

# **Standard Report on Methods and Quality (v1) for Stillbirths Registration**

This documentation applies to the reporting period:

**<2007 onwards>**

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## **1 Overview**

Every stillbirth occurring in Ireland must be registered with the General Register Office. The details of these stillbirth registrations are compiled into statistical reports by the Central Statistics Office, acting on behalf of the Minister for Social Protection. These reports are used by perinatal health researchers. Perinatal deaths are stillbirths or late foetal deaths plus early neonatal deaths. An early neonatal death is a death at ages under 1 week of live born infant.

## **2 General Information**

### **2.1 Statistical Category**

Compilation based on administrative data

### **2.2 Area of Activity**

Social Statistics

### **2.3 Organisational Unit Responsible, Persons to Contact**

Vital Statistics

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### **2.4 Objectives and Purpose; History**

While statistics of infant mortality are obtained in the course of the usual procedure for registration of deaths which has been in operation since 1863, particulars of late foetal mortality (defined below) have been obtained through a scheme of notification to the Directors of Community Care. The scheme of notifying late foetal deaths was introduced in 1957, but comparisons between different areas of the country showed marked differences in the coverage of the scheme in the early years. Consequently, the number of late foetal deaths in the early years of the scheme is believed to be understated.

- In 1995 stillbirths were registered in Ireland for the first time under the Stillbirths Registration Act, 1994.
- The definition of a stillbirth under the Act is broader than the definition used for late foetal deaths in previous Vital Statistics Reports.
- Late foetal deaths were defined as foetal deaths at or over 28 weeks gestation. This definition was applied up to 1994 inclusive.
- Stillbirths are defined as foetal deaths weighing 500 grams or more or at gestational age of 24 weeks or more. This definition applies to stillbirth figures from 1995 onwards.

### **2.5 Periodicity**

Statistics on stillbirths are presented in the Annual Report of Vital Statistics.

### **2.6 Client**

Vital Statistics releases and publications are prepared on behalf of the Minister for Social Protection, under Section 73(6) of the Civil Registration Act 2004. Prior to the 2004 Act, the statistics were compiled by the CSO on behalf of the Minister for Health and Children, in accordance with the provisions of Section 2 of the Vital Statistics and Births, Deaths and Marriages Registration Act, 1952.

## **2.7 Users**

- Government
- Other CSO sections e.g. Census, Quarterly National Household Survey (QNHS)
- Demographic Researchers, Health Researchers
- The general public
- Professional Bodies
- Eurostat

## **2.8 Legal basis**

Vital Statistics releases and publications are prepared by the CSO on behalf of the Minister for Social Protection, under Section 73(6) of the Civil Registration Act 2004. Prior to the 2004 Act, the statistics were compiled by the CSO on behalf of the Minister for Health and Children, in accordance with the provisions of Section 2 of the Vital Statistics and Births, Deaths and Marriages Registration Act, 1952.

# **3 Statistical Concepts, Methods**

## **3.1 Subject of the Statistics**

Information on stillbirths occurring in Ireland.

## **3.2 Units of Observation/Collection Units/Units of Presentation**

Stillbirths as recorded on Birth Notification Forms and the Medical Certificate Relating to the Birth of a Stillborn Child. These are presented in tables aggregated by sex, underlying cause of stillbirth, weight, gestation period, and age, area of residence and number of previous children of mother. See copy of Birth Notification form at the end of this document.

## **3.3 Data Sources**

General Register Office.

## **3.4 Reporting Unit/Respondents**

A Stillbirth occurring in Ireland may be registered with the General Register Office. Registration of a stillbirth is voluntary.

## **3.5 Type of Survey/Process**

Aggregation of administrative data concerning registered stillbirths.

### **3.6 Characteristics of the Sample/Process**

#### **3.6.1 Population and Sampling Frame**

There is a minor change in methodology concerning the calculation of the stillbirth death rates at a county level for the annual report from 2013. Prior to this the county population used in the calculation of birth and death rates was calculated by applying the same factor of change in the population at a state level to each county during the inter-census years. For example:

State Population (habitual residence) in 2011 Census year is 4,574,888

Carlow population Census year = 54,723

2012 inter-census year estimate 4,585,400

Factor of change =  $(4,585,400 / 4,574,888) * 1.0022977$

Estimate population in Carlow for 2012 using factor of .0022977 as follows:

Carlow  $54,723 * 1.0022977 = 54,848$  = population estimate 2012

Regional population was calculated by summing the relevant counties and county boroughs.

