

**Standard Report**  
**on**  
**Methods and Quality (v1)**  
**for**  
**Late Deaths Registration**

This documentation applies to the reporting period:

**<2007 onwards>**

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CENTRAL STATISTICS OFFICE

Skehard Road, Cork

021 4535000

[www.cso.ie](http://www.cso.ie)

# Table of Contents

## 1 Overview

## 2 General Information

- 2.1 Statistical Category
- 2.2 Area of Activity
- 2.3 Organisational Unit Responsible, Persons to Contact
- 2.4 Objectives and Purpose; History
- 2.5 Periodicity
- 2.6 Client
- 2.7 Users
- 2.8 Legal basis

## 3 Statistical Concepts, Methods

- 3.1 Subject of the Statistics
- 3.2 Units of Observation/Collection Units/Units of Presentation
- 3.3 Data Sources
- 3.4 Reporting Unit/Respondents
- 3.5 Type of Survey/Process
- 3.6 Characteristics of the Sample/Process
  - 3.6.1 Population and Sampling Frame
  - 3.6.2 Sampling Design
- 3.7 Survey Technique/Data Transfer
- 3.8 Questionnaire (including explanations)
- 3.9 Participation in the Survey
- 3.10 Characteristics of the Survey/Process and its Results
- 3.11 Classifications used
- 3.12 Regional Breakdown of Results

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

- 4.1 Data Capture
- 4.2 Coding
- 4.3 Data Editing
- 4.4 Imputation (for Non-Response or Incomplete Data Sets)
- 4.5 Grossing and Weighting
- 4.6 Computation of Outputs, Estimation Methods Used
- 4.7 Other Quality Assurance Techniques Used

## 5 Quality

- 5.1 Relevