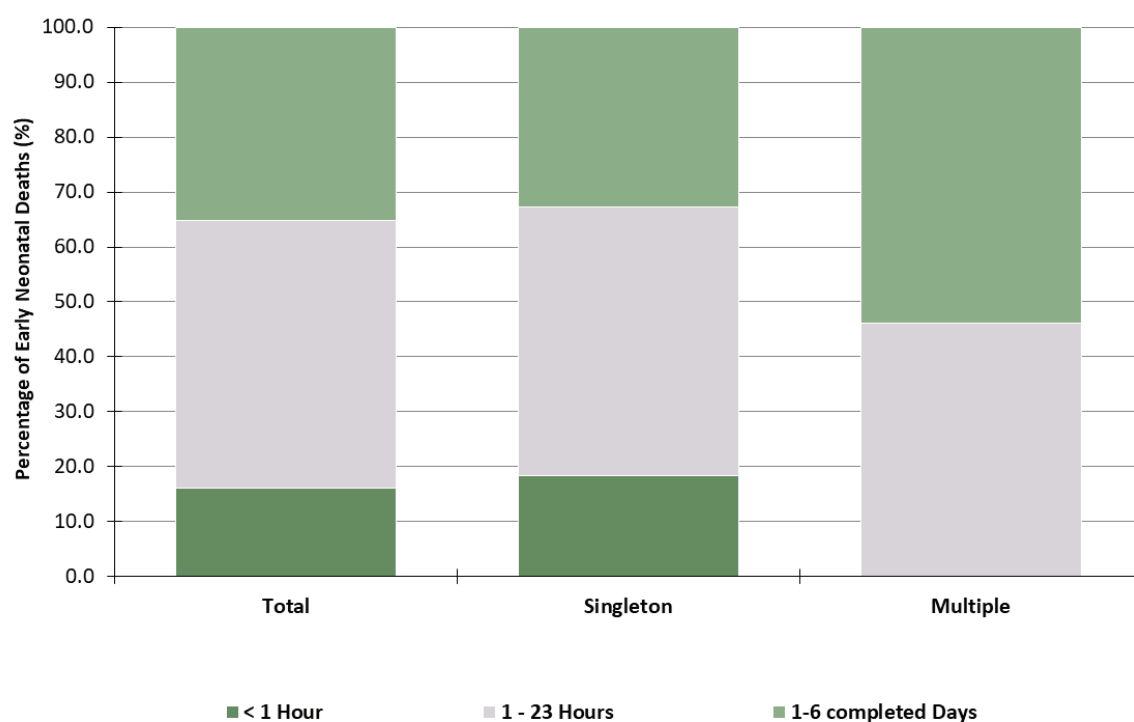
AGE AT DEATH

Figure 5.10 presents age at death by plurality for early neonatal deaths.

- Over 16 per cent of total early neonatal deaths occurred within the first hour of life.
- Almost 65 per cent of total early neonatal deaths occurred within the first day of life (67.3 per cent for singleton early neonatal deaths and 46.2 per cent for multiple early neonatal deaths).
- Over 35 per cent of total early neonatal deaths occurred between 1 and 6 completed days of life (32.7 per cent for singleton early neonatal deaths and 53.8 per cent for multiple early neonatal deaths).

FIGURE 5.10

Early Neonatal Deaths by Age at Death and Plurality



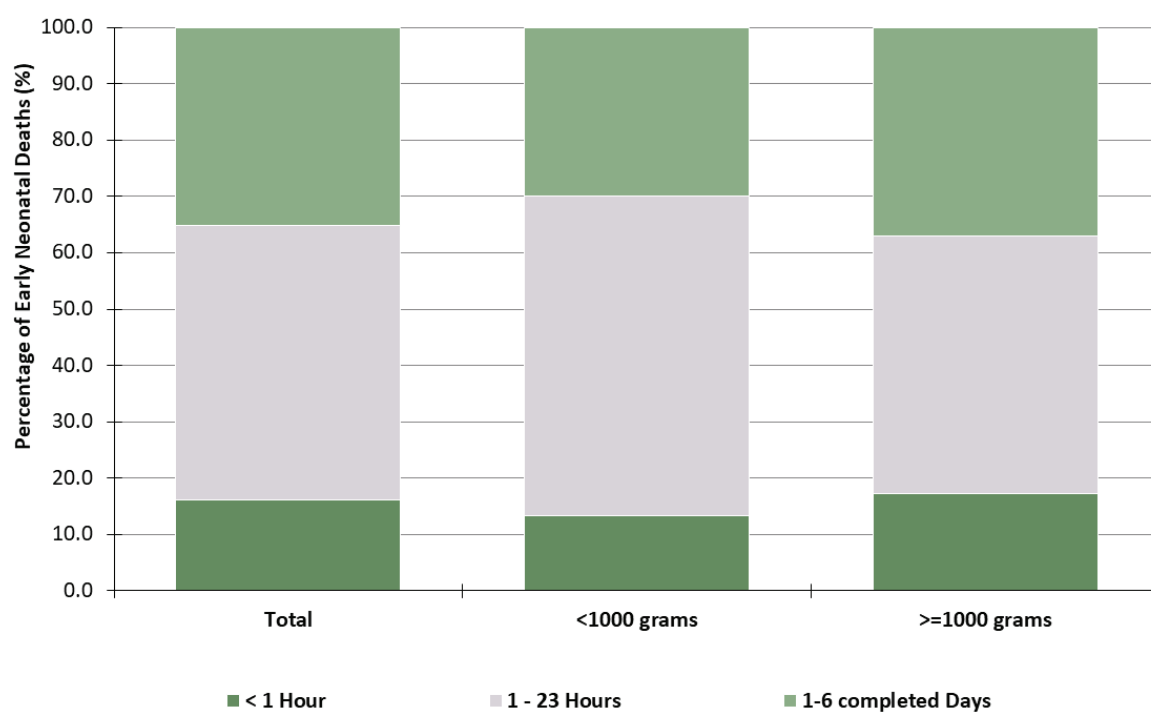
Notes: Percentages are subject to rounding
See Appendix G, Table G14 for data.

Figure 5.11 presents age at death for early neonatal deaths by birthweight groups below and above 1,000 grams.

- For early neonatal deaths recording a birthweight of less than 1,000 grams, 70.0 per cent died within the first day of life compared to 63.0 per cent for early neonatal deaths with a birthweight of 1,000 grams or more.

FIGURE 5.11

Early Neonatal Deaths by Age at Death and Birthweight Groups



Notes: Percentages are subject to rounding
See Appendix G, Table G15 for data.

POST-MORTEM EXAMINATIONS

Post-mortem examinations were less likely in the case of early neonatal deaths compared to stillbirths and this trend is consistent over recent years.³⁷ Table 5.5 presents data on post-mortem examinations.

- A post-mortem examination was undertaken for 49.1 per cent of total perinatal deaths in 2020.
- 53 per cent of stillbirths underwent a post-mortem examination compared to 41.4 per cent of early neonatal deaths.

TABLE 5.5

Post-Mortem Examinations, Total Perinatal Deaths

Frequency Col. Per Cent	Type of Death		
	Stillbirths	Early Neonatal Deaths	Total
Post-Mortem	116 53.0	46 41.4	162 49.1
No Post-Mortem	* ^	* ^	162 49.1
Not Stated	~ ^	~ ^	6 1.8
Total	219 100	111 100	330 100

Note:

- ~ Percentage column is subject to rounding.
- ~ Denotes five or fewer births reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births.
- ^ Percentage not provided to prevent disclosure of small numbers.

³⁷ Previous reports in this series can be downloaded from www.hpo.ie

APPENDICES

APPENDIX A

DEFINITIONS

This section collates the definitions of the terms used in the analyses for this report. All perinatal statistics and definitions are based on WHO ICD-10 Classifications.

Age at Death: The age of early neonatal deaths is given in completed hours if the infant survived less than one day and in completed days otherwise.

Age-Specific Fertility Rate (ASFR): refers to the number of live births to women in a particular age group divided by the female population in that age group, multiplied by 1,000 (see also definition for Total Period Fertility Rate (TPFR)).

Antenatal Length of Stay: This is computed as the difference, in days, between a mother's date of admission and her date of delivery. Domiciliary births are not included in tables relating to this variable.

Antepartum and Intrapartum Stillbirths: These refer to stillbirths occurring prior to and during labour respectively.

Birth Rate: The Birth Rate or Crude Birth Rate is the ratio of total live births to total population over a specified period of time. The birth rate is often expressed as the number of live births per 1,000 members of the population in a particular time period (for example one year).

Birthweight: Birthweight is given in grams and hospitals are asked to record the weight within the first hour after birth. In accordance with WHO guidelines, only births weighing 500 grams or more are included in any analysis of NPRS data.

Born Before Arrival (BBA): Where BBA is recorded as place of birth this indicates that an infant was delivered before arrival at hospital.

Cause of Death: This categorisation indicates the principal underlying pathological cause, which in the opinion of the certifier made the greatest contribution to the death of the infant or foetus. In assigning cause of death in the NPRS, the guidelines recommended by the WHO have been followed. A summary of these guidelines is provided in Appendix D. Since 2005 the *International Statistical Classification of Diseases and Related Health Problems*, 10th Revision, Vols. 1-3. Geneva: World Health Organisation is used to code Irish births.

Civil Status: Six categories are used:

1. Married
2. Single
3. Widowed

4. Separated (including deserted, legally separated, Church decree of nullity, and otherwise separated)
5. Divorced
6. Civil partner (includes civil partner, former civil partner, surviving civil partner)

Congenital Anomalies: These are physiological or structural abnormalities that develop at or before birth and are present at the time of birth. Congenital anomalies are those diseases/conditions categorised in ICD-10, Chapter XVII, *Congenital Malformations, Deformities and Chromosomal Abnormalities* (Q00.0-Q99.9).

Domiciliary Birth: Domiciliary births are *planned* home births. The vast majority of these are attended by an independent midwife and are not associated with a hospital. In 2019, there were 32 births under hospital administered home birth schemes. For the purposes of this report these births are treated as hospital births due to their small numbers.

Early Neonatal Death (ENND) and Early Neonatal Mortality Rate: An early neonatal death refers to the death of a live born infant during the first week of life. The **early neonatal mortality rate** is calculated as follows:

$$\frac{\text{Number of Early Neonatal Deaths} \times 1,000}{\text{Total Number of Live Births}}$$

Hospital Admission Booked or Unbooked: This indicates whether a mother's admission to hospital for delivery was booked or unbooked prior to delivery. Domiciliary births are not included in the tables relating to this variable.

Immunity to Rubella: An affirmative answer should be recorded only where there is documented evidence of a rubella antibody test. A history of rubella or previous immunisation is not sufficient to indicate immunity to rubella.

Length of Infant's Stay: This is computed as the difference, in days, between the infant's date of birth and the date of the infant's discharge from hospital. A return of 'not stated' for this variable may indicate that the completed form was returned before the infant had been discharged. Where an infant was transferred to another hospital, the date of the transfer is given as the date of the infant's discharge. Domiciliary births and perinatal deaths are not included in the tables relating to this variable.

Live Birth: A live birth is defined as the complete expulsion or extraction from its mother 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. In accordance with WHO guidelines, only births weighing 500 grams or more are included in any analysis of NPRS data.

Maternity: Refers to a woman who has delivered a baby irrespective of outcome. In accordance with WHO guidelines, only births weighing 500 grams or more are included in any analysis of NPRS data.

Method of Delivery: Six categories are used:³⁷

1. Spontaneous cephalic delivery
2. Breech delivery, spontaneous, with or without forceps to after-coming head, breech extraction
3. Forceps delivery
4. Vacuum extraction³⁸
5. Caesarean section
6. Other Specified and Combined (for example, combination of spontaneous delivery followed by a vacuum extraction or caesarean section).

Mother's and Father's Nationality: This indicates place of birth for mother and father. This definition is for the sole purpose of giving the necessary directions for the completion of the Birth Notification Form and is not a legal definition. Details are given in Appendix F.

Mother's and Father's Socio-economic Groups: Occupations are coded and grouped, with minor modifications, according to the system of socio-economic groupings as used by the Central Statistics Office in the *1991 Census of Population, Volume 6*. Details are given in Appendix C.

Parity: Maternal parity indicates a mother's total number of previous live births and stillbirths.

Primiparous: Women who have had no previous pregnancy resulting in a live birth or stillbirth.

Multiparous: Women who have had at least one previous pregnancy resulting in a live birth or stillbirth.

Perinatal Death and Perinatal Mortality Rate (PMR): Perinatal deaths include stillbirths and early neonatal deaths. The **perinatal mortality rate (PMR)** is calculated as follows:

$$\frac{\text{Number of Stillbirths and Early Neonatal Deaths} \times 1,000}{\text{Total Number of Live Births and Stillbirths}}$$

In this report a second perinatal mortality rate has been calculated excluding all stillbirths and early neonatal deaths due to congenital anomalies. This **adjusted rate (Adjusted PMR)** to some extent removes those perinatal events where death was unavoidable, but no attempt has been made to exclude only invariably fatal congenital anomalies.

Perinatal Period: For the purposes of NPRS the perinatal period covers pregnancy, delivery and ends at seven completed days after birth.

Period of Gestation: Gestational age at delivery is recorded in completed weeks, and is measured or estimated according to the best method available in each case.

³⁷ For the purpose of presenting data in this report 'instrumental delivery' includes breech/forceps, forceps or vacuum extraction.

³⁸ Also known as Ventouse Deliveries (Source: World Health Organization, 2005, *International Statistical Classification of Diseases and Related Health Problems*, 10th Revision, Vol. 1. Geneva: World Health Organization).

Plurality: This indicates the number of births resulting from a single pregnancy.
Singleton birth: Results when one baby is born from a single pregnancy.
Multiple births: Results when more than one baby is born from a single pregnancy.

Post-mortem: This indicates whether or not a post-mortem examination was performed. In some cases a return of 'not stated' may be due to the notification form being returned prior to post-mortem.

Postnatal Length of Stay: This is computed as the difference, in days, between the date of delivery and the date of the mother's discharge from hospital. A return of 'not stated' for this variable may indicate that the completed form was returned before the mother had been discharged. Domiciliary births are not included in tables relating to this variable.

Size of Maternity Unit: Size in this context refers to the number of live births and stillbirths occurring during the year in a dedicated maternity hospital/unit.

Stillbirth and Stillbirth Rate: Foetal death is defined as death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy. A foetal death is indicated by the fact that, after such separation, the foetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. Following WHO guidelines, a stillbirth in this report refers to the death of a foetus weighing at least 500 grams. The **stillbirth rate** is given as follows:

$$\frac{\text{Number of Stillbirths} \times 1,000}{\text{Total Number of Live Births and Stillbirths}}$$

Time since Last Birth: This variable gives the time, grouped into yearly intervals, since the mother's last live birth or stillbirth.

Total Births: includes live births and stillbirths for singleton and multiple births.

Total Period Fertility Rate (TPFR): is compiled by summing the Age-Specific Fertility Rate (ASFR) for the relevant five-year age groups, dividing by 1,000 and multiplying by 5. It gives the theoretical average number of children who would be born alive to a woman during her lifetime if she were to pass through her childbearing years conforming to the age-specific fertility rates of a given year. See also definition for ASFR.

Transfer of Infants: This identifies infants who were transferred to another hospital for medical reasons.

Twinning Rate: This is given by:

$$\frac{\text{Number of Twin Births} / 2}{\text{Total Number of Maternities}} \times 1,000$$

Twin births, which resulted in stillbirths, are included in the calculation of the twinning rate.

Type of Feeding: This indicates whether artificial feeding, breastfeeding, or a combination of both was being used at the time of discharge. Type of feeding is based on live births only (excluding early neonatal deaths). Any breastfeeding includes type of feeding recorded as either breast or combined at discharge from hospital.

APPENDIX B

COPY OF PART 3 OF THE BIRTH NOTIFICATION FORM USED BY NPRS

The following format was used for births in 2020.