For calculating the birth and death rates used for the annual report, the factor of change is calculated at the regional (NUTS3) level first and this is used to calculate the population at the relevant county level. For example:

South East Region Population (habitual residence) in 2011 Census year is 499,304

Carlow population Census year = 54,723

2012 inter-census year estimate 500,831

Factor of change =  $(500,831 / 499,304) * 1.0030582$

Estimate population in Carlow for 2012 using factor of .0030582 as follows:

Carlow  $54,723 * 1.0030582 = 54,890$  = population estimate 2012

The overall rate at national level is unaffected by this revision.

The same proportion of the breakdown of the state population by county and age in the Census year 2011 has been applied to the population in 2013.

Sampling frame - Not applicable

Not applicable

#### **3.6.2 Sampling/Census Design**

Not applicable

### **3.7 Survey Technique/Data Transfer**

Information about stillbirths as recorded on Birth Notification Forms and the Medical Certificate Relating to the Birth of a Stillborn Child is collected electronically by the General Registration Office. This information is sent to the Central Statistics Office annually electronically and file is in encrypted xml format. The file is decrypted to excel.

### **3.8 Questionnaire (including explanations)**

Not applicable

### 3.9 Participation in the Survey

Not applicable

### 3.10 Characteristics of the Survey/Process and its Results

Aggregations classified by:

- sex, underlying cause of stillbirth, weight, gestation period
- age, area of residence, socio-economic group and marital status of parents,
- number of previous children of mother.

### 3.11 Classifications used

Stillbirths are defined as foetal deaths weighing 500 grams or more or at gestational age of 24 weeks or more. This definition applies to stillbirth figures from 1995 onwards.

Late foetal deaths were defined as foetal deaths at or over 28 weeks gestation. This definition was applied up to 1994 inclusive.

All stillbirths registered on or after 1, January 2007 are classified according to The World Health Organisation's International Classification of Diseases, Version 10 (ICD-10).

<http://www.who.int/classifications/apps/icd/icd10online>

Stillbirths and late foetal deaths from 1979 to 2006 were coded according to ICD-9. Causes of stillbirth/late foetal death for other years were classified by earlier versions of ICD.

There is a 12 category classification of socio-economic group of parents, and a 7 category classification of social class of parents. See classifications directly below:

#### **Socio-economic group of parents:**

- |   |   |
|---|---|
| 0 | Farmers, farmers' relatives and farm managers |
| 1 | Other agricultural occupations and fishermen  |
| 2 | Higher professional                           |
| 3 | Lower professional                            |
| 4 | "Self-employed - employs others" and managers |
| 5 | Salaried employees                            |
| 6 | Intermediate non-manual workers               |
| 7 | Other non-manual workers                      |
| 8 | Skilled manual workers                        |
| 9 | Semi-skilled manual workers                   |

- Unskilled manual workers
- & Unknown

### Social class classification group:

- '0' = Gainfully occupied person
- '1' = Retired from previous job or aged over 65 (with exceptions)
- '2' = Housewife, not gainfully occupied
- '3' = Child under 15 years
- '4' = Others not gainfully occupied - this includes invalids, mentally handicapped people, long term parents and single persons who have never worked
- '5' = Unemployed
- '6' = Students or schoolchild over 14 years of age

### 3.12 Regional Breakdown of Results

Stillbirths are classified by the residence of the parents. The classification is at the level of counties, cities and certain towns. See breakdown directly below:

Border, Midland and Western NUTS2 Region		Southern and Eastern NUTS2 Region	
<b>Border</b>	Cavan	<b>Dublin</b>	Dublin City
	Donegal		Dun Laoghaire-Rathdown
	Leitrim		Fingal
	Louth		South Dublin
	Monaghan		
	Sligo	<b>Mid-East</b>	Kildare
<b>Midland</b>			Meath
	Laois		Wicklow
	Longford		
	Offaly	<b>Mid-West</b>	Clare
	Westmeath		Limerick City
<b>West</b>			Limerick County
	Galway City		North Tipperary
	Galway County		
	Mayo	<b>South-East</b>	Carlow
	Roscommon		Kilkenny
			South Tipperary
			Waterford City
			Waterford County



Wexford

**SouthWest** Cork City  
Cork County  
Kerry

## **4 Production of the Statistics, Data Processing, Quality Assurance**

### **4.1 Data Capture**

The hospital completes details of the birth on the Birth Notification Form. The attending physician completes the Medical Certificate Relating to the Birth of a Stillborn Child and the General Registration Office is subsequently notified. When the stillbirth is registered the data from these forms is entered electronically by the General Registration Office and is encrypted and sent to CSO where file is decrypted into excel and cause of death coding is done in excel.

### **4.2 Coding**

An Underlying Cause of Stillbirth Code is determined from the text string provided on the medical certificate of the stillbirth. World Health Organisation rules are followed in choosing this code. Cause is coded manually for all stillbirths.

Each stillbirth is geographically coded for the residence of the parents. The parents are also each assigned a Social Class and Socio-Economic Group code.

### **4.3 Data Editing**

The data on stillbirths is held in EXCEL format and this file is edited to ensure that the ICD-10 code chosen as the underlying cause of death is an acceptable underlying cause of a stillbirth.

### **4.4 Imputation (for Non-Response or Incomplete Data Sets)**

No imputation.

### **4.5 Grossing and Weighting**

No grossing or weighting.

### **4.6 Computation of Outputs, Estimation Methods Used**

Results are aggregated – no estimation used.

### **4.7 Other Quality Assurance Techniques Used**

Not applicable.

## **5 Quality**

### **5.1 Relevance**

Relevant to researchers on stillbirth and infant mortality.

### **5.2 Accuracy and Reliability**

### **5.2.1. Sampling Effect & Representivity**

Not a sample

### **5.2.2 Non-Sampling Effects**

#### **5.2.2.1 Quality of the Data Sources used**

The sources of the data are the attending doctor for the cause of stillbirth, and the next of kin or other qualified informant for the demographic details.

Either parent of a stillborn child may voluntarily register the stillbirth. Registration of a stillbirth is not mandatory.

#### **5.2.2.2 Register Coverage**

Either parent of a stillborn child may register the stillbirth. The National Perinatal Reporting System (NPRS) ([http://www.esri.ie/health\\_information/nprs/](http://www.esri.ie/health_information/nprs/)) also produces statistics on stillbirths, which can be compared to the numbers in these reports. The NPRS figures are derived from birth notification forms only, rather than from stillbirths registered. In recent years, the numbers of stillbirths according to NPRS reports have been higher than the numbers published in CSO reports. This suggests that there is some non-registration of stillbirths and that caution should be taken in interpreting the statistics on stillbirths in CSO reports. As registration of a stillbirth is voluntary only the numbers of stillborn births that are registered are published by the CSO. This accounts for the difference that arises between the number of stillbirths per the birth notification forms and the number of stillbirths that are registered and published by the CSO.

#### **5.2.2.3 Non-response (Unit and Item)**

Not applicable

#### **5.2.2.4 Measurement Errors**

Not applicable

#### **5.2.2.5 Processing Errors**

Not applicable

#### **5.2.2.6 Model-related Effects**

Not applicable

### **5.3 Timeliness & Punctuality**

#### **5.3.1 Provisional Results**

None

#### **5.3.2 Final Results**

The annual report on births, deaths, and stillbirths includes tables on the stillbirths occurring in that year.

### **5.4 Coherence**

The National Perinatal Reporting System (NPRS) ([http://www.esri.ie/health\\_information/nprs/](http://www.esri.ie/health_information/nprs/)) also produces statistics on stillbirths, which can be compared to the numbers in these reports. The NPRS figures are derived from birth notification forms only, rather than from stillbirths registered. In recent years, the numbers of stillbirths according to NPRS reports have been higher than the numbers published in CSO reports. This suggests that there is some non-registration of stillbirths and that caution should be taken in interpreting the statistics on stillbirths in CSO reports.

## **5.5 Comparability**

As cause of stillbirth coding strictly follows World Health Organisation guidelines, statistics are internationally comparable. These guidelines also ensure comparability over time.

Version 10 of ICD coding was introduced in Ireland in 2007.

Definitions of stillbirth can vary internationally, with different conditions for gestation period and/or weight, or relying only on gestation period, or relying only on weight. The World Health Organisation defines a stillbirth as the death of a foetus weighing at least 500 grams. This is the definition used in the National Perinatal Reporting System (NPRS). The definition of stillbirth as used by the CSO is a stillbirth weighing 500 grams or more or at gestational age of 24 weeks or more. This definition applies to stillbirth figures published by the CSO from 1995 onwards.

## **5.6 Accessibility and Clarity**

### **5.6.1 Assistance to Users, Special Analyses**

Specific user requests are acceded to where possible, and where confidentiality issues do not arise. Please contact [vitalstats@cs0.ie](mailto:vitalstats@cs0.ie)

### **5.6.2 Revisions**

Generally there are no revisions.

### **5.6.3 Publications**

#### **5.6.3.1 Releases, Regular Publications**

Annual Report on Births, Deaths and Stillbirths

[http://cmintra01/cso.ie/releasespublications/pr\\_bdm.htm](http://cmintra01/cso.ie/releasespublications/pr_bdm.htm)

#### **5.6.3.2 Statistical Reports**

None

#### **5.6.3.3 Internet**

Most recent publications are available at:

[http://www.cso.ie/releasespublications/pr\\_bdm.htm](http://www.cso.ie/releasespublications/pr_bdm.htm)

More publications are in our archive at:

[http://www.cso.ie/releasespublications/pr\\_bdmarchive.htm](http://www.cso.ie/releasespublications/pr_bdmarchive.htm)

### **5.6.4 Confidentiality**

All data are treated as strictly confidential in accordance with Part V of the Statistics Act, 1993, and Section 73 of the Civil Registration Act, 2004.

## **6 Additional documentation and publications**

The National Perinatal Reporting System (NPRS) ([http://www.esri.ie/health\\_information/nprs/](http://www.esri.ie/health_information/nprs/)) also produces statistics on stillbirths, which can be compared to the numbers in these reports. The NPRS figures are derived from birth notification forms, rather than from stillbirths registered. In recent years, the numbers of stillbirths according to NPRS reports have been higher than the numbers published in CSO reports. This suggests that there is some non-registration of stillbirths and that caution should be taken in interpreting the statistics on stillbirths in CSO reports.

The entries for this statistic under StatCentral (the portal to Ireland's official statistics) is at <http://www.statcentral.ie/viewStat.asp?id=209>

## Notification of Birth - Hospital Copy

TYPE OF BIRTH 1 ☐  
(Live = 1, Still = 2)  
SENSITIVE CASE 3 ☐  
(YES = 1, NO = 2)

PLACE OF BIRTH (Hospital = 1, BBA = 2, Domiciliary = 3) 2 ☐  
HOSPITAL NO. 4 ☐ CASE NO. 7 ☐  
Y Y Y Y

NAME AND   
ADDRESS OF   
HOSPITAL

### INFANT'S DETAILS

DATE OF BIRTH (DD/MM/YYYY) 15 ☐  
TIME OF BIRTH   
IF MULTIPLE BIRTH ORDER OF BIRTH No. ☐ 23 of ☐ 24

FORENAME(S)   
SURNAME   
SEX (Male = 1, Female = 2, Indeterminate = 3) 25 ☐  
BIRTHWEIGHT 26 ☐ GRAMMES  
PERIOD OF GESTATION 30 ☐ WEEKS

### FATHER'S DETAILS

FORENAME(S)   
SURNAME   
BIRTH SURNAME   
FORMER SURNAME(S)   
BIRTH SURNAME OF FATHER'S MOTHER   
ADDRESS   
COUNTY 32 ☐  
COUNTRY 35 ☐  
NATIONALITY 39 ☐  
OCCUPATION 43 ☐  
DATE OF BIRTH (DDMMYYYY) 45 ☐

### MOTHER'S DETAILS

FORENAME(S)   
SURNAME   
BIRTH SURNAME   
FORMER SURNAME(S)   
BIRTH SURNAME OF MOTHER'S MOTHER   
ADDRESS   
COUNTY 53 ☐  
COUNTRY 56 ☐  
NATIONALITY 60 ☐  
OCCUPATION 64 ☐  
DATE OF BIRTH (DDMMYYYY) 66 ☐

MARITAL STATUS (Married = 1, Never Married = 2, Widowed = 3, Married but Separated = 4, Divorced = 5) 74 ☐  
DATE OF PRESENT MARRIAGE (DDMMYYYY) 75 ☐  
DATE OF LAST BIRTH (live or still) (DDMMYYYY) 83 ☐  
NO. OF PREVIOUS LIVE BIRTHS 91 ☐  
CHILDREN STILL LIVING 93 ☐  
STILLBIRTHS 95 ☐  
SPONTANEOUS ABORTIONS 97 ☐

### PERINATAL DEATH

TYPE OF DEATH (Early Neonatal = 1, Stillbirth = 2) 99 ☐  
WAS AUTOPSY PERFORMED (Yes = 1, No = 2) 100 ☐  
AGE AT DEATH 101 ☐ DAYS 102 ☐ HOURS  
PLACE OF DEATH 104 ☐  
IF STILLBIRTH, DID DEATH OCCUR BEFORE LABOUR (1) DURING LABOUR (2) NOT KNOWN (3) 107 ☐

### CAUSE OF DEATH

MAIN DISEASE OR CONDITION IN FOETUS OR INFANT

### MOTHER'S HEALTH

ANTENATAL CARE THIS PREGNANCY (Hospital / Obstetrician = 1, G.P. Only = 2, Combined = 3, None = 4, Midwife Only = 5) 118 ☐

DATE OF FIRST VISIT TO DOCTOR DURING PREGNANCY (DDMMYYYY) 119 ☐

DATE OF FIRST VISIT TO HOSPITAL DURING PREGNANCY (DDMMYYYY) 127 ☐

WAS MOTHER IMMUNE TO RUBELLA (Yes = 1, No = 2, Not Known = 3) 135 ☐

METHOD OF DELIVERY (Spontaneous = 1, Breech ± Forceps = 2, Forceps = 3, Vac. Extraction = 4, Caesarean Sec. = 5, Other = 6) 136 ☐

MAIN MATERNAL DISEASE OR CONDITION AFFECTING FOETUS OR INFANT   
137 ☐

OTHER MATERNAL DISEASES OR CONDITIONS AFFECTING FOETUS OR INFANT   
142 ☐

### INFANT'S HEALTH

TYPE OF FEEDING (Artificial = 1, Breast = 2, Combined = 3) 147 ☐

WAS BCG ADMINISTERED (Yes = 1, No = 2) 148 ☐

MAIN DISEASE OR CONGENITAL MALFORMATION AFFECTING INFANT   
149 ☐

OTHER DISEASES OR CONGENITAL MALFORMATIONS AFFECTING INFANT   
154 ☐

### HOSPITAL

WAS ADMISSION BOOKED (Yes = 1, No = 2) 159 ☐

DATE OF MOTHER'S ADMISSION (DDMMYYYY) 160 ☐

DATE OF MOTHER'S DISCHARGE (DDMMYYYY) 168 ☐

DATE OF INFANT'S DISCHARGE (DDMMYYYY) 176 ☐

WAS INFANT TRANSFERRED TO OTHER HOSPITAL FOR MEDICAL REASONS (Yes = 1, No = 2) 184 ☐

IF 'YES', NAME OF HOSPITAL   
185 ☐

### GENERAL PRACTITIONER ATTENDED BY MOTHER

G.P.'s NAME AND ADDRESS

### GENERAL PRACTITIONER TO ATTEND INFANT FOR IMMUNISATIONS

G.P.'s NAME AND ADDRESS