

Perinatal Statistics Report

2021

Healthcare Pricing Office
January 2024



978-1-78602-240-0

METADATA

TITLE

Perinatal Statistics Report, 2021

CREATOR

Healthcare Pricing Office (HPO), Health Service Executive (HSE)

SUBJECT

Key words – free text: Births, Perinatal, Stillbirth, Early Neonatal Death

SUMMARY DESCRIPTION

This is a report on national data on perinatal events in 2021. 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.

PUBLISHER

Health Service Executive

CONTRIBUTORS

Healthcare Pricing Office, Health Service Executive

DATE

First published January 2024

TYPE

Report

IDENTIFIER

978-1-78602-240-0

LANGUAGE

en – English

COVERAGE

National

RIGHTS

Downloadable from www.hpo.ie

VERSION

1.0 File [NPRS_2021_ASOF_0723_V01_NATIONAL](#)

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.

ACKNOWLEDGEMENTS

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, 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.

We would like to thank Jacqui Curley, Avril McManus, Amy Phillips and Izabela Sikora for reviewing and commenting on earlier drafts of this report. We would also like to express our gratitude to the members of the NPRS Governance Group for their valuable contributions and comments on an early draft of this report.

Inevitably, a number of individuals have to carry most of the responsibility for producing a report of this type. In this case Karen Kearns, Paul Linn, 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.

TABLE OF CONTENTS

LIST OF TABLES	iii
LIST OF FIGURES	v
KEY FINDINGS	vii
SECTION ONE	1
INTRODUCTION	
Introduction	2
Purpose of this Report	2
Structure of this Report	2
Conventions used in this Report	3
Birth Notification and Registration	4
National Minimum Data Set	6
Data Collection and Quality	7
Current Developments	8
SECTION TWO	11
TIME TRENDS AND INTERNATIONAL COMPARISONS	
Introduction	12
Trends in Selected Statistics	12
Singleton and Multiple Births	16
Perinatal Mortality	18
Birth Rates	21
Fertility	22
SECTION THREE	25
GENERAL CHARACTERISTICS	
Introduction	26
Maternal Age	27
Mother's Civil Status	29
Mother's County of Residence	30
Socio-economic Group.....	31
Mother's Socio-economic Group	31
Father's Socio-economic Group.....	33
Nationality	35
Mother's Nationality	35
Father's Nationality	37
Maternal Parity	39
Number of Previous Stillbirths	41
Interval Since Last Birth	42
Birthweight	43
Gestational Age	47
Month of Birth	48

SECTION FOUR	51
PERINATAL CARE	
Introduction	52
Type of Antenatal Care	53
Duration of Pregnancy at First Antenatal Visit	54
Advance Hospital Bookings	55
Mother's Antenatal Length of Stay	56
Mother's Postnatal Length of Stay	57
Rubella: Immune Status of Mother	59
Method of Delivery	59
Method of Delivery by Births and Plurality	59
Method of Delivery by Maternal Age	62
Distribution of Births by Size of Maternity Unit	64
Inter-Hospital Transfer of Infants	66
Infant's Length of Stay	67
Infant's Type of Feeding	68
SECTION FIVE	75
PERINATAL OUTCOMES	
Introduction	76
Mortality by Birthweight and Parity	76
Cause of Death by Birthweight	79
Mortality by Gestational Age	84
Cause of Death	87
Age at Death	94
Post-Mortem Examinations	96
APPENDICES	97
Appendix A: Definitions	98
Appendix B: Copy of Part 3 of the Birth Notification Form	103
Appendix C: Classification of Socio-economic Group.....	104
Appendix D: Cause of Death Classification	105
Appendix E: Classification of County of Residence	109
Appendix F: Classification of Nationality	110
Appendix G: Source NPRS Data for Figures	114
Appendix H: Domiciliary Births	126
Appendix I: Method of Delivery for Primiparous and Multiparous Women.....	129

LIST OF TABLES

Tables for Introduction:

1.1	Total births, Stillbirths, Early Neonatal Deaths and Perinatal Deaths (≥ 500 grams only), NPRS and NPEC, 2021	8
-----	---	---

Tables for Time Trends and International Comparisons:

2.1	Trends in Selected Statistics, 2012–2021	14
2.2	Singleton and Multiple Births, 2012–2021	16
2.3	Live Births, Stillbirths and Early Neonatal Deaths, Numbers and Rates, Singleton and Multiple Births, 2012–2021	17
2.4	Live Births, Stillbirths, Early Neonatal Deaths, and Perinatal Deaths, 2012–2021.....	18

Tables for General Characteristics:

3.1	Age of Mother	27
3.2	Mother's Civil Status	29
3.3	Mother's Socio-economic Group.....	32
3.4	Father's Socio-economic Group.....	34
3.5	Mother's Nationality	36
3.6	Father's Nationality	38
3.7	Maternal Parity	39
3.8	Previous Stillbirths	41
3.9	Interval in Years Since Last Birth	42
3.10	Birthweight (grams).....	44
3.11	Gestational Age (weeks) at Delivery	47
3.12	Month of Birth	48

Tables for Perinatal Care:

4.1	Type of Antenatal Care	53
4.2	Time of First Visit (weeks) to Doctor or Hospital during Pregnancy	54
4.3	Advance Hospital Bookings	55
4.4	Mother's Antenatal Length of Stay	56
4.5	Mother's Postnatal Length of Stay	57
4.6	Rubella: Immune Status of Mother, Numbers and Percentages	59
4.7a	Method of Delivery, Total Births	60
4.7b	Method of Delivery by Maternal Age	62
4.8	Size of Maternity Unit (Number of Live Births and Stillbirths Annually)	64
4.9	Inter-Hospital Transfer of Infants	66
4.10	Infant's Length of Stay (days) in Hospital, Live Births	67
4.11	Age of Mother by Infant's Type of Feeding, Numbers and Percentages, Total Live Births	69
4.12	Mother's Socio-economic Group by Infant's Type of Feeding, Total Live Births	72

Tables for Perinatal Outcomes:

5.1	Birthweight (grams): Total Perinatal Deaths, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates by Parity.....	77
5.2	Cause of Death by ICD-10 Chapter by Birthweight, Perinatal Mortality Rate and Numbers (Total)	80
5.3	Gestational Age (weeks): Total Perinatal Deaths, Antepartum, and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates.....	85
5.4	Cause of Death by ICD-10 Chapter and Subcategories, Mortality Rates and Numbers (Total)	88
5.5	Post-Mortem Examinations, Total Perinatal Deaths	96

Appendix Tables:

D1	Cause of Death Coding Rules	107
D2	ICD-10, Cause of Death Codes	108
G1	Mother's County of Residence, Total Births	115
G2	Mother's Average Age by Mother's Nationality, Total Maternities	116
G3	Age of Mother by Maternal Parity, Total Maternities	116
G4	Birthweight (grams) for Primiparous Women.....	117
G5	Birthweight (grams) for Multiparous Women	118
G6	Birthweight (grams) by Sex, Total Live Births	119
G7	Gestational Age (weeks) at Delivery, Primiparous Women	120
G8	Gestational Age (weeks) at Delivery, Multiparous Women	121
G9	Method of Delivery by Mother's Postnatal Length of Stay, Singleton and Multiple Births	121
G10	Mother's County of Residence by Infant's Type of Feeding, Total Live Births	123
G11	Mother's Nationality by Exclusively Breastfed Infants, Total Live Births.....	123
G12	Birthweight (grams): Total Perinatal Deaths, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates.....	124
G13	Cause of Death: Total Perinatal Deaths.....	125
G14	Age at Death by Plurality, Early Neonatal Deaths.....	125
G15	Age at Death by Birthweight (<1,000g and >=1,000g), Early Neonatal Deaths.....	125
H1	Trends in Domiciliary Births - Selected Statistics, 2012–2021	127
I1	Percentage Distribution of Maternities by Method of Delivery, Primiparous and Multiparous Women, 2012–2021	129

LIST OF FIGURES

1.1	National Perinatal Reporting System, Data Collection	5
-----	--	---

Figures for Time Trends and International Comparisons:

2.1	Stillbirth, Early Neonatal and Perinatal Mortality Rates, Ireland, 2012–2021	19
2.2	Perinatal Mortality Rates for Selected EU Countries, Ireland, 2021.....	20
2.3	Trends in Birth Rates for Selected EU Countries, 2012–2021.....	21
2.4	Birth Rates per 1,000 Population for EU Countries, 2021.....	22
2.5	Age-Specific Fertility Rates (ASFRs) and Total Period Fertility Rates (TPFRs), Ireland, 2012–2021	23
2.6	Total Period Fertility Rates for EU Countries, 2021.....	24

Figures for General Characteristics:

3.1	Age-specific Stillbirth, Early Neonatal and Perinatal Mortality Rates.....	28
3.2	Percentage of Births by Mother’s County of Residence, Total Births	30
3.3	Perinatal Mortality Rates by Mother’s Socio-economic Group.....	33
3.4	Average Age of Mother by Mother’s Nationality, Total Maternities	37
3.5	Parity by Age of Mother, Total Maternities	40
3.6	Birthweight: Cumulative Percentages of Total Live Births	45
3.7	Percentage of Births by Birthweight Groups, Total Live Births	45
3.8	Percentage Distribution for Males and Females across Birthweight Groups, Total Live Births	46
3.9	Percentage of Births by Month of Birth, Singleton and Multiple Births	49

Figures for Perinatal Care:

4.1	Mother’s Postnatal Length of Stay by Method of Delivery, Singleton Births	58
4.2	Mother’s Postnatal Length of Stay by Method of Delivery, Multiple Births	58
4.3	Percentage Distribution of Total Live Births by Method of Delivery	61
4.4	Percentage of Total Births by Method of Delivery and Age of Mother	63
4.5	Percentage Distribution of Births by Size of Maternity Unit, Total Births	65
4.6	Percentage Distribution of Total Live Births by Infant’s Length of Stay	68
4.7	Percentage Distribution of Infant’s Type of Feeding by Age of Mother, Total Live Births	70
4.8	Percentage Distribution of Exclusively Breastfed Infants by Mother’s County of Residence, Total Live Births	71
4.9	Percentage Distribution of Infant’s Type of Feeding by Mother’s Socio-economic Group, Total Live Births	73
4.10	Percentage Distribution of Exclusively Breastfed Infants by Mother’s Nationality, Total Live Births	74

Figures for Perinatal Outcomes:

5.1	Perinatal Deaths by Birthweight Groups and Parity	78
5.2	Perinatal Mortality Rates by Birthweight Groups.....	79
5.3	Total Perinatal Deaths with Birthweight < 2,500 grams by Cause of Death	83
5.4	Total Perinatal Deaths with Birthweight ≥ 2,500 grams by Cause of Death	83
5.5	Total Perinatal Deaths by Gestational Age (weeks).....	86
5.6	Perinatal Mortality Rates by Gestational Age (weeks) at Delivery.....	86
5.7	Total Stillbirths by Cause of Death.....	91
5.8	Total Early Neonatal Deaths by Cause of Death.....	92
5.9	Total Perinatal Deaths by Cause of Death.....	93
5.10	Early Neonatal Deaths by Age at Death and Plurality.....	94
5.11	Early Neonatal Deaths by Age at Death and Birthweight Groups.....	95

Figure for Domiciliary Births:

H1	Number and Percentage of Domiciliary Births Reported, 2012–2021	128
----	---	-----

Figure for Method of Delivery for Primiparous and Multiparous Women:

I1	Percentage Distribution of Maternities Delivering by Caesarean Section for Total, Primiparous and Multiparous Women, 2012–2021	130
----	---	-----

KEY FINDINGS

The Perinatal Statistics Report 2021 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 2021.

SUMMARY STATISTICS, 2021

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	58,721	58,520	201	3.4	91	1.6	292	5.0	197	3.4
Multiple	2,083	2,066	17	8.2	27	13.1	44	21.1	37	17.8
Total	60,804	60,586	218	3.6	118	1.9	336	5.5	234	3.9

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, 2021

- 60,804 births were reported to NPRS in 2021, representing a 6.6 per cent increase between 2020 and 2021
- 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)
- 62% of babies recorded any breastfeeding in 2021 compared to 55% in 2012
- 46% of babies were exclusively breastfed in 2021
- 37% of total live births were delivered by Caesarean section, with 36% of singleton and 72% of multiple live births delivered by this method. In 2012, 29% of total live births were delivered by Caesarean section
- 96% of singleton births and 70% of multiple births were discharged from hospital within 5 days of birth
- Average total infant's length of stay was 3.0 days in 2021, compared to 3.2 days in 2012
- The perinatal mortality rate was 5.5 per 1,000 live births and stillbirths (5.0 per 1,000 singleton births and 21.1 per 1,000 multiple births). This rate has fallen by 6.8% since 2012, when it was 5.9 per 1,000 live births and stillbirths.

Mothers, 2021

- 59,762 maternities were reported to NPRS in 2021, representing a 6.6 per cent increase between 2020 and 2021
- The average age of mothers has increased from 31.4 years in 2012 to 32.8 years in 2021
- 41% of mothers were aged 35 years or older, up from 30% in 2012
- 28% of first births were to women aged 35 years or older, compared to 18% in 2012
- 1% of total mothers giving birth were aged under 20 years, compared to 2% in 2012
- 39% of mothers gave birth for the first time, with an average age for first time mothers of 31.2 years
- 2% of mothers had a multiple pregnancy
- 62% of mothers recorded any breastfeeding compared to 55% in 2012
- 46% of mothers exclusively breastfed in 2021
- 51% of women having a singleton live birth delivered spontaneously, while deliveries by Caesarean section accounted for 36%, 3% were delivered using forceps and 10% via vacuum extractions
- 22% of women having a multiple live birth delivered spontaneously, while deliveries by Caesarean section accounted for 71%, 1% were delivered using forceps and 3% via vacuum extractions
- For women having a singleton live birth, 60% 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, 18% had a postnatal length of stay of 2 days or less and 73% had a postnatal length of stay of 3-5 days
- 24% of births in 2021 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 2021.² 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, provides details relating to the data elements collected in the system, and provides information relating to the data collection and quality of NPRS data.

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 2012 to 2021. Appendix I includes data on method of delivery for primiparous and multiparous women for 2012 to 2021.

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 ≥ 500 g 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.

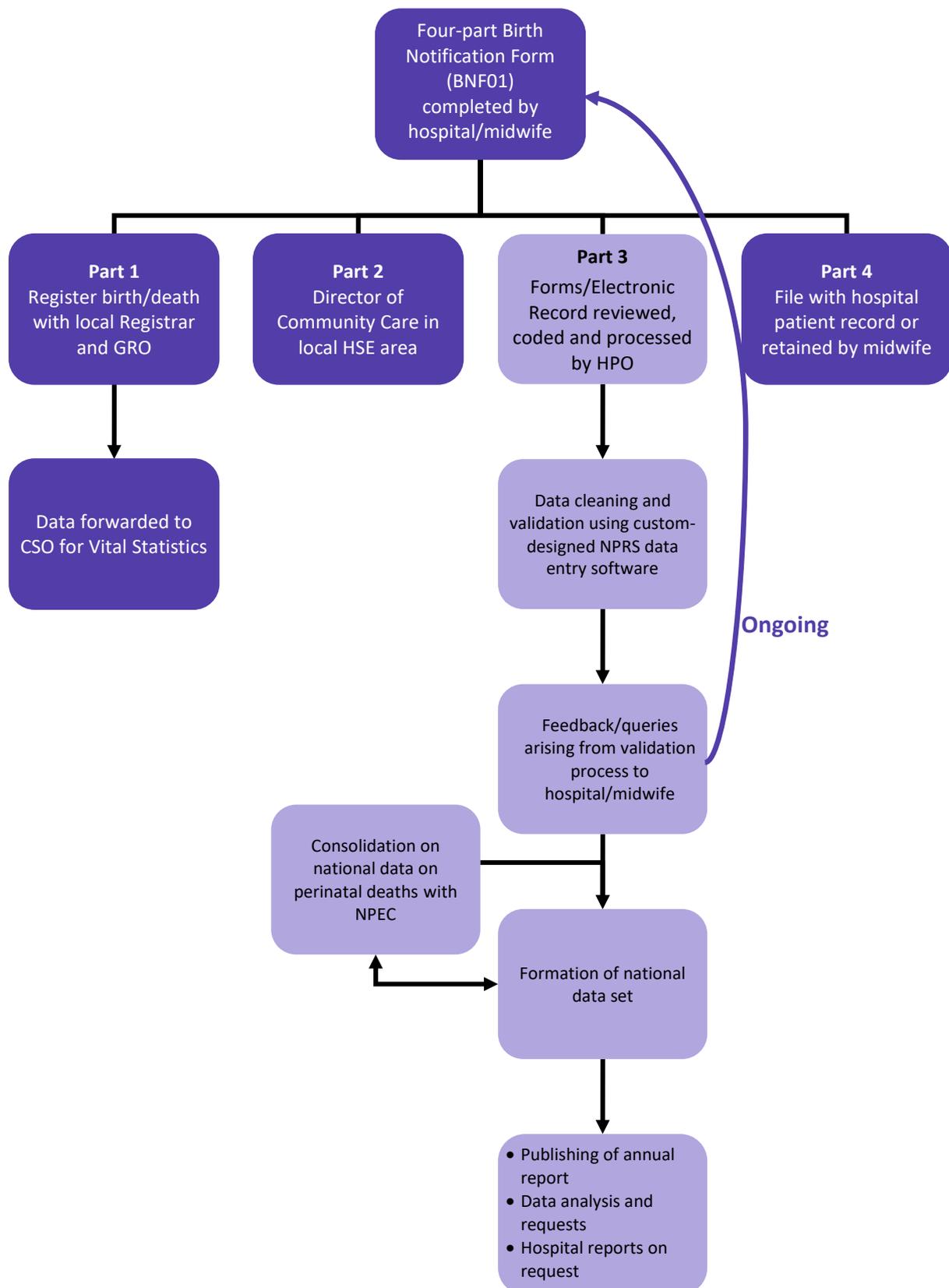
The link between the Birth Notification Form and the birth registration process for the General Register Office (GRO) ensures complete coverage of all births for the NPRS. The number of total births included in the NPRS are based on the data collected by the NPRS via part 3 of the Birth Notification 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
- 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) is operating in two 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 2021 to both reporting systems. As a result of this data reconciliation exercise, the data reported on perinatal deaths for 2021 (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 102 deaths due to congenital anomalies in 2021.

TABLE 1.1

Total births, Stillbirths, Early Neonatal Deaths and Perinatal Deaths (≥ 500 grams only), NPRS and NPEC, 2021

	NPRS		NPEC	
	Number	Rate ^a	Number	Rate
Total births	60,804	-	-	-
Stillbirths	218	3.6	218	3.6
Early neonatal deaths	118	1.9	118	1.9
Perinatal deaths	336	5.5	336	5.5
Adjusted perinatal deaths ^b	234	3.9	213	3.5

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 102 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 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. 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 January 2024) 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.

DATA QUALITY DEVELOPMENTS

Data quality is one of the core functions of the Healthcare Pricing Office with a range of data quality activities and tools in use at both local and national level. The HPO have recently published a Data Quality Framework as recommended by HIQA in the HIQA Review of Information Practices in HIPE (HIQA, 2018)¹⁰ and is available at www.hpo.ie. The HPO Data Quality Framework sets out the purpose and objectives of the HPO's data quality activities at both a national and also at a local hospital/hospital group level.

The production of Data Quality Statements was also recommended as per the HIQA report as part of the Data Quality Framework (2018). An NPRS Data Quality Statement has been prepared to accompany this report and is available at www.hpo.ie. The Data Quality Statement highlights the dimensions of data quality, including strengths and weaknesses of the data in each output. It allows data users to interpret the data and information and make informed judgments about whether the data meets their needs. The content of the Data Quality Statement will vary depending on the data and information being published. The NPRS Data Quality Statement is available at www.hpo.ie. This will be reviewed on an annual basis.

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.

¹⁰ Available at: www.hiqa.ie/reports-and-publications/health-information/review-information-management-practices-hospital

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 The indicators for Ireland were calculated using data from the NPRS for the period 2012 to 2021.¹¹

TRENDS IN SELECTED STATISTICS

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

- The trend in total births has been downward from 2012 to 2020, decreasing from 71,986 in 2012 to 57,064 in 2020. The first increase in total births is seen in 2021 with 60,804 births reported, representing an increase of 6.6 per cent from 2020 to 2021.
- Mothers giving birth in Ireland in 2021, with an average age of 32.8 years, were on average 1.4 years older than those who gave birth in 2012 (31.4 years) and just slightly older than those giving birth in 2020 (average age 32.6 years).
- Over the decade 2012 to 2021, 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 5.1 per cent of births in 2012 to 2.6 per cent in 2021. Births to primiparous women aged 40 years and older increased from 3.2 per cent of births in 2012 to 5.2 per cent in 2021.
- Births to multiparous women aged 40 years and older increased from 7.0 per cent of births in 2012 to 10.3 per cent in 2021.
- The percentage of women recording any breastfeeding was 55.4 per cent in 2012, increasing to 61.8 per cent in 2021.
- The percentage of women exclusively breastfeeding has decreased from 46.9 per cent in 2012 to 46.3 per cent in 2021.
- The proportion of Irish mothers exclusively breastfeeding has increased by 7.0 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 countries changed over this period caution should be exercised when interpreting these data. See Appendix F for a description of the classification system for nationality.

¹¹ 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 is recorded at 3.2 days in 2021.

Data on parents' nationality show the following:¹²

- The percentage of births to mothers born in Ireland has increased slightly from 75.1 per cent of births in 2020 to 76.0 per cent of births in 2021, an increase of 1.2 per cent.

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

- For total live births the percentage of spontaneous deliveries fell from 55.6 per cent in 2012 to 49.7 per cent in 2021. The upward trend in delivery by Caesarean section continues with a rate of 37.1 per cent reported in 2021 compared with 28.9 per cent in 2012.
- For total maternities, the percentage of deliveries by Caesarean section has increased from 28.1 per cent in 2012 to 35.1 per cent in 2020 and is reported at 36.3 per cent in 2021. This represents an increase of 29.2 per cent over the decade.

Regarding infant characteristics, trends have been largely consistent over the decade 2012 to 2021.

- The average birthweight for total live births was 3,439.9 grams in 2021, which is broadly consistent with the preceding decade.
- The average birthweight for both singleton (3,475.4 grams) and multiple (2,435.6 grams) births has remained largely consistent over the decade.
- The percentage of total live births recording low birthweight (<2,500 grams) was 5.4 per cent in 2012 compared with 5.6 per cent in 2021.
- The percentage of total live births classified as high birthweight (4,500 grams or more) has decreased from 2.5 per cent in 2012 to 2.0 per cent in 2021.
- For total births, infant's average length of stay in hospital has remained consistent across the decade, decreasing slightly from 3.2 days in 2012 to 3.0 days in 2021.
- In 2021, infant's average length of stay in hospital was recorded as 2.9 days for singleton births and 8.3 days for multiple births.

¹² Based on EU27 for 2007-2013, EU28 for 2014-2020 and EU27 from 2021. As the EU countries changed over this period caution should be exercised when interpreting these data. See Appendix F for a description of the classification system for nationality.

TABLE 2.1

Trends in Selected Statistics, 2012–2021

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	% Change			
													2012–2021	2020–2021	
Total Births	N	71,986	69,267	67,610	65,869	64,097	62,070	61,258	59,536	57,064	60,804		-15.5	6.6	
Total Maternities	N	70,709	67,952	66,338	64,624	62,871	60,910	60,119	58,450	56,039	59,762		-15.5	6.6	
Birth Rate ¹	Per 1,000 population	15.6	15.0	14.6	14.2	13.5	12.9	12.6	12.1	11.4	11.9		-23.7	4.4	
Maternal Characteristics															
Age of mother (years) ^{2,3}	Avg	31.4	31.6	31.8	31.9	32.2	32.3	32.4	32.5	32.6	32.8		4.5	0.6	
Mother's Civil Status	Married	%	64.0	63.8	62.6	62.2	62.2	61.3	60.8	60.6	60.2	56.1	-12.3	-6.8	
	Single	%	34.3	34.7	35.8	36.4	36.4	37.3	37.8	38.0	38.5	42.6	24.2	10.6	
	All other	%	1.7	1.5	1.5	1.4	1.4	1.5	1.4	1.4	1.3	1.2	-29.4	20.0	
Maternal parity ²	Avg	1.0	1.0	1.0	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.0	0.0	0.0	
	Under 20 Years	%	5.1	4.7	4.3	4.3	4.1	4.0	3.6	3.3	3.3	2.6	-49.0	-21.2	
	20–24 Years	%	15.3	14.8	14.1	14.1	13.5	13.6	13.2	13.0	12.4	11.2	-26.8	-9.7	
	25–29 Years	%	26.1	24.5	23.5	22.6	21.8	20.9	20.9	20.5	20.4	20.1	-23.0	-1.5	
	30–34 Years	%	35.6	36.3	36.9	36.8	37.3	36.3	36.4	36.7	37.1	38.5	8.1	3.8	
35–39 Years	%	14.8	16.2	17.4	18.1	19.1	20.6	21.0	21.4	21.6	22.4	51.4	3.7		
40 Years and Older	%	3.2	3.5	3.8	4.0	4.3	4.7	5.0	5.1	5.2	5.2	62.5	0.0		
Births to Primiparous Women by Maternal Age ²	Under 20 Years	%	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3		-25.0	-25.0	
	20–24 Years	%	6.1	6.0	5.6	5.5	5.0	5.1	5.2	4.7	4.6	4.5	-26.2	-2.2	
	25–29 Years	%	18.5	17.7	17.3	16.7	15.6	15.3	14.9	14.7	14.7	13.8	-25.4	-6.1	
	30–34 Years	%	36.8	37.0	36.5	35.7	35.3	34.3	32.9	32.7	32.6	32.5	-11.7	-0.3	
	35–39 Years	%	31.1	31.8	32.7	34.1	35.5	36.7	37.5	38.1	37.6	38.5	23.8	2.4	
40 Years and Older	%	7.0	7.2	7.6	7.7	8.3	8.2	9.1	9.5	10.1	10.3	47.1	2.0		
Number of previous stillbirths per 1,000 maternities ²	Avg	9.7	10.9	10.8	9.5	10.2	9.5	10.0	9.4	9.3	8.7		-10.3	-6.5	
Gestational age at delivery (weeks) ²	Avg	39.3	39.3	39.2	39.2	39.2	39.1	39.0	39.0	39.0	38.9		-1.0	-0.3	
Interval since last birth (years) ^{3,4}	Avg	3.3	3.4	3.4	3.4	3.5	3.5	3.5	3.6	3.5	3.4		3.0	-2.9	
Immunity to rubella ^{2,14}	%	94.3	94.2	93.4	92.9	91.5	90.9	89.7	89.6	89.6	89.3		-5.3	-0.3	
Any breastfeeding ^{1,2,5,6}	%	55.4	55.9	57.0	58.0	59.9	59.8	60.4	60.9	61.4	61.8		11.6	0.7	
Exclusive breastfeeding ^{1,2,5}	%	46.9	46.6	46.6	48.0	49.8	48.6	47.3	45.9	44.5	46.3		-1.3	4.0	
Exclusive breastfeeding by Mother's Nationality ^{1,2,5}	Irish	%	40.0	40.5	41.1	42.6	44.2	43.6	42.9	41.9	40.8	42.8		7.0	4.9
	UK	%	51.0	54.2	50.9	53.4	51.7	50.8	48.7	50.1	47.1	47.3		-7.3	0.4
	EU ⁷	%	77.5	75.3	74.4	73.7	74.2	72.6	68.5	65.3	62.4	61.9		-20.1	-0.8
	Africa	%	51.6	47.4	45.3	45.8	50.6	50.0	44.5	46.0	45.1	49.8		-3.5	10.4
	Asia	%	58.5	54.5	53.3	55.7	58.9	54.5	48.8	47.5	44.5	48.7		-16.8	9.4
Mother's length of stay (days) ^{1,2,8}	Avg	3.2	3.4	3.4	3.4	3.4	3.4	3.5	3.5	3.2	3.2		0.0	0.0	

TABLE 2.1 Trends in Selected Statistics, 2012–2021 (contd.)

Parents Nationality		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	% Change		
													2012–2021	2020–2021
Mother's Nationality	Irish	76.0	77.1	77.8	77.5	76.3	76.9	75.5	76.2	75.1	76.0	76.0	0.0	1.2
	UK	2.4	2.3	2.2	2.4	2.3	2.2	2.3	2.2	2.4	2.4	2.4	0.0	0.0
	EU ⁷	12.9	12.7	12.4	12.5	12.7	12.2	11.9	11.3	10.6	9.6	9.6	-25.6	-9.4
	Africa	2.7	2.4	2.3	2.1	2.3	2.3	2.4	2.4	2.3	2.2	2.2	-18.5	-4.3
	Asia	4.0	3.4	3.2	3.2	3.7	3.4	4.1	4.2	4.2	4.9	5.0	25.0	2.0
Father's Nationality ⁹	Irish	57.5	57.1	56.0	58.2	58.8	59.1	56.0	51.7	49.0	45.8	45.8	-20.3	-6.5
	UK	2.0	2.0	1.9	1.9	1.6	1.6	1.5	1.4	1.4	1.4	1.4	-30.0	0.0
	EU ⁷	8.4	8.1	7.9	7.9	7.9	7.7	7.2	6.7	6.0	4.7	4.7	-44.0	-21.7
	Africa	1.9	1.6	1.5	1.4	1.5	1.5	1.4	1.5	1.3	1.1	1.1	-42.1	-15.4
	Asia	3.1	2.4	2.2	2.4	2.8	2.6	3.0	3.3	3.3	3.3	3.3	6.5	0.0
Perinatal Care														
Hospital & G.P. combined antenatal care ^{2,10}		77.3	79.5	80.9	81.9	81.9	81.3	82.6	85.4	87.2	85.5	85.5	10.6	-1.9
Booked hospital admissions ^{2,8}		99.3	99.2	96.9	99.1	99.0	97.2	89.2	97.9	98.6	98.2	98.2	-1.1	-0.4
Method of delivery ¹¹		55.6	55.1	54.2	53.5	52.2	52.5	51.3	51.2	49.9	49.7	49.7	-10.6	-0.4
Total live births ¹²		28.9	29.7	30.4	31.4	32.7	32.8	34.3	34.9	35.8	37.1	37.1	28.4	3.6
Forceps ¹³		3.9	3.8	3.8	3.5	3.6	3.5	3.0	3.4	3.4	3.2	3.2	-17.9	-5.9
Method of delivery ¹¹		56.3	55.9	55.0	54.2	52.9	53.2	52.0	52.0	50.6	50.3	50.3	-10.7	-0.6
Caesarean section		28.1	28.9	29.5	30.6	31.9	32.0	33.6	34.1	35.1	36.3	36.3	29.2	3.4
Forceps ¹³		3.9	3.9	3.8	3.5	3.6	3.6	3.1	3.4	3.4	3.2	3.2	-17.9	-5.9
Infant Characteristics														
Total births		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	3,439.9	3,439.9	-0.7	0.0
Singleton births		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	3,475.4	3,475.4	-0.8	-0.1
Multiple births		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	2,435.6	2,435.6	0.6	0.3
Low birthweight (<2500 grams) ¹		5.4	5.5	5.6	5.7	5.7	5.7	5.7	5.6	5.5	5.6	5.6	3.7	1.8
Singleton births		3.8	3.8	3.9	3.9	3.9	4.0	4.1	4.0	3.9	4.1	4.1	7.9	5.1
Multiple births		49.9	49.0	49.4	49.9	49.6	48.5	48.1	47.1	48.3	48.5	48.5	-2.8	0.4
High birthweight (≥4500 grams) ¹		2.5	2.3	2.3	2.2	2.2	2.1	2.0	2.0	1.9	2.0	2.0	-20.0	5.3
Total births		3.2	3.2	3.3	3.3	3.3	3.3	3.4	3.3	3.0	3.0	3.0	-6.3	0.0
Singleton births		3.0	3.0	3.0	3.1	3.1	3.1	3.1	3.1	2.8	2.9	2.9	-3.3	3.6
Multiple births		9.4	9.7	9.3	9.5	9.5	9.3	9.3	8.9	8.3	8.3	8.3	-11.7	0.0
Post-mortems for early neonatal deaths		27.3	35.2	31.6	37.8	31.5	36.1	35.6	36.2	41.4	28.8	28.8	5.5	-30.4

Notes: Percentages are subject to rounding.¹ Based on live births.² 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, EU28 for 2014–2020 and EU27 from 2021. As the EU changed 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 2012 to 2021.