Notification of Birth – To: National Perinatal Reporting System, Healthcare Pricing Office (HPO)			
TYPE OF BIRTH (Live = 1, Still = 2)	1	PLACE OF BIRTH (Hospital = 1, BBA = 2, Domiciliary = 3)	2
[REDACTED]		HOSPITAL NO.	3
[REDACTED]		CASE NO.	6
[REDACTED]		NAME AND ADDRESS OF	
[REDACTED]		HOSPITAL	
INFANT'S DETAILS			
DATE OF BIRTH (DD/MM/YYYY)	14	TIME OF BIRTH	
IF MULTIPLE BIRTH		ORDER OF BIRTH	No. 22 of 23
[REDACTED]			
SEX (Male = 1, Female = 2, Indeterminate = 3)	24	BIRTHWEIGHT	25
			GRAMMES
PERIOD OF GESTATION	29	WEEKS	
FATHER'S DETAILS			
[REDACTED]			
COUNTRY	31		
COUNTRY	34		
NATIONALITY	38		
OCCUPATION	42		
DATE OF BIRTH (DDMMYYYY)	44		
MOTHER'S DETAILS			
[REDACTED]			
COUNTRY	52		
COUNTRY	55		
NATIONALITY	59		
OCCUPATION	63		
DATE OF BIRTH (DDMMYYYY)	65		
CIVIL STATUS (Married = 1, Single = 2, Widowed = 3, Separated = 4, Divorced = 5, Civil Partner = 6, Former Civil Partner = 7, Surviving Civil Partner = 8)	73		
DATE OF PRESENT MARRIAGE/CIVIL PARTNERSHIP (DDMMYYYY)	74		
DATE OF LAST BIRTH (live or still) (DDMMYYYY)	82		
NO. OF PREVIOUS		LIVE BIRTHS	90
		CHILDREN STILL LIVING	92
		STILLBIRTHS	94
		MISCARRIAGES	96
PERINATAL DEATH			
TYPE OF DEATH (Early Neonatal = 1, Stillbirth = 2)	98		
WAS AUTOPSY PERFORMED (Yes = 1, No = 2)	99		
AGE AT DEATH	100	DAYS	101
		HOURS	
PLACE OF DEATH	103		
IF STILLBIRTH, DID DEATH OCCUR BEFORE LABOUR (1) DURING LABOUR (2) NOT KNOWN (3)	106		
CAUSE OF DEATH			
MAIN DISEASE OR CONDITION IN FOETUS OR INFANT			
[REDACTED]			
OTHER DISEASES OR CONDITIONS IN FOETUS OR INFANT			
[REDACTED]			
MOTHER'S HEALTH			
ANTENATAL CARE THIS PREGNANCY (Hospital / Obstetrician = 1, G.P. Only = 2, Combined = 3, None = 4, Midwife Only = 5)			
117			
DATE OF FIRST VISIT TO DOCTOR DURING PREGNANCY (DDMMYYYY)			
118			
DATE OF FIRST VISIT TO HOSPITAL DURING PREGNANCY (DDMMYYYY)			
126			
WAS MOTHER IMMUNE TO RUBELLA (Yes = 1, No = 2, Not Known = 3)			
134			
METHOD OF DELIVERY (Spontaneous = 1, Breech ± Forceps = 2, Forceps = 3, Vac. Extraction = 4, Caesarean Sec. = 5, Other = 6)			
135			
MAIN MATERNAL DISEASE OR CONDITION AFFECTING FOETUS OR INFANT			
[REDACTED]			
136			
OTHER MATERNAL DISEASES OR CONDITIONS AFFECTING FOETUS OR INFANT			
[REDACTED]			
141			
INFANT'S HEALTH			
TYPE OF FEEDING (Artificial = 1, Breast = 2, Combined = 3)			
146			
WAS BCG ADMINISTERED (Yes = 1, No = 2)			
147			
MAIN DISEASE OR CONGENITAL MALFORMATION AFFECTING INFANT			
[REDACTED]			
148			
OTHER DISEASES OR CONGENITAL MALFORMATIONS AFFECTING INFANT			
[REDACTED]			
153			
HOSPITAL			
WAS ADMISSION BOOKED (Yes = 1, No = 2)			
158			
DATE OF MOTHER'S ADMISSION (DDMMYYYY)			
159			
DATE OF MOTHER'S DISCHARGE (DDMMYYYY)			
167			
DATE OF INFANT'S DISCHARGE (DDMMYYYY)			
175			
WAS INFANT TRANSFERRED TO OTHER HOSPITAL FOR MEDICAL REASONS (Yes = 1, No = 2)			
183			
IF 'YES', NAME OF HOSPITAL			
[REDACTED]			
184			
GENERAL PRACTITIONER ATTENDED BY MOTHER			
[REDACTED]			

Signature

Date

BNF01/2021

APPENDIX C

CLASSIFICATION OF SOCIO-ECONOMIC GROUPS

Occupations have been coded and classified in a set of socio-economic groups according to a system devised by the CSO. The final CSO category of 'Unknown' has been differentiated into five distinct groups for the purposes of the Perinatal Reporting System. These are 'Unemployed', 'Not Classifiable', 'Not Applicable', 'Home Duties', and 'Not Stated'. Occupation is coded to the socio-economic group unemployed when occupation is given as unemployed and where no previous occupation is stated. If a previous occupation is stated then occupation is coded to the relevant socio-economic group. 'Not Classifiable' has been used to categorise indecipherable, unclear, or unlisted occupations where efforts to clarify the information have failed. 'Home Duties' is recorded as the socio-economic group where occupation has been entered as 'full-time mother/father/parent', 'stay at home mother/father/parent', 'housewife', 'home duties', etc. 'Not Stated' applies to those cases where either the mother's or father's occupation has been left blank or has been recorded as 'Unknown'.

Under Father's occupation, the following applies:

'Not Applicable' is entered when the civil status of the mother has been given as single, widowed, separated, divorced, civil partner, former civil partner or surviving civil partner, and where father's occupation has been left blank. 'Not Stated' applies to those cases where the civil status of the mother is recorded as either married or not stated, and where father's occupation has been left blank or has been recorded as 'Unknown'. In either case, if an occupation is given for the father then the appropriate occupational code has been used. For the purposes of presenting data on father's socio-economic group in this report, the categories 'Not Applicable' and 'Not Stated' are combined.

The full list of socio-economic groups used in this report is as follows:

- Farmers & Farm Managers
- Other Agricultural Occupations & Fishermen
- Higher Professional
- Lower Professional
- Employers & Managers
- Salaried Employees
- Intermediate Non-Manual Workers
- Other Non-Manual Workers
- Skilled Manual Workers
- Semi-Skilled Manual Workers
- Unskilled Manual Workers
- Unemployed
- Not Classifiable
- Not Applicable (Father's Occupation Only)
- Home Duties
- Not Stated.

APPENDIX D

CAUSE OF DEATH CLASSIFICATION

The main cause of death has been determined according to the guidelines set out by the WHO in the Tenth Revision of the ICD.³⁹ The principal coding criteria are summarised here.

The main cause of death should as far as possible indicate the pathological condition of the infant or foetus which, in the opinion of the certifier, made the greatest contribution towards the death.

The following rules are extracted from *ICD-10, Second Edition, 2005, 4. Rules and guidelines for mortality and morbidity coding*. These rules have been applied to cause of death coding in the NPRS data set as follows:

Section (A) – main disease or condition in foetus or infant

Section (B) – other diseases or conditions in foetus or infant

Section (C) – main maternal disease or condition affecting foetus or infant

Section (D) – other maternal disease or condition affecting foetus or infant.

Rule P1. Mode of death or prematurity entered in section (a):

If heart or cardiac failure, asphyxia or anoxia (any condition in P20.-, P21.-) or prematurity (any condition in P07.-) is entered in section (a) and other conditions of the infant or foetus are entered in either section (a) or section (b), code the first-mentioned of these other conditions as if it had been entered alone in section (a) and code the condition actually entered in section (a) as if it had been entered in section (b).

Rule P2. Two or more conditions entered in sections (a) or (c):

If two or more conditions are entered in section (a) or section (c), code the first-mentioned of these as if it had been entered alone in section (a) or (c) and code the others as if they had been entered in sections (b) or (d).

³⁹ World Health Organization, 2005, *International Statistical Classification of Diseases and Related Health Problems*, 10th Revision, Vols. 1- 3. Geneva: World Health Organization

Rule P3. No entry in sections (a) or (c)

If there is no entry in section (a) but there are conditions of the infant or foetus entered in section (b), code the first-mentioned of these as if it had been entered in section (a). If there are no entries in either section (a) or section (b), either code P95 (Foetal death of unspecified cause) for stillbirths or code P96.9 (Condition originating in the perinatal period, unspecified) for early neonatal deaths should be used for section (a).

Similarly, if there is no entry in section (c) but there are maternal conditions entered in section (d), code the first-mentioned of these as if it had been entered in section (c). If there are no entries in either section (c) or section (d) use some artificial code, e.g. xxx.x for section (c) to indicate that no maternal condition was reported.

Rule P4. Conditions entered in wrong section

If a maternal condition (i.e. conditions in P00-P04) is entered in section (a) or section (b), or if a condition of the infant or foetus is entered in section (c) or section (d), code the conditions as if they had been entered in the respective correct section.

For the purpose of the cause of death tables included in this report, one further criterion has been applied. Where no infant's condition is given, then, where a specific maternal condition is given (any condition in P00-P04), the main cause of death is classified under the maternal condition.

Table D1 summarises these rules.

TABLE D1
Cause of Death Coding Rules

ICD-10 Rule	Cause of Death as recorded on the Birth Notification Form				Action
	Section A	Section B	Section C	Section D	
	Main disease or condition in foetus or infant	Other disease or condition in foetus or infant	Main maternal disease or condition affecting foetus or infant	Other maternal disease or condition affecting foetus or infant	
Rule 1	Heart or cardiac failure, asphyxia, anoxia, prematurity (P20.-, P21.- or P07.-)	Other condition	No entry	No entry	Code the stated 'other condition' in section A and move condition entered in section A to section B.
Rule 2	Two or more conditions listed	No entry	Two or more conditions listed	No entry	Code the first mentioned condition in sections A and C respectively and code the second mentioned conditions in sections B and D respectively.
Rule 3	No entry	Condition entered	No entry	Condition entered	Code the first mentioned condition in section B to section A and the first mentioned condition in section D to section C.
	No entry	No entry	No entry	No entry	Code 'Foetal death of unspecified cause' (P95) for stillbirths or 'Conditions originating in the perinatal period, unspecified' (P96.9) for early neonatal deaths in section A.
Rule 4	Maternal condition entered (P00-P04)	Maternal condition entered (P00-P04)	Infant condition entered	Infant condition entered	Code maternal conditions in sections C and D respectively. Code infant conditions in sections A and B respectively.
Additional Rule	No entry	No entry	Maternal condition (P00-P04)	No entry	Code maternal condition to section A.

Table D2 illustrates the main chapter blocks relating to cause of death categories in this report.

TABLE D2

ICD 10, Cause of Death Codes

ICD-10 CODE	CAUSE OF DEATH
P00–P04	Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery
P05–P08	Disorders related to length of gestation and foetal growth
P10–P15	Birth trauma
P20–P29	Respiratory and cardiovascular disorders specific to the perinatal period
P35–P39	Infections specific to the perinatal period
P50–P61	Haemorrhagic and haematological disorders of foetus and newborn
P70–P74	Transitory endocrine and metabolic disorders specific to foetus and newborn
P75–P78	Digestive system disorders of foetus and newborn
P80–P83	Conditions involving the integument and temperature regulation of foetus and newborn
P90–P96	Other disorders originating in the perinatal period
Q00–Q07	Congenital malformations of the nervous system
Q10–Q18	Congenital malformations of eye, ear, face and neck
Q20–Q28	Congenital malformations of the circulatory system
Q30–Q34	Congenital malformations of the respiratory system
Q35–Q37	Cleft lip and cleft palate
Q38–Q45	Other congenital malformations of the digestive system
Q50–Q56	Congenital malformations of genital organs
Q60–Q64	Congenital malformations of the urinary system
Q65–Q79	Congenital malformations and deformations of the musculoskeletal system
Q80–Q89	Other congenital malformations
Q90–Q99	Chromosomal abnormalities, not elsewhere classified

All other codes (A00–O99, R00–Z99) have been classified in the category ‘all other causes’.

APPENDIX E

CLASSIFICATION OF COUNTY OF RESIDENCE

The following codes are applied to mother's and father's county of residence. Where a Dublin postal code, such as Dublin 13, is entered then a code of 10 is applied for Dublin City. Where there is no postal code and Dublin is recorded then a code of 11 is applied for Dublin County. Where a mother's or father's county of residence is unknown the code 99 is applied. The code 90 is applied where the address given is outside the Republic of Ireland.

10	Dublin City	50	Donegal
11	Dublin County	51	Sligo
12	Kildare	52	Leitrim
13	Wicklow	60	Carlow
20	Laois	61	Kilkenny
21	Offaly	62	Tipperary South Riding
22	Longford	63	Waterford
23	Westmeath	64	Wexford
30	Clare	70	Cork
31	Limerick	71	Kerry
32	Tipperary North Riding	80	Galway
40	Meath	81	Mayo
41	Cavan	82	Roscommon
42	Monaghan	90	Other – all places outside Republic of Ireland
43	Louth	99	Not Stated.

Note: For the purposes of this report Tipperary North Riding and Tipperary South Riding have been combined for County Tipperary.

APPENDIX F

CLASSIFICATION OF NATIONALITY

Nationality for mother and father is defined by the place of their birth. This definition is for the sole purpose of giving the necessary directions for the completion of the Birth Notification Form and is not a legal definition.

Nationalities have been coded and classified into groupings according to a system devised by the CSO, as follows:

Ireland includes the following:

Ireland
Irish American
Irish English
Irish European
Irish Other.

UK includes the following:

England
Great Britain
Northern Ireland
Scotland
Wales.

EU 15 (excluding Ireland and the UK) includes the following:

Austria	Italy
Belgium	Luxembourg
Denmark	Netherlands
Finland	Portugal
France	Spain
Germany	Sweden.
Greece	

EU 15 to EU 28 includes the following:

Bulgaria	Lithuania
Cyprus	Malta
Croatia	Poland
Czech Republic	Slovakia
Estonia	Slovenia
Hungary	Romania.
Latvia	

Rest of Europe includes the following:

Albania	Liechtenstein
Andorra	Macedonia, The Former Yugoslav Republic of,
Armenia	Moldova, Republic of
Azerbaijan	Monaco
Belarus	Montenegro
Bosnia and Herzegovina	Norway
Faroe Islands	Russian Federation
Georgia	San Marino
Gibraltar	Serbia
Guernsey	Switzerland
Iceland	Turkey

Isle of Man
Jersey
Kosovo

Ukraine
Vatican City
Yugoslavia, Federal Republic of.

Africa includes the following:

Algeria
Angola
Benin
Botswana
Burkina Faso
Burundi
Cameroon
Cape Verde
Central African Republic
Chad
Comoros
Congo
Congo, The Democratic Republic of the
Cote d'Ivoire
Djibouti
Egypt
Equatorial Guinea
Eritrea
Ethiopia
Gabon
Gambia
Ghana
Guinea
Guinea-Bissau
Kenya
Lesotho
Liberia
Libyan Arab Jamahiriya
Madagascar

Malawi
Mali
Mauritania
Mauritius
Mayotte
Morocco
Mozambique
Namibia
Niger
Nigeria
Reunion
Rwanda
Saint Helena
Sao Tome and Principe
Senegal
Seychelles
Sierra Leone
Somalia
South Africa
Sudan
Swaziland
Tanzania, United Republic of
Togo
Tunisia
Uganda
Western Sahara
Zambia
Zimbabwe.

Asia includes the following:

Afghanistan	Macao
Bahrain	Malaysia
Bangladesh	Maldives
Bhutan	Mongolia
British Indian Ocean Territory	Myanmar
Brunei Darussalam	Nepal
Cambodia	Oman
China	Pakistan
East Timor	Palestinian Territory, Occupied
Hong Kong	Philippines
India	Qatar
Indonesia	Saudi Arabia
Iran, Islamic Republic of	Singapore
Iraq	Sri Lanka
Israel	Syrian Arab Republic
Japan	Taiwan, Province of China
Jordan	Tajikistan
Kazakhstan	Thailand
Korea, Democratic People's Republic of	Turkmenistan
Korea, Republic of	United Arab Emirates
Kuwait	Uzbekistan
Kyrgyzstan	Vietnam
Lao People's Democratic Republic	Yemen.
Lebanon	

America includes the following:

Anguilla	Guyana
Antigua and Barbuda	Haiti
Argentina	Honduras
Aruba	Jamaica
Bahamas	Martinique
Barbados	Mexico
Belize	Montserrat
Bermuda	Netherlands Antilles
Bolivia	Nicaragua
Brazil	Panama
Canada	Paraguay
Cayman Islands	Peru
Chile	Puerto Rico
Colombia	Saint Kitts and Nevis
Costa Rica	Saint Lucia
Cuba	Saint Martin
Dominica	Saint Pierre and Miquelon
Dominican Republic	Saint Vincent and the Grenadines
Ecuador	Suriname
El Salvador	Trinidad and Tobago

Falkland Islands (Malvinas)	Turks and Caicos Islands
French Guiana	United States
Greenland	Uruguay
Grenada	Venezuela
Guadeloupe	Virgin Islands, British
Guatemala	Virgin Island, US.

Australia includes the following:
Australia.

New Zealand and Other Oceania includes the following:

American Samoa	Niue
Antarctica	Norfolk Island
Bouvet Island	Northern Mariana Islands
Christmas Island	Palau
Cocos (Keeling) Islands	Papua New Guinea
Cook Islands	Pitcairn
Fiji	Samoa
French Polynesia	Solomon Islands
French Southern Territories	South Georgia and the South Sandwich Islands
Guam	Svalbard and Jan Mayen
Heard Island and McDonald Islands	Tokelau
Kiribati	Tonga
Marshall Islands	Tuvalu
Micronesia, Federated States of	United States Minor Outlying Islands
Nauru	Vanuatu
New Caledonia	Wallis and Futuna.
New Zealand	

Multi-Nationality includes the following:
Mixed/Multi-Nationality (stated as so).

No Nationality:
Stated as so

Not Stated:
Where nationality is not provided

Not Applicable:

This applies to father's nationality only. Where the civil status of the mother has been given as single, widowed, separated, divorced, civil partner, former civil partner or surviving civil partner the General Register Office does not require father's details to register the birth, and as such this information is generally not provided. If a nationality is given for the father then the appropriate nationality code has been used. For the purposes of presenting data on father's nationality in this report, the categories 'Not Applicable' and 'Not Stated' are combined.

All Other Nationalities:

Where nationality is not recorded to any category listed above

APPENDIX G

SOURCE NPRS DATA FOR FIGURES

- G1 Mother's County of Residence, Total Births
- G2 Mother's Average Age by Mother's Nationality, Total Maternities
- G3 Age of Mother by Maternal Parity, Total Maternities
- G4 Birthweight (grams) for Primiparous Women
- G5 Birthweight (grams) for Multiparous Women
- G6 Birthweight (grams) by Sex, Total Live Births
- G7 Gestational Age (weeks) at Delivery for Primiparous Women
- G8 Gestational Age (weeks) at Delivery for Multiparous Women
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- G10 Mother's County of Residence by Infant's Type of Feeding, Total Live Births
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- G13 Cause of Death: Total Perinatal Deaths
- G14 Age at Death by Plurality, Early Neonatal Deaths
- G15 Age at Death by Birthweight (<1,000g and >=1,000g), Early Neonatal Deaths

TABLE G1
Mother's County of Residence, Total Births

Mother's County of Residence	Number	Per Cent
Carlow	767	1.3
Cavan	1,005	1.8
Clare	1,258	2.2
Cork	6,467	11.3
Donegal	1,722	3.0
Dublin City	12,603	22.1
Dublin County	4,168	7.3
Galway	3,008	5.3
Kerry	1,493	2.6
Kildare	2,999	5.3
Kilkenny	1,024	1.8
Laois	933	1.6
Leitrim	381	0.7
Limerick	2,402	4.2
Longford	538	0.9
Louth	1,601	2.8
Mayo	1,360	2.4
Meath	2,489	4.4
Monaghan	771	1.4
Offaly	900	1.6
Roscommon	728	1.3
Sligo	743	1.3
Tipperary	1,772	3.1
Waterford	1,355	2.4
Westmeath	1,182	2.1
Wexford	1,699	3.0
Wicklow	1,658	2.9
Total	57,026	100

Notes: Percentage column is subject to rounding.
See Appendix E for details of county of residence classification.
Births where mother's county of residence was not stated or 'other' were excluded from this table.

TABLE G2

Mother's Average Age by Mother's Nationality, Total Maternities

Mother's Nationality	Average Age in Years
Ireland	32.8
UK	32.0
EU15 (excluding Ireland & UK)	33.8
EU15 to EU28	31.3
Rest of Europe	30.6
Africa	32.2
Asia	31.6
America	32.9
Total	32.6

Notes: Average ages calculated for nationalities with greater than 100 births.
See Appendix F for a description of the classification system for nationality.

TABLE G3

Age of Mother by Maternal Parity, Total Maternities

Frequency Row Per Cent	Maternal Parity								Total
	0	1	2	3	4	5	6	More than 6	
Under 20 Years	724 84.5	124 14.5	8 0.9	0 0.0	~ ^	0 0.0	0 0.0	0 0.0	857 100.0
20-24 Years	2,741 63.7	1,136 26.4	317 7.4	84 2.0	21 0.5	~ ^	0 0.0	~ ^	4,301 100.0
25-29 Years	4,492 47.4	3,073 32.4	1,264 13.3	446 4.7	141 1.5	* ^	17 0.2	~ ^	9,483 100.0
30-34 Years	8,192 42.5	7,024 36.5	2,683 13.9	883 4.6	308 1.6	94 0.5	47 0.2	33 0.2	19,264 100.0
35-39 Years	4,772 27.2	6,701 38.2	4,135 23.6	1,253 7.1	378 2.2	172 1.0	64 0.4	68 0.4	17,543 100.0
40 Years and Over	1,142 24.9	1,574 34.3	1,015 22.1	510 11.1	180 3.9	77 1.7	42 0.9	50 1.1	4,590 100.0
Total	22,063 39.4	19,632 35.0	9,422 16.8	3,176 5.7	1,029 1.8	391 0.7	170 0.3	155 0.3	56,038 100

Notes: Percentage rows are subject to rounding.
~ Denotes five or fewer births reported to NPRS.
* Further suppression required to prevent disclosure of five or fewer births.
^ Percentage not provided to prevent disclosure of small numbers.

TABLE G4
Birthweight (grams) for Primiparous Women: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
500-749	57	0.3	40	298.2	225.0	456.1	354.2	51
750-999	66	0.3	54	181.8	92.6	257.6	169.5	58
1000-1249	69	0.3	67	29.0	59.7	87.0	45.5	61
1250-1499	80	0.4	74	75.0	27.0	100.0	27.0	65
1500-1999	327	1.5	323	12.2	9.3	21.4	15.4	258
2000-2499	977	4.3	966	11.3	4.1	15.4	10.3	822
2500-2999	3,081	13.7	3,072	2.9	1.6	4.5	3.2	2,945
3000-3499	7,781	34.6	7,770	1.4	0.5	1.9	1.5	7,748
3500-3999	7,364	32.7	7,356	1.1	0.3	1.4	1.2	7,361
4000-4499	2,383	10.6	2,380	1.3	1.7	2.9	2.5	2,383
4500 and Over	311	1.4	311	-	-	-	-	311
Total	22,496	100	22,413	3.7	1.9	5.6	3.7	22,063
Singleton Births								
500-749	48	0.2	32	333.3	281.3	520.8	410.3	*
750-999	48	0.2	36	250.0	138.9	354.2	243.9	48
1000-1249	57	0.3	55	35.1	72.7	105.3	55.6	*
1250-1499	52	0.2	46	115.4	43.5	153.8	43.5	52
1500-1999	190	0.9	186	21.1	10.8	31.6	26.5	190
2000-2499	689	3.2	678	16.0	5.9	21.8	14.6	689
2500-2999	2,795	12.9	2,786	3.2	1.8	5.0	3.6	2,795
3000-3499	7,701	35.6	7,690	1.4	0.5	1.9	1.6	7,701
3500-3999	7,353	34.0	7,345	1.1	0.3	1.4	1.2	7,353
4000-4499	2,383	11.0	2,380	1.3	1.7	2.9	2.5	2,383
4500 and Over	311	1.4	311	-	-	-	-	311
Total	21,627	100	21,545	3.8	1.9	5.7	3.8	21,627
Multiple Births								
500-749	9	1.0	8	111.1	-	111.1	111.1	~
750-999	18	2.1	18	-	-	-	-	10
1000-1249	12	1.4	12	-	-	-	-	~
1250-1499	28	3.2	28	-	-	-	-	13
1500-1999	137	15.8	137	-	7.3	7.3	-	68
2000-2499	288	33.1	288	-	-	-	-	133
2500-2999	286	32.9	286	-	-	-	-	150
3000-3499	80	9.2	80	-	-	-	-	47
3500-3999	11	1.3	11	-	-	-	-	8
4000-4499	0	0.0	0	-	-	-	-	0
4500 and Over	0	0.0	0	-	-	-	-	0
Total	869	100	868	1.2	1.2	2.3	1.2	436

Notes: Percentage column is subject to rounding.

~ Denotes five or fewer births (or maternities) reported to NPRS.

* Further suppression required to prevent disclosure of five or fewer births (or maternities).

a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

TABLE G5

Birthweight (grams) for Multiparous Women: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
500-749	73	0.2	39	465.8	282.1	616.4	548.4	66
750-999	58	0.2	49	155.2	102.0	241.4	214.3	50
1000-1249	68	0.2	58	147.1	69.0	205.9	142.9	58
1250-1499	97	0.3	91	61.9	44.0	103.1	64.5	69
1500-1999	321	0.9	306	46.7	19.6	65.4	38.5	261
2000-2499	1,102	3.2	1,086	14.5	12.0	26.3	15.6	949
2500-2999	3,856	11.2	3,837	4.9	3.1	8.0	5.7	3,632
3000-3499	10,897	31.5	10,882	1.4	0.8	2.2	1.8	10,809
3500-3999	12,471	36.1	12,463	0.6	0.2	0.8	0.6	12,457
4000-4499	4,859	14.1	4,857	0.4	0.4	0.8	0.6	4,859
4500 and Over	764	2.2	762	2.6	1.3	3.9	3.9	764
Total	34,566	100	34,430	3.9	2.0	5.9	4.2	33,974
Singleton Births								
500-749	59	0.2	30	491.5	300.0	644.1	571.4	59
750-999	42	0.1	33	214.3	121.2	309.5	292.7	42
1000-1249	46	0.1	36	217.4	27.8	239.1	166.7	46
1250-1499	59	0.2	53	101.7	56.6	152.5	107.1	59
1500-1999	203	0.6	190	64.0	21.1	83.7	41.2	203
2000-2499	804	2.4	789	18.7	15.2	33.6	18.9	804
2500-2999	3,381	10.1	3,362	5.6	3.3	8.9	6.2	3,381
3000-3499	10,720	32.1	10,705	1.4	0.8	2.2	1.9	10,720
3500-3999	12,443	37.3	12,435	0.6	0.1	0.7	0.6	12,443
4000-4499	4,859	14.6	4,857	0.4	0.4	0.8	0.6	4,859
4500 and Over	764	2.3	762	2.6	1.3	3.9	3.9	764
Total	33,380	100	33,252	3.8	1.7	5.5	3.9	33,380
Multiple Births								
500-749	14	1.2	9	357.1	222.2	500.0	461.5	7
750-999	16	1.3	16	-	62.5	62.5	-	8
1000-1249	22	1.9	22	-	136.4	136.4	95.2	12
1250-1499	38	3.2	38	-	26.3	26.3	-	10
1500-1999	118	9.9	116	16.9	17.2	33.9	33.9	58
2000-2499	298	25.1	297	3.4	3.4	6.7	6.7	145
2500-2999	475	40.1	475	-	2.1	2.1	2.1	251
3000-3499	177	14.9	177	-	-	-	-	89
3500-3999	28	2.4	28	-	35.7	35.7	-	14
4000-4499	0	0.0	0	-	-	-	-	0
4500 and Over	0	0.0	0	-	-	-	-	0
Total	1,186	100	1,178	6.7	10.2	16.9	12.7	594

Notes: Percentage column is subject to rounding.

- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

TABLE G6

Birthweight (grams) by Sex, Total Live Births

	Male		Female		Total	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
500-749	37	0.1	42	0.2	79	0.1
750-999	51	0.2	52	0.2	103	0.2
1000-1249	64	0.2	61	0.2	125	0.2
1250-1499	94	0.3	71	0.3	165	0.3
1500-1999	301	1.0	328	1.2	629	1.1
2000-2499	870	3.0	1,182	4.3	2,052	3.6
2500-2999	3,097	10.6	3,812	13.8	6,909	12.2
3000-3499	8,791	30.0	9,861	35.8	18,652	32.8
3500-3999	10,725	36.7	9,093	33.0	19,818	34.9
4000-4499	4,466	15.3	2,771	10.0	7,237	12.7
4500 and Over	765	2.6	308	1.1	1,073	1.9
Total	29,261	100	27,581	100	56,842	100

Notes: Percentage columns are subject to rounding.

Births where sex was recorded as indeterminate or where birthweight was not stated were excluded from this table.

TABLE G7

Gestational Age (weeks) at Delivery for Primiparous Women: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Less than 28	*	^	*	200.0	170.5	336.4	231.6	*
28-31	187	0.8	174	69.5	11.5	80.2	60.1	160
32-36	1,445	6.4	1427	12.5	7.7	20.1	9.8	1,213
37-41	20,395	90.7	20367	1.4	0.6	2.0	1.7	20,231
42 and Over	357	1.6	355	5.6	2.8	8.4	5.6	357
Not Stated	~	*	~	0.0	0.0	0.0	0.0	~
Total	22,494	100	22411	3.7	1.9	5.6	3.7	22,061
Singleton Births								
Less than 28	*	^	*	252.9	230.8	425.3	305.6	*
28-31	130	0.6	117	100.0	17.1	115.4	87.3	130
32-36	986	4.6	969	17.2	10.3	27.4	13.4	986
37-41	20,065	92.8	20,037	1.4	0.6	2.0	1.7	20,065
42 and Over	357	1.7	355	5.6	2.8	8.4	5.6	357
Not Stated	~	*	~	-	-	-	-	~
Total	21,627	100	21,545	3.8	1.9	5.7	3.8	21,627
Multiple Births								
Less than 28	23	2.6	23	-	-	-	-	13
28-31	57	6.6	57	-	-	-	-	30
32-36	459	52.8	458	2.2	2.2	4.4	2.2	227
37-41	330	38.0	330	-	-	-	-	166
42 and Over	0	0.0	0	-	-	-	-	0
Not Stated	0	0.0	0	-	-	-	-	0
Total	869	100	868	1.2	1.2	2.3	1.2	436

Notes: Percentage column is subject to rounding.

~ Denotes five or fewer births (or maternities) reported to NPRS.

* Further suppression required to prevent disclosure of five or fewer births (or maternities).

^ Percentage not provided to prevent disclosure of small numbers.

a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

To avoid excessive suppression, births with a gestation of less than 28 weeks are presented together in this table.

TABLE G8

Gestational Age (weeks) at Delivery for Multiparous Women: Total Births, Live Births, Mortality Rates, and Maternities

	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Less than 28	*	^	*	322.8	197.7	456.7	383.9	*
28-31	217	0.6	196	96.8	35.7	129.0	100.0	182
32-36	1,896	5.5	1,861	18.5	8.6	26.9	18.1	1,614
37-41	32,148	93.0	32,109	1.2	0.8	2.1	1.5	31,886
42 and Over	176	0.5	176	0.0	5.7	5.7	-	176
Not Stated	~	^	~	0.0	250.0	250.0	-	~
Total	34,568	100	34,432	3.9	2.0	5.9	4.2	33,976
Singleton Births								
Less than 28	*	^	*	363.6	238.1	515.2	435.3	*
28-31	152	0.5	132	131.6	22.7	151.3	122.4	152
32-36	1,332	4.0	1299	24.8	7.7	32.3	21.3	1,332
37-41	31,619	94.7	31580	1.2	0.9	2.1	1.5	31,619
42 and Over	176	0.5	176	-	5.7	5.7	-	176
Not Stated	~	^	~	-	250.0	250.0	-	~
Total	33,382	100	33254	3.8	1.7	5.5	3.9	33,382
Multiple Births								
Less than 28	28	2.4	23	178.6	87.0	250.0	222.2	15
28-31	65	5.5	64	15.4	62.5	76.9	47.6	30
32-36	564	47.6	562	3.5	10.7	14.2	10.7	282
37-41	529	44.6	529	-	-	-	-	267
42 and Over	0	0.0	0	-	-	-	-	0
Not Stated	0	0.0	0	-	-	-	-	0
Total	1,186	100	1178	6.7	10.2	16.9	12.7	594

Notes: Percentage column is subject to rounding.
 ~ Denotes five or fewer births (or maternities) reported to NPRS.
 * Further suppression required to prevent disclosure of five or fewer births (or maternities).
 ^ Percentage not provided to prevent disclosure of small numbers.
 a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

TABLE G9

Method of Delivery by Mother's Postnatal Length of Stay, Singleton and Multiple Births

	Postnatal Length of Stay			
	0-2 Days	3-5 Days	6-8 Days	9+ Days
Singleton Births				
Spontaneous	84.2	14.4	1.3	0.2
Instrumental [#]	69.8	28.5	1.6	0.1
Caesarean section	18.3	77.8	3.4	0.5
Multiple Births				
Spontaneous	42.8	53.5	3.4	0.3
Instrumental [#]	29.4	66.7	3.4	0.5
Caesarean section	4.0	81.8	12.1	2.0

Notes: Percentages are subject to rounding.
 # Instrumental delivery includes breech/forceps, forceps or vacuum extraction.
 Domiciliary births are excluded from this table. See Appendix H for detailed analysis.

TABLE G10

Mother's County of Residence by Infant's Type of Feeding, Total Live Births

Frequency Row Per Cent Col. Per Cent	Artificial	Breast	Combined	Total
Carlow	330 43.4 1.5	372 48.9 1.5	59 7.8 0.6	761 100.0 1.3
Cavan	469 46.7 2.1	367 36.6 1.5	168 16.7 1.7	1,004 100.0 1.8
Clare	536 43.1 2.4	475 38.2 1.9	234 18.8 2.4	1,245 100.0 2.2
Cork	2,223 34.6 10.1	4,035 62.7 16.1	174 2.7 1.8	6,432 100.0 11.3
Donegal	911 53.2 4.2	580 33.9 2.3	221 12.9 2.3	1,712 100.0 3.0
Dublin City	4,260 34.0 19.4	5,074 40.5 20.2	3,195 25.5 33.0	12,529 100.0 22.1
Dublin County	1,216 29.3 5.5	1,857 44.8 7.4	1,073 25.9 11.1	4,146 100.0 7.3
Galway	1,091 36.6 5.0	1,260 42.3 5.0	628 21.1 6.5	2,979 100.0 5.3
Kerry	545 36.6 2.5	875 58.7 3.5	70 4.7 0.7	1,490 100.0 2.6
Kildare	1,002 33.6 4.6	1,225 41.0 4.9	759 25.4 7.8	2,986 100.0 5.3
Kilkenny	376 36.9 1.7	630 61.9 2.5	12 1.2 0.1	1,018 100.0 1.8
Laois	361 38.9 1.6	500 53.9 2.0	67 7.2 0.7	928 100.0 1.6
Leitrim	173 45.5 0.8	126 33.2 0.5	81 21.3 0.8	380 100.0 0.7
Limerick	1,242 51.9 5.7	756 31.6 3.0	393 16.4 4.1	2,391 100.0 4.2
Longford	229 42.9 1.0	262 49.1 1.0	43 8.1 0.4	534 100.0 0.9
Louth	790 49.7 3.6	460 28.9 1.8	339 21.3 3.5	1,589 100.0 2.8
Mayo	547 40.4 2.5	604 44.6 2.4	204 15.1 2.1	1,355 100.0 2.4

TABLE G10

Mother's County of Residence by Infant's Type of Feeding, Total Live Births (cont.)