- Of the 60,804 births presented in this report for 2021, 58,721 were singleton births, 2,038 were twin births and 45 were higher-order multiple births.¹³
- The twinning rate was 17.1 per 1,000 maternities in 2021; this represents a decrease of 0.6 per cent over the decade and a decrease of 5.0 per cent between 2020 and 2021.

TABLE 2.2
Singleton and Multiple Births, 2012–2021

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	% Change	
											2012-2021	2020-2021
Singleton births	69,452	66,650	65,070	63,384	61,655	59,749	58,996	57,377	55,009	58,721	-15.5	6.7
Twin births	2,435	2,526	2,461	2,390	2,363	2,273	2,174	2,083	2,016	2,038	-16.3	1.1
Higher-order multiple births	99	91	79	95	79	48	88	76	39	45	-54.5	15.4
Twinning rate (per 1,000 maternities)	17.2	18.6	18.5	18.5	18.8	18.7	18.1	17.8	18.0	17.1	-0.6	-5.0

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 2012 and 2021 are presented in Table 2.3.¹⁴

- 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 5.0 in 2021, compared to 5.6 per 1,000 live births and stillbirths in 2011.
- The total perinatal mortality rate for multiple births was recorded at 21.1 in 2021, compared to 15.0 per 1,000 live births and stillbirths in 2012.
- For 2021 the stillbirth mortality rate was recorded at 3.6 per 1,000 live births and stillbirths.
- The early neonatal mortality rate for 2021 was recorded at 1.9 per 1,000 live births.

¹³ 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 2021, there were 58,792 singleton births, 2,066 twin births and 45 triplets reported to the NPRS; of these, 89 births weighed less than 500 grams (including 61 singleton births and 28 multiple births) and so were excluded from the analysis.

¹⁴ 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, 2012–2021

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	% Change	
	Number of Births and Perinatal Deaths										2012-2021	2020-2021
Total Births	71,986	69,267	67,610	65,869	64,097	62,070	61,258	59,536	57,064	60,804	-15.5	6.6
Singleton	69,452	66,650	65,070	63,384	61,655	59,749	58,996	57,377	55,009	58,721	-15.5	6.7
Multiple	2,534	2,617	2,540	2,485	2,442	2,321	2,262	2,159	2,055	2,083	-17.8	1.4
Live Births	71,705	68,990	67,324	65,607	63,870	61,854	61,061	59,313	56,845	60,586	-15.5	6.6
Singleton	69,188	66,386	64,803	63,151	61,440	59,549	58,813	57,164	54,799	58,520	-15.4	6.8
Multiple	2,517	2,604	2,521	2,456	2,430	2,305	2,248	2,149	2,046	2,066	-17.9	1.0
Stillbirths	281	277	286	262	227	216	197	223	219	218	-22.4	-0.5
Singleton	264	264	267	233	215	200	183	213	210	201	-23.9	-4.3
Multiple	17	13	19	29	12	16	14	10	9	17	0.0	88.9
Early Neonatal Deaths	143	159	136	164	124	108	104	116	111	118	-17.5	6.3
Singleton	122	133	117	137	108	87	83	97	98	91	-25.4	-7.1
Multiple	21	26	19	27	16	21	21	19	13	27	28.6	107.7
Perinatal Deaths	424	436	422	426	351	324	301	339	330	336	-20.8	1.8
Singleton	386	397	384	370	323	287	266	310	308	292	-24.4	-5.2
Multiple	38	39	38	56	28	37	35	29	22	44	15.8	100.0
	Rates ^a											
Stillbirths	3.9	4.0	4.2	4.0	3.5	3.5	3.2	3.7	3.8	3.6	-7.7	-5.3
Singleton	3.8	4.0	4.1	3.7	3.5	3.3	3.1	3.7	3.8	3.4	-10.5	-10.5
Multiple	6.7	5.0	7.5	11.7	4.9	6.9	6.2	4.6	4.4	8.2	22.4	86.4
Early Neonatal Deaths	2.0	2.3	2.0	2.5	1.9	1.7	1.7	2.0	2.0	1.9	-5.0	-5.0
Singleton	1.8	2.0	1.8	2.2	1.8	1.5	1.4	1.7	1.8	1.6	-11.1	-11.1
Multiple	8.3	10.0	7.5	11.0	6.6	9.1	9.3	8.8	6.4	13.1	57.8	104.7
Perinatal Deaths	5.9	6.3	6.2	6.5	5.5	5.2	4.9	5.7	5.8	5.5	-6.8	-5.2
Singleton	5.6	6.0	5.9	5.8	5.2	4.8	4.5	5.4	5.6	5.0	-10.7	-10.7
Multiple	15.0	14.9	15.0	22.5	11.5	15.9	15.5	13.4	10.7	21.1	40.7	97.2

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.¹⁵ Stillbirths accounted for 64.5 per cent of perinatal deaths in 2021.^{16,17} Table 2.4 presents the numbers and rates for total births and perinatal deaths for Ireland from 2012 to 2021.

- In 2021 approximately 1 in every 279 births was stillborn and 1 in every 513 live births died in the first week of life.
- Over the decade, the perinatal mortality rate has fallen from 5.9 per 1,000 live births and stillbirths in 2012 to 5.5 per 1,000 live births and stillbirths in 2021. This represents a 6.8 per cent decrease over the decade.
- The stillbirth rate has declined over the period from 3.9 per 1,000 live births and stillbirths in 2012 to 3.6 per 1,000 live births and stillbirths in 2021, a decline of 7.7 per cent over the decade.
- The early neonatal mortality rate has also declined from 2.0 per 1,000 live births in 2012 to 1.9 per 1,000 live births in 2021, a decline of 5.0 per cent over the decade (see Figure 2.1).

TABLE 2.4

Live Births, Stillbirths, Early Neonatal Deaths, and Perinatal Deaths, 2012–2021

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	% Change	
	Number of Births and Perinatal Deaths										2012–2021	2020–2021
Total Births	71,986	69,267	67,610	65,869	64,097	62,070	61,258	59,536	57,064	60,804	-15.5	6.6
Live Births	71,705	68,990	67,324	65,607	63,870	61,854	61,061	59,313	56,845	60,586	-15.5	6.6
Stillbirths	281	277	286	262	227	216	197	223	219	218	-22.4	-0.5
Early Neonatal Deaths	143	159	136	164	124	108	104	116	111	118	-17.5	6.3
Perinatal Deaths	424	436	422	426	351	324	301	339	330	336	-20.8	1.8
Adjusted Perinatal Deaths	309	297	304	287	234	217	204	234	230	234	-24.3	1.7
Stillbirth	3.9	4.0	4.2	4.0	3.5	3.5	3.2	3.7	3.8	3.6	-7.7	-5.3
Early Neonatal Deaths	2.0	2.3	2.0	2.5	1.9	1.7	1.7	2.0	2.0	1.9	-5.0	-5.0
Perinatal Mortality	5.9	6.3	6.2	6.5	5.5	5.2	4.9	5.7	5.8	5.5	-6.8	-5.2
Adjusted Perinatal Mortality	4.3	4.3	4.5	4.4	3.7	3.5	3.3	3.9	4.0	3.9	-9.3	-2.5

Notes: Percentage columns are subject to rounding.

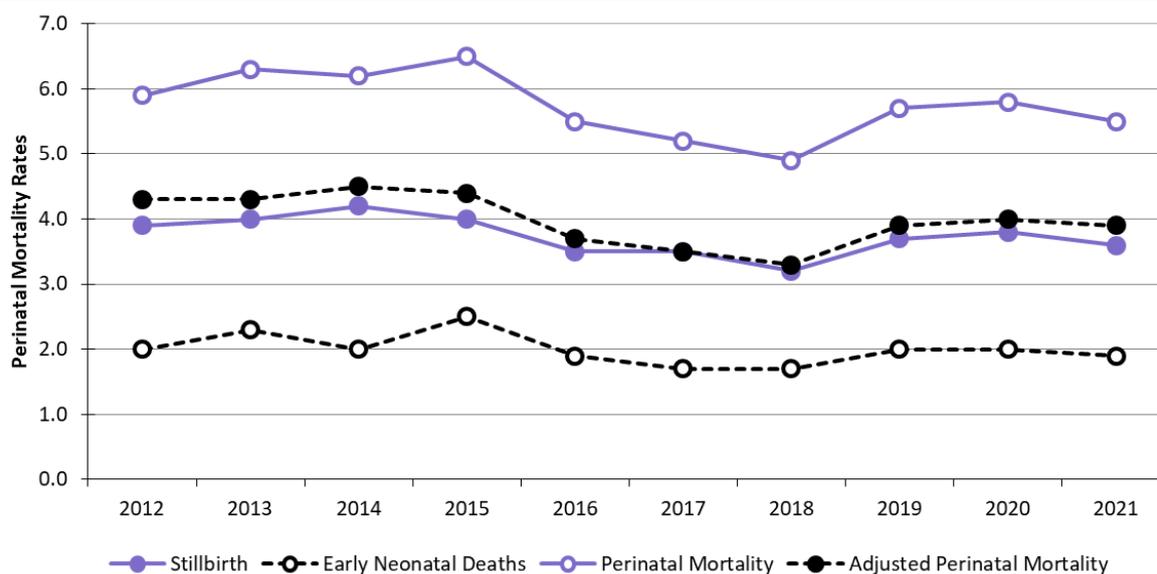
- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. For numbers and rates by singleton and multiple births see Section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

¹⁵ 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

¹⁶ Details on rate calculations are in Appendix A.

¹⁷ 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, 2012–2021



Note: See Table 2.4 for data.

Using available data, a European comparison¹⁸ of perinatal mortality rates in Figure 2.2 shows that for the countries included:

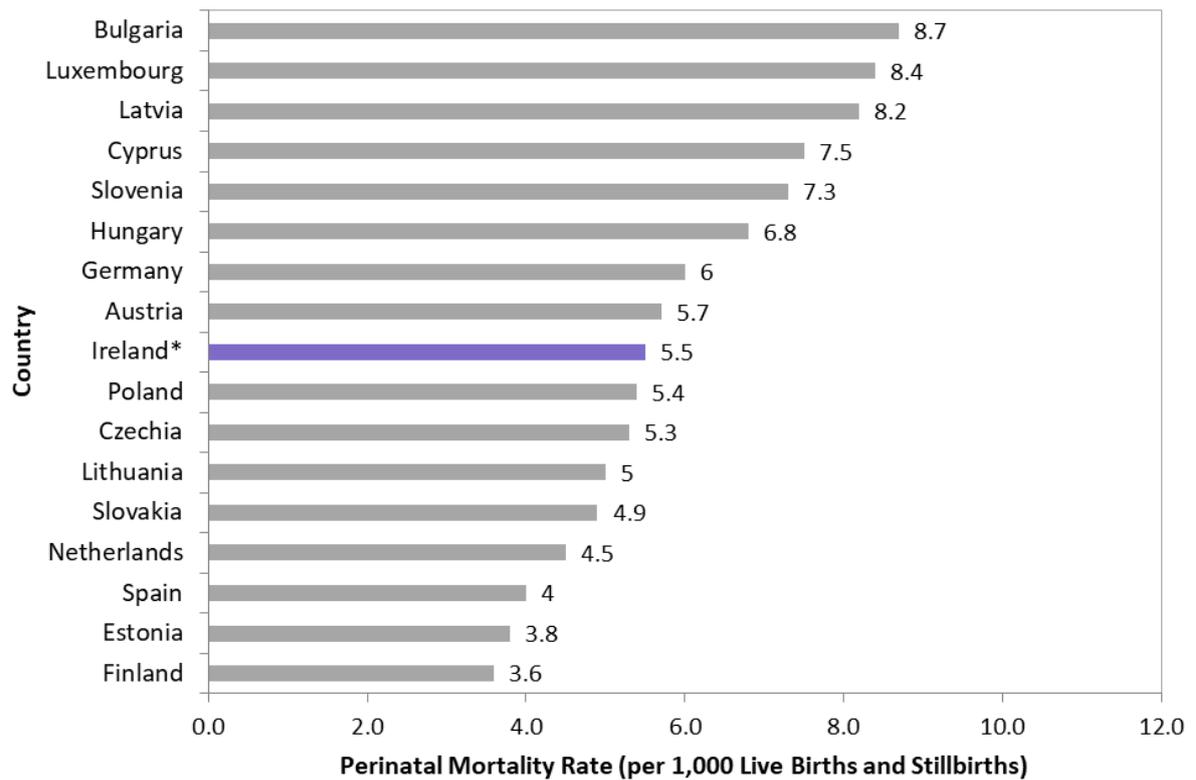
- Bulgaria recorded the highest perinatal mortality rate for 2021, at 8.7 per 1,000 live births and stillbirths.
- Finland had the lowest perinatal mortality rate recording 3.6 per 1,000 live births and stillbirths.
- In 2021, the perinatal mortality rate for Ireland was recorded at 5.5 per 1,000 live births and stillbirths.

¹⁸ 'Population and Social Conditions', Eurostat, Data Navigation Tree, date consulted November 2023. <https://ec.europa.eu/eurostat/web/main/data/database>

When countries are compared, it should be remembered that rates are affected by many factors, such as national policies on abortion, screening for congenital anomalies, availability of services related to fertility treatment, differences in the comprehensiveness and accuracy of registration and notification systems, and variations in definitions employed (in particular, for stillbirth).

FIGURE 2.2

Perinatal Mortality Rates for Selected EU Countries, 2021



Sources: 'Population and Social Conditions', Eurostat, Data Navigation Tree, date consulted November 2023.

<https://ec.europa.eu/eurostat/web/main/data/database>

* National figure compiled by NPRS. See Table 2.4 for data.

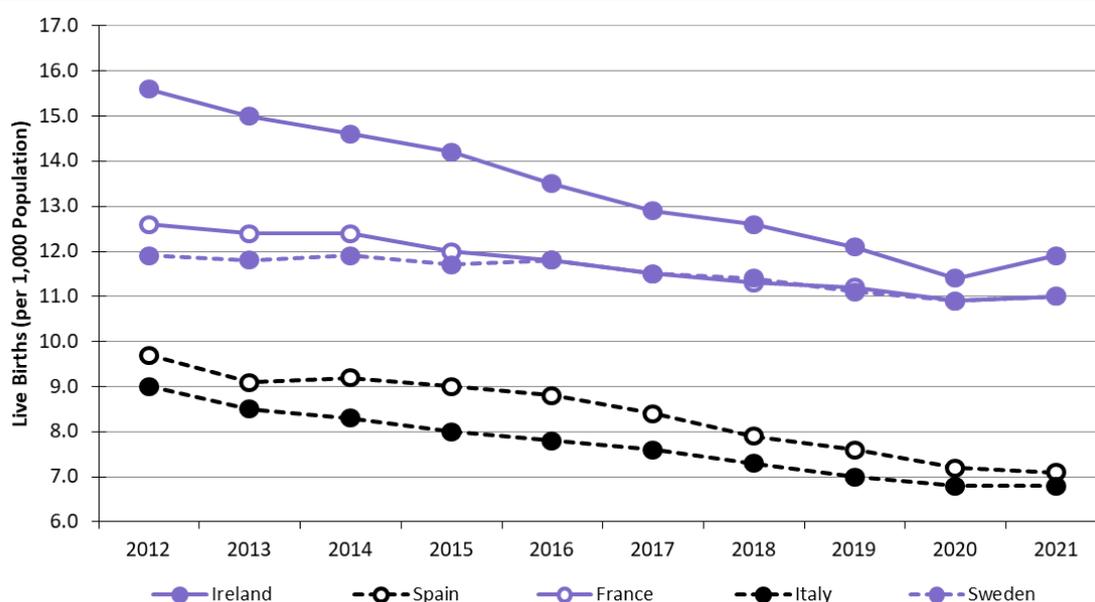
BIRTH RATES¹⁹

The birth rate is based on the total number of live births per 1,000 population.²⁰ Figure 2.3 presents trends in birth rates for selected EU countries over the decade 2012 to 2021. Figure 2.4 presents birth rates in 27 EU countries for 2021.

- The birth rate for Ireland has declined from a high of 15.6 per 1,000 population in 2012 to a low of 11.4 per 1,000 population in 2020. The birth rate for Ireland increased slightly in 2021 to 11.9 per 1,000 population (see Figure 2.3).
- Of the countries reviewed, Ireland has consistently had the highest birth rate over the period (see Figure 2.4).²¹
- After Ireland, of the countries reviewed, the next highest birth rates in 2021 are reported in Cyprus (11.4), followed by France and Sweden, both reporting a birth rate of 11.0 per 1,000 population.
- In 2021, based on the EU countries, Italy had the lowest birth rate (6.8), followed by Spain (7.1) (see Figure 2.4).

FIGURE 2.3

Trends in Birth Rates for Selected EU Countries, 2012–2021



Sources: 'Population and social conditions', Eurostat, Data Navigation Tree, date consulted November 2023.

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

Data for Ireland are based on NPRS data on live births from 2012 onwards. The population estimates used in the denominator of the birth rate were calculated by the CSO Statistical Databases, date consulted November 2023.

www.data.cso.ie (PEA11 table)

¹⁹ 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.

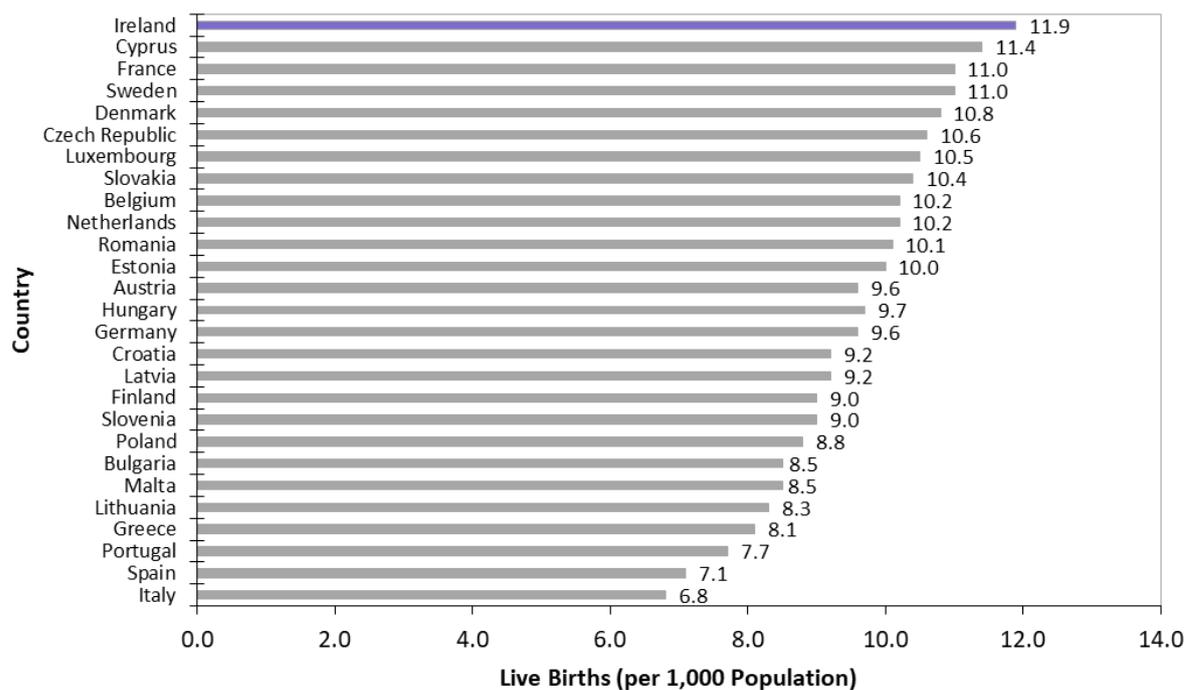
²⁰ The population estimates used in the denominator of the birth rate were calculated by the CSO Statistical Databases, date consulted November 2023. www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=PEA11&PLanguage=0

²¹ The CSO estimates the Irish birth rate at 11.9 per 1,000 population for 2021. See Vital Statistics Annual Report 2021, October 2023

<https://www.cso.ie/en/releasesandpublications/ep/p-vsar/vitalstatisticsannualreport2021/births2021/#:~:text=Live%20Births%202021&text=The%20birth%20rate%20in%202021,table%201.1%20and%20table%201.2.&text=2021%20rates%20based%20on%20revised%20residence%20population%20for%202021.>

CSO data are based on the number of births registered within the year as opposed to births occurring in the year.

FIGURE 2.4
Birth Rates per 1,000 Population for EU Countries, 2021



Sources: 'Population and social conditions', Eurostat, Data Navigation Tree, date consulted November 2023.

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

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 November 2023. www.data.cso.ie (PEA11 table).

FERTILITY

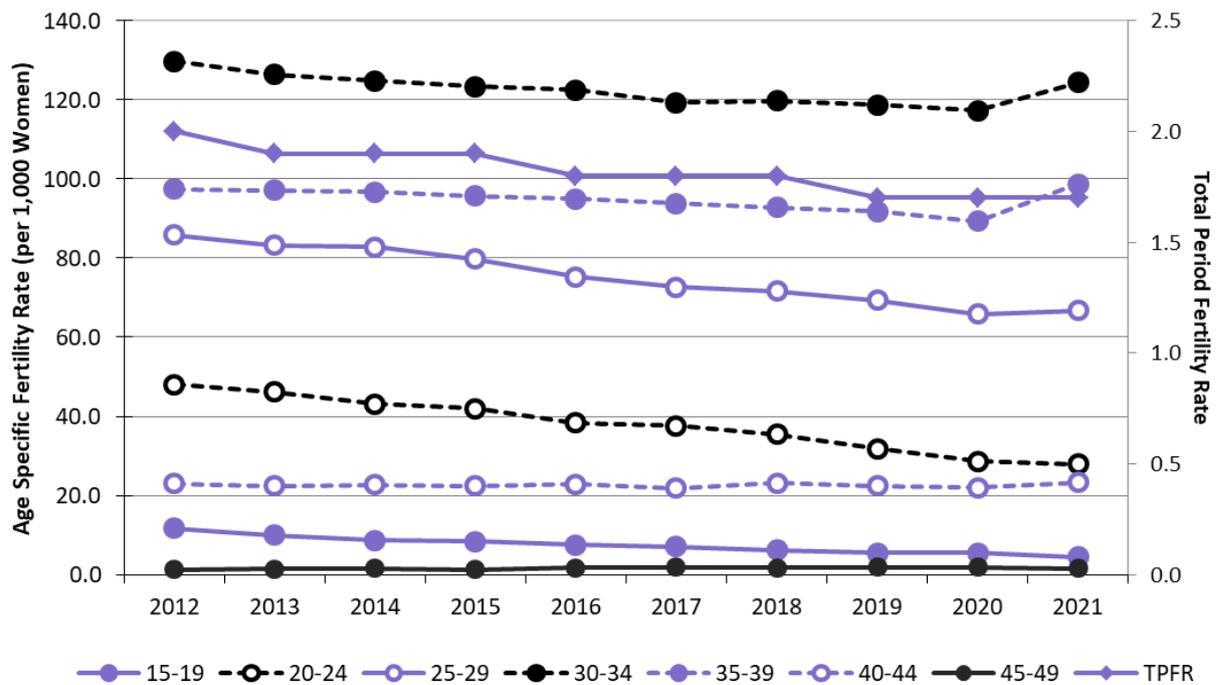
The Total Period Fertility Rate (TPFR) for a given year indicates the number of children a woman could expect to have if the Age-Specific Fertility Rates (ASFR) for that year applied throughout her fertile years.²² The ASFR refers to the number of live births to women in a particular age group per 1,000 women. Figure 2.5 displays the trend in the ASFR and TPFR in Ireland from 2012–2021.

- The Irish TPFR was recorded at a high of 2.0 in 2012 and is estimated at 1.7 in 2021.²³
- Over the decade 2012–2021, while the ASFRs for age groups under 40 years have mostly declined, there were slight increases in 2021, most noticeably in the 35 to 39 year age group. The 40 years and over age groups show small increases and decreases in ASFRs over the decade.
- In all years, the 30–34 year age group recorded the highest ASFR when compared to other age groups.

²² See Appendix A, definitions for calculation of TPFR and ASFR.

²³ The CSO estimates the TPFR at 1.7 for 2021. See Vital Statistics, Yearly Summary 2021, June 2022. CSO 2021 data are based on the number of births registered within the year as opposed to births occurring in the year.

FIGURE 2.5
Age-Specific Fertility Rates (ASFRs) and Total Period Fertility Rates (TPFRs), Ireland, 2012–2021



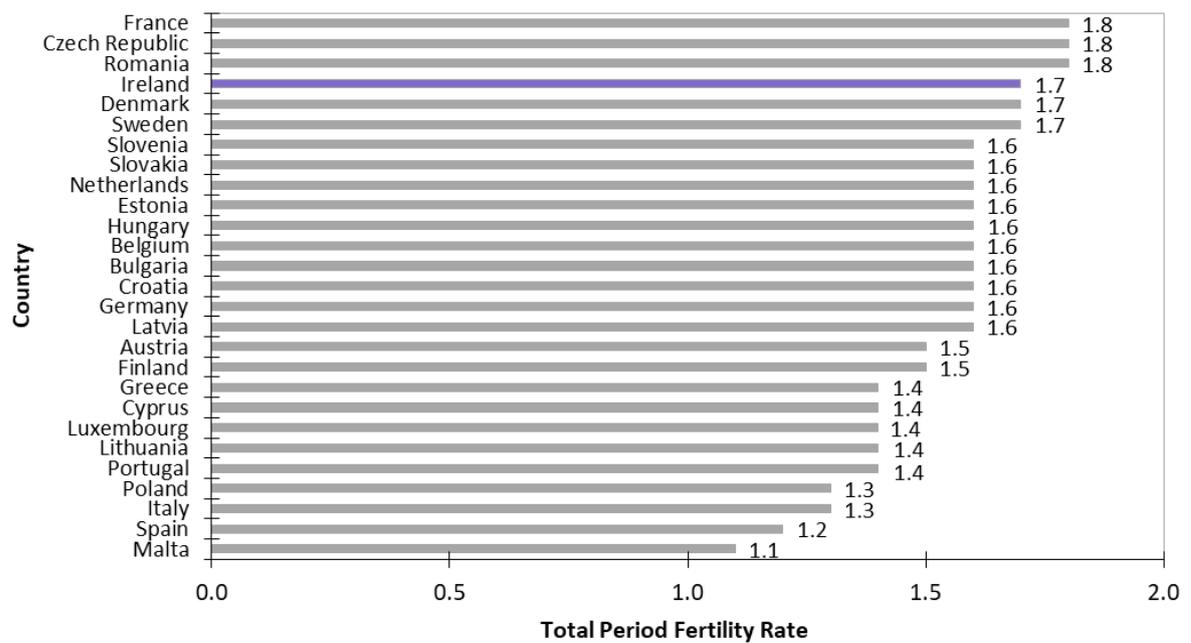
Sources: Total period fertility rates (TPFRs) and age-specific fertility rates (ASFRs) are calculated using NPRS data from 2012 onwards. Female population estimates from 2012 onwards were obtained from the CSO Statistical Databases, date consulted November 2023. www.data.cso.ie (PEA11 table).

The TPFR for Ireland is based on population data for 2021, 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).²⁴ Figure 2.6 presents data on TPFRs for 2020 using data from Eurostat and the NPRS.

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

²⁴ See Vital Statistics, Yearly Summary 2021, June 2022.

FIGURE 2.6
Total Period Fertility Rates for EU Countries, 2021



Sources: 'Population and Social Conditions', Eurostat, Data Navigation Tree, date consulted November 2023.

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

*Data for Ireland are based on NPRS data on live births. Female population estimates for 2021 were obtained from the CSO Statistical Databases, date consulted November 2023.

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

SECTION THREE

GENERAL CHARACTERISTICS

INTRODUCTION

This section presents more detailed analyses of data reported to the NPRS for 2021.

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 2021, the highest percentage of total births were to women aged 30 to 34 years (34.8 per cent).
- Over 36 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

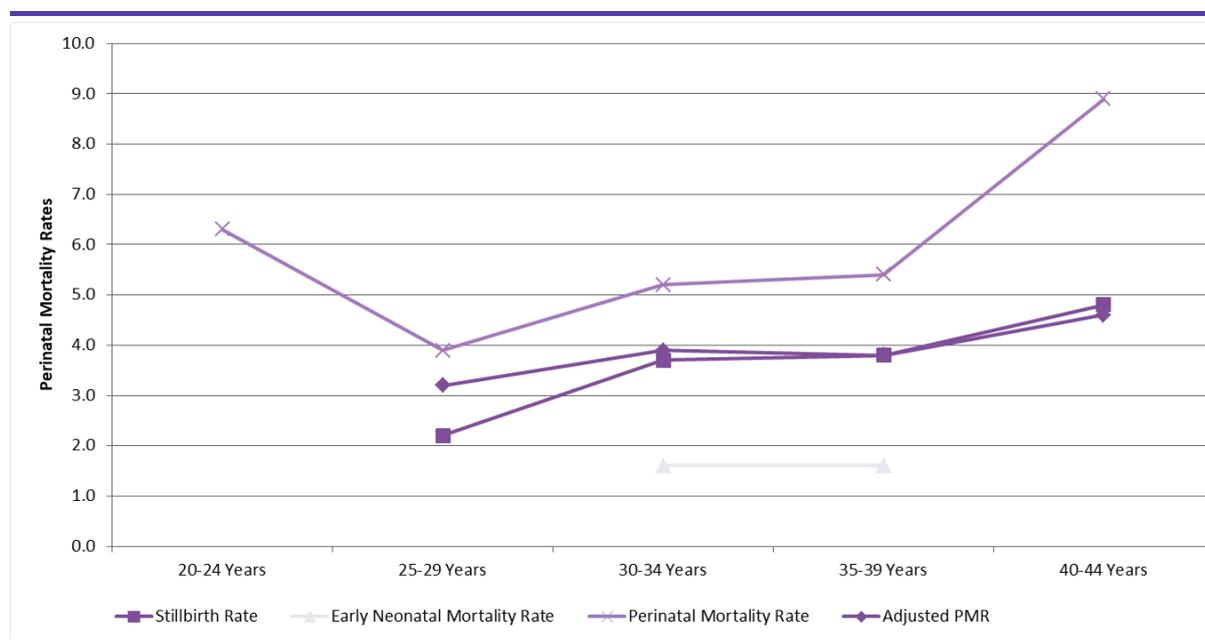
	Total Births	Total Births %	Live Births	Stillbirth Rate ^a	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adjusted PMR ^a	Maternities
Total Births								
Under 20 Years	715	1.2	713	2.8	5.6	8.4	4.2	711
20-24 Years	4,289	7.1	4,272	4.0	2.3	6.3	4.4	4,239
25-29 Years	9,843	16.2	9,821	2.2	1.6	3.9	3.2	9,708
30-34 Years	21,148	34.8	21,070	3.7	1.6	5.2	3.9	20,814
35-39 Years	19,679	32.4	19,604	3.8	1.6	5.4	3.8	19,300
40-44 Years	4,831	7.9	4,808	4.8	4.2	8.9	4.6	4,705
45 Years and Over	297	0.5	296	3.4	6.8	10.1	3.4	283
Total	60,802	100	60,584	3.6	1.9	5.5	3.8	59,760
Singleton Births								
Under 20 Years	707	1.2	705	2.8	2.8	5.7	1.4	*
20-24 Years	4,189	7.1	4,173	3.8	2.2	6.0	4.3	4,189
25-29 Years	9,570	16.3	9,549	2.2	1.4	3.6	2.8	9,570
30-34 Years	20,486	34.9	20,415	3.5	1.1	4.6	3.3	20,486
35-39 Years	18,919	32.2	18,848	3.8	1.2	4.9	3.3	18,919
40-44 Years	4,579	7.8	4,560	4.1	4.2	8.3	4.2	4,579
45 Years and Over	269	0.5	268	3.7	7.5	11.2	3.7	*
Total	58,719	100	58,518	3.4	1.5	5	3.3	58,719
Multiple Births								
Under 20 Years	8	0.4	8	-	250	250	250	~
20-24 Years	100	4.8	99	10.0	10.1	20.0	10.1	50
25-29 Years	273	13.1	272	3.7	11.0	14.7	14.7	138
30-34 Years	662	31.8	655	10.6	15.3	25.7	24.2	328
35-39 Years	760	36.5	756	5.3	13.2	18.4	14.5	381
40-44 Years	252	12.1	248	15.9	4.0	19.8	12.0	126
45 Years and Over	28	1.3	28	-	-	-	-	*
Total	2,083	100	2,066	8.2	13.1	21.1	17.8	1,041

- 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.
 ~ 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.