Frequency Row Per Cent Col. Per Cent	Artificial	Breast	Combined	Total
Meath	918 37.1 4.2	1,003 40.5 4.0	554 22.4 5.7	2,475 100.0 4.4
Monaghan	398 52.0 1.8	260 34.0 1.0	107 14.0 1.1	765 100.0 1.3
Offaly	422 47.1 1.9	396 44.2 1.6	78 8.7 0.8	896 100.0 1.6
Roscommon	321 44.4 1.5	278 38.5 1.1	124 17.2 1.3	723 100.0 1.3
Sligo	280 37.9 1.3	248 33.6 1.0	210 28.5 2.2	738 100.0 1.3
Tipperary	904 51.3 4.1	666 37.8 2.7	193 10.9 2.0	1,763 100.0 3.1
Waterford	565 42.0 2.6	738 54.9 2.9	41 3.1 0.4	1,344 100.0 2.4
Westmeath	451 38.5 2.1	600 51.2 2.4	121 10.3 1.3	1,172 100.0 2.1
Wexford	785 46.5 3.6	701 41.5 2.8	202 12.0 2.1	1,688 100.0 3.0
Wicklow	606 36.8 2.8	714 43.4 2.8	326 19.8 3.4	1,646 100.0 2.9
Total	21,951 38.7 100	25,062 44.2 100	9,676 17.1 100	56,689 100 100

Notes: Percentage rows and columns are subject to rounding.
 See Appendix E for details of county of residence classification.
 This table excludes early neonatal deaths.
 Births where mother's county of residence was unknown or 'other' and births with unknown type of feeding were excluded from this table.

TABLE G11

Mother's Nationality by Exclusively Breastfed Infants, Total Live Births

Mother's Nationality	Breastfeeding (%)
Ireland	46.3
UK	37.2
EU15 (excluding Ireland & UK)	11.0
EU15 to EU28	16.4
Rest of Europe	8.8
Africa	13.1
Asia	12.2
America	8.7

Notes: Percentage rows are subject to rounding.
 Categories where percentages were based on <100 live births and where nationality was not stated are not included.
 The calculation of percentages exclude not stated feeding type.
 See Appendix F for a description of the classification system for nationality.
 This table excludes early neonatal deaths.

TABLE G12

Birthweight (grams): Total Perinatal Deaths, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates

	Total Perinatal Deaths	Total Perinatal Deaths %	Ante-partum Stillbirths	Intra-partum Stillbirths	Not Stated	Stillbirth Rate ^a	Early Neonatal Deaths	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adj. PMR ^a
Total Births										
500-749	71	21.5	43	~	~	392.3	20	253.2	546.2	463.6
750-999	31	9.4	20	0	~	169.4	10	97.1	250.0	191.3
1000-1249	20	6.1	12	0	0	87.6	8	64.0	146.0	93.0
1250-1499	*	^	9	~	~	67.8	6	36.4	101.7	47.9
1500-1999	28	8.5	17	~	0	29.3	9	14.3	43.2	26.7
2000-2499	44	13.3	22	~	~	13.0	17	8.3	21.2	13.1
2500-2999	45	13.6	26	0	~	4.0	17	2.5	6.5	4.6
3000-3499	39	11.8	24	~	~	1.4	13	0.7	2.1	1.7
3500-3999	20	6.1	15	~	0	0.8	~	0.2	1.0	0.9
4000-4499	11	3.3	~	0	0	0.7	6	0.8	1.5	1.2
4500 and over	~	^	~	0	~	1.9	~	0.9	2.8	2.8
Total	330	100	194	11	14	3.8	111	2.0	5.8	4.0
Singleton Births										
500-749	63	20.5	*	~	~	420.6	*	290.3	588.8	500.0
750-999	*	^	*	0	~	233.3	*	130.4	333.3	268.3
1000-1249	*	^	*	0	0	116.5	~	54.9	165.0	104.2
1250-1499	17	5.5	9	~	~	108.1	~	50.5	153.2	78.4
1500-1999	*	^	*	0	0	43.3	*	16.0	58.5	33.9
2000-2499	*	^	*	~	~	17.4	*	10.9	28.1	16.9
2500-2999	*	^	*	0	~	4.5	*	2.6	7.1	5.0
3000-3499	39	12.7	24	~	~	1.4	13	0.7	2.1	1.7
3500-3999	*	^	*	~	0	0.8	~	0.2	1.0	0.9
4000-4499	11	3.6	~	0	0	0.7	6	0.8	1.5	1.2
4500 and over	~	^	~	0	~	1.9	~	0.9	2.8	2.8
Total	308	100	*	*	*	3.8	98	1.8	5.6	3.9
Multiple Births										
500-749	8	36.4	~	~	~	260.9	~	117.6	347.8	318.2
750-999	~	^	~	0	0	-	~	29.4	29.4	-
1000-1249	~	^	~	0	0	-	~	88.2	88.2	60.6
1250-1499	~	^	0	0	0	-	~	15.2	15.2	-
1500-1999	~	^	0	~	0	7.8	~	11.9	19.6	15.7
2000-2499	~	^	~	0	0	1.7	~	1.7	3.4	3.4
2500-2999	~	^	0	0	0	-	~	1.3	1.3	1.3
3000-3499	0	0.0	0	0	0	-	0	-	-	-
3500-3999	~	^	0	0	0	-	~	25.6	25.6	-
4000-4499	0	0.0	0	0	0	-	0	-	-	-
4500 and over	0	0.0	0	0	0	-	0	-	-	-
Total	22	100	~	~	~	4.4	13	6.4	10.7	7.8

Notes:

- Percentage column is subject to rounding.
- ~ Denotes five or fewer births reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births.
- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births.

TABLE G13

Cause of Death: Total Perinatal Deaths

	Stillbirth		Early Neonatal Death		Total	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Maternal factors (P00-P04)	80	36.5	9	8.1	89	27.0
Immaturity (P05-P08)	~	^	*	^	20	6.1
Respiratory/cardiovascular disorders (P20-P29)	20	9.1	18	16.2	38	11.5
Unspecified/Unexplained (P95,P96.9)	38	17.4	12	10.8	50	15.2
Congenital malformations (Q00-Q99)	54	24.7	46	41.4	100	30.3
All other specific causes	*	^	*	^	33	10.0
Total	219	100	111	100	330	100

Notes: Percentage column is subject to rounding.
 ~ Denotes five or fewer births (or maternities) reported to NPRS.
 * Further suppression required to prevent disclosure of five or fewer births (or maternities).
 ^ Percentage not provided to prevent disclosure of small numbers.

TABLE G14

Age at Death by Plurality, Early Neonatal Deaths

	Total Births	Singleton Births	Multiple Births
	Per Cent	Per Cent	Per Cent
Completed Hours			
<1 hour	16.2	18.4	0.0
1-23 hours	48.6	49.0	46.2
Total under 1 day	64.9	67.3	46.2
1-6 completed days	35.1	32.7	53.8
Total	100	100	100

Note: Percentages are subject to rounding.

TABLE G15

Age at Death by Birthweight (<1,000g and >=1,000g), Early Neonatal Deaths

	Total Births	Birthweight < 1,000g	Birthweight >= 1,000g
	Per Cent	Per Cent	Per Cent
Completed Hours			
<1 hour	16.2	13.3	17.3
1-23 hours	48.6	56.7	45.7
Total under 1 day	64.9	70.0	63.0
1-6 completed days	35.1	30.0	37.0
Total	100	100	100

Note: Percentages are subject to rounding.

APPENDIX H

DOMICILIARY BIRTHS, 2011–2020

INTRODUCTION

In the NPRS, domiciliary births are defined as planned home births attended by a Self Employed Community Midwife and are not associated with a hospital. Births delivered under hospital-administered home birth schemes are recorded as hospital births. Domiciliary births have been included, unless otherwise stated, in the analysis presented in previous sections.

Table H1 presents selected statistics for domiciliary births for the period 2011–2020.

- There were 254 domiciliary births in 2020 representing 0.4 per cent of all births.
- The number of domiciliary births has increased by 51.2 per cent over the decade and has increased by 31.6 per cent from 2019 to 2020. The lowest number of domiciliary births over the 10-year period was reported for 2013 at 162 and the highest number was reported in 2020 at 254 (see Figure H1).
- The average age of mothers having domiciliary births has remained stable, ranging from 33.2 years in 2011 to 34.5 years in 2019 and is recorded as 34.2 years in 2020.
- Women choosing a domiciliary delivery in 2020 had an average maternal parity of 1.5 previous births.
- The percentage of women recording any breastfeeding ranged from 92.3 per cent in 2017 to 99.4 per cent in 2011 and is reported at 95.3 per cent in 2020.
- Exclusive breastfeeding was reported for 93.7 per cent of domiciliary births in 2020, a decrease of 1.2 per cent since 2019.
- The average birthweight for domiciliary births in 2020 was 3,763.6 grams.

TABLE H1

Trends in Domiciliary Births—Selected Statistics, 2011–2020

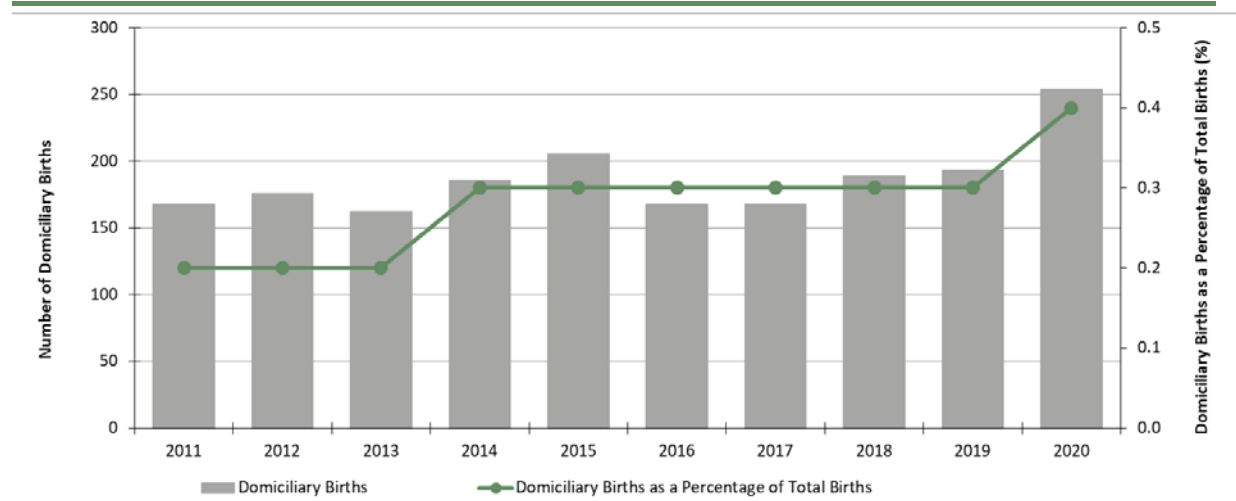
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% Change	
											2011-2020	2019-2020
Total Domiciliary Births	N	168	176	162	186	206	168	189	193	254	51.2	31.6
Age of mother (years) ¹	Avg	33.2	33.8	33.3	34.1	33.7	34.0	34.2	34.5	34.2	3.0	-0.9
Maternal parity ¹	Avg	1.5	1.5	1.5	1.6	1.5	1.4	1.5	1.5	1.5	0.0	0.0
Gestational age at delivery in weeks ¹	Avg	40	39.9	39.8	40.0	39.9	39.8	39.9	39.8	40	0.0	0.5
Interval since last birth (years) ²	Avg	2.7	2.9	2.6	2.5	2.9	2.6	2.8	2.7	2.9	7.4	7.4
Immunity to Rubella ¹	%	97.0	96.6	95.1	96.2	92.7	92.9	95.2	92.7	92.1	-5.1	-0.6
Any Breastfeeding ^{3,4}	%	99.4	98.3	96.3	93.5	96.1	95.2	97.4	97.4	95.3	-4.1	-2.2
Exclusive Breastfeeding ³	%	98.2	96.6	93.8	91.4	95.1	94.0	96.8	94.8	93.7	-5.0	-1.2
Combined Antenatal Care – Midwife and G.P./Hospital ⁵	%	93.5	86.9	96.9	93.0	99.5	97.6	98.9	99.5	93.3	-0.2	-6.2
Birthweight (grams) ⁶	Avg	3,679.6	3,713.1	3,720.1	3,767.7	3,712.8	3,753.1	3,739.8	3,682.1	3,763.6	2.3	2.2

Notes:

Percentages are subject to rounding.

¹ There were no domiciliary multiple births in the years 2011–2020.² Based on maternities.³ Based on multiparous maternities.⁴ Based on maternities with live births. Excludes early neonatal deaths.⁵ Any breastfeeding includes type of feeding recorded as either breast or combined.⁶ Based on maternities. This figure applies to the percentage of home births where antenatal care is stated as 'combined', rather than 'midwife only'.

FIGURE H1
Number and Percentage of Domiciliary Births Reported, 2011–2020



Note: See Table 2.1 and Table H1 for data.

APPENDIX I

METHOD OF DELIVERY FOR PRIMIPAROUS AND MULTIPAROUS WOMEN

Table I1 outlines trends in the percentage distribution for method of delivery for primiparous and multiparous women over the decade 2011 to 2020.

- The proportion of women having a spontaneous delivery has fallen from 56.6 per cent in 2011 to 50.6 per cent in 2020, with the rate of decrease higher for primiparous than multiparous women.
- For total maternities, the percentage of deliveries by Caesarean section has increased from 27.3 per cent in 2011 to 35.1 per cent in 2020.
- 36.5 per cent of primiparous women delivered by Caesarean section in 2020 compared to 28.6 per cent in 2011, with a similar rate of increase for Caesarean section delivery for multiparous women, increasing from 26.4 per cent in 2011 to 34.1 per cent in 2020 (see Figure I1).

TABLE I1

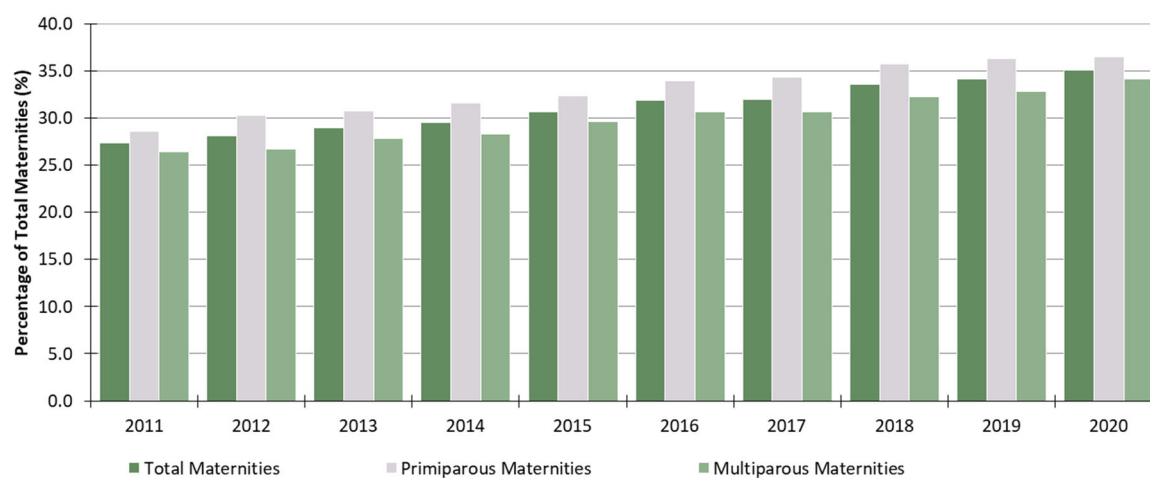
Percentage Distribution of Maternities by Method of Delivery, Primiparous and Multiparous Women, 2011–2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% Change	
											2011–2020	2019–2020
Total Maternities												
Spontaneous	56.6	56.3	55.9	55.0	54.2	52.9	53.2	52.0	52.0	50.6	-10.6	-2.7
Breech/forceps	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.0	0.0
Forceps	4.1	3.9	3.9	3.8	3.5	3.6	3.6	3.1	3.4	3.4	-17.1	0.0
Vacuum extraction	11.5	11.3	10.9	11.3	11.3	11.2	10.7	10.8	10.1	10.5	-8.7	4.0
Caesarean section	27.3	28.1	28.9	29.5	30.6	31.9	32.0	33.6	34.1	35.1	28.6	2.9
Other specified & combined	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Total	100	100	100	100	100	100	100	100	100	100	-	-
Primiparous												
Spontaneous	41.2	40.5	40.2	39.0	38.4	36.6	37.4	36.8	37.2	36.0	-12.6	-3.2
Breech/forceps	0.6	0.4	0.4	0.4	0.4	0.6	0.6	0.5	0.6	0.6	0.0	0.0
Forceps	8.6	8.3	8.4	8.2	7.9	7.9	7.8	6.6	7.3	7.5	-12.8	2.7
Vacuum extraction	21.0	20.5	20.3	20.8	21.0	21.0	19.9	19.9	18.7	19.4	-7.6	3.7
Caesarean section	28.6	30.3	30.7	31.6	32.3	33.9	34.3	35.7	36.3	36.5	27.6	0.6
Other specified & combined	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Total	100	100	100	100	100	100	100	100	100	100	-	-
Multiparous												
Spontaneous	66.8	66.4	65.7	65.0	64.1	62.9	63.2	61.6	61.3	60.1	-10.0	-2.0
Breech/forceps	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.2	-33.3	-33.3
Forceps	1.1	1.1	1.0	1.0	0.8	1.0	0.9	0.8	1.0	0.8	-27.3	-20.0
Vacuum extraction	5.2	5.4	5.1	5.4	5.3	5.2	4.9	5.0	4.7	4.8	-7.7	2.1
Caesarean section	26.4	26.7	27.8	28.3	29.6	30.6	30.6	32.2	32.8	34.1	29.2	4.0
Other specified & combined	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	-100.0	0.0
Total	100	100	100	100	100	100	100	100	100	100	-	-

Note: Percentage columns are subject to rounding.

FIGURE I1

Percentage Distribution of Maternities Delivering by Caesarean Section for Total, Primiparous and Multiparous Women, 2011–2020



Note: See Table I1 for data.

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