Figure 3.1 presents perinatal mortality rates.²⁴

- The perinatal mortality rate was lowest for mothers aged in the 25 to 29 year age group (3.9 per 1,000 live births and stillbirths) and the adjusted perinatal mortality rate was also lowest for mothers aged in the 25 to 29 year age group (3.2 per 1,000 live births and stillbirths). The highest perinatal mortality rate of 8.9 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 40 to 44 year age group (at 4.8 per 1,000 live births and stillbirths), while the lowest stillbirth rate was recorded for the 25 to 29 year age group (2.2 per 1,000 live births and stillbirths).
- The early neonatal mortality rate was 1.6 per 1,000 live births for mothers in the 30 to 34 year age group and the 35-39 year age group.

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 56 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	34,139	56.1	34,025	3.3	1.8	5.1	3.5	33,536
Single	25,924	42.6	25,823	3.9	2.2	6.1	4.4	25,502
Widowed	44	0.1	44	-	-	-	-	43
Separated	253	0.4	251	7.9	-	7.9	7.9	249
Divorced	233	0.4	232	4.3	-	4.3	-	226
Civil Partner†	64	0.1	64	-	-	-	-	62
Not Stated	147	0.2	147	-	6.8	6.8	-	144
Total	60,804	100	60,586	3.6	1.9	5.5	3.9	59,762
Singleton Births								
Married	32,941	56.1	32,838	3.1	1.2	4.4	2.8	32,941
Single	25,072	42.7	24,977	3.8	2.0	5.7	4.1	25,072
Widowed	*	^	*	-	-	-	-	*
Separated	245	0.4	243	8.2	-	8.2	8.2	*
Divorced	219	0.4	218	4.6	-	4.6	-	219
Civil Partner†	*	^	*	-	-	-	-	*
Not Stated	*	^	*	-	7.0	7.0	-	*
Total	58,721	100	58,520	3.4	1.6	5	3.4	58,721
Multiple Births								
Married	1,198	57.5	1,187	9.2	16.8	25.9	21.8	595
Single	852	40.9	846	7.0	8.3	15.3	12.9	430
Widowed	~	^	~	-	-	-	-	~
Separated	8	0.4	8	-	-	-	-	~
Divorced	14	0.7	14	-	-	-	-	7
Civil Partner†	~	^	~	-	-	-	-	~
Not Stated	~	^	~	-	-	-	-	~
Total	2,083	100	2,066	8.2	13.1	21.1	17.8	1,041

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.

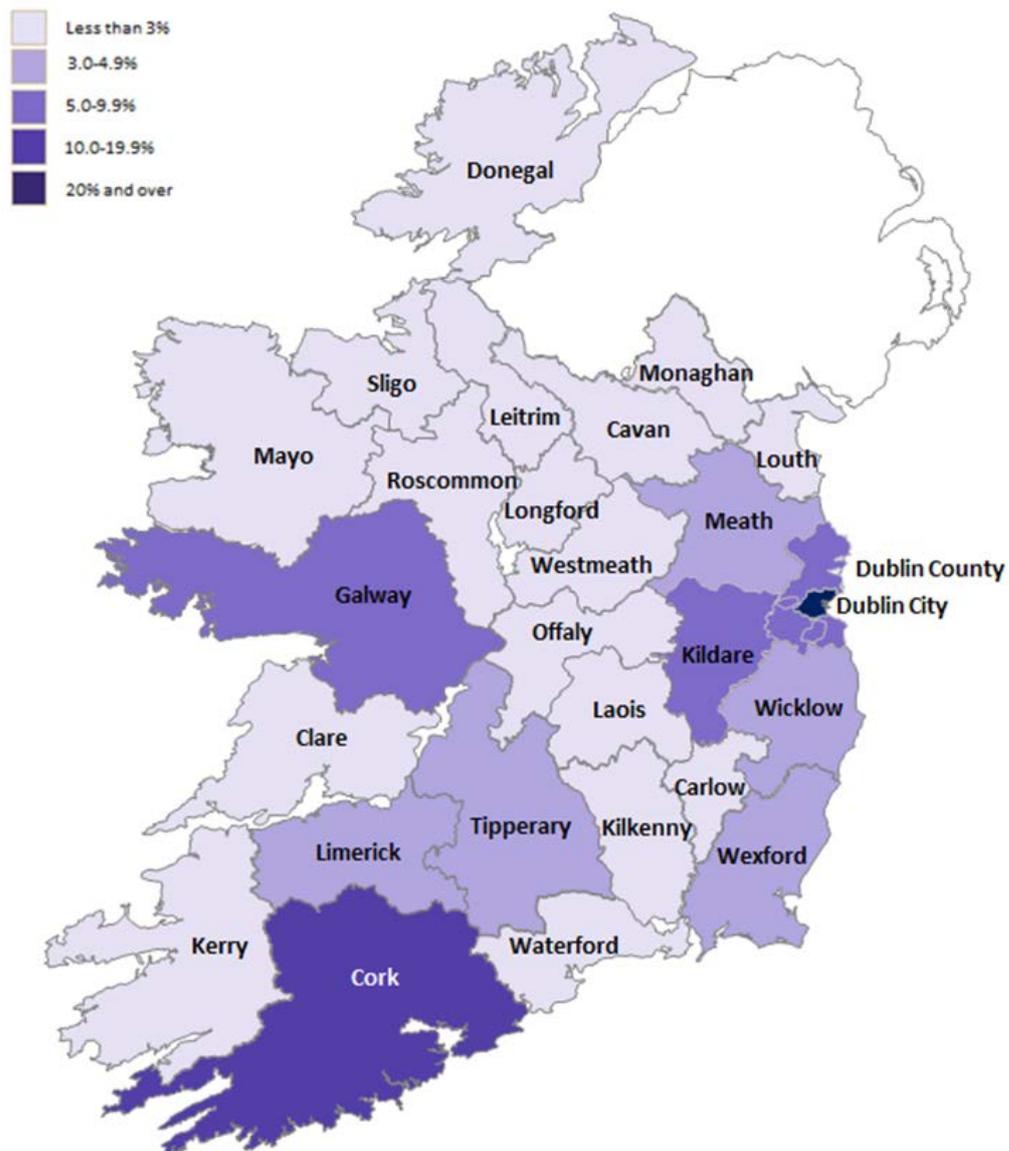
MOTHER'S COUNTY OF RESIDENCE

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

- 21.5 per cent of births were to mothers resident in Dublin City, and 11.2 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' (16.2 per cent) and 'other non-manual workers' (15.0 per cent).
- Mothers classified as 'home duties' accounted for a further 12.9 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 8.6 per 1,000 live births and stillbirths was reported for mothers in the socio-economic group 'home duties' followed by mothers in the 'higher professional' socio-economic group (5.8 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	93	0.2	92	10.8	32.6	43	32.6	93
Other Agricultural Occupations & Fisherwomen	97	0.2	96	10.3	-	10.3	10.3	96
Higher Professional	4,988	8.2	4,971	3.4	2.4	5.8	3.4	4,894
Lower Professional	13,819	22.7	13,781	2.7	1.2	4.0	2.4	13,580
Employers & Managers	4,372	7.2	4,361	2.5	0.9	3.4	3.0	4,278
Salaried Employees	454	0.7	454	-	-	-	-	448
Intermediate Non-Manual Workers	9,880	16.2	9,850	3.0	1.2	4.3	2.4	9,714
Other Non-Manual Workers	9,110	15.0	9,087	2.5	1.5	4.1	2.9	8,950
Skilled Manual Workers	1,038	1.7	1,038	-	-	-	-	1,028
Semi-Skilled Manual Workers	1,076	1.8	1,073	2.8	5.6	8.4	6.5	1,058
Unskilled Manual Workers	20	0.0	20	-	-	-	-	19
Unemployed	2,894	4.8	2,884	3.5	2.4	5.9	4.2	2,850
Not Classifiable	1,600	2.6	1,591	5.6	1.9	7.5	6.9	1,582
Home Duties	7,874	12.9	7,829	5.7	2.9	8.6	6.6	7,752
Not Stated	3,489	5.7	3,459	8.6	4.9	13.5	10.1	3,420
Total	60,804	100	60,586	3.6	1.9	5.5	3.9	59,762
Singleton Births								
Farmers & Farm Managers	93	0.2	92	10.8	32.6	43.0	32.6	93
Other Agricultural Occupations & Fisherwomen	*	^	*	10.5	-	10.5	10.5	*
Higher Professional	4,801	8.2	4,785	3.3	1.9	5.2	2.9	4,801
Lower Professional	13,336	22.7	13,302	2.5	1.1	3.6	2.1	13,336
Employers & Managers	4,187	7.1	4,176	2.6	0.5	3.1	2.9	4,187
Salaried Employees	442	0.8	442	-	-	-	-	442
Intermediate Non-Manual Workers	9,553	16.3	9,525	2.9	1.3	4.2	2.4	9,553
Other Non-Manual Workers	8,791	15.0	8,773	2.0	1.0	3.1	1.9	8,791
Skilled Manual Workers	1,017	1.7	1,017	-	-	-	-	1,017
Semi-Skilled Manual Workers	1,040	1.8	1,037	2.9	4.8	7.7	6.7	1,040
Unskilled Manual Workers	*	^	*	-	-	-	-	*
Unemployed	2,805	4.8	2,795	3.6	2.5	6.1	4.3	2,805
Not Classifiable	1,564	2.7	1,556	5.1	1.9	7.0	6.4	1,564
Home Duties	7,628	13.0	7,587	5.4	2.4	7.7	5.6	7,628
Not Stated	3,351	5.7	3,321	9.0	2.7	11.6	8.1	3,351
Total	58,721	100	58,520	3.4	1.6	5	3.4	58,721
Multiple Births								
Farmers & Farm Managers	0	0.0	0	-	-	-	-	0
Other Agricultural Occupations & Fisherwomen	~	^	~	-	-	-	-	~
Higher Professional	187	9.0	186	5.3	16.1	21.4	16.1	93
Lower Professional	483	23.2	479	8.3	6.3	14.5	10.4	244
Employers & Managers	185	8.9	185	-	10.8	10.8	5.4	91
Salaried Employees	12	0.6	12	-	-	-	-	6
Intermediate Non-Manual Workers	327	15.7	325	6.1	-	6.1	3.1	161
Other Non-Manual Workers	319	15.3	314	15.7	15.9	31.3	28.3	159
Skilled Manual Workers	21	1.0	21	-	-	-	-	11
Semi-Skilled Manual Workers	36	1.7	36	-	27.8	27.8	-	18
Unskilled Manual Workers	~	^	~	-	-	-	-	~
Unemployed	89	4.3	89	-	-	-	-	45
Not Classifiable	36	1.7	35	-	-	27.8	27.8	18
Home Duties	246	11.8	242	16.3	20.7	36.6	36.6	124
Not Stated	138	6.6	138	-	58.0	58.0	58.0	69
Total	2,083	100	2,066	8.2	13.1	21.1	17.8	1,041

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

- 16.0 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 7.6 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	1,302	2.1	1,297	3.8	2.3	6.1	4.6	1,282
Other Agricultural Occupations & Fishermen	422	0.7	419	7.1	-	7.1	4.8	414
Higher Professional	3,865	6.4	3,853	3.1	1.3	4.4	3.9	3,793
Lower Professional	3,907	6.4	3,897	2.6	1.0	3.6	2.3	3,850
Employers & Managers	3,935	6.5	3,924	2.8	0.3	3.0	1.8	3,868
Salaried Employees	485	0.8	485	-	-	-	-	479
Intermediate Non-Manual Workers	3,884	6.4	3,878	1.5	1.5	3.1	2.3	3,806
Other Non-Manual Workers	4,619	7.6	4,607	2.6	1.3	3.9	2.6	4,536
Skilled Manual Workers	9,741	16.0	9,713	2.9	1.9	4.7	3.3	9,575
Semi-Skilled Manual Workers	1,338	2.2	1,334	3.0	1.5	4.5	1.5	1,321
Unskilled Manual Workers	353	0.6	353	-	-	-	-	348
Unemployed	1,355	2.2	1,347	5.9	2.2	8.1	5.9	1,330
Not Classifiable	958	1.6	952	6.3	6.3	12.5	11.5	939
Home Duties	136	0.2	136	-	7.4	7.4	7.4	134
Not Stated/Not Applicable	24,504	40.3	24,391	4.6	2.6	7.2	4.9	24,087
Total	60,804	100	60,586	3.6	1.9	5.5	3.9	59,762
Singleton Births								
Farmers & Farm Managers	1,261	2.1	1,256	4.0	2.4	6.3	4.8	1,261
Other Agricultural Occupations & Fishermen	406	0.7	403	7.4	-	7.4	4.9	406
Higher Professional	3,720	6.3	3,711	2.4	1.1	3.5	3.2	3,720
Lower Professional	3,793	6.5	3,784	2.4	1.1	3.4	2.1	3,793
Employers & Managers	3,802	6.5	3,791	2.9	0.3	3.2	1.8	3,802
Salaried Employees	474	0.8	474	-	-	-	-	474
Intermediate Non-Manual Workers	3,730	6.4	3,724	1.6	1.6	3.2	2.4	3,730
Other Non-Manual Workers	4,455	7.6	4,443	2.7	1.1	3.8	2.5	4,455
Skilled Manual Workers	9,409	16.0	9,384	2.7	1.2	3.8	2.7	9,409
Semi-Skilled Manual Workers	1,304	2.2	1,300	3.1	1.5	4.6	1.5	1,304
Unskilled Manual Workers	*	^	*	-	-	-	-	*
Unemployed	1,305	2.2	1,297	6.1	2.3	8.4	6.1	1,305
Not Classifiable	921	1.6	916	5.4	2.2	7.6	6.5	921
Home Duties	*	^	*	-	-	-	-	*
Not Stated/Not Applicable	23,666	40.3	23,562	4.4	2.1	6.5	4.3	23,666
Total	58,721	100	58,520	3.4	1.6	5	3.4	58,721
Multiple Births								
Farmers & Farm Managers	41	2.0	41	-	-	-	-	21
Other Agricultural Occupations & Fishermen	16	0.8	16	-	-	-	-	8
Higher Professional	145	7.0	142	20.7	7.0	27.6	20.8	73
Lower Professional	114	5.5	113	8.8	-	8.8	8.8	57
Employers & Managers	133	6.4	133	-	-	-	-	66
Salaried Employees	11	0.5	11	-	-	-	-	~
Intermediate Non-Manual Workers	154	7.4	154	-	-	-	-	76
Other Non-Manual Workers	164	7.9	164	-	6.1	6.1	6.1	81
Skilled Manual Workers	332	15.9	329	9.0	21.3	30.1	21.3	166
Semi-Skilled Manual Workers	34	1.6	34	-	-	-	-	17
Unskilled Manual Workers	*	^	*	-	-	-	-	~
Unemployed	50	2.4	50	-	-	-	-	25
Not Classifiable	37	1.8	36	27.0	111.1	135.1	135.1	18
Home Duties	~	^	~	-	250.0	250.0	250.0	~
Not Stated/Not Applicable	838	40.2	829	10.7	15.7	26.3	22.8	421
Total	2,083	100	2,066	8.2	13.1	21.1	17.8	1,041

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

- 76 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 EU27 at 7.8 per cent.
- Births to mothers from Asia accounted for 5.0 per cent of total births, followed by 2.4 per cent to mothers from the UK and 2.2 per cent to mothers from Africa.
- The remainder of births were to mothers from the EU14 (excluding Ireland), 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	46,219	76.0	46,059	3.5	1.9	5.4	3.5	45,410
UK	1,455	2.4	1,453	1.4	2.1	3.4	3.4	1,428
EU14 (excluding Ireland)	1,101	1.8	1,096	4.5	1.8	6.4	3.6	1,079
EU15 to EU27	4,738	7.8	4,720	3.8	2.1	5.9	4.9	4,668
Rest of Europe	980	1.6	979	1.0	-	1.0	1.0	965
Africa	1,311	2.2	1,302	6.9	3.8	10.7	8.4	1,285
Asia	3,027	5.0	3,011	5.3	1.3	6.6	6.0	2,983
America	1,501	2.5	1,498	2.0	0.7	2.7	2.0	1,476
Australia	79	0.1	79	-	-	-	-	79
New Zealand and Other Oceania	33	0.1	33	-	-	-	-	33
Multi-Nationality	9	0.0	9	-	-	-	-	9
Not Stated	351	0.6	347	11.4	14.4	25.6	17.2	347
Total	60,804	100	60,586	3.6	1.9	5.5	3.9	59,762
Singleton Births								
Ireland	44,601	76.0	44,457	3.2	1.6	4.8	3.1	44,601
UK	1,400	2.4	1,398	1.4	1.4	2.9	2.9	1,400
EU14 (excluding Ireland)	1,058	1.8	1,053	4.7	1.9	6.6	3.8	1,058
EU15 to EU27	4,596	7.8	4,579	3.7	1.3	5.0	3.9	4,596
Rest of Europe	950	1.6	949	1.1	-	1.1	1.1	950
Africa	1,261	2.1	1,252	7.1	2.4	9.5	7.2	1,261
Asia	2,942	5.0	2,926	5.4	0.7	6.1	5.4	2,942
America	1,451	2.5	1,448	2.1	0.7	2.8	2.1	1,451
Australia	79	0.1	79	-	-	-	-	79
New Zealand and Other Oceania	33	0.1	33	-	-	-	-	33
Multi-Nationality	9	0.0	9	-	-	-	-	9
Not Stated	341	0.6	337	11.7	11.9	23.5	14.8	341
Total	58,721	100	58,520	3.4	1.6	5	3.4	58,721
Multiple Births								
Ireland	1,618	77.7	1,602	9.9	10.6	20.4	16.1	809
UK	55	2.6	55	-	18.2	18.2	18.2	28
EU14 (excluding Ireland)	43	2.1	43	-	-	-	-	21
EU15 to EU27	142	6.8	141	7.0	28.4	35.2	35.2	72
Rest of Europe	30	1.4	30	-	-	-	-	15
Africa	50	2.4	50	-	40.0	40.0	40.0	24
Asia	85	4.1	85	-	23.5	23.5	23.5	41
America	50	2.4	50	-	-	-	-	25
Australia	0	0.0	0	-	-	-	-	0
New Zealand and Other Oceania	0	0.0	0	-	-	-	-	0
Multi-Nationality	0	0.0	0	-	-	-	-	0
Not Stated	10	0.5	10	-	100.0	100.0	100.0	6
Total	2,083	100	2,066	8.2	13.1	21.1	17.8	1,041

Notes:

Percentage column is subject to rounding.

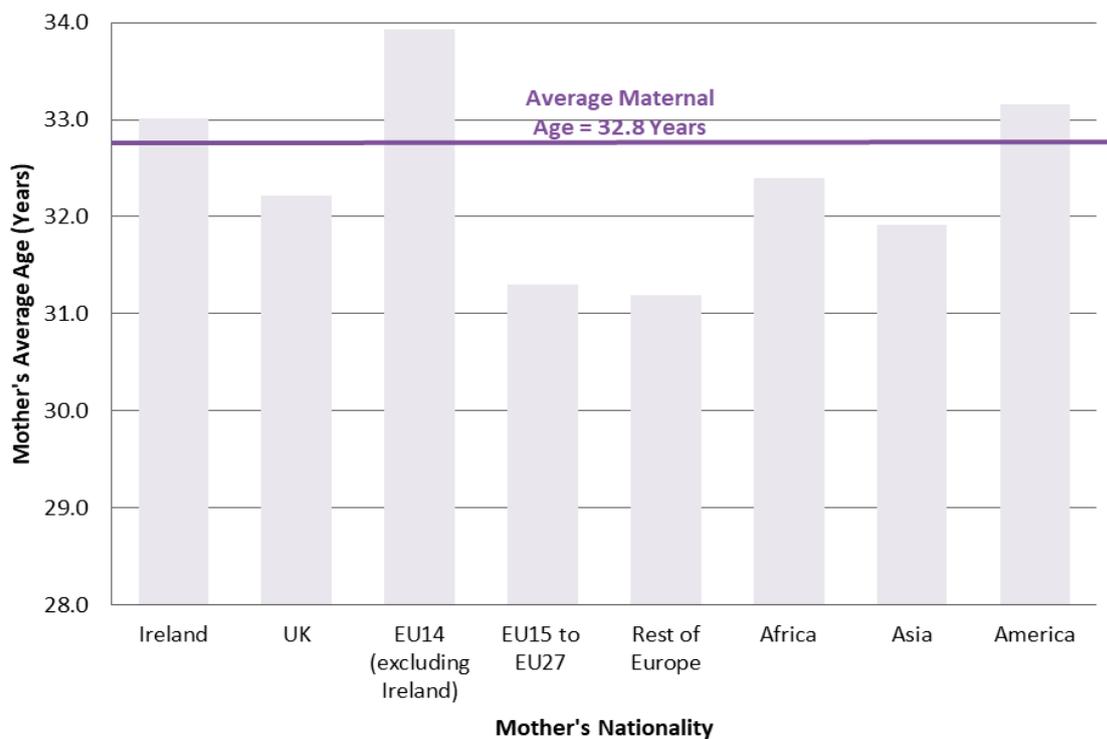
- a Rates are calculated per 1,000 births. For stillbirths, perinatal deaths and adjusted perinatal deaths, rates are calculated on total live births and stillbirths. For early neonatal deaths, rates are calculated on total live births. See Appendix F for a description of the classification system for nationality.

Figure 3.4 presents the average age of mother by mother's nationality for 2021.

- The average age of all mothers giving birth was 32.8 years and the average age of mothers from Ireland giving birth was slightly higher at 33.0 years.
- Mothers giving birth from the Rest of the Europe were on average younger at 31.2 years, while mothers from the EU14 (excluding Ireland) recorded the highest average maternal age at 33.9 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 45.8 per cent of total births.
- Births to fathers from the EU15 to EU27 and Asia accounted for 3.8 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	27,867	45.8	27,778	3.2	1.5	4.7	3.3	27,372
UK	851	1.4	847	4.7	-	4.7	3.5	833
EU14 (excluding Ireland)	568	0.9	567	1.8	-	1.8	1.8	560
EU15 to EU27	2,314	3.8	2,306	3.5	1.3	4.8	3.9	2,278
Rest of Europe	423	0.7	423	-	-	-	-	421
Africa	691	1.1	689	2.9	2.9	5.8	4.3	680
Asia	2,020	3.3	2,012	4.0	1.5	5.4	5.4	1,993
America	547	0.9	545	3.7	-	3.7	1.8	538
Australia	62	0.1	62	-	16.1	16.1	-	61
New Zealand and Other Oceania	20	0.0	20	-	-	-	-	20
Multi-Nationality	13	0.0	13	-	-	-	-	12
Not Stated/ Not Applicable	25,428	41.8	25,324	4.1	2.7	6.8	4.5	24,994
Total	60,804	100	60,586	3.6	1.9	5.5	3.9	59,762
Singleton Births								
Ireland	26,880	45.8	26,800	3.0	1.2	4.2	2.9	26,880
UK	815	1.4	811	4.9	-	4.9	3.7	815
EU14 (excluding Ireland)	552	0.9	551	1.8	-	1.8	1.8	552
EU15 to EU27	2,243	3.8	2,236	3.1	0.4	3.6	2.7	2,243
Rest of Europe	*	^	*	-	-	-	-	*
Africa	670	1.1	668	3.0	3.0	6.0	4.5	670
Asia	1,969	3.4	1,961	4.1	0.5	4.6	4.6	1,969
America	529	0.9	527	3.8	-	3.8	1.9	529
Australia	*	^	*	-	16.7	16.7	-	*
New Zealand and Other Oceania	20	0.0	20	-	-	-	-	20
Multi-Nationality	*	^	*	-	-	-	-	*
Not Stated/ Not Applicable	24,553	41.8	24,456	4.0	2.2	6.1	4.0	24,553
Total	58,721	100	58,520	3.4	1.6	5	3.4	58,721
Multiple Births								
Ireland	987	47.4	978	9.1	8.2	17.2	14.2	492
UK	36	1.7	36	-	-	-	-	18
EU14 (excluding Ireland)	16	0.8	16	-	-	-	-	8
EU15 to EU27	71	3.4	70	14.1	28.6	42.3	42.3	35
Rest of Europe	~	^	~	-	-	-	-	~
Africa	21	1.0	21	-	-	-	-	10
Asia	51	2.4	51	-	39.2	39.2	39.2	24
America	18	0.9	18	-	-	-	-	9
Australia	~	^	~	-	-	-	-	~
New Zealand and Other Oceania	0	0.0	0	-	-	-	-	0
Multi-Nationality	~	^	~	-	-	-	-	~
Not Stated/ Not Applicable	875	42.0	868	8.0	17.3	25.1	20.7	441
Total	2,083	100	2,066	8.2	13.1	21.1	17.8	1,041

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 38.7 per cent of all maternities, with 8.6 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	23,564	38.8	23,483	3.4	2.2	5.6	4.2	23,138
1	21,268	35	21,188	3.8	1.6	5.3	3.5	20,880
2	10,765	17.7	10,724	3.8	1.1	4.9	3.4	10,614
3	3,423	5.6	3,413	2.9	2.9	5.8	3.8	3,373
4	1,051	1.7	1,050	1.0	3.8	4.8	1.9	1,039
5	389	0.6	386	7.7	10.4	18.0	12.9	380
6	182	0.3	182	-	5.5	5.5	-	179
More than 6	162	0.3	160	12.3	12.5	24.7	12.5	159
Total	60,804	100	60,586	3.6	1.9	5.5	3.9	59,762
Singleton Births								
0	22,719	38.7	22,644	3.3	1.8	5.1	3.8	22,719
1	20,489	34.9	20,413	3.7	1.1	4.8	3.0	20,489
2	10,461	17.8	10,425	3.4	1.0	4.4	3.0	10,461
3	3,322	5.7	3,314	2.4	3.0	5.4	3.3	3,322
4	1,027	1.7	1,026	1.0	3.9	4.9	2.0	1,027
5	371	0.6	368	8.1	5.4	13.5	8.1	371
6	*	^	*	-	5.7	5.7	-	*
More than 6	*	^	*	12.8	13	25.6	13	*
Total	58,721	100	58,520	3.4	1.6	5	3.4	58,721
Multiple Births								
0	845	40.6	839	7.1	14.3	21.3	16.6	419
1	779	37.4	775	5.1	14.2	19.3	16.7	391
2	304	14.6	299	16.4	6.7	23.0	19.8	153
3	101	4.8	99	19.8	-	19.8	19.8	51
4	24	1.2	24	-	-	-	-	12
5	18	0.9	18	-	111.1	111.1	111.1	9
6	*	^	*	-	-	-	-	~
More than 6	*	^	*	-	-	-	-	~
Total	2,083	100	2,066	8.2	13.1	21.1	17.8	1,041

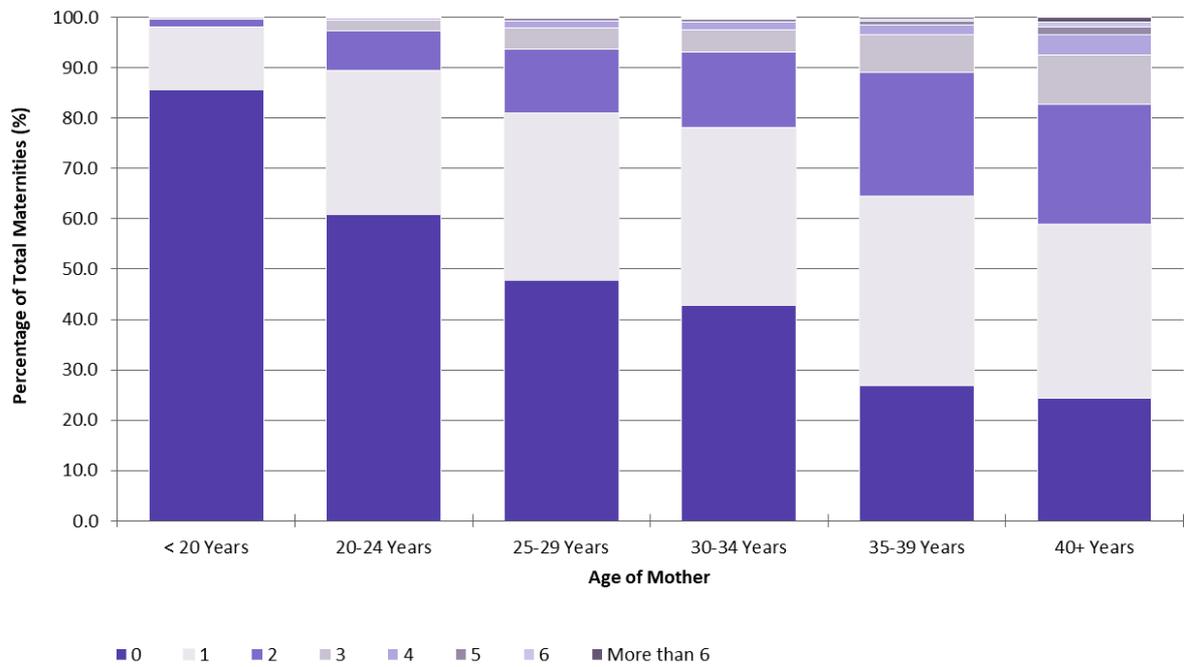
Notes:

- ~ 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, 85.7 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 2021, 98.7 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	36,763	98.7	36,633	3.5	1.7	5.3	3.5	36,154
1	438	1.2	431	16.0	4.6	20.5	16.1	431
2 and Over	39	0.1	39	-	-	-	-	39
Total	37,240	100	37,103	3.7	1.8	5.5	3.6	36,624
Singleton Births								
0	35,539	98.7	35,420	3.3	1.4	4.7	2.9	35,539
1	424	1.2	417	16.5	4.8	21.2	16.6	424
2 and Over	39	0.1	39	-	-	-	-	39
Total	36,002	100	35,876	3.5	1.4	4.9	3.1	36,002
Multiple Births								
0	1,224	98.9	1,213	9.0	12.4	21.2	18.8	615
1	14	1.1	14	-	-	-	-	7
2 and Over	0	0.0	0	-	-	-	-	0
Total	1,238	100	1,227	8.9	12.2	21.0	18.6	622

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.

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 1.0 per cent of all multiparous mothers.
- 26 per cent recorded an interval of between two and three years since the last birth.
- 16.2 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	361	1.0	359	5.5	2.8	8.3	2.8	351
>1 year to 2 years	8,318	22.3	8,297	2.5	1.9	4.4	2.8	8,182
>2 years to 3 years	9,675	26.0	9,646	3.0	1.1	4.1	2.9	9,515
>3 years to 4 years	5,692	15.3	5,667	4.4	1.2	5.6	3.5	5,618
>4 years to 5 years	3,457	9.3	3,448	2.6	0.6	3.2	2.6	3,393
>5 years to 6 years	2,416	6.5	2,405	4.6	1.7	6.2	4.6	2,377
More than 6 years	6,050	16.2	6,022	4.6	2.2	6.8	4.6	5,939
Not Stated	1,271	3.4	1,259	9.4	9.5	18.9	11.1	1,249
Total	37,240	100	37,103	3.7	1.8	5.5	3.6	36,624
Singleton Births								
1 year or less	341	0.9	339	5.9	2.9	8.8	2.9	341
>1 year to 2 years	8,043	22.3	8,023	2.5	1.1	3.6	1.9	8,043
>2 years to 3 years	9,356	26.0	9,329	2.9	1.1	4.0	2.8	9,356
>3 years to 4 years	5,543	15.4	5,523	3.6	1.1	4.7	2.7	5,543
>4 years to 5 years	3,332	9.3	3,325	2.1	0.6	2.7	2.1	3,332
>5 years to 6 years	2,337	6.5	2,326	4.7	1.7	6.4	4.7	2,337
More than 6 years	5,825	16.2	5,798	4.6	1.9	6.5	4.5	5,825
Not Stated	1,225	3.4	1,213	9.8	6.6	16.3	8.2	1,225
Total	36,002	100	35,876	3.5	1.4	4.9	3.1	36,002
Multiple Births								
1 year or less	20	1.6	20	-	-	-	-	10
>1 year to 2 years	275	22.2	274	3.6	25.5	29.1	29.1	139
>2 years to 3 years	319	25.8	317	6.3	3.2	9.4	6.3	159
>3 years to 4 years	149	12.0	144	33.6	6.9	40.3	33.8	75
>4 years to 5 years	125	10.1	123	16.0	-	16.0	16.0	61
>5 years to 6 years	79	6.4	79	-	-	-	-	40
More than 6 years	225	18.2	224	4.4	8.9	13.3	8.9	114
Not Stated	46	3.7	46	-	87.0	87.0	87.0	24
Total	1,238	100	1,227	8.9	12.2	21	18.6	622

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 3,475.4 grams for singletons, 2,435.6 grams for multiples, and 3,439.9 grams for total live births.
- The average birthweight for live births was 3,501.6 grams for males compared to 3,375.2 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 5.6 per cent (4.1 per cent of singletons and 48.5 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).
- 92.4 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 (5.1 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 2.0 per cent (2.6 per cent of males compared to 1.3 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

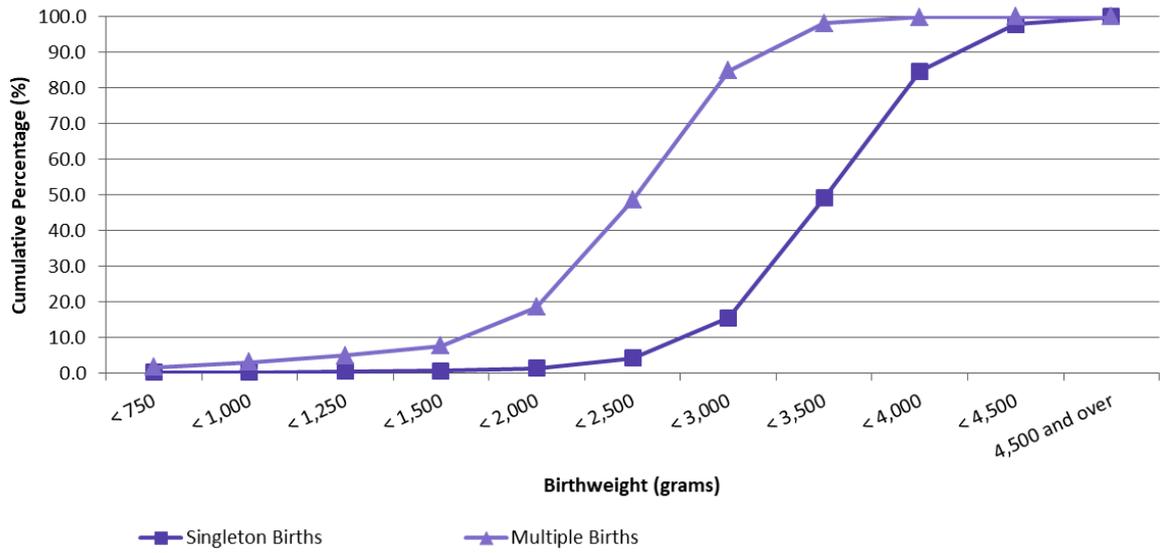
TABLE 3.10
Birthweight (grams): Total Births, Live Births, Mortality Rates, and Maternities

	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	172	0.3	118	314	322	534.9	470.2	153
750-999	119	0.2	98	176.5	163.3	310.9	219	102
1000-1249	136	0.2	125	80.9	56.0	132.4	70.9	117
1250-1499	188	0.3	172	85.1	34.9	117	77.8	150
1500-1999	697	1.1	664	47.3	16.6	63.1	39.7	579
2000-2499	2,270	3.7	2,246	10.6	4.9	15.4	9.7	1,957
2500-2999	7,407	12.2	7,381	3.5	1.4	4.9	3.8	7,036
3000-3499	19,987	32.9	19,966	1.1	0.6	1.7	1.2	19,857
3500-3999	20,867	34.3	20,859	0.4	0.2	0.6	0.6	20,852
4000-4499	7,761	12.8	7,758	0.4	0.3	0.6	0.4	7,759
4500 and Over	1,200	2.0	1,199	0.8	-	0.8	0.8	1,200
Total	60,804	100	60,586	3.6	1.9	5.5	3.9	59,762
Singleton Births								
500-749	133	0.2	84	368.4	238.1	518.8	438.6	133
750-999	*	^	*	209.3	147.1	325.6	226.7	*
1000-1249	99	0.2	88	111.1	68.2	171.7	88.9	99
1250-1499	127	0.2	116	86.6	51.7	133.9	75.6	127
1500-1999	469	0.8	440	61.8	25.0	85.3	53.0	469
2000-2499	1,648	2.8	1,624	14.6	5.5	20.0	12.8	1,648
2500-2999	6,656	11.3	6,630	3.9	1.5	5.4	4.2	6,656
3000-3499	19,714	33.6	19,693	1.1	0.6	1.7	1.2	19,714
3500-3999	20,831	35.5	20,823	0.4	0.2	0.6	0.6	20,831
4000-4499	*	^	*	0.4	0.3	0.6	0.4	*
4500 and Over	1,200	2.0	1,199	0.8	-	0.8	0.8	1,200
Total	58,721	100	58,520	3.4	1.6	5	3.4	58,721
Multiple Births								
500-749	39	1.9	34	128.2	529.4	589.7	567.6	20
750-999	*	^	*	90.9	200.0	272.7	200.0	16
1000-1249	37	1.8	37	-	27.0	27.0	27.0	18
1250-1499	61	2.9	56	82.0	-	82.0	82.0	23
1500-1999	228	10.9	224	17.5	-	17.5	13.2	110
2000-2499	622	29.9	622	-	3.2	3.2	1.6	309
2500-2999	751	36.1	751	-	-	-	-	380
3000-3499	273	13.1	273	-	-	-	-	143
3500-3999	36	1.7	36	-	-	-	-	21
4000-4499	~	^	~	-	-	-	-	~
4500 and Over	0	0.0	0	-	-	-	-	0
Total	2,083	100	2,066	8.2	13.1	21.1	17.8	1,041

Notes:

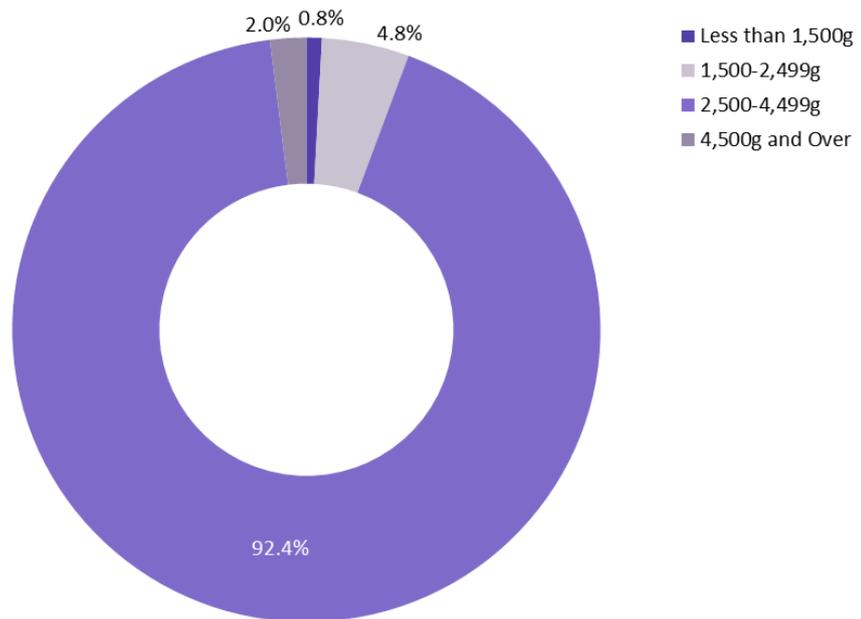
- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
- * Further suppression required to prevent disclosure of five or fewer births (or maternities).
- ^ Percentage not provided to prevent disclosure of small numbers.
- a Rates are calculated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



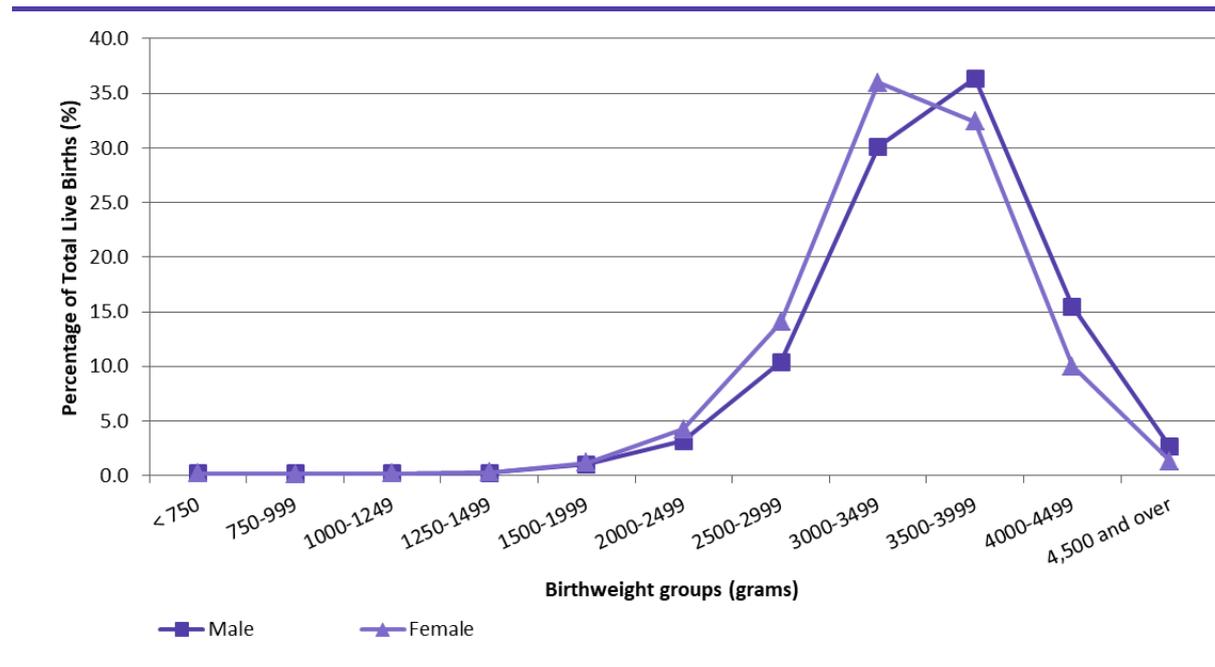
Note: See Table 3.10 for data.

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 38.9 weeks (see Table 2.1). Live births reported an average gestational age of 38.9 weeks and stillbirths reported an average gestational age of 31.4 weeks. The average gestational age for singleton live births was 39.0 weeks compared with 35.3 weeks for live twin births and 32.1 weeks for higher-order multiple live births.

Table 3.11 presents data on gestational age.

- 92 per cent of all babies were born at term (37 to 41 weeks).
- Preterm birth (born before 37 weeks) occurred in 6.9 per cent of live births (5.0 per cent for singleton births and 59.5 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	17	0.0	9	233.4	227.3	407.7	341.1	15
23-27	270	0.4	211	233.4	227.3	407.7	341.1	238
28-31	404	0.7	368	89.1	38.0	123.8	82.9	351
32-36	3,649	6.0	3,590	16.2	7.5	23.6	14.9	3,110
37-41	55,958	92.0	55,903	1.0	0.4	1.4	1.0	55,542
42 and Over	501	0.8	500	2.0	-	2.0	2.0	501
Total	60,799	100	60,581	3.6	1.9	5.5	3.98	59,757
Singleton Births								
Less than 23	*	^	*	281.1	179.5	410.1	322.8	*
23-27	*	^	*	281.1	179.5	410.1	322.8	*
28-31	299	0.5	266	110.4	41.4	147.2	102.1	299
32-36	2,578	4.4	2,526	20.2	10.3	30.3	18.8	2,578
37-41	55,121	93.9	55,067	1.0	0.4	1.4	1.0	55,121
42 and Over	501	0.9	500	2.0	-	2.0	2.0	501
Total	58,716	100	58,515	3.4	1.5	4.9	3.3	58,716
Multiple Births								
Less than 23	~	^	~	85.7	343.8	400	391.3	~
23-27	*	^	*	85.7	343.8	400	391.3	*
28-31	105	5.0	102	28.6	29.4	57.1	29.4	52
32-36	1,071	51.4	1,064	6.5	0.9	7.5	5.6	532
37-41	837	40.2	836	1.2	1.2	2.4	1.2	421
42 and Over	0	0.0	0	-	-	-	-	0
Total	2,083	100	2,066	8.2	13.1	21.1	17.8	1,041

Notes:

Percentage column is subject to rounding.

There were five or fewer births with unknown gestational age at delivery; these were excluded from this table.

~ 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.

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 and September (both 8.8 per cent).
- September recorded the highest proportion of singleton births (8.9 per cent) while March recorded the highest proportion of multiple births (9.9 per cent) (see Figure 3.9).

TABLE 3.12

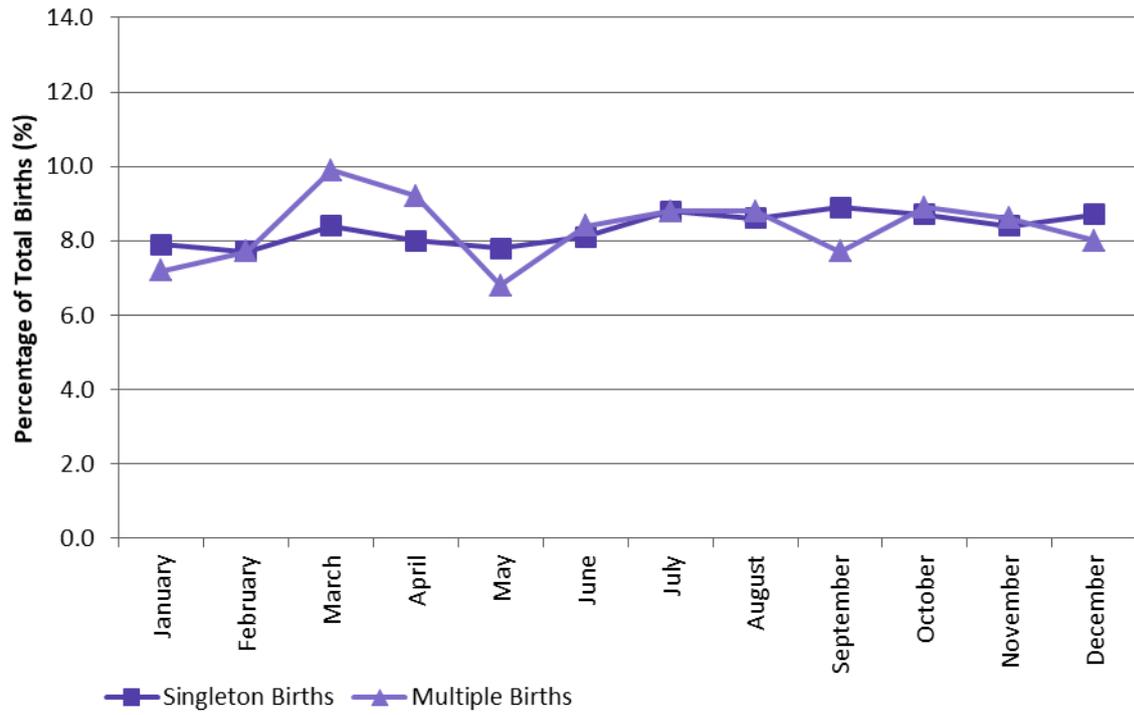
Month of Birth: Total Births, Live Births, Mortality Rates, and Maternities

	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	4,778	7.9	4,757	4.4	2.1	6.5	4.4	4,703
February	4,701	7.7	4,682	4.0	2.3	6.4	5.3	4,620
March	5,121	8.4	5,101	3.9	2.7	6.6	4.5	5,016
April	4,897	8.1	4,887	2.0	2.0	4.1	3.3	4,801
May	4,746	7.8	4,736	2.1	0.6	2.7	1.9	4,676
June	4,948	8.1	4,929	3.8	1.8	5.7	4.9	4,862
July	5,335	8.8	5,311	4.5	2.8	7.3	4.9	5,241
August	5,210	8.6	5,195	2.9	1.7	4.6	1.9	5,120
September	5,378	8.8	5,358	3.7	1.5	5.2	3.4	5,299
October	5,272	8.7	5,252	3.8	2.1	5.9	4.0	5,179
November	5,121	8.4	5,099	4.3	1.8	6.1	4.5	5,032
December	5,297	8.7	5,279	3.4	1.7	5.1	3.4	5,213
Total	60,804	100	60,586	3.6	1.9	5.5	3.9	59,762
Singleton Births								
January	4,628	7.9	4,607	4.5	1.3	5.8	3.9	4,628
February	4,541	7.7	4,523	4.0	2.4	6.4	5.3	4,541
March	4,914	8.4	4,894	4.1	2.5	6.5	4.3	4,914
April	4,706	8.0	4,697	1.9	1.7	3.6	2.8	4,706
May	4,605	7.8	4,596	2.0	0.7	2.6	2.0	4,605
June	4,774	8.1	4,760	2.9	1.1	4.0	3.1	4,774
July	5,152	8.8	5,129	4.5	2.1	6.6	4.1	5,152
August	5,026	8.6	5,013	2.6	1.2	3.8	1.4	5,026
September	5,218	8.9	5,199	3.6	1.5	5.2	3.3	5,218
October	5,086	8.7	5,067	3.7	1.4	5.1	3.2	5,086
November	4,941	8.4	4,921	4.0	1.0	5.1	3.9	4,941
December	5,130	8.7	5,114	3.1	1.8	4.9	3.3	5,130
Total	58,721	100	58,520	3.4	1.6	5.0	3.4	58,721
Multiple Births								
January	150	7.2	150	-	26.7	26.7	20.1	75
February	160	7.7	159	6.3	-	6.3	6.3	79
March	207	9.9	207	-	9.7	9.7	9.7	102
April	191	9.2	190	5.2	10.5	15.7	15.7	95
May	141	6.8	140	7.1	-	7.1	-	71
June	174	8.4	169	28.7	23.7	51.7	51.7	88
July	183	8.8	182	5.5	22.0	27.3	27.3	89
August	184	8.8	182	10.9	16.5	27.2	16.5	94
September	160	7.7	159	6.3	-	6.3	6.3	81
October	186	8.9	185	5.4	21.6	26.9	26.9	93
November	180	8.6	178	11.1	22.5	33.3	22.5	91
December	167	8.0	165	12.0	-	12.0	6.0	83
Total	2,083	100	2,066	8.2	13.1	21.1	17.8	1,041

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 85.5 per cent of total maternities.
- Hospital/Obstetrician care was more common for maternities delivering multiple births (16.9 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	6,675	11	6,640	5.2	1.7	6.9	4.5	6,497
General Practitioner only	24	0.0	23	41.7	-	41.7	41.7	24
Hospital & G.P. combined	51,891	85.3	51,726	3.2	1.8	5.0	3.5	51,081
None	52	0.1	50	38.5	60.0	96.2	60.0	52
Not Stated†	2,162	3.6	2,147	6.9	5.6	12.5	9.3	2,108
Total	60,804	100	60,586	3.6	1.9	5.5	3.9	59,762
Singleton Births								
Hospital/Obstetrician	6,321	10.8	6,288	5.2	1.0	6.2	4.0	6,321
General Practitioner only	24	0.0	23	41.7	-	41.7	41.7	24
Hospital & G.P. combined	50,268	85.6	50,116	3.0	1.5	4.5	3.1	50,268
None	52	0.1	50	38.5	60.0	96.2	60.0	52
Not Stated†	2,056	3.5	2,043	6.3	3.9	10.2	6.8	2,056
Total	58,721	100	58,520	3.4	1.6	5.0	3.4	58,721
Multiple Births								
Hospital/Obstetrician	354	17.0	352	5.6	14.2	19.8	14.2	176
General Practitioner only	0	0.0	0	-	-	-	-	0
Hospital & G.P. combined	1,623	77.9	1,610	8.0	11.2	19.1	16.1	813
None	0	0.0	0	-	-	-	-	0
Not Stated†	106	5.1	104	18.9	38.5	56.6	56.6	52
Total	2,083	100	2,066	8.2	13.1	21.1	17.8	1,041

Notes: Percentage column is subject to rounding.

† Difficulties in capturing data using the MN-CMS system has led to an increase in 'not stated' values for the antenatal care variable

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 64.9 per cent of total maternities.
- Maternities recording a first antenatal visit at 20 weeks and over accounted for 4.7 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	39,508	65.0	39,378	3.3	1.3	4.6	3.3	38,806
13-19	17,728	29.2	17,668	3.4	1.9	5.3	3.8	17,484
20 and over	2,859	4.7	2,844	5.2	6.7	11.9	5.6	2,789
Not Stated	709	1.2	696	18.3	17.2	35.3	27.0	683
Total	60,804	100	60,586	3.6	1.9	5.5	3.9	59,762
Singleton Births								
0-12	38,102	64.9	37,984	3.1	1.1	4.2	2.9	38,102
13-19	17,241	29.4	17,184	3.3	1.6	4.9	3.5	17,241
20 and over	2,723	4.6	2,710	4.8	5.2	9.9	4.1	2,723
Not Stated	655	1.1	642	19.8	12.5	32.1	23.1	655
Total	58,721	100	58,520	3.4	1.6	5.0	3.4	58,721
Multiple Births								
0-12	1,406	67.5	1,394	8.5	8.6	17.1	15.0	704
13-19	487	23.4	484	6.2	12.4	18.5	14.4	243
20 and over	136	6.5	134	14.7	37.3	51.5	37.3	66
Not Stated	54	2.6	54	-	74.1	74.1	74.1	28
Total	2,083	100	2,066	8.2	13.1	21.1	17.8	1,041

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 85.3 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 28.5 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	59,396	98.2	59,201	3.3	1.7	5.0	3.4	58,389
Not Booked	1,097	1.8	1,074	21.0	16.8	37.4	32.1	1,062
Not Stated	12	0.0	12	-	-	-	-	12
Total	60,505	100	60,287	3.6	2.0	5.6	3.9	59,463
Singleton Births								
Booked	57,382	98.2	57,201	3.2	1.4	4.5	3.0	57,382
Not Booked	1,028	1.8	1,008	19.5	10.9	30.2	24.5	1,028
Not Stated	12	0.0	12	-	-	-	-	12
Total	58,422	100	58,221	3.4	1.6	5.0	3.4	58,422
Multiple Births								
Booked	2,014	96.7	2,000	7.0	10.0	16.9	13.5	1,007
Not Booked	69	3.3	66	43.5	106.1	144.9	144.9	34
Not Stated	0	0.0	0	-	-	-	-	0
Total	2,083	100	2,066	8.2	13.1	21.1	17.8	1,041

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 299 in 2021, 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 1.9 days for multiple births.

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

- 87.9 per cent of singleton births and 78.4 per cent of multiple births were delivered within a day of mother's admission to hospital.
- For total births, 1.9 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	52,962	87.5	52,782	3.4	1.6	5.0	3.5	52,147
2 Days	4,358	7.2	4,345	3.0	1.4	4.4	3.0	4,288
3-5 Days	2,028	3.4	2,009	9.4	4.0	13.3	10.4	1,958
6-8 Days	467	0.8	465	4.3	17.2	21.4	10.8	440
9-11 Days	213	0.4	212	4.7	4.7	9.4	9.4	194
12-14 Days	122	0.2	121	8.2	33.1	41.0	33.1	113
More than 2 Weeks	329	0.5	328	3.0	9.1	12.2	9.1	297
Not Stated	26	0.0	25	38.5	40.0	76.9	76.9	26
Total	60,505	100	60,287	3.6	2	5.6	3.9	59,463
Singleton Births								
0-1 Days	51,328	87.9	51,162	3.2	1.3	4.6	3.1	51,328
2 Days	4,218	7.2	4,206	2.8	1.4	4.3	2.8	4,218
3-5 Days	1,890	3.2	1,872	9.5	3.2	12.7	9.6	1,890
6-8 Days	412	0.7	410	4.9	9.8	14.6	4.9	412
9-11 Days	177	0.3	177	-	5.6	5.6	5.6	177
12-14 Days	104	0.2	103	9.6	19.4	28.8	19.4	104
More than 2 Weeks	267	0.5	266	3.7	7.5	11.2	11.2	267
Not Stated	26	0.0	25	38.5	40.0	76.9	76.9	26
Total	58,422	100	58,221	3.4	1.6	5.0	3.4	58,422
Multiple Births								
0-1 Days	1,634	78.4	1,620	8.6	11.1	19.6	16.6	819
2 Days	140	6.7	139	7.1	-	7.1	7.1	70
3-5 Days	138	6.6	137	7.2	14.6	21.7	21.7	68
6-8 Days	55	2.6	55	-	72.7	72.7	55.6	28
9-11 Days	36	1.7	35	27.8	-	27.8	27.8	17
12-14 Days	18	0.9	18	-	111.1	111.1	111.1	9
More than 2 Weeks	62	3.0	62	-	16.1	16.1	-	30
Not Stated	0	0.0	0	-	-	-	-	0
Total	2,083	100	2,066	8.2	13.1	21.1	17.8	1,041

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 299 in 2021, 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 3.7 days respectively.

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

- 60.1 per cent of maternities delivering singleton births remained in hospital for up to 2 days following delivery, compared to 18.3 per cent of maternities delivering multiple births.
- For maternities, 38.0 per cent of singleton births and 72.6 per cent of multiple births were discharged 3 to 5 days post delivery.
- 2.0 per cent of total maternities had a postnatal length of stay of 6 or more days (1.9 per cent of singleton births and 9.0 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	15,247	25.2	15,127	7.9	2.3	10.2	7.2	15,209
2 Days	20,216	33.4	20,168	2.4	1.6	4.0	2.2	20,067
3-5 Days	23,737	39.2	23,693	1.9	1.9	3.7	2.9	22,977
6-8 Days	1,066	1.8	1,063	2.8	2.8	5.6	5.6	980
9-11 Days	109	0.2	108	9.2	18.5	27.5	18.5	105
12-14 Days	44	0.1	43	22.7	23.3	45.5	45.5	39
More than 2 Weeks	67	0.1	67	-	-	-	-	67
Not Stated	19	0.0	18	52.6	55.6	105.3	105.3	19
Total	60,505	100	60,287	3.6	2	5.6	3.9	59,463
Singleton Births								
0-1 Days	15,169	2.06	15,054	7.6	1.9	9.5	6.5	15,169
2 Days	19,916	34.1	19,872	2.2	1.4	3.6	1.9	19,916
3-5 Days	22,221	38.0	22,184	1.7	1.4	3.0	2.3	22,221
6-8 Days	895	1.5	893	2.2	2.2	4.5	4.5	895
9-11 Days	*	^	*	9.9	1.00	19.8	19.8	*
12-14 Days	*	^	*	29.4	-	29.4	29.4	*
More than 2 Weeks	67	0.1	67	-	-	-	-	67
Not Stated	19	0.0	18	52.6	55.6	105.3	105.3	19
Total	58,422	100	58,221	3.4	1.6	5	3.4	58,422
Multiple Births								
0-1 Days	78	3.7	73	64.1	82.2	141.0	141.0	40
2 Days	300	14.4	296	13.3	13.5	26.7	23.4	151
3-5 Days	1,516	72.8	1,509	4.6	9.3	13.9	10.6	756
6-8 Days	171	8.2	170	5.8	5.9	11.7	11.7	85
9-11 Days	*	^	*	-	125	125.0	-	~
12-14 Days	*	^	*	-	100.0	100.0	100.0	~
More than 2 Weeks	0	0.0	0	-	-	-	-	0
Not Stated	0	0.0	0	-	-	-	-	0
Total	2,083	100	2,066	8.2	13.1	21.1	17.8	1,041

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 299 in 2021, 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 84.8 per cent of singleton spontaneous deliveries compared to 45.6 per cent of multiple spontaneous deliveries.
- For Caesarean section deliveries, mother's postnatal length of stay was greater than 6 days for 3.6 per cent of singleton deliveries compared to 10.4 per cent for multiple deliveries.

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

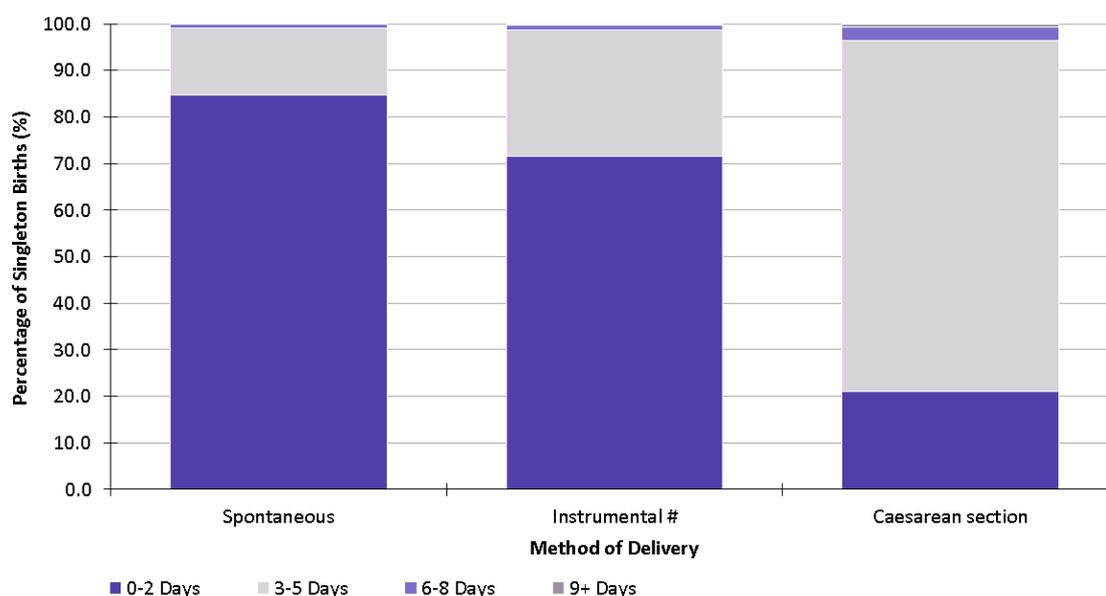
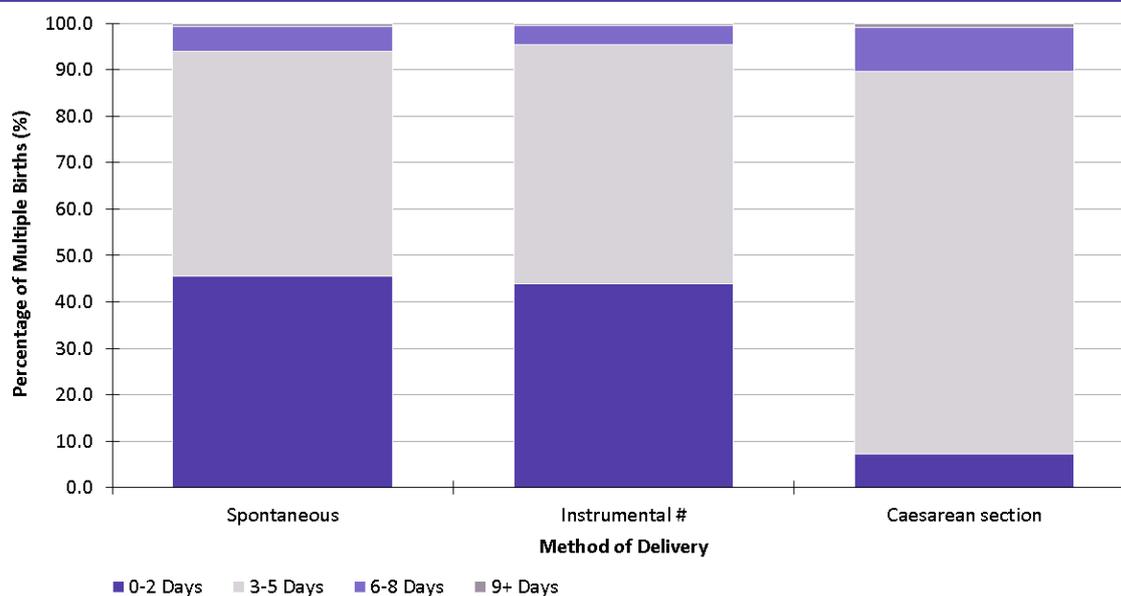


FIGURE 4.2
Mother's Postnatal Length of Stay by Method of Delivery, Multiple Births



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 89.3 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	53,356	89.3
Not Immune	3,796	6.4
Not known	2,610	4.4
Total	59,762	100
Singleton Births		
Immune	52,436	89.3
Not Immune	3,733	6.4
Not known	2,552	4.3
Total	58,721	100
Multiple Births		
Immune	920	88.4
Not Immune	63	6.1
Not known	58	5.6
Total	1,041	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 22,452 live births delivered by Caesarean section, representing 37.1 per cent of total live births (35.8 per cent of live singleton births, and 71.6 per cent of live multiple births).
- 49.7 per cent of total live births delivered spontaneously (50.7 per cent of live singleton births and 20.2 per cent of live multiple births).
- Over 13 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 (13.4 per cent) compared with live multiple births (8.1 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.

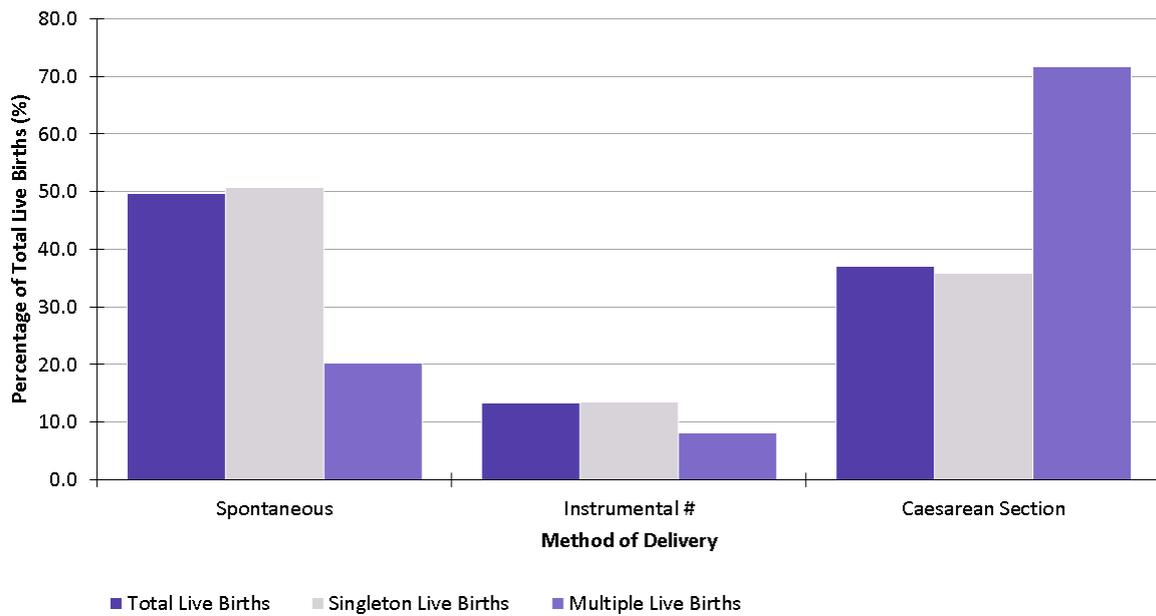
TABLE 4.7a
Method of Delivery: Total Births, Live Births, Mortality Rates, and Maternities

	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	30,264	49.8	30,097	5.5	2.2	7.7	5.4	30,071
Breech / Forceps	*	^	277	67.3	28.9	94.3	59.4	*
Forceps	1,937	3.2	1,933	2.1	-	2.1	2.1	1,921
Vacuum extraction	5,830	9.6	5,827	0.5	-	0.5	0.2	5,800
Caesarean section	22,475	37.0	22,452	1.0	1.9	2.9	2.1	21,722
Other specified & combined ^b	~	^	0	1,000.0	-	1,000.0	1,000.0	~
Total	60,804	100	60,586	3.6	1.9	5.5	3.9	59,762
Singleton Births								
Spontaneous	29,841	50.8	29,679	5.4	1.8	7.2	4.9	29,841
Breech / Forceps	*	^	201	78	29.9	105.5	58	*
Forceps	1,907	3.2	1,905	1.0	-	1.0	1.0	1,907
Vacuum extraction	5,766	9.8	5,763	0.5	-	0.5	0.2	5,766
Caesarean section	20,988	35.7	20,972	0.8	1.6	2.3	1.6	20,988
Other specified & combined ^b	~	^	0	1,000.0	-	1,000.0	1,000.0	~
Total	58,721	100	58,520	3.4	1.6	5	3.4	58,721
Multiple Births								
Spontaneous	423	20.3	418	11.8	35.9	47.3	38.2	230
Breech / Forceps	79	3.8	76	38	26.3	63.3	63.3	29
Forceps	30	1.4	28	66.7	-	66.7	66.7	14
Vacuum extraction	64	3.1	64	-	-	-	-	34
Caesarean section	1,487	71.4	1,480	4.7	6.8	11.4	9.4	734
Other specified & combined ^b	0	0.0	0	-	-	-	-	0
Total	2,083	100	2,066	8.2	13.1	21.1	17.8	1,041

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 mostly declined with maternal age and was reported at 61.0 per cent for mothers aged less than 20 years compared to 40.8 per cent to mothers aged 40 years and over.
- Caesarean section rates ranged from 20.8 per cent for mothers aged less than 20 years to 51.7 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	436 61.0	2,508 58.5	5,344 54.3	10,442 49.4	9,438 48.0	2,094 40.8	30,262 49.8
Breech/Forceps	~ ^	* ^	39 0.4	113 0.5	104 0.5	14 0.3	* ^
Forceps	* ^	* ^	335 3.4	793 3.7	530 2.7	105 2.0	1,937 3.2
Vacuum extraction	99 13.8	509 11.9	1,060 10.8	2,276 10.8	1,621 8.2	265 5.2	5,830 9.6
Caesarean section	149 20.8	1,101 25.7	3,065 31.1	7,524 35.6	7,986 40.6	2,650 51.7	22,475 37
Other specified & combined ^a	0 0.0	~ ^	0 0.0	0 0.0	0 0.0	0 0.0	~ ^
Total	715 100	4,289 100	9,843 100	21,148 100	19,679 100	5,128 100	60,802 100

Notes: Percentage columns are subject to rounding.

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

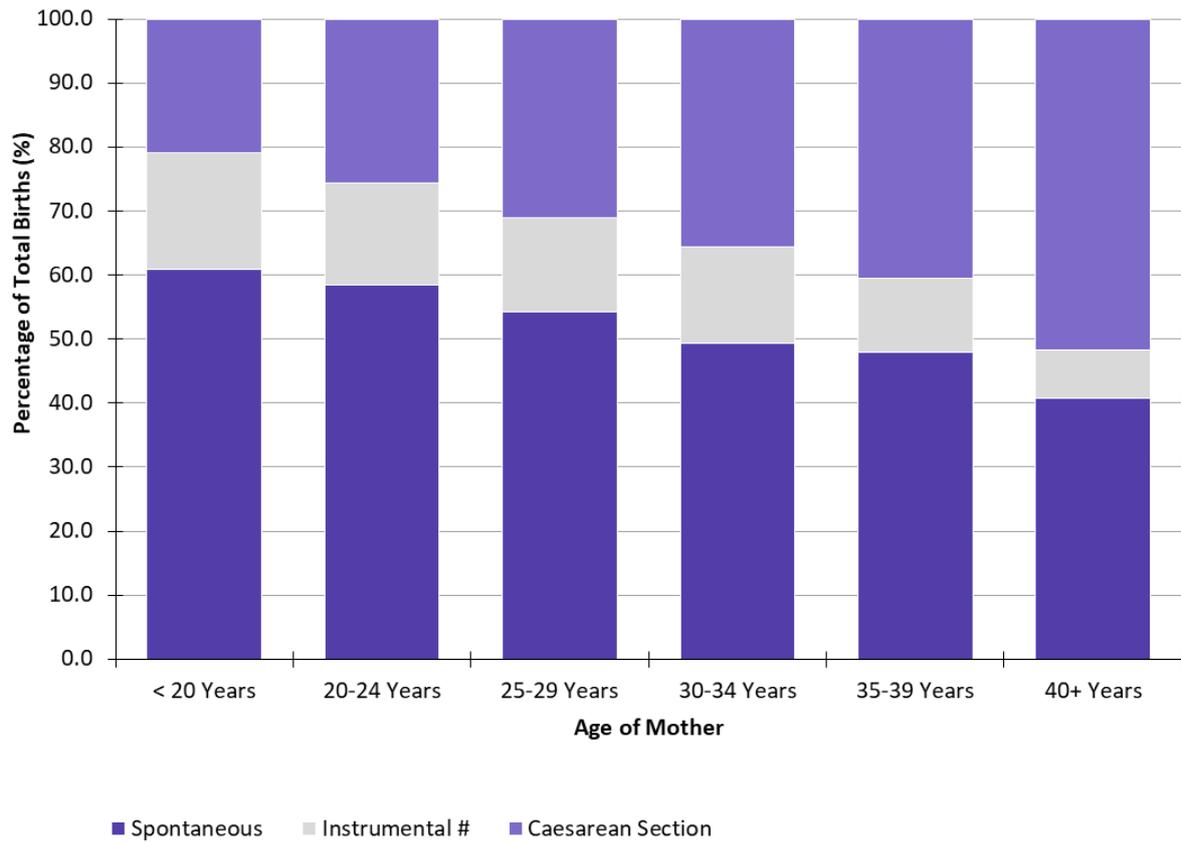
* Further suppression required to prevent disclosure of five or fewer births (or maternities).

^ 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.

- Just over 38 per cent of total births took place in three maternity units accommodating between 7,000 and 7,999 births each annually.
- Over a quarter (28.3 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 15.1 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 1000	1	947	1.6	*	~	^	~	^	4.2	3.2
1000-1999	11	17,153	28.3	17,101	52	3.0	19	1.1	4.1	2.9
2000-2999	1	2,892	4.8	2,886	6	2.1	12	4.2	6.2	3.5
3000-3999	1	3,027	5.0	*	*	^	~	^	5.0	4.3
4000-4999	1	4,298	7.1	4,281	17	4.0	13	3.0	7.0	4.2
7000-7999	3	23,040	38.1	22,951	89	3.9	57	2.5	6.3	4.6
8000 and Over	1	9,148	15.1	9,111	37	4.0	15	1.6	5.7	3.8
Total	19	60,505	100	60,287	218	3.6	118	2.0	5.6	3.9

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.

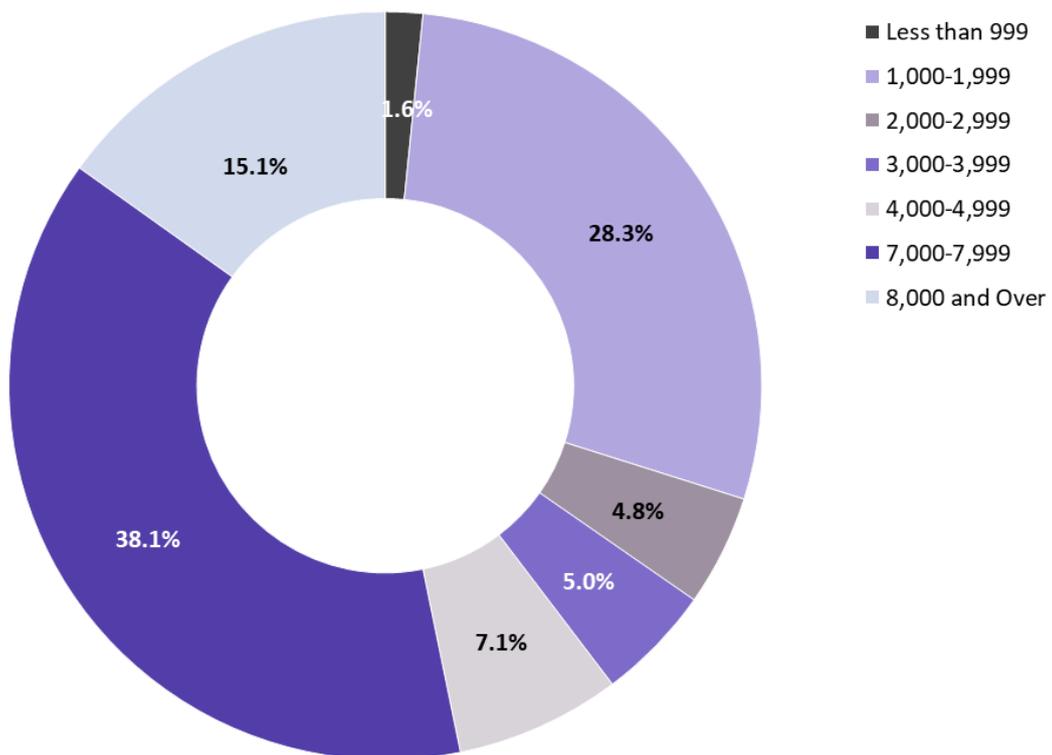
This table is based on the 19 maternity units reporting to NPRS. No unit delivered between between 5,000 and 6,999 births.

Only births from maternity units are included in this table.

Domiciliary births, of which there were 299 in 2021, 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 2021.

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.
- 3.5 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	499	0.8
Not Transferred	59,775	99.2
Not Stated	13	0.0
Total	60,287	100
Singleton Births		
Transferred	426	0.7
Not Transferred	57,782	99.2
Not Stated	13	0.0
Total	58,221	100
Multiple Births		
Transferred	73	3.5
Not Transferred	1,993	96.5
Not Stated	0	0.0
Total	2,066	100

Notes: Percentage column is subject to rounding.
Domiciliary births, of which there were 299 in 2021, 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 11.4 days while babies born at term reported a mean length of stay of 2.4 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 (59.3 per cent) of singleton live births were discharged from hospital within 2 days, compared to just 15.6 per cent of multiple live births.
- Just under 96 per cent of singleton live births were discharged from hospital within 5 days of birth, compared to 69.8 per cent of multiple live births.
- 5.1 per cent of total live births had a length of stay of 6 or more days (4.2 per cent for singleton live births compared to 30.2 per cent for multiple births).

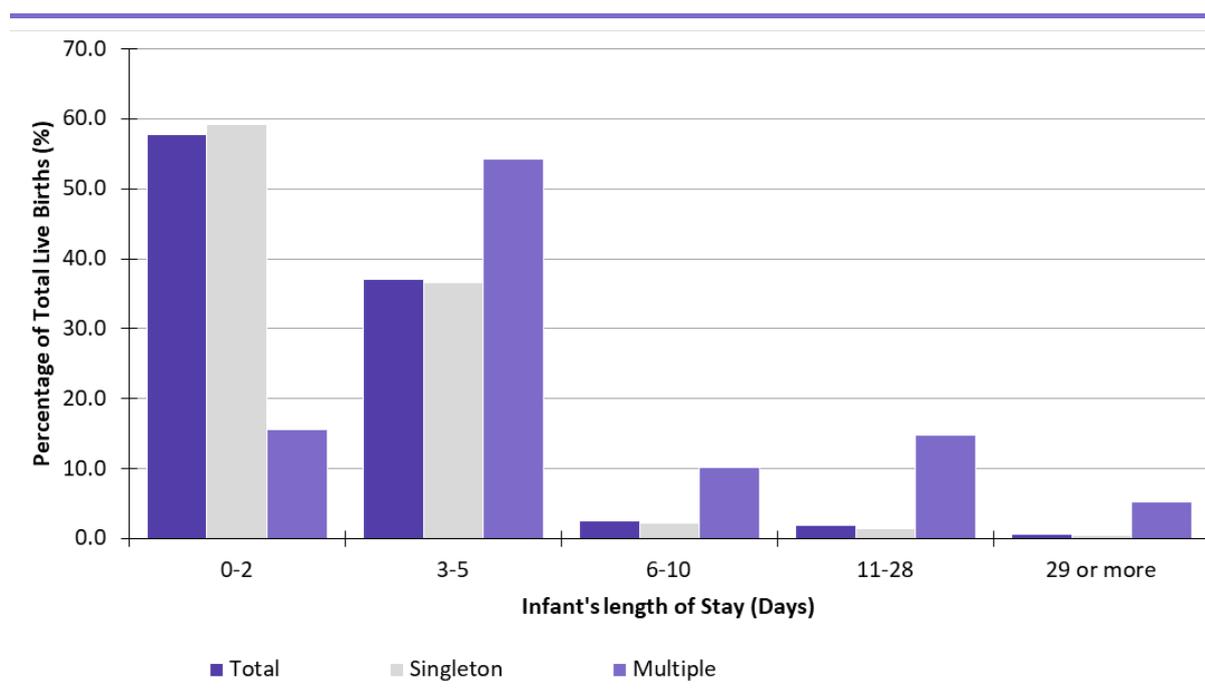
TABLE 4.10

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

	Live Births	Per Cent Live Births
Total Births		
0-2 Days	34,764	57.8
3-5 Days	22,328	37.1
6-10 Days	1,528	2.5
11-28 Days	1,121	1.9
29 Days or more	415	0.7
Not Stated	13	0.0
Total	60,169	100
Singleton Births		
0-2 Days	34,446	59.3
3-5 Days	21,222	36.5
6-10 Days	1,319	2.3
11-28 Days	821	1.4
29 Days or more	309	0.5
Not Stated	13	0.0
Total	58,130	100
Multiple Births		
0-2 Days	318	15.6
3-5 Days	1,106	54.2
6-10 Days	209	10.3
11-28 Days	300	14.7
29 Days or more	106	5.2
Not Stated	0	0.0
Total	2,039	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 46.0 per cent, a higher proportion of total births were breastfed compared to 38.1 per cent reporting artificial feeding.
- Artificial feeding was more common for multiple births (42.5 per cent) compared to singleton births (37.9 per cent), while breastfeeding was more common for singleton births (46.6 per cent for singleton births compared to 28.7 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 52.7 per cent.
- 16.6 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.

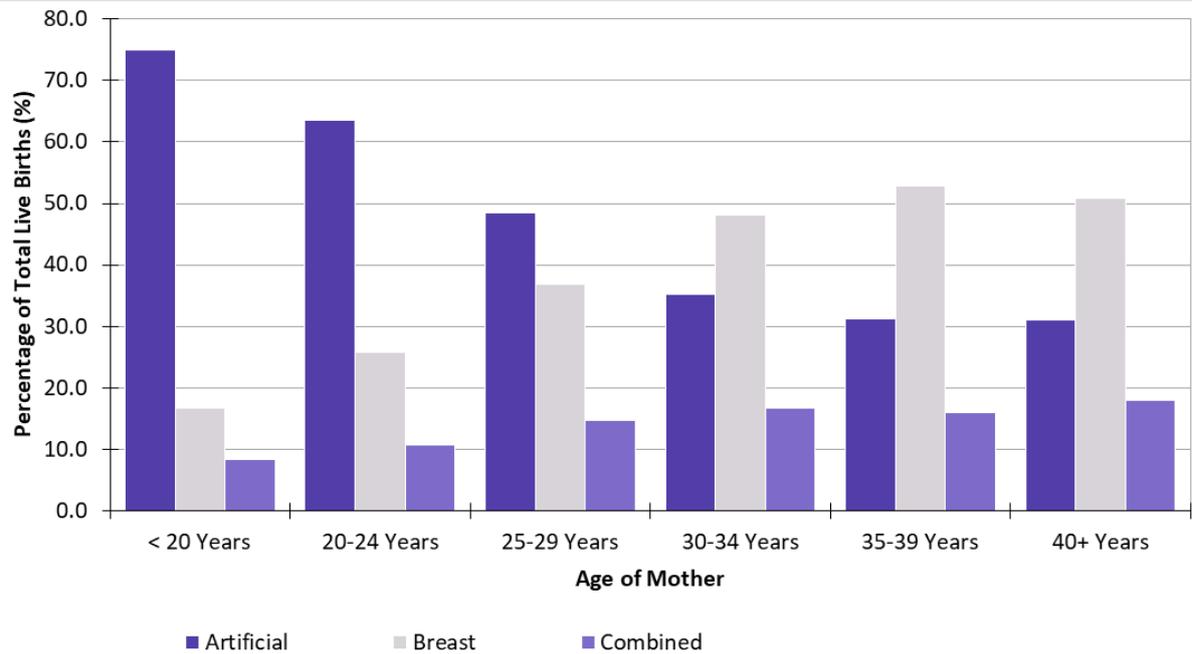
TABLE 4.11
Age of Mother by Infant's Type of Feeding, Numbers and Percentages, Total Live Births

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	530	118	*	~	709	*	*	*	~	703	~	~	0	0	6
	74.8	16.6	^	^	100.0	^	^	^	^	100.0	^	^	0.0	0.0	100.0
	2.3	0.4	^	^	1.2	^	^	^	^	1.2	^	^	0.0	0.0	0.3
20-24 Years	2,697	1,100	454	11	4,262	2,632	1,082	439	11	4,164	65	18	15	0	98
	63.3	25.8	10.7	0.3	100.0	63.2	26	10.5	0.3	100.0	66.3	18.4	15.3	0.0	100.0
	11.7	4.0	4.8	11.5	7.0	11.9	4.0	4.9	11.8	7.1	7.5	3.1	2.6	0.0	4.8
25-29 Years	4,737	3,612	1,441	15	9,805	4,579	3,550	1,392	15	9,536	158	62	49	0	269
	48.3	36.8	14.7	0.2	100.0	48.0	37.2	14.6	0.2	100.0	58.7	23.0	18.2	0.0	100.0
	20.6	13.0	15.1	15.6	16.2	20.7	13.0	15.6	16.1	16.3	18.2	10.6	8.4	0.0	13.2
30-34 Years	7,405	10,096	3,508	28	21,037	7,153	9,897	3,314	28	20,392	252	199	194	0	645
	35.2	48.0	16.7	0.1	100.0	35.1	48.5	16.3	0.1	100.0	39.1	30.9	30.1	0.0	100.0
	32.1	36.3	36.9	29.2	34.8	32.3	36.3	37.1	30.1	34.9	29.1	34.0	33.2	0.0	31.6
35-39 Years	6,092	10,314	3,136	30	19,572	5,821	10,083	*	*	18,826	271	231	*	~	746
	31.1	52.7	16.0	0.2	100.0	30.9	53.6	^	^	100.0	36.3	31.0	^	^	100.0
	26.4	37.1	33.0	31.3	32.4	26.3	37.0	^	^	32.2	31.3	39.4	^	^	36.6
40-44 Years	1,482	2,446	852	8	4,788	1,375	2,378	780	8	4,541	107	68	72	0	247
	31.0	51.1	17.8	0.2	100	30.3	52.4	17.2	0.2	100.0	43.3	27.5	29.1	0.0	100.0
	6.4	8.8	9.0	8.3	7.9	6.2	8.7	8.7	8.6	7.8	12.4	11.6	12.3	0.0	12.1
45 Years and Over	92	133	*	~	294	*	*	*	~	266	*	*	*	0	28
	31.3	45.2	^	^	100	^	^	^	^	100.0	^	^	^	0.0	100.0
	0.4	0.5	^	^	0.5	^	^	^	^	0.5	^	^	^	0.0	1.4
Total	23,035	27,819	9,517	96	60,467	22,169	27,233	*	*	58,428	866	586	*	~	2,039
	38.1	46.0	15.7	0.2	100.0	37.9	46.6	^	^	100.0	42.5	28.7	^	^	100.0
	100	100	100	100	100	100	100	^	^	100	100	100	^	^	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



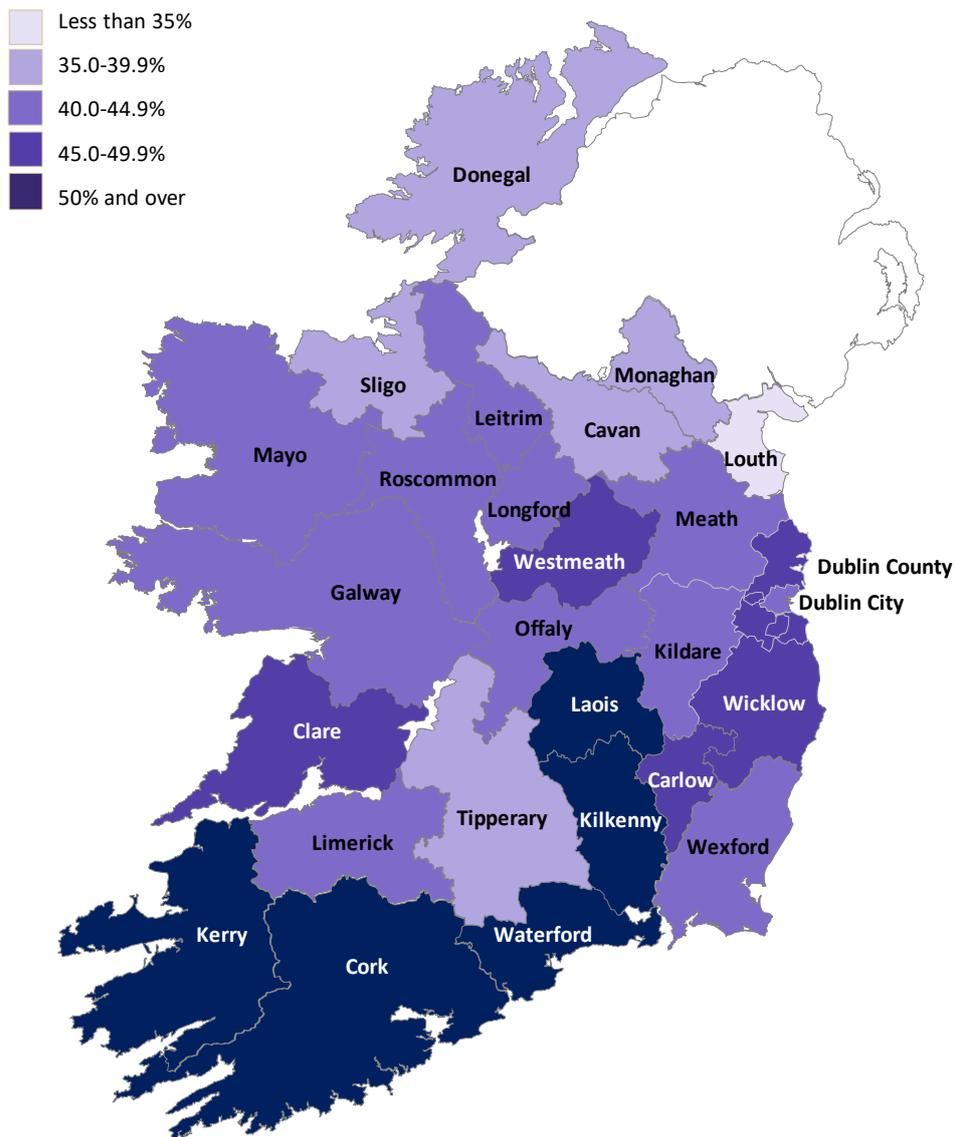
Note: See Table 4.11 for data.
The percentages in this figure exclude 'Not Stated' and may differ slightly from the percentages in the corresponding table.

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 63.0 per cent, with Kerry and Kilkenny reporting rates at 58.6 per cent and 57.8 per cent respectively.
- Other counties reporting exclusive breastfeeding rates higher than the national rate of 46.1 per cent include Waterford, Laois, Clare, Dublin County, Carlow, Westmeath and Wicklow.

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, 47.8 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' (63.2 per cent) socio-economic group. Breastfeeding was least common among 'unemployed' mothers (28.7 per cent).
- Artificial feeding was most common among 'unemployed' mothers with a rate of 60.4 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				Total
	Artificial	Breast	Combined	Not Stated	
Farmers & Farm Managers	30 33.7	49 55.1	10 11.2	0 0.0	89 100.0
Other Agricultural Occupations & Fisherwomen	31 32.3	51 53.1	14 14.6	0 0.0	96 100.0
Higher Professional	962 19.4	3,133 63.2	856 17.3	8 0.2	4,959 100.0
Lower Professional	3,473 25.2	7,959 57.8	2,320 16.9	12 0.1	13,764 100.0
Employers & Managers	1,344 30.8	2,221 51.0	785 18.0	7 0.2	4,357 100.0
Salaried Employees	146 32.2	212 46.7	96 21.1	0 0.0	454 100.0
Intermediate Non-Manual Workers	4,467 45.4	3,952 40.2	1,410 14.3	9 0.1	9,838 100.0
Other Non-Manual Workers	4,492 49.5	3,385 37.3	1,186 13.1	10 0.1	9,073 100.0
Skilled Manual Workers	* ^	593 57.1	185 17.8	~ ^	1,038 100.0
Semi-Skilled Manual Workers	437 41.0	439 41.1	* ^	~ ^	1,067 100.0
Unskilled Manual Workers	* ^	11 55.0	~ ^	0 0.0	20 100.0
Unemployed	1,737 60.4	827 28.7	313 10.9	0 0.0	2,877 100.0
Not Classifiable	602 37.9	715 45.0	* ^	~ ^	1,588 100.0
Home Duties	3,847 49.3	2,656 34.0	1,290 16.5	13 0.2	7,806 100.0
Not Stated	1,203 35.0	1,617 47.0	591 17.2	31 0.9	3,442 100.0
Total	23,035 38.1	27,820 46.0	9,517 15.7	96 0.2	60,468 100

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



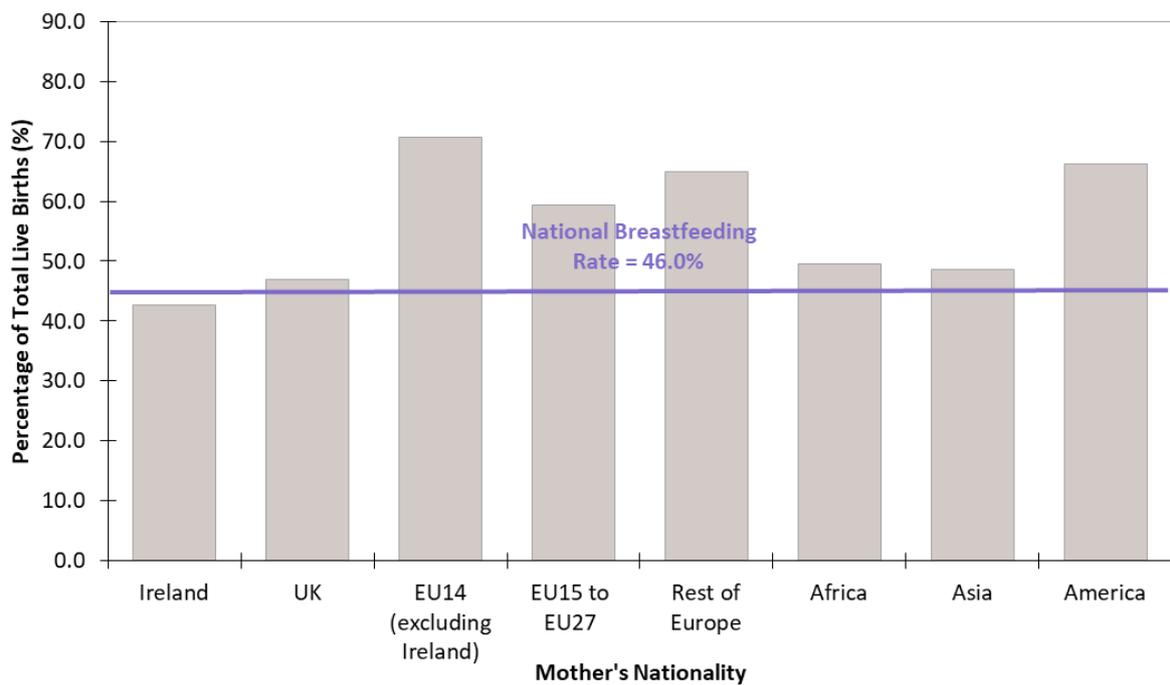
Notes: See Table 4.12 for data.
 Categories where percentages are based on <100 births are not included.
 The percentages in this figure exclude 'Not Stated' and may differ slightly from the percentages in the corresponding table.

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

- At 42.6 per cent, births to mothers from Ireland recorded the lowest proportion of breastfeeding.
- Births to mothers from the EU14 (excluding Ireland) reported the highest proportion of breastfeeding at 70.8 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.

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 60,804 births recorded by the NPRS in 2021, 218 were stillbirths and 118 were early neonatal deaths, giving a total of 336 perinatal deaths and a perinatal mortality rate of 5.5 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 73 per cent of total perinatal deaths weighed less than 2,500 grams, 70.7 per cent for primiparous women and 75.9 per cent for multiparous women (see Figure 5.1).
- The perinatal mortality rate for low birthweight babies (weighing less than 2,500 grams) was 69.2 per 1,000 live births and stillbirths (56.3 per 1,000 for primiparous women and 80.5 per 1,000 for multiparous women).
- The early neonatal mortality rate for low birthweight babies (weighing less than 2,500 grams) was 26.0 per 1,000 live births (22.9 per 1,000 for primiparous women and 28.7 per 1,000 for multiparous women).
- The stillbirth rate for low birthweight babies (weighing less than 2,500 grams) was 44.4 per 1,000 live births and stillbirths (34.1 per 1,000 for primiparous women and 53.3 per 1,000 for multiparous women).
- For births weighing 2,500 grams or more, the perinatal mortality rate was 1.5 per 1,000 live births and stillbirths (1.8 for primiparous women and 1.4 for multiparous women).
- Higher perinatal mortality rates for all births were recorded for births less than 1,500 grams at 274.8 per 1,000 live births and stillbirths and an adjusted perinatal mortality rate of 207.8 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

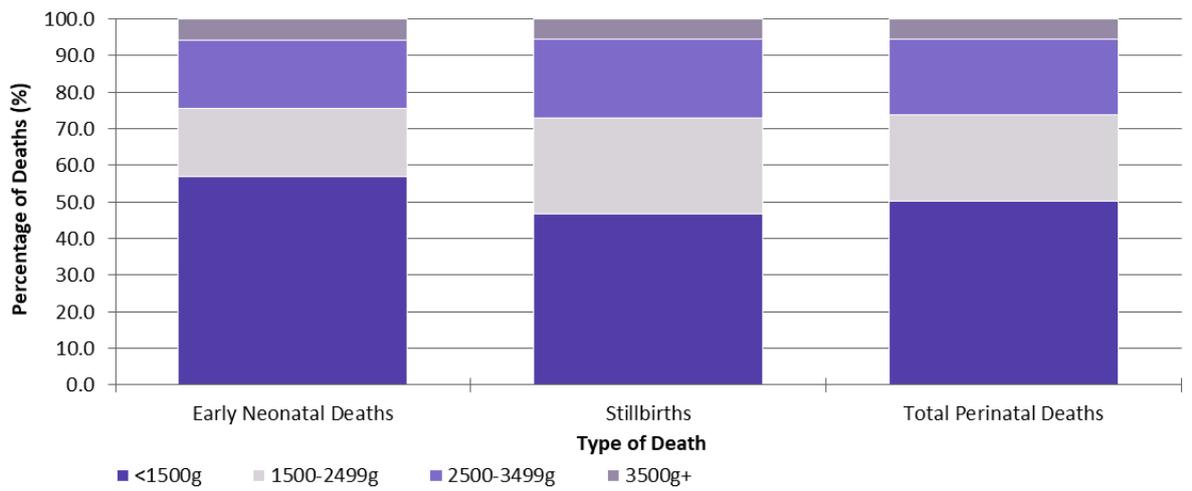
	Total Perinatal Deaths	Total Perinatal Deaths %	Ante-partum Stillbirths	Intra-Partum Stillbirths	Not Stated	Stillbirth Rate ^a	Early Neonatal Deaths	Early Neonatal Mortality Rate ^a	Perinatal Mortality Rate ^a	Adj. PMR ^a
Total										
500-749	92	27.4	37	~	12	314.0	38	322.0	534.9	470.2
750-999	37	11.0	17	~	~	176.5	16	163.3	310.9	219.0
1000-1249	18	5.4	7	0	~	80.9	7	56.0	132.4	70.9
1250-1499	22	6.5	15	~	0	85.1	6	34.9	117.0	77.8
1500-1999	44	13.1	28	~	~	47.3	11	16.6	63.1	39.7
2000-2499	35	10.4	16	~	~	10.6	11	4.9	15.4	9.7
2500-2999	36	10.7	20	0	6	3.5	10	1.4	4.9	3.8
3000-3499	33	9.8	19	~	0	1.1	12	0.6	1.7	1.2
3500-3999	13	3.9	7	0	~	0.4	~	0.2	0.6	0.6
4000-4499	~	^	~	~	0	0.4	~	0.3	0.6	0.4
4500 and over	~	^	~	0	0	0.8	0	-	0.8	0.8
Total	336	100	169	15	34	3.6	118	1.9	5.5	3.9
Primiparous Women										
500-749	37	27.8	11	~	~	226.7	20	344.8	493.3	441.2
750-999	16	12.0	7	~	0	133.3	8	153.8	266.7	228.1
1000-1249	6	4.5	~	0	~	73.5	~	15.9	88.2	31.3
1250-1499	6	4.5	~	~	0	43.5	~	22.7	65.2	44.4
1500-1999	16	12.0	11	0	~	37.1	~	8.9	45.7	29.1
2000-2499	13	9.8	8	~	0	9.8	~	3.0	12.7	9.8
2500-2999	10	7.5	~	0	~	2.2	~	0.9	3.1	2.5
3000-3499	16	12.0	8	~	0	1.2	6	0.7	2.0	1.6
3500-3999	*	^	*	0	0	0.8	~	0.5	1.3	1.2
4000-4499	~	2.3	0	~	0	0.4	~	0.8	1.3	0.4
4500 and over	0	0.0	0	0	0	-	0	-	-	-
Total	133	100	61	8	12	3.4	52	2.2	5.6	4.2
Multiparous Women										
500-749	55	27.1	26	~	*	381.4	18	300.0	567.0	494.0
750-999	21	10.3	10	~	~	220.3	8	173.9	355.9	208.3
1000-1249	12	5.9	~	0	~	88.2	*	96.8	176.5	111.1
1250-1499	16	7.9	12	0	0	125.0	~	47.6	166.7	111.1
1500-1999	28	13.8	17	~	~	57.6	*	24.5	80.7	50.6
2000-2499	22	10.8	8	~	~	11.2	*	6.5	17.7	9.7
2500-2999	26	12.8	16	0	~	4.6	*	1.7	6.3	4.8
3000-3499	17	8.4	11	0	0	0.9	6	0.5	1.4	0.9
3500-3999	~	1.5	~	0	~	0.2	~	0.1	0.2	0.2
4000-4499	~	1.0	~	0	0	0.4	0	-	0.4	0.4
4500 and over	~	0.5	~	0	0	1.2	0	-	1.2	1.2
Total	203	100	108	7	22	3.7	66	1.8	5.5	3.6

Notes:

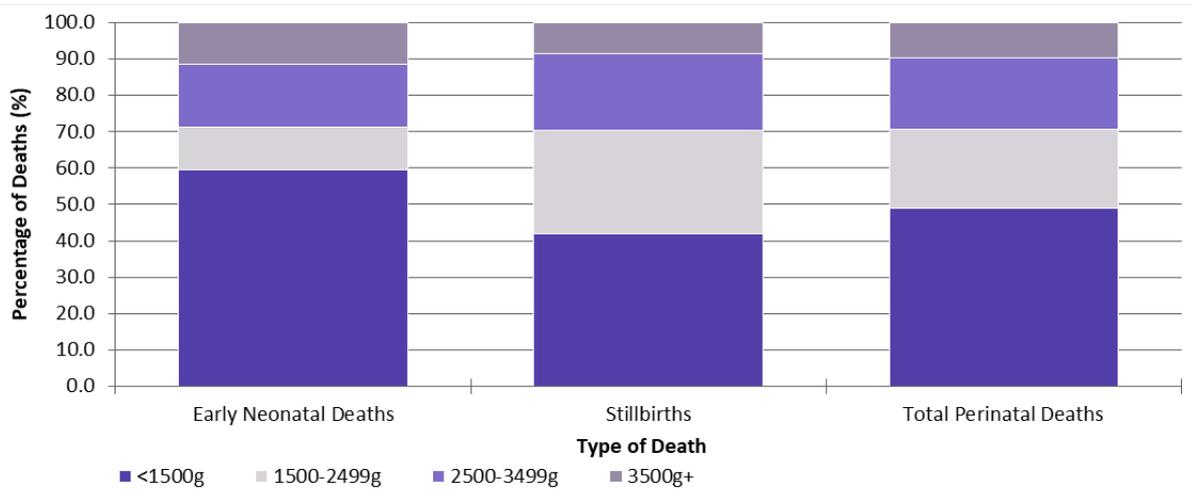
- Percentage column is subject to rounding.
- ~ Denotes five or fewer births (or maternities) reported to NPRS.
 - * Further suppression required to prevent disclosure of five or fewer births (or maternities).
 - ^ Percentage not provided to prevent disclosure of small numbers.
 - a Rates are calculated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

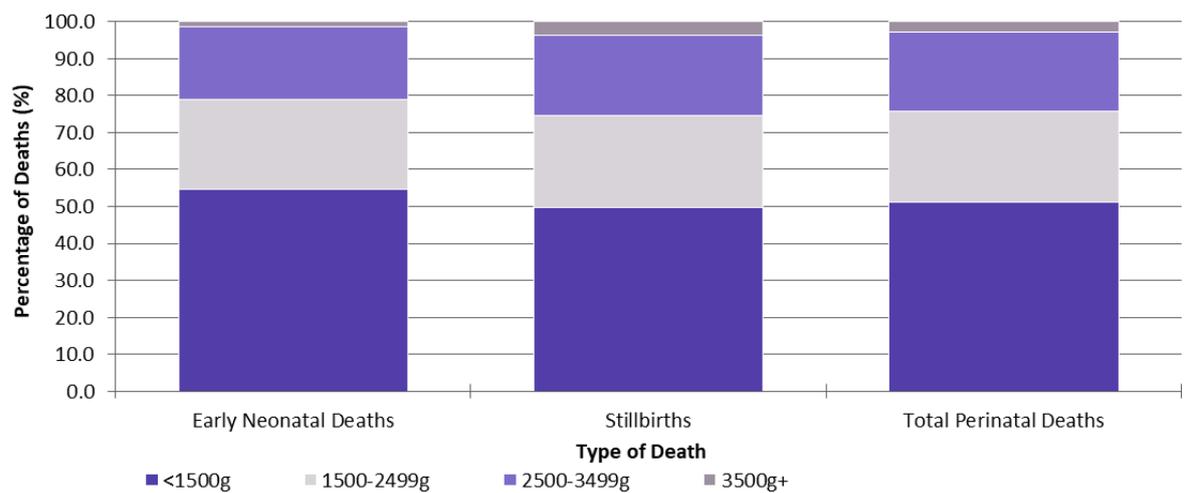
Total Perinatal Deaths



Perinatal Deaths: Primiparous Women

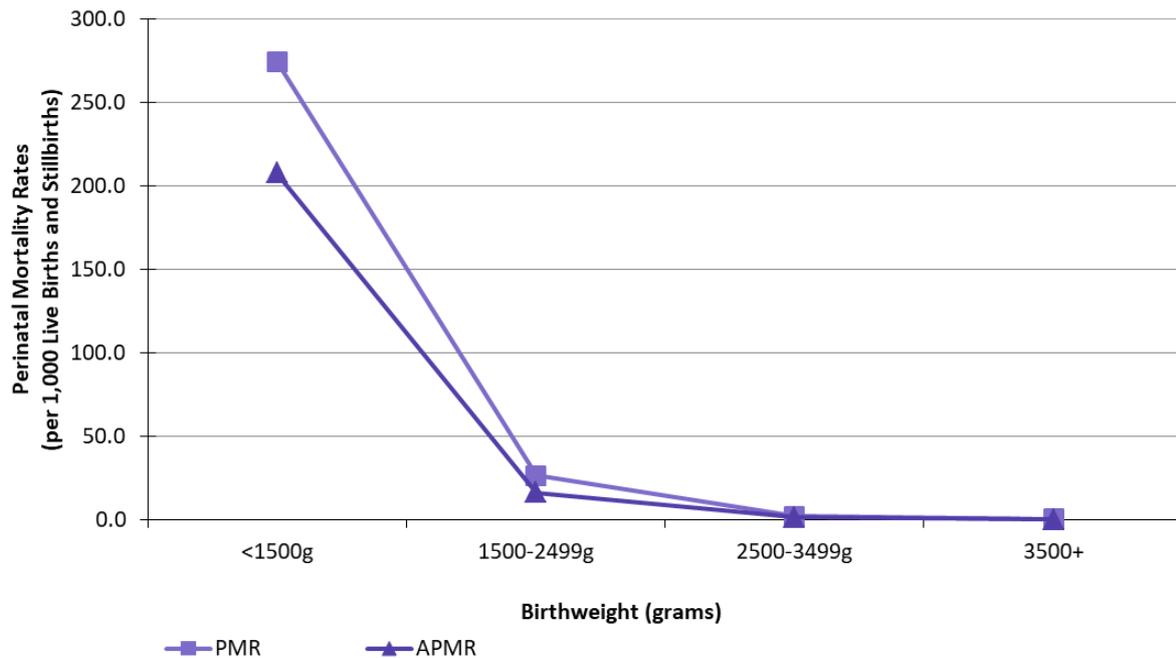


Perinatal Deaths: Multiparous Women



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 (30.4 per cent) followed by maternal factors (P00-P04), which accounted for 22.9 per cent.
- Approximately 74 per cent of perinatal deaths weighed <2,500 grams, and of these 33.1 per cent were due to congenital malformations (Q00-Q99), followed by maternal factors (P00-P04) which accounted for 21.4 per cent (see Figure 5.3).
- Approximately 26 per cent of perinatal deaths weighed \geq 2,500 grams, and of these maternal factors (P00-P04) accounted for 27.3 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	N				
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	116.3	42.0	-	47.9	18.7	2.6	1.9	0.4	0.1	-	-	-	-	77	1.3	
Disorders related to length of gestation and foetal growth	110.5	25.2	14.7	5.3	7.2	0.4	0.1	-	-	0.0	0.8	-	-	33	0.5	
Respiratory and cardiovascular disorders specific to the perinatal period	58.1	33.6	7.4	-	1.4	2.2	0.7	0.1	0.1	0.1	-	-	-	32	0.5	
Infections specific to the perinatal period	40.7	16.8	-	-	-	-	-	-	-	-	-	-	-	9	0.1	
Haemorrhagic and haematological disorders of foetus and newborn	29.1	8.4	-	-	-	-	-	-	-	-	-	-	-	6	0.1	
Transitory endocrine and metabolic disorders specific to foetus and newborn	-	8.4	-	-	1.4	-	-	0.1	0.0	-	-	-	-	~	0.1	
Conditions involving the integument and temperature regulation of foetus and newborn	5.8	8.4	-	5.3	1.4	-	-	0.1	0.0	-	-	-	-	7	0.1	
Other disorders originating in the perinatal period	5.8	-	-	-	-	0.4	0.3	-	-	0.1	-	-	-	~	0.1	
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	46.5	50.4	44.1	16.0	8.6	3.5	0.8	0.6	0.2	0.1	-	-	-	60	1.0	
Congenital malformations of the nervous system	0.0	8.4	-	10.6	1.4	0.4	0.1	0.1	0.0	0.0	0.0	-	-	7	0.1	
Congenital malformations of the circulatory system	11.6	16.8	14.7	5.3	2.9	0.4	0.3	0.3	-	-	-	-	-	17	0.3	
Congenital malformations of the respiratory system	-	8.4	-	-	1.4	-	-	-	-	0.1	-	-	-	~	0.0	
Congenital malformations of the urinary system	-	16.8	7.4	5.3	4.3	0.9	0.4	-	-	-	-	-	-	12	0.2	
Congenital malformations and deformations of the musculoskeletal system	11.6	8.4	7.4	10.6	1.4	0.9	-	-	-	-	-	-	-	9	0.1	
Other congenital malformations	34.9	25.2	-	-	4.3	0.4	0.1	0.1	0.0	0.1	-	-	-	17	0.3	
Chromosomal abnormalities, not elsewhere classified	64.0	33.6	36.8	10.6	8.6	2.6	0.1	0.1	-	-	-	-	-	37	0.6	
All other causes	-	-	-	-	-	0.4	-	-	-	-	-	-	-	~	0.0	
Total	92	37	18	22	44	35	36	33	13	~	~	~	~	336	-	5.5
PMR	534.9	310.9	132.4	117.0	63.1	15.4	4.9	1.7	0.6	0.6	0.8	0.6	0.6	-	-	5.5

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		
P00-P04 Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	112.8	34.9	-	31.5	23.5	3.6	2.1	0.4	0.1	-	-	63	1.1
P05-P08 Disorders related to length of gestation and foetal growth	75.2	23.3	20.2	7.9	8.5	0.6	0.2	-	-	-	0.8	22	0.4
P20-P29 Respiratory and cardiovascular disorders specific to the perinatal period	60.2	23.3	10.1	-	2.1	3.0	0.8	0.1	0.1	0.1	-	28	0.5
P35-P39 Infections specific to the perinatal period	52.6	23.3	-	-	-	-	-	-	-	-	-	9	0.2
P50-P61 Haemorrhagic and haematological disorders of foetus and newborn	7.5	11.6	-	-	-	-	-	-	-	-	-	~	0.0
P70-P74 Transitory endocrine and metabolic disorders specific to foetus and newborn	-	11.6	-	-	2.1	-	-	0.1	0.0	-	-	~	0.1
P80-P83 Conditions involving the integument and temperature regulation of foetus and newborn	7.5	11.6	-	7.9	2.1	-	-	0.1	0.0	-	-	7	0.1
P900-P949 P960-P968 Other disorders originating in the perinatal period	-	-	-	-	-	0.6	0.3	-	-	0.1	-	~	0.1
P95, P96.9 Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	60.2	58.1	50.5	23.6	12.8	4.2	0.9	0.6	0.2	0.1	-	57	1.0
Q00-Q07 Congenital malformations of the nervous system	-	11.6	-	15.7	2.1	0.6	0.2	0.1	-	-	-	7	0.1
Q20-Q28 Congenital malformations of the circulatory system	15.0	11.6	20.2	7.9	4.3	0.6	0.3	0.3	-	-	-	16	0.3
Q30-Q34 Congenital malformations of the respiratory system	-	11.6	-	-	2.1	-	-	-	-	0.1	-	~	0.1
Q60-Q64 Congenital malformations of the urinary system	-	11.6	10.1	7.9	6.4	1.2	0.5	-	-	-	-	11	0.2
Q65-Q79 Congenital malformations and deformations of the musculoskeletal system	7.5	11.6	10.1	15.7	2.1	1.2	-	-	-	-	-	8	0.1
Q80-Q89 Other congenital malformations	45.1	34.9	-	-	4.3	0.6	0.2	0.1	0.0	0.1	-	16	0.3
Q90-Q99 Chromosomal abnormalities, not elsewhere classified	75.2	34.9	50.5	15.7	12.8	3.0	0.2	0.1	-	-	-	34	0.6
A00.0-O99.9, R00.0-Z99.9 All other causes	-	-	-	-	-	0.6	-	-	-	-	-	~	0.0
Total	69	28	17	17	40	33	36	33	13	~	~	292	-
PMR	518.8	325.6	171.7	133.9	85.3	20.0	5.4	1.7	0.6	0.6	0.8	-	5.0

TABLE 5.2

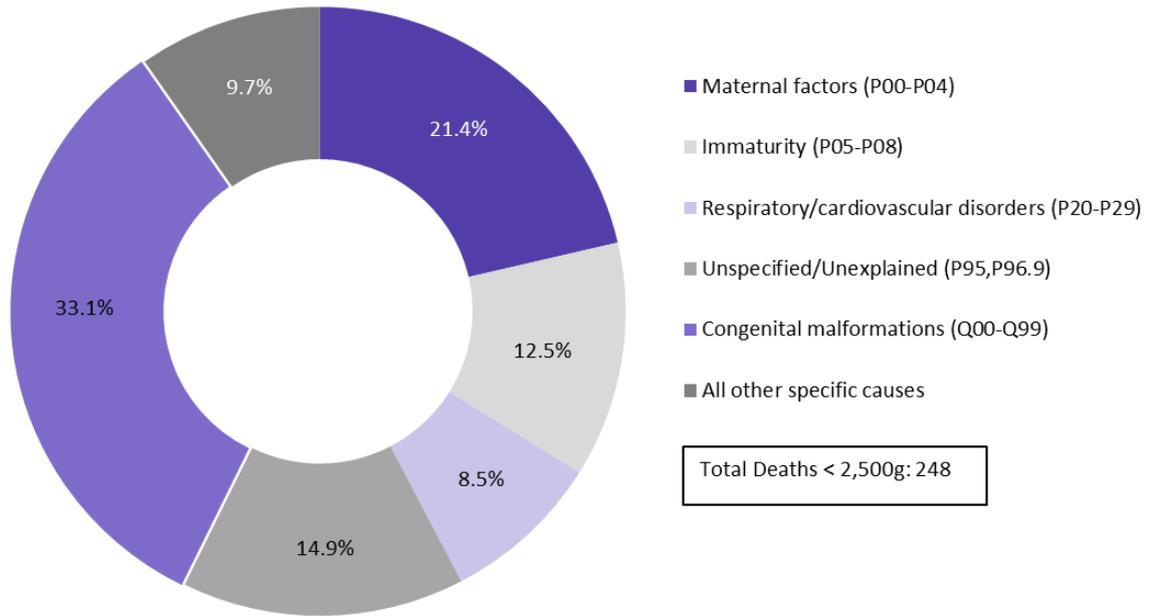
Multiple Perinatal Deaths: Cause of Death by ICD-10 Chapter by Birthweight, Perinatal Mortality Rate^a and Numbers (Total)

ICD-10 Code	Birthweight (grams)													Total	PMIR ^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			
Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery	128.2	60.6	-	82.0	8.8	-	-	-	-	-	-	-	14	6.7	
Disorders related to length of gestation and foetal growth	230.8	30.3	-	-	4.4	-	-	-	-	-	-	-	11	5.3	
Respiratory and cardiovascular disorders specific to the perinatal period	51.3	60.6	-	-	-	-	-	-	-	-	-	-	~	1.9	
Haemorrhagic and haematological disorders of foetus and newborn	102.6	-	-	-	-	-	-	-	-	-	-	-	~	1.9	
Other disorders originating in the perinatal period	25.6	-	-	-	-	-	-	-	-	-	-	-	~	0.5	
P900-P949															
P960-P968															
Foetal death of unspecified cause, Condition originating in the perinatal period, unspecified	-	30.3	27.0	-	-	1.6	-	-	-	-	-	-	~	1.4	
Congenital malformations of the circulatory system	-	30.3	-	-	-	-	-	-	-	-	-	-	~	0.2	
Congenital malformations of the urinary system	-	30.3	-	-	-	-	-	-	-	-	-	-	~	0.5	
Congenital malformations and deformations of the musculoskeletal system	25.6	-	-	-	-	-	-	-	-	-	-	-	~	0.5	
Other congenital malformations	-	-	-	-	4.4	-	-	-	-	-	-	-	~	0.5	
Chromosomal abnormalities, not elsewhere classified	25.6	30.3	-	-	-	1.6	-	-	-	-	-	-	~	1.4	
Total	23	9	27.0	82.0	17.5	~	0	0	0	0	0	0	44	21.1	
PMR	589.7	272.7	27.0	82.0	17.5	~	0	0	0	0	0	0	-	-	

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

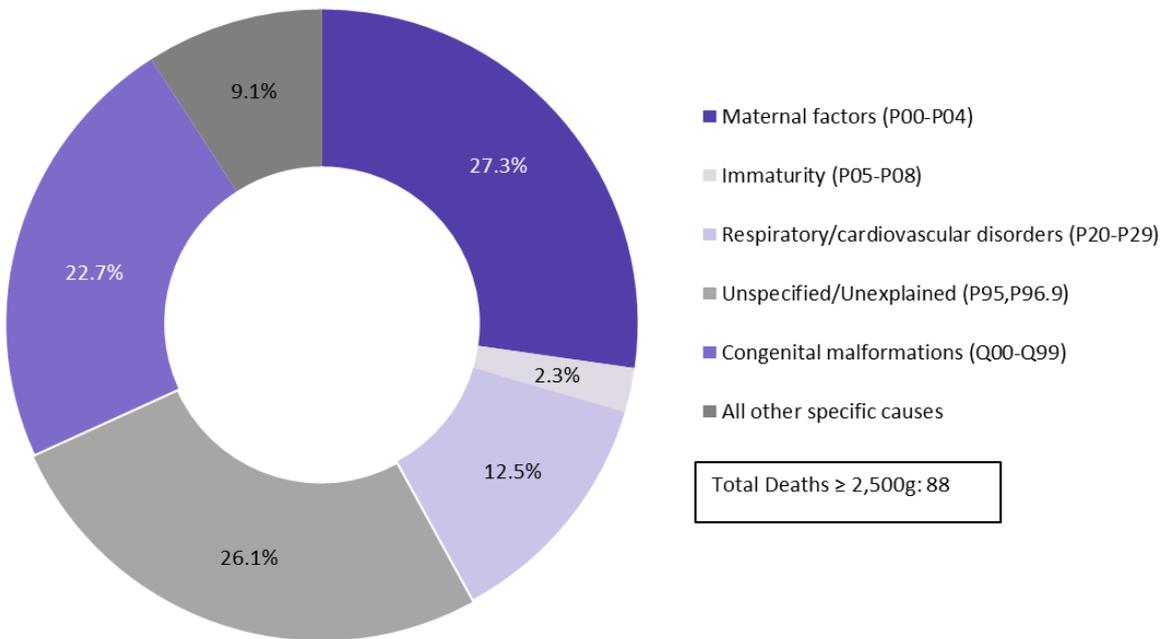
a Rates are calculated per 1,000 births. For perinatal deaths, rates are calculated on total live births and stillbirths.

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}
- Almost 73 per cent of singleton perinatal deaths and 95.5 per cent of multiple perinatal deaths were preterm.
- Just over 43 per cent of early neonatal deaths recorded a gestational age of less than 28 completed weeks compared to 30.7 per cent of stillbirths (see Figure 5.5).
- The perinatal mortality rate for babies born before 37 completed weeks of gestation was 58.3 per 1,000 live births and stillbirths (68.2 per 1,000 singleton births and 33.7 per 1,000 multiple births).
- For babies born at 37 or more completed weeks of gestation, the perinatal mortality rate was 1.4 per 1,000 live births and stillbirths.

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

³⁶ In 2021, 7.1 per cent of total births were preterm.

TABLE 5.3

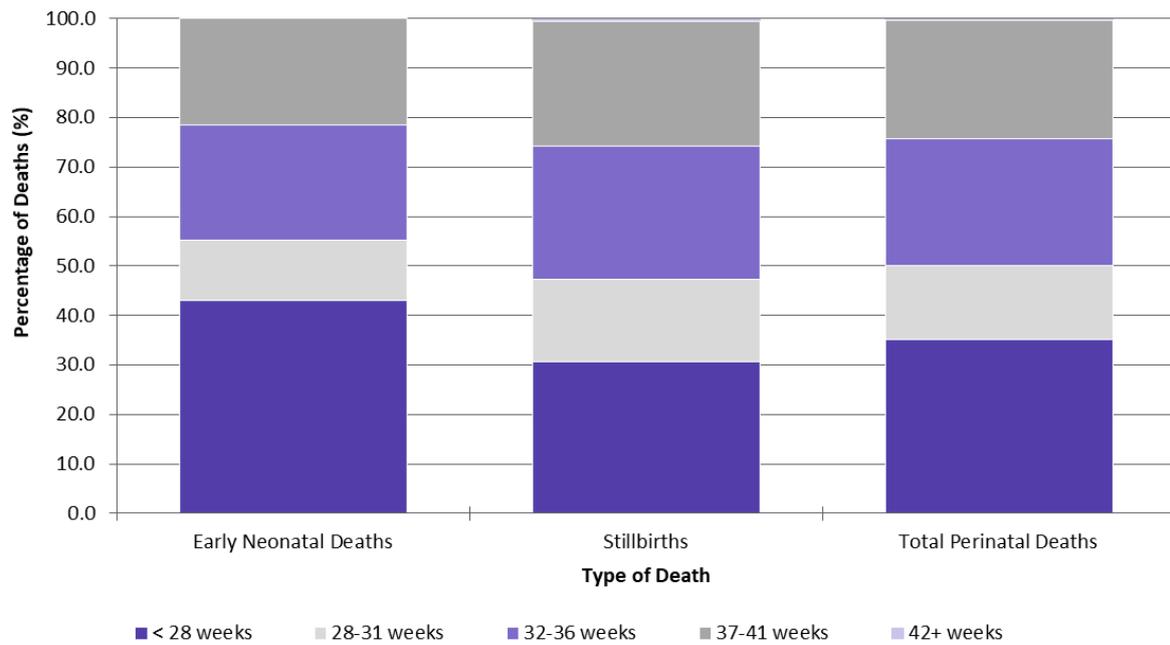
Gestational Age (weeks): Total Perinatal Deaths, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates

	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	*	^	~	~	~	470.6	9	1000.0	1000.0	1000.0
23-27	100	29.9	43	~	*	218.5	41	194.3	370.4	303.3
28-31	50	15	31	~	~	89.1	14	38.0	123.8	82.9
32-36	86	25.7	48	~	*	16.2	27	7.5	23.6	14.9
37-41	80	24	43	~	*	1.0	25	0.4	1.4	1.0
42 and Over	~	^	~	0	0	-	0	-	2.0	2.0
Total	334	100	169	*	*	3.6	116	1.9	5.5	3.8
Singleton Births										
Less than 23	*	^	~	~	~	538.5	*	1000.0	1000.0	1000.0
23-27	76	26.2	*	~	*	264.7	22	146.7	372.5	284.9
28-31	44	15.2	*	~	~	110.4	*	41.4	147.2	102.1
32-36	78	26.9	41	~	*	20.2	*	10.3	30.3	18.8
37-41	*	^	*	~	*	1.0	*	0.4	1.4	1.0
42 and Over	~	^	~	0	0	-	0	-	2.0	2.0
Total	290	100	*	*	*	3.4	89	1.5	4.9	3.3
Multiple Births										
Less than 23	~	^	~	0	~	250.0	~	1000.0	1000.0	1000.0
23-27	24	54.5	~	0	~	75.8	19	311.5	363.6	353.8
28-31	6	13.6	~	0	0	28.6	~	29.4	57.1	29.4
32-36	8	18.2	7	0	0	6.5	~	0.9	7.5	5.6
37-41	~	^	~	0	0	1.2	~	1.2	2.4	1.2
42 and Over	0	0.0	0	0	0	-	0	-	-	-
Total	44	100	*	0	~	8.2	27	13.1	21.1	17.8

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.

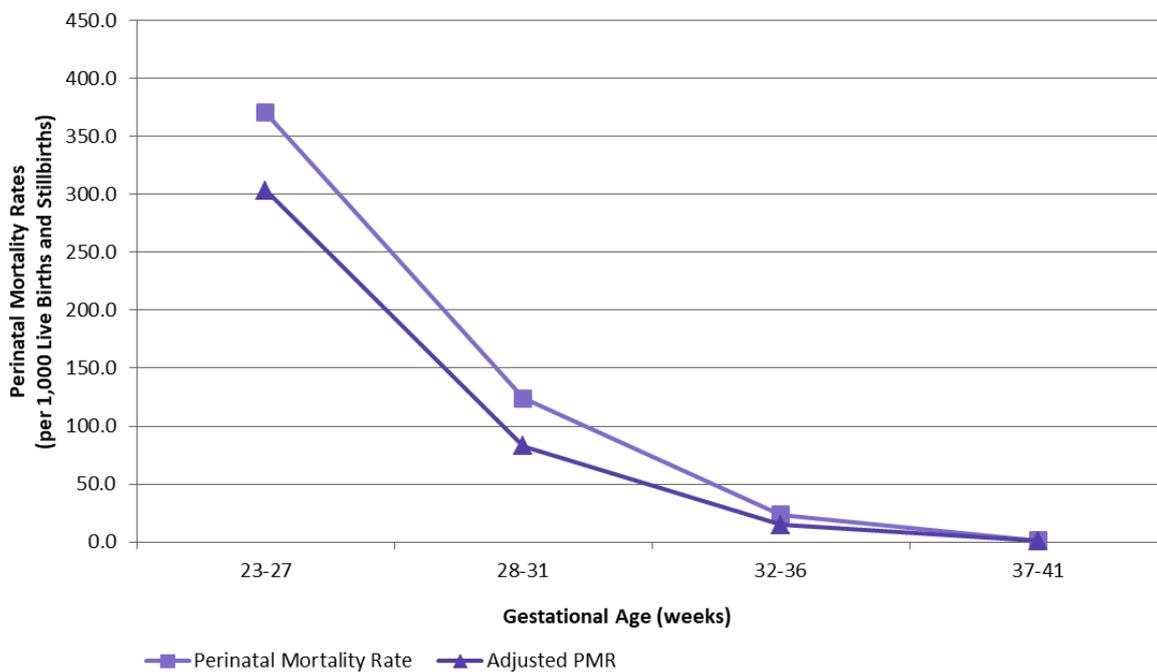
FIGURE 5.5
Total Perinatal Deaths by Gestational Age (weeks)



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 17.9 per cent of total perinatal deaths were classified as 'unspecified/unexplained' (P95, P96.9). The fact that over 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 Rate	Early Neonatal Deaths Rate	Total Perinatal Deaths N Rate	Stillbirths Rate	Early Neonatal Deaths Rate	Total Perinatal Deaths N Rate	Stillbirths Rate	Early Neonatal Deaths Rate	Total Perinatal Deaths N Rate
P00-P04	1.2	0.0	77 1.3	1.1	0.0	63 1.1	5.8	1.0	14 6.7
P000 - P009	0.1	-	~ 0.1	0.1	-	~ 0.1	0.5	-	~ 0.5
P010 - P019	0.0	-	~ 0.0	0.0	-	~ 0.0	-	-	0
P020 - P029	1.1	0.0	70 1.2	1.0	0.0	57 1.0	-	-	13 6.2
P030 - P039	0.0	-	~ 0.0	0.0	-	~ 0.0	-	-	0
P05-P08	0.2	0.3	33 0.5	0.2	0.2	22 0.4	1.0	4.4	11 5.3
P050 - P059	0.1	-	6 0.1	0.1	-	6 0.1	-	-	0
P070 - P073	0.0	-	~ 0.0	0.0	-	~ 0.0	-	-	11 5.3
P080 - P082	0.3	0.2	32 0.5	0.3	0.2	28 0.5	0.5	1.5	0
P20-P29	0.1	-	~ 0.1	0.1	-	~ 0.1	-	-	~ 1.9
P200 - P209	0.0	-	~ 0.0	0.0	-	~ 0.0	-	-	0
P210 - P219	0.0	-	~ 0.0	0.0	-	~ 0.0	-	-	0
P250 - P258	-	0.1	~ 0.1	-	0.1	~ 0.1	-	0.5	~ 0.5
P260 - P269	-	0.0	~ 0.0	-	-	0	-	0.5	~ 0.5
P280 - P289	0.0	0.0	~ 0.1	0.0	0.1	~ 0.1	-	-	0
P290 - P299	0.2	0.1	17 0.3	0.2	0.1	15 0.3	0.5	0.5	~ 1.0
P35-P39	0.1	0.1	9 0.1	0.1	0.1	9 0.2	-	-	0
P360 - P369	-	0.0	~ 0.0	-	0.0	~ 0.0	-	-	0
P390 - P399	0.1	0.0	8 0.1	0.1	0.1	8 0.1	-	-	0
P50-P61	-	0.1	6 0.1	-	0.0	~ 0.0	-	1.9	~ 1.9
P520 - P529	-	0.0	~ 0.0	-	0.0	~ 0.0	-	0.5	~ 0.5
P590 - P599	-	0.0	~ 0.0	-	-	0	-	0.5	~ 0.5
P610 - P619	-	0.0	~ 0.0	-	-	0	-	1.0	~ 1.0
P70-P74	0.0	0.0	~ 0.1	0.0	0.0	~ 0.1	-	-	0
P700 - P709	0.0	0.0	~ 0.0	0.0	0.0	~ 0.1	-	-	0
P720 - P729	-	0.0	~ 0.0	-	0.0	~ 0.0	-	-	0

Foetus and newborn affected by maternal factors and by complications of pregnancy, labour and delivery

Foetus and newborn affected by maternal conditions that may be unrelated to present pregnancy

Foetus and newborn affected by maternal complications of pregnancy

Foetus and newborn affected by complications of placenta, cord and membranes

Foetus and newborn affected by other complications of labour and delivery

Disorders related to length of gestation and foetal growth

Slow foetal growth and foetal malnutrition

Disorders related to short gestation and low birth weight, not elsewhere classified

Disorders related to long gestation and high birth weight

Respiratory and cardiovascular disorders specific to the perinatal period

Intrauterine hypoxia

Birth asphyxia

Interstitial emphysema and related conditions originating in the perinatal period

Pulmonary haemorrhage originating in the perinatal period

Other respiratory conditions originating in the perinatal period

Cardiovascular disorders originating in the perinatal period

Infections specific to the perinatal period

Bacterial sepsis of newborn

Other infections specific to the perinatal period

Haemorrhagic and haematological disorders of foetus and newborn

Intracranial nontraumatic haemorrhage of foetus and newborn

Neonatal jaundice from other and unspecified causes

Other perinatal haematological disorders

Transitory endocrine and metabolic disorders specific to foetus and newborn

Transitory disorders of carbohydrate metabolism specific to foetus and newborn

Other transitory neonatal endocrine disorders

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 Rate	Early Neonatal Deaths Rate	Total Perinatal Deaths N	Stillbirths Rate	Early Neonatal Deaths Rate	Total Perinatal Deaths N	Stillbirths Rate	Early Neonatal Deaths Rate	Total Perinatal Deaths N
Conditions involving the integument and temperature regulation of foetus and newborn	0.1	0.0	7	0.1	0.1	7	-	-	0.5
Other conditions of integument specific to foetus and newborn	0.1	0.0	7	0.1	0.1	7	-	-	0
Other disorders originating in the perinatal period	0.8	0.2	65	0.9	0.2	61	-	1.9	0.5
Other disturbances of cerebral status of newborn	0.1	-	~	0.1	-	~	-	-	0
Other conditions originating in the perinatal period	-	0.0	~	-	-	0	-	-	0
Foetal death of unspecified cause, Condition origination in the perinatal period, unspecified	0.8	0.2	60	0.8	0.2	57	-	1.5	0
Congenital malformations of the nervous system	0.1	0.0	7	0.1	0.1	7	-	-	0
Anencephaly and similar malformations	0.0	0.0	~	0.0	0.0	~	-	-	0
Encephalocele	0.0	-	~	0.0	-	~	-	-	0
Congenital hydrocephalus	-	0.0	~	-	0.0	~	-	-	0
Other congenital malformations of the brain	0.0	-	~	0.0	-	~	-	-	0
Congenital malformations of the circulatory system	0.1	0.1	17	0.1	0.1	16	-	0.5	0
Congenital malformations of cardiac chambers and connections	-	0.0	~	-	0.0	~	-	-	0
Congenital malformations of cardiac septa	0.0	0.0	~	0.0	-	~	-	-	0
Congenital malformations of pulmonary and tricuspid valves	-	0.0	~	-	0.0	~	-	-	0
Congenital malformations of aortic and mitral valves	0.0	0.0	~	0.1	0.0	~	-	-	0
Other congenital malformations of heart	0.0	0.1	8	0.1	0.1	8	-	-	0
Other congenital malformations of circulatory system	0.0	-	~	0.0	-	~	-	-	0
Congenital malformations of the respiratory system	0.0	0.0	~	0.0	0.0	~	-	-	0
Congenital malformations of lung	0.0	0.0	~	0.0	0.0	~	-	-	0
Congenital malformations of the urinary system	0.0	0.2	12	0.2	0.2	11	-	0.5	0
Renal agenesis and other reduction defects of kidney	0.0	0.1	6	0.0	0.1	~	-	0.5	0
Cystic kidney disease	-	0.1	~	-	0.1	~	-	-	0
Other congenital malformations of kidney	-	0.0	~	-	0.0	~	-	-	0
Congenital malformations and deformations of the musculoskeletal system	0.1	0.0	9	0.1	0.1	8	-	0.5	0.5

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
Osteochondrodysplasia with defects of growth of tubular bones and spine	0.0	-	~	0.0	-	~	0.0	-	0
Other osteochondrodysplasias	0.0	-	~	0.0	-	~	0.0	-	0
Congenital malformations of musculoskeletal system, not elsewhere classified	0.0	0.0	6	0.1	0.0	~	0.1	0.5	~
Other congenital malformations	0.2	0.1	17	0.2	0.1	16	0.3	0.5	~
Other specified congenital malformation syndromes affecting multiple systems	-	0.0	~	-	0.0	~	0.0	-	0
Other congenital malformations, not elsewhere classified	0.2	0.1	16	0.2	0.1	15	0.3	0.5	~
Chromosomal abnormalities, not elsewhere classified	0.3	0.3	37	0.3	0.2	34	0.6	1.0	~
Downs syndrome	0.0	0.0	~	0.1	0.0	~	0.1	-	0
Edwards syndrome and Patau syndrome	0.2	0.2	27	0.2	0.2	24	0.4	0.5	~
Other trisomies and partial trisomies of the autosomes, not elsewhere classified	0.0	0.0	~	0.0	0.0	~	0.1	-	0
Turners syndrome	0.0	-	~	0.0	-	~	0.0	-	0
Other chromosome abnormalities, not elsewhere classified	0.0	-	~	0.0	-	~	0.0	-	0
All other causes	0.0	-	~	0.0	-	~	0.0	-	0
Total	3.6	1.9	336	3.4	1.6	292	5.0	8.2	44

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.

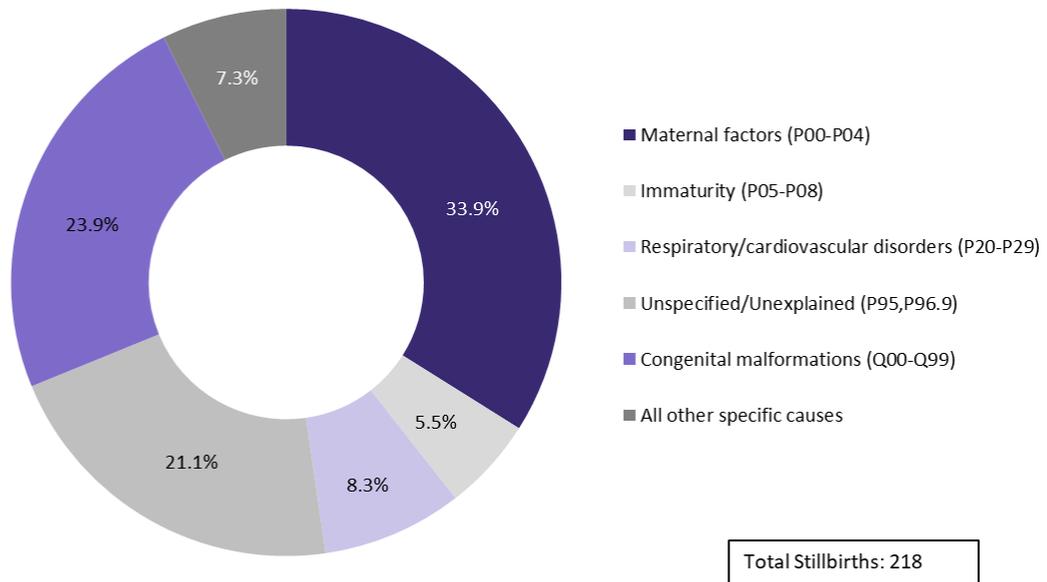
STILLBIRTHS

Figure 5.7 presents the main cause of death for stillbirths.

- Maternal factors (P00-P04) were the leading cause of death for total stillbirths (33.9 per cent).
- Congenital malformations (Q00-Q99) was the cause of death for 23.9 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.

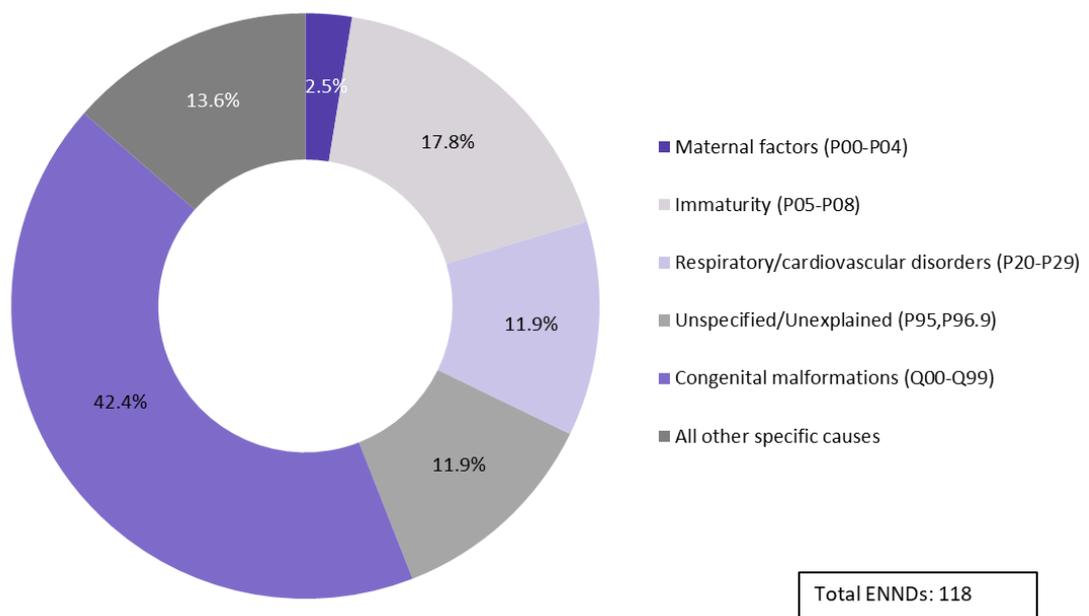
EARLY NEONATAL DEATHS

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 (42.4 per cent).
- Immaturity (P05-P08) was the cause of death for 17.8 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.

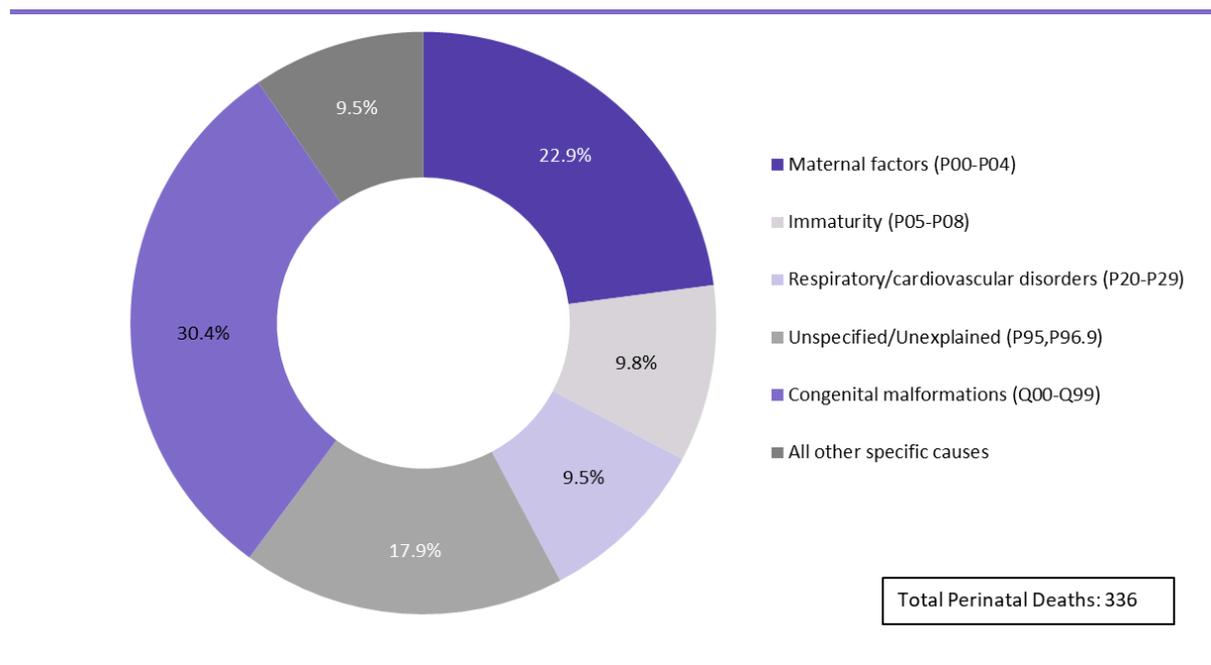
TOTAL PERINATAL DEATHS

Figure 5.9 presents data on all perinatal deaths.

- Congenital malformations (Q00-Q99) accounted for almost 1 in 3 total perinatal deaths (30.4 per cent).
- Maternal factors (P00-P04) was reported for cause of death for 22.9 per cent of total perinatal deaths.
- The cause of death was unspecified/unexplained (P95, P96.9) for 17.9 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.

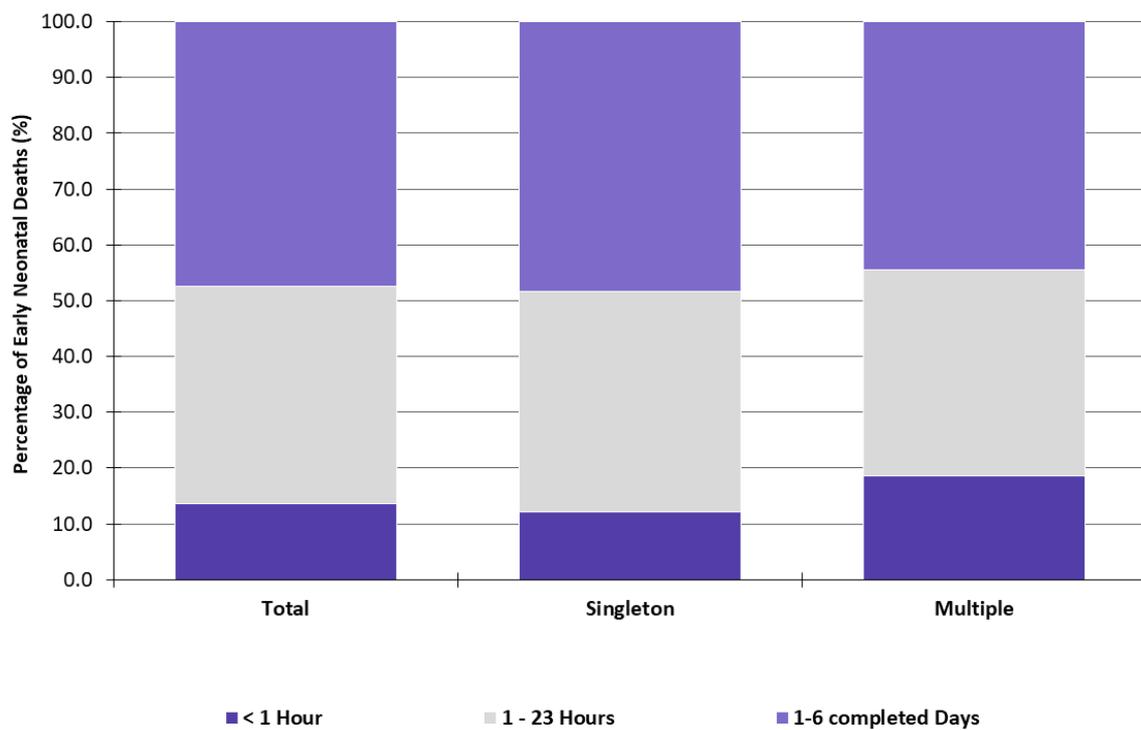
AGE AT DEATH

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

- Over 13 per cent of total early neonatal deaths occurred within the first hour of life.
- Over 52 per cent of total early neonatal deaths occurred within the first day of life (51.6 per cent for singleton early neonatal deaths and 55.6 per cent for multiple early neonatal deaths).
- Over 47 per cent of total early neonatal deaths occurred between 1 and 6 completed days of life (48.4 per cent for singleton early neonatal deaths and 44.4 per cent for multiple early neonatal deaths).

FIGURE 5.10

Early Neonatal Deaths by Age at Death and Plurality



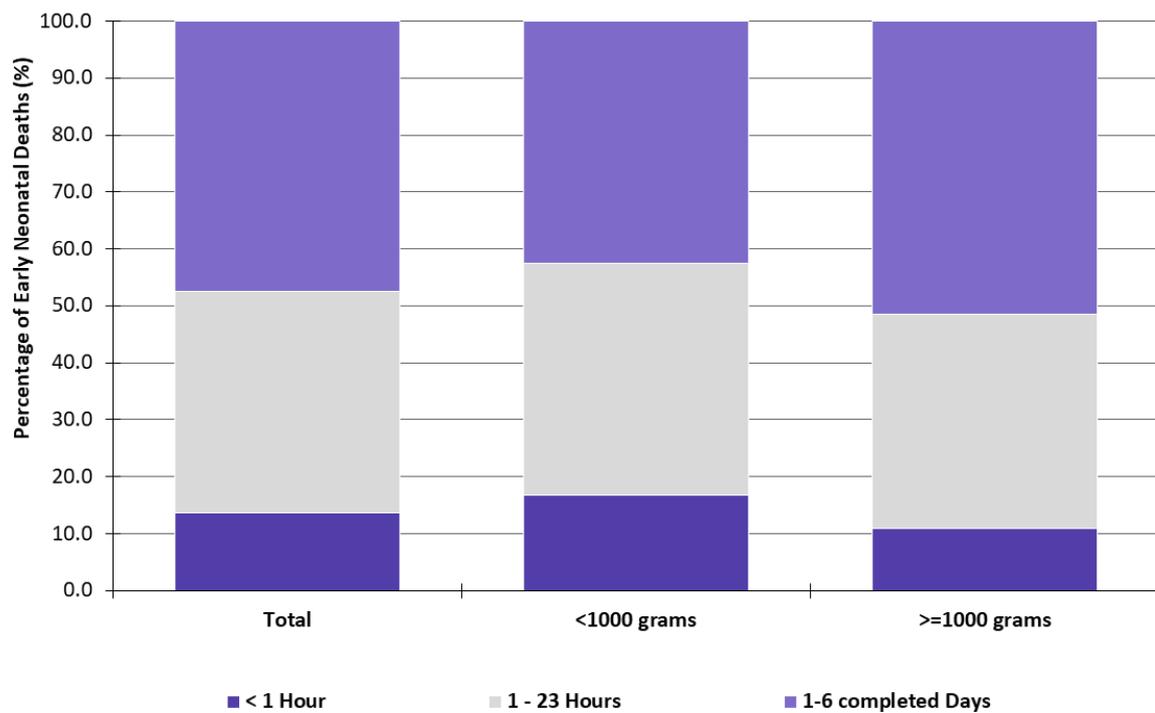
Notes: Percentages are subject to rounding
See Appendix G, Table G14 for data.

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, 57.4 per cent died within the first day of life compared to 48.4 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 43.5 per cent of total perinatal deaths in 2021.
- 51.4 per cent of stillbirths underwent a post-mortem examination compared to 28.8 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	112 51.4	34 28.8	146 43.5
No Post-Mortem	* ^	* ^	179 53.3
Not Stated	* ^	~ ^	11 3.3
Total	218 100	118 100	336 100

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 2021, there were 36 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.

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 2021.

Notification of Birth – To: National Perinatal Reporting System, Healthcare Pricing Office (HPO)

TYPE OF BIRTH (Live = 1, Still = 2)	PLACE OF BIRTH (Hospital = 1, BRA = 2, Domiciliary = 3)	NAME AND ADDRESS OF HOSPITAL	
<input type="checkbox"/>	<input type="checkbox"/>	_____	
<input type="checkbox"/>	<input type="checkbox"/>	_____	
<input type="checkbox"/>	<input type="checkbox"/>	_____	
INFANT'S DETAILS		MOTHER'S HEALTH	
DATE OF BIRTH (DDMM/YYYY)	14	ANTENATAL CARE THIS PREGNANCY (Hospital / Obstetrician = 1, G.P. Only = 2, Combined = 3, None = 4, Midwife Only = 5)	117
TIME OF BIRTH		DATE OF FIRST VISIT TO DOCTOR DURING PREGNANCY (DDMMYYYY)	118
IF MULTIPLE BIRTH	ORDER OF BIRTH No. <input type="checkbox"/> 22 of <input type="checkbox"/> 23	DATE OF FIRST VISIT TO HOSPITAL DURING PREGNANCY (DDMMYYYY)	126
SEX (Male = 1, Female = 2, Indeterminate = 3)	24	WAS MOTHER IMMUNE TO RUBELLA (Yes = 1, No = 2, Not Known = 3)	134
BIRTHWEIGHT	25	METHOD OF DELIVERY (Spontaneous = 1, Breech + Forceps = 2, Forceps = 3, Vac. Extraction = 4, Caesarean Sec. = 5, Other = 6)	135
PERIOD OF GESTATION	29	MAIN MATERNAL DISEASE OR CONDITION AFFECTING FETUS OR INFANT	136
FATHER'S DETAILS		OTHER MATERNAL DISEASES OR CONDITIONS AFFECTING FETUS OR INFANT	
COUNTRY	31		141
NATIONALITY	38	INFANT'S HEALTH	
OCCUPATION	42	TYPE OF FEEDING (Artificial = 1, Breast = 2, Combined = 3)	146
DATE OF BIRTH (DDMMYYYY)	44	WAS BCG ADMINISTERED (Yes = 1, No = 2)	147
MOTHER'S DETAILS		MAIN DISEASE OR CONGENITAL MALFORMATION AFFECTING INFANT	
COUNTRY	52		148
NATIONALITY	59	OTHER DISEASES OR CONGENITAL MALFORMATIONS AFFECTING INFANT	153
OCCUPATION	63		
DATE OF BIRTH (DDMMYYYY)	65	HOSPITAL	
CIVIL STATUS (Married = 1, Single = 2, Widowed = 3, Separated = 4, Divorced = 5, Civil Partner = 6, Former Civil Partner = 7, Surviving Civil Partner = 8)	75	WAS ADMISSION BOOKED (Yes = 1, No = 2)	158
DATE OF PRESENT MARRIAGE/CIVIL PARTNERSHIP (DDMMYYYY)	74	DATE OF MOTHER'S ADMISSION (DDMMYYYY)	159
DATE OF LAST BIRTH (live or still) (DDMMYYYY)	82	DATE OF MOTHER'S DISCHARGE (DDMMYYYY)	167
NO. OF PREVIOUS LIVE BIRTHS	90	DATE OF INFANT'S DISCHARGE (DDMMYYYY)	175
CHILDREN STILL LIVING	92	WAS INFANT TRANSFERRED TO OTHER HOSPITAL FOR MEDICAL REASONS (Yes = 1, No = 2)	183
STILLBIRTHS	94	IF "YES", NAME OF HOSPITAL	184
MISCARRIAGES	96		
PERINATAL DEATH		GENERAL PRACTITIONER ATTENDED BY MOTHER	
TYPE OF DEATH (Early Neonatal = 1, Stillbirth = 2)	98		
WAS AUTOPSY PERFORMED (Yes = 1, No = 2)	99		
AGE AT DEATH	100		
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 FETUS OR INFANT	107		
OTHER DISEASES OR CONDITIONS IN FETUS OR INFANT	112		

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.
Rule 4	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.
Additional Rule	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. 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 14 (excluding Ireland) includes the following:

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

EU 15 to EU 27 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	Malawi
Angola	Mali
Benin	Mauritania
Botswana	Mauritius
Burkina Faso	Mayotte
Burundi	Morocco
Cameroon	Mozambique
Cape Verde	Namibia
Central African Republic	Niger
Chad	Nigeria
Comoros	Reunion
Congo	Rwanda
Congo, The Democratic Republic of the	Saint Helena
Cote d'Ivoire	Sao Tome and Principe
Djibouti	Senegal
Egypt	Seychelles
Equatorial Guinea	Sierra Leone
Eritrea	Somalia
Ethiopia	South Africa
Gabon	Sudan
Gambia	Swaziland
Ghana	Tanzania, United Republic of
Guinea	Togo
Guinea-Bissau	Tunisia
Kenya	Uganda
Lesotho	Western Sahara
Liberia	Zambia
Libyan Arab Jamahiriya	Zimbabwe.
Madagascar	

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
- G9 Method of Delivery by Mother's Postnatal Length of Stay, Singleton and Multiple Births
- G10 Mother's County of Residence by Infant's Type of Feeding, Total Live Births
- G11 Mother's Nationality by Exclusively Breastfed Infants, Total Live Births
- G12 Birthweight (grams) Total Perinatal Deaths, Antepartum and Intrapartum Stillbirths, Early Neonatal Deaths, and Mortality Rates
- 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	806	1.3
Cavan	963	1.6
Clare	1,323	2.2
Cork	6,802	11.2
Donegal	1,748	2.9
Dublin City	13,031	21.5
Dublin County	4,522	7.5
Galway	3,280	5.4
Kerry	1,683	2.8
Kildare	3,061	5.1
Kilkenny	1,089	1.8
Laois	1,054	1.7
Leitrim	415	0.7
Limerick	2,441	4.0
Longford	552	0.9
Louth	1,666	2.8
Mayo	1,516	2.5
Meath	2,813	4.6
Monaghan	852	1.4
Offaly	970	1.6
Roscommon	751	1.2
Sligo	786	1.3
Tipperary	2,050	3.4
Waterford	1,458	2.4
Westmeath	1,237	2.0
Wexford	1,808	3.0
Wicklow	1,823	3.0
Total	60,500	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	33.0
UK	32.2
EU14 (excluding Ireland)	33.9
EU15 to EU27	31.3
Rest of Europe	31.2
Africa	32.4
Asia	31.9
America	33.2
Total	32.8

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	609 85.7	88 12.4	* ^	~ ^	0 0.0	0 0.0	0 0.0	0 0.0	711 100.0
20-24 Years	2,582 60.9	1,209 28.5	* ^	* ^	19 0.4	~ ^	~ ^	0 0.0	4,239 100.0
25-29 Years	4,644 47.8	3,226 33.2	1,231 12.7	412 4.2	130 1.3	* ^	* ^	8 0.1	9,708 100.0
30-34 Years	8,905 42.8	7,371 35.4	3,105 14.9	913 4.4	325 1.6	110 0.5	48 0.2	37 0.2	20,814 100.0
35-39 Years	5,182 26.8	7,261 37.6	4,739 24.6	1,471 7.6	366 1.9	146 0.8	69 0.4	66 0.3	19,300 100.0
40 Years and Over	1,214 24.3	1,725 34.6	1,191 23.9	487 9.8	199 4.0	81 1.6	43 0.9	48 1.0	4,988 100.0
Total	23,136 38.7	20,880 34.9	10,614 17.8	3,373 5.6	1,039 1.7	380 0.6	179 0.3	159 0.3	59,760 100

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	75	0.3	58	226.7	344.8	493.3	441.2	66
750-999	60	0.3	52	133.3	153.8	266.7	228.1	49
1000-1249	68	0.3	63	73.5	15.9	88.2	31.3	59
1250-1499	92	0.4	88	43.5	22.7	65.2	44.4	74
1500-1999	350	1.5	337	37.1	8.9	45.7	29.1	284
2000-2499	1,025	4.3	1,015	9.8	3.0	12.7	9.8	888
2500-2999	3,248	13.8	3,241	2.2	0.9	3.1	2.5	3,117
3000-3499	8,204	34.8	8,194	1.2	0.7	2.0	1.6	8,165
3500-3999	7,720	32.8	7,714	0.8	0.5	1.3	1.2	7,714
4000-4499	2,390	10.1	2,389	0.4	0.8	1.3	0.4	2,390
4500 and Over	332	1.4	332	-	-	-	-	332
Total	23,564	100	23,483	3.4	2.2	5.6	4.2	23,138
Singleton Births								
500-749	56	0.2	41	267.9	292.7	482.1	420.0	56
750-999	44	0.2	37	159.1	162.2	295.5	261.9	*
1000-1249	49	0.2	44	102.0	22.7	122.4	44.4	*
1250-1499	63	0.3	60	47.6	33.3	79.4	49.2	63
1500-1999	226	1.0	215	48.7	14.0	61.9	40.7	226
2000-2499	756	3.3	746	13.2	1.3	14.6	11.9	756
2500-2999	2,970	13.1	2,963	2.4	1.0	3.4	2.7	2,970
3000-3499	8,127	35.8	8,117	1.2	0.7	2.0	1.6	8,127
3500-3999	7,706	33.9	7,700	0.8	0.5	1.3	1.2	7,706
4000-4499	2,390	10.5	2,389	0.4	0.8	1.3	0.4	2,390
4500 and Over	332	1.5	332	-	-	-	-	332
Total	22,719	100	22,644	3.3	1.8	5.1	3.8	22,719
Multiple Births								
500-749	19	2.2	17	105.3	470.6	526.3	500.0	10
750-999	16	1.9	15	62.5	133.3	187.5	133.3	~
1000-1249	19	2.2	19	-	-	-	-	*
1250-1499	29	3.4	28	34.5	-	34.5	34.5	11
1500-1999	124	14.7	122	16.1	-	16.1	8.1	58
2000-2499	269	31.8	269	-	7.4	7.4	3.7	132
2500-2999	278	32.9	278	-	-	-	-	147
3000-3499	77	9.1	77	-	-	-	-	38
3500-3999	14	1.7	14	-	-	-	-	8
4000-4499	0	0.0	0	-	-	-	-	0
4500 and Over	0	0.0	0	-	-	-	-	0
Total	845	100	839	7.1	14.3	21.3	16.6	419

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	97	0.3	60	381.4	300.0	567.0	494.0	87
750-999	59	0.2	46	220.3	173.9	355.9	208.3	53
1000-1249	68	0.2	62	88.2	96.8	176.5	111.1	58
1250-1499	96	0.3	84	125.0	47.6	166.7	111.1	76
1500-1999	347	0.9	327	57.6	24.5	80.7	50.6	295
2000-2499	1,245	3.3	1,231	11.2	6.5	17.7	9.7	1,069
2500-2999	4,159	11.2	4,140	4.6	1.7	6.3	4.8	3,919
3000-3499	11,783	31.6	11,772	0.9	0.5	1.4	0.9	11,692
3500-3999	13,147	35.3	13,145	0.2	0.1	0.2	0.2	13,138
4000-4499	5,371	14.4	5,369	0.4	0.0	0.4	0.4	5,369
4500 and Over	868	2.3	867	1.2	0.0	1.2	1.2	868
Total	37,240	100	37,103	3.7	1.8	5.5	3.6	36,624
Singleton Births								
500-749	77	0.2	43	441.6	186.0	545.5	453.1	77
750-999	*	^	*	261.9	129.0	357.1	181.8	*
1000-1249	50	0.1	44	120.0	113.6	220.0	133.3	50
1250-1499	64	0.2	56	125.0	71.4	187.5	103.4	64
1500-1999	243	0.7	225	74.1	35.6	107.0	64.7	243
2000-2499	892	2.5	878	15.7	9.1	24.7	13.6	892
2500-2999	3,686	10.2	3,667	5.2	1.9	7.1	5.4	3,686
3000-3499	11,587	32.2	11,576	0.9	0.5	1.5	0.9	11,587
3500-3999	13,125	36.5	13,123	0.2	0.1	0.2	0.2	13,125
4000-4499	*	^	*	0.4	-	0.4	0.4	*
4500 and Over	868	2.4	867	1.2	-	1.2	1.2	868
Total	36,002	100	35,876	3.5	1.4	4.9	3.1	36,002
Multiple Births								
500-749	20	1.6	17	150.0	588.2	650.0	631.6	10
750-999	*	^	*	117.6	266.7	352.9	266.7	*
1000-1249	18	1.5	18	-	55.6	55.6	55.6	8
1250-1499	32	2.6	28	125.0	-	125.0	125.0	12
1500-1999	104	8.4	102	19.2	-	19.2	19.2	52
2000-2499	353	28.5	353	-	-	-	-	177
2500-2999	473	38.2	473	-	-	-	-	233
3000-3499	196	15.8	196	-	-	-	-	105
3500-3999	22	1.8	22	-	-	-	-	13
4000-4499	~	^	~	-	-	-	-	~
4500 and Over	0	0.0	0	-	-	-	-	0
Total	1,238	100	1,227	8.9	12.2	21.0	18.6	622

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 G6
Birthweight (grams) by Sex, Total Live Births

	Male		Female		Total	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
500-749	57	0.2	61	0.2	118	0.2
750-999	61	0.2	36	0.1	97	0.2
1000-1249	63	0.2	62	0.2	125	0.2
1250-1499	81	0.3	91	0.3	172	0.3
1500-1999	323	1.0	340	1.2	663	1.1
2000-2499	990	3.2	1,256	4.3	2,246	3.7
2500-2999	3,229	10.4	4,152	14.1	7,381	12.2
3000-3499	9,348	30.1	10,618	36.0	19,966	33.0
3500-3999	11,290	36.3	9,569	32.4	20,859	34.4
4000-4499	4,808	15.5	2,950	10.0	7,758	12.8
4500 and Over	812	2.6	387	1.3	1,199	2.0
Total	31,062	100	29,522	100	60,584	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 23	*	^	~	428.6	1000.0	1000.0	1000.0	*
23-27	*	^	*	165.3	217.8	347.1	281.8	105
28-31	191	0.8	178	68.1	33.7	99.5	70.3	163
32-36	1,508	6.4	1490	11.9	5.4	17.2	11.3	1,269
37-41	21,415	90.9	21389	1.2	0.5	1.7	1.4	21,273
42 and Over	319	1.4	318	3.1	-	3.1	3.1	319
Not Stated	~	^	~	-	333.3	333.3	333.3	~
Total	23,564	100	23,483	3.4	2.2	5.6	4.2	23,138
Singleton Births								
Less than 23	~	^	~	400.0	1000.0	1000.0	1000.0	~
23-27	*	^	*	202.2	197.2	359.6	278.5	*
28-31	135	0.6	122	96.3	41.0	133.3	100.0	135
32-36	1,035	4.6	1,019	15.5	6.9	22.2	14.6	1,035
37-41	21,133	93.0	21,108	1.2	0.5	1.7	1.4	21,133
42 and Over	319	1.4	318	3.1	-	3.1	3.1	319
Not Stated	~	^	~	-	333.3	333.3	333.3	~
Total	22,719	100	22,644	3.3	1.8	5.1	3.8	22,719
Multiple Births								
Less than 23	~	^	~	500.0	1000.0	1000.0	1000.0	~
23-27	*	^	*	62.5	266.7	312.5	290.3	*
28-31	56	6.6	56	-	17.9	17.9	-	28
32-36	473	56.0	471	4.2	2.1	6.3	4.2	234
37-41	282	33.4	281	3.5	3.6	7.1	3.6	140
42 and Over	0	0.0	0	-	-	-	-	0
Not Stated	0	0.0	0	-	-	-	-	0
Total	845	100	839	7.1	14.3	21.3	16.6	419

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 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 23	*	^	~	500.0	1000.0	1000.0	1000.0	*
23-27	149	0.4	110	261.7	172.7	389.3	320.9	133
28-31	213	0.6	190	108.0	42.1	145.5	94.5	188
32-36	2,141	5.7	2,100	19.1	9.0	28.0	17.5	1,841
37-41	34,543	92.8	34,514	0.8	0.4	1.2	0.8	34,269
42 and Over	182	0.5	182	-	-	-	-	182
Not Stated	~	^	~	-	500.0	500.0	500.0	~
Total	37,240	100	37,103	3.7	1.8	5.5	3.6	36,624
Singleton Births								
Less than 23	*	^	~	625.0	1000.0	1000.0	1000.0	*
23-27	*	^	~	313.0	101.3	382.6	290.0	*
28-31	164	0.5	144	122.0	41.7	158.5	103.9	164
32-36	1,543	4.3	1507	23.3	12.6	35.6	21.7	1,543
37-41	33,988	94.4	33,959	0.9	0.4	1.3	0.8	33,988
42 and Over	182	0.5	182	-	-	-	-	182
Not Stated	~	^	~	-	500.0	500.0	500.0	~
Total	36,002	100	35,876	3.5	1.4	4.9	3.1	36,002
Multiple Births								
Less than 23	~	^	~	-	1000.0	1000.0	1000.0	~
23-27	*	^	~	88.2	354.8	411.8	411.8	*
28-31	49	4.0	46	61.2	43.5	102.0	63.8	24
32-36	598	48.3	593	8.4	-	8.4	6.7	298
37-41	555	44.8	555	-	-	-	-	281
42 and Over	0	0.0	0	-	-	-	-	0
Not Stated	0	0.0	0	-	-	-	-	0
Total	1,238	100	1,227	8.9	12.2	21.0	18.6	622

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	84.8	14.4	0.7	0.1
Instrumental [#]	71.6	27.1	1.1	0.2
Caesarean section	21.0	75.5	2.9	0.7
Multiple Births				
Spontaneous	45.6	48.2	5.4	0.7
Instrumental [#]	43.9	51.4	4.0	0.6
Caesarean section	7.3	82.2	9.5	0.9

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	352 43.8 1.5	384 47.8 1.4	68 8.5 0.7	804 100.0 1.3
Cavan	456 47.5 2.0	370 38.5 1.3	135 14.0 1.4	961 100.0 1.6
Clare	564 42.9 2.5	649 49.3 2.3	103 7.8 1.1	1,316 100.0 2.2
Cork	2,263 33.4 9.9	4,266 63.0 15.4	239 3.5 2.5	6,768 100.0 11.3
Donegal	908 52.2 4.0	624 35.8 2.3	209 12.0 2.2	1,741 100.0 2.9
Dublin City	4,411 34.2 19.3	5,429 42.1 19.6	3,069 23.8 32.5	12,909 100.0 21.5
Dublin County	1,228 27.4 5.4	2,165 48.3 7.8	1,085 24.2 11.5	4,478 100.0 7.5
Galway	1,175 36.1 5.1	1,412 43.3 5.1	672 20.6 7.1	3,259 100.0 5.4
Kerry	591 35.3 2.6	980 58.6 3.5	101 6.0 1.1	1,672 100.0 2.8
Kildare	1,058 34.8 4.6	1,257 41.4 4.5	721 23.7 7.6	3,036 100.0 5.1
Kilkenny	420 38.9 1.8	624 57.8 2.3	36 3.3 0.4	1,080 100.0 1.8
Laois	436 41.5 1.9	545 51.9 2.0	70 6.7 0.7	1,051 100.0 1.7
Leitrim	164 39.8 0.7	170 41.3 0.6	78 18.9 0.8	412 100.0 0.7
Limerick	1,178 48.6 5.1	1,062 43.8 3.8	185 7.6 2.0	2,425 100.0 4.0
Longford	260 47.4 1.1	233 42.5 0.8	55 10.0 0.6	548 100.0 0.9
Louth	780 47.2 3.4	538 32.6 1.9	334 20.2 3.5	1,652 100.0 2.8
Mayo	613 40.7 2.7	650 43.2 2.3	243 16.1 2.6	1,506 100.0 2.5

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	1,017 36.4 4.4	1,215 43.5 4.4	564 20.2 6.0	2,796 100.0 4.7
Monaghan	416 49.1 1.8	313 37.0 1.1	118 13.9 1.2	847 100.0 1.4
Offaly	461 47.9 2.0	409 42.5 1.5	93 9.7 1.0	963 100.0 1.6
Roscommon	307 40.9 1.3	316 42.1 1.1	127 16.9 1.3	750 100.0 1.2
Sligo	327 41.7 1.4	307 39.2 1.1	150 19.1 1.6	784 100.0 1.3
Tipperary	992 48.8 4.3	778 38.3 2.8	263 12.9 2.8	2,033 100.0 3.4
Waterford	573 39.5 2.5	833 57.5 3.0	43 3.0 0.5	1,449 100.0 2.4
Westmeath	505 41.1 2.2	585 47.6 2.1	138 11.2 1.5	1,228 100.0 2.0
Wexford	804 44.8 3.5	763 42.6 2.8	226 12.6 2.4	1,793 100.0 3.0
Wicklow	653 36.1 2.9	841 46.5 3.0	316 17.5 3.3	1,810 100.0 3.0
Total	22,912 38.1 100	27,718 46.1 100	9,441 15.7 100	60,071 100 100

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	42.6
UK	46.9
EU14 (excluding Ireland)	70.8
EU15 to EU27	59.4
Rest of Europe	64.9
Africa	49.6
Asia	48.6
America	66.2

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	92	27.4	37	~	12	314.0	38	322.0	534.9	470.2
750-999	37	11.0	17	~	~	176.5	16	163.3	310.9	219.0
1000-1249	18	5.4	7	0	~	80.9	7	56.0	132.4	70.9
1250-1499	22	6.5	15	~	0	85.1	6	34.9	117.0	77.8
1500-1999	44	13.1	28	~	~	47.3	11	16.6	63.1	39.7
2000-2499	35	10.4	16	~	~	10.6	11	4.9	15.4	9.7
2500-2999	36	10.7	20	0	6	3.5	10	1.4	4.9	3.8
3000-3499	33	9.8	19	~	0	1.1	12	0.6	1.7	1.2
3500-3999	13	3.9	7	0	~	0.4	~	0.2	0.6	0.6
4000-4499	~	*	~	~	0	0.4	~	0.3	0.6	0.4
4500 and over	~	*	~	0	0	0.8	0	0.0	0.8	0.8
Total	336	100	169	15	34	3.6	118	1.9	5.5	3.9
Singleton Births										
500-749	69	23.6	34	~	*	368.4	20	238.1	518.8	438.6
750-999	28	9.6	15	~	~	209.3	10	147.1	325.6	226.7
1000-1249	*	^	7	0	~	111.1	*	68.2	171.7	88.9
1250-1499	*	^	10	~	0	86.6	6	51.7	133.9	75.6
1500-1999	*	^	24	~	~	61.8	11	25.0	85.3	53.0
2000-2499	*	^	16	~	~	14.6	*	5.5	20.0	12.8
2500-2999	36	12.3	20	0	6	3.9	10	1.5	5.4	4.2
3000-3499	33	11.3	19	~	0	1.1	12	0.6	1.7	1.2
3500-3999	13	4.5	7	0	~	0.4	~	0.2	0.6	0.6
4000-4499	~	*	~	~	0	0.4	~	0.3	0.6	0.4
4500 and over	~	*	~	0	0	0.8	0	0.0	0.8	0.8
Total	292	100	155	15	31	3.4	91	1.6	5.0	3.4
Multiple Births										
500-749	23	52.3	3	0	~	128.2	18	529.4	589.7	567.6
750-999	9	20.5	2	0	~	90.9	6	200.0	272.7	200.0
1000-1249	~	*	0	0	0	0.0	~	27.0	27.0	27.0
1250-1499	~	*	~	0	0	82.0	0	0.0	82.0	82.0
1500-1999	~	*	~	0	0	17.5	0	0.0	17.5	13.2
2000-2499	~	*	0	0	0	0.0	~	3.2	3.2	1.6
2500-2999	0	0.0	0	0	0	-	0	-	-	-
3000-3499	0	0.0	0	0	0	-	0	-	-	-
3500-3999	0	0.0	0	0	0	-	0	-	-	-
4000-4499	0	0.0	0	0	0	-	0	-	-	-
4500 and over	0	0.0	0	0	0	-	0	-	-	-
Total	44	100	14	0	3	8.2	27	13.1	21.1	17.8

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)	*	^	~	^	77	22.9
Immaturity (P05-P08)	12	5.5	21	17.8	33	9.8
Respiratory/cardiovascular disorders (P20-P29)	18	8.3	14	11.9	32	9.5
Unspecified/Unexplained (P95,P96.9)	46	21.1	14	11.9	60	17.9
Congenital malformations (Q00-Q99)	52	23.9	50	42.4	102	30.4
All other specific causes	*	^	*	^	32	9.5
Total	218	100	118	100	336	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	13.6	12.1	18.5
1-23 hours	39.0	39.6	37.0
Total under 1 day	52.5	51.6	55.6
1-6 completed days	47.5	48.4	44.4
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	13.6	16.7	10.9
1-23 hours	39.0	40.7	37.5
Total under 1 day	52.5	57.4	48.4
1-6 completed days	47.5	42.6	51.6
Total	100	100	100

Note: Percentages are subject to rounding.

APPENDIX H

DOMICILIARY BIRTHS, 2012–2021

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 2012–2021.

- There were 299 domiciliary births in 2021 representing 0.5 per cent of all births.
- The number of domiciliary births has increased by 69.9 per cent over the decade and has increased by 17.7 per cent from 2020 to 2021. The lowest number of domiciliary births over the 10-year period was reported for 2013 at 162 and the highest number was reported in 2021 at 299 (see Figure H1).
- The average age of mothers having domiciliary births has remained relatively stable, ranging from 33.8 years in 2012 to 34.2 years in 2020 and is recorded as 33.9 years in 2021.
- Women choosing a domiciliary delivery in 2021 had an average maternal parity of 1.3 previous births.
- The percentage of women recording any breastfeeding has decreased from 95.3 per cent in 2020 to 86.0 per cent in 2021.
- Exclusive breastfeeding was reported for 84.9 per cent of domiciliary births in 2021, a decrease of 9.4 per cent since 2020.
- The average birthweight for domiciliary births in 2021 was 3,728.5 grams.

TABLE H1

Trends in Domiciliary Births—Selected Statistics, 2012–2021

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	% Change	
											2011-2020	2019-2020
Total Domiciliary Births	N	176	162	186	206	168	189	193	254	299	69.9	17.7
Age of mother (years) ¹	Avg	33.8	33.3	34.1	33.7	34.0	34.2	34.5	34.2	33.9	0.3	-0.9
Maternal parity ¹	Avg	1.5	1.5	1.6	1.5	1.4	1.5	1.5	1.5	1.3	-13.3	-13.3
Gestational age at delivery in weeks ¹	Avg	39.9	39.8	40.0	39.9	39.8	39.9	39.8	40.0	39.9	0.0	-0.3
Interval since last birth (years) ²	Avg	2.9	2.6	2.5	2.9	2.6	2.8	2.7	2.9	2.9	0.0	0.0
Immunity to Rubella ¹	%	96.6	95.1	96.2	92.7	92.9	95.2	92.7	92.1	91.0	-5.8	-1.2
Any Breastfeeding ^{3,4}	%	98.3	96.3	93.5	96.1	95.2	97.4	97.4	95.3	86.0	-12.5	-9.8
Exclusive Breastfeeding ³	%	96.6	93.8	91.4	95.1	94.0	96.8	94.8	93.7	84.9	-12.1	-9.4
Combined Antenatal Care – Midwife and G.P./Hospital ⁵	%	86.9	96.9	93.0	99.5	97.6	98.9	99.5	93.3	80.6	-7.2	-13.6
Birthweight (grams) ⁶	Avg	3,713.1	3,720.1	3,767.7	3,712.8	3,753.1	3,739.8	3,682.1	3,763.6	3,728.50	0.4	-0.9

Notes:

Percentages are subject to rounding.

There were no domiciliary multiple births in the years 2012–2021.

¹ Based on maternities.

² Based on multiparous maternities.

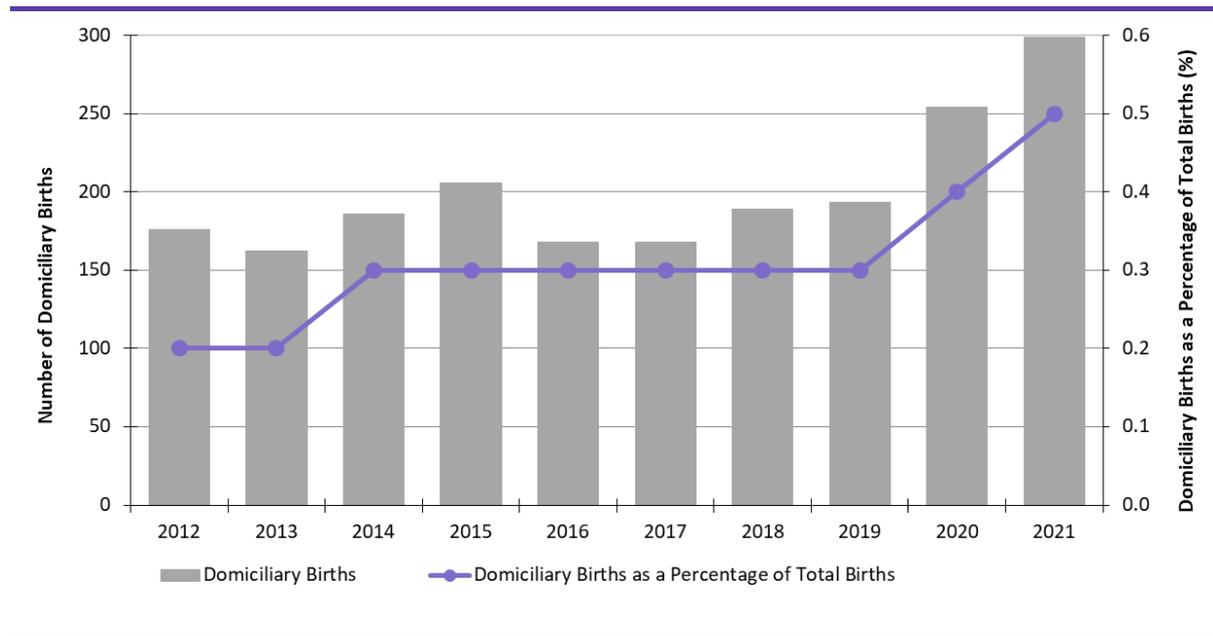
³ Based on maternities with live births. Excludes early neonatal deaths.

⁴ Any breastfeeding includes type of feeding recorded as either breast or combined.

⁵ Based on maternities. This figure applies to the percentage of home births where antenatal care is stated as 'combined', rather than 'midwife only'.

⁶ Based on live births.

FIGURE H1
 Number and Percentage of Domiciliary Births Reported, 2012–2021



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 2012 to 2021.

- The proportion of women having a spontaneous delivery has fallen from 56.3 per cent in 2012 to 50.3 per cent in 2021.
- For total maternities, the percentage of deliveries by Caesarean section has increased from 28.1 per cent in 2012 to 36.3 per cent in 2021.
- 38.1 per cent of primiparous women delivered by Caesarean section in 2021 compared to 30.3 per cent in 2012, with a similar rate of increase for Caesarean section delivery for multiparous women, increasing from 26.7 per cent in 2012 to 35.3 per cent in 2021 (see Figure I1).

TABLE I1

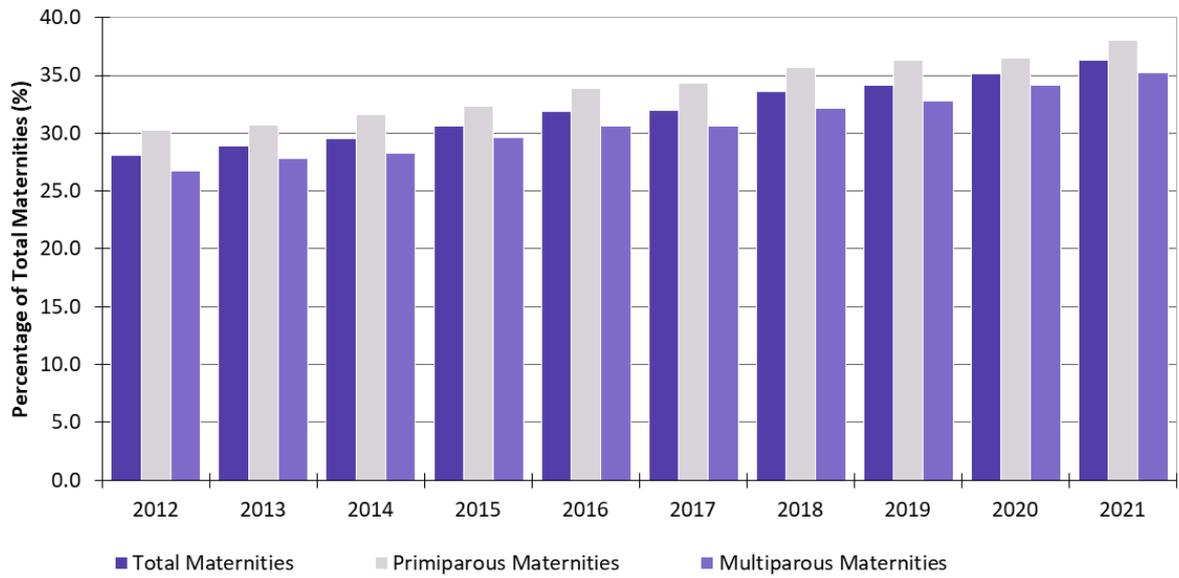
Percentage Distribution of Maternities by Method of Delivery, Primiparous and Multiparous Women, 2012–2021

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	% Change	
											2012–2021	2020–2021
Total Maternities												
Spontaneous	56.3	55.9	55.0	54.2	52.9	53.2	52.0	52.0	50.6	50.3	-10.7	-0.6
Breech/forceps	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	33.3	0.0
Forceps	3.9	3.9	3.8	3.5	3.6	3.6	3.1	3.4	3.4	3.2	-17.9	-5.9
Vacuum extraction	11.3	10.9	11.3	11.3	11.2	10.7	10.8	10.1	10.5	9.7	-14.2	-7.6
Caesarean section	28.1	28.9	29.5	30.6	31.9	32.0	33.6	34.1	35.1	36.3	29.2	3.4
Other specified & combined	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total	100	-	-									
Primiparous												
Spontaneous	40.5	40.2	39.0	38.4	36.6	37.4	36.8	37.2	36.0	36.0	-11.1	0.0
Breech/forceps	0.4	0.4	0.4	0.4	0.6	0.6	0.5	0.6	0.6	0.7	75.0	16.7
Forceps	8.3	8.4	8.2	7.9	7.9	7.8	6.6	7.3	7.5	7.0	-15.7	-6.7
Vacuum extraction	20.5	20.3	20.8	21.0	21.0	19.9	19.9	18.7	19.4	18.3	-10.7	-5.7
Caesarean section	30.3	30.7	31.6	32.3	33.9	34.3	35.7	36.3	36.5	38.1	25.7	4.4
Other specified & combined	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Total	100	-	-									
Multiparous												
Spontaneous	66.4	65.7	65.0	64.1	62.9	63.2	61.6	61.3	60.1	59.4	-10.5	-1.2
Breech/forceps	0.3	0.3	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.0	50.0
Forceps	1.1	1.0	1.0	0.8	1.0	0.9	0.8	1.0	0.8	0.9	-18.2	12.5
Vacuum extraction	5.4	5.1	5.4	5.3	5.2	4.9	5.0	4.7	4.8	4.2	-22.2	-12.5
Caesarean section	26.7	27.8	28.3	29.6	30.6	30.6	32.2	32.8	34.1	35.3	32.2	3.5
Other specified & combined	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Total	100	-	-									

Note: Percentage columns are subject to rounding.

FIGURE I1

Percentage Distribution of Maternities Delivering by Caesarean Section for Total, Primiparous and Multiparous Women, 2012–2021



Note: See Table I1 for data.

Healthcare Pricing Office (HPO)
Brunel Building
Heuston South Quarter
Dublin 8
D08 X01F
Ireland

www.hpo.ie
ISBN 978-1-78602-240-0



HEALTHCARE
PRICING
OFFICE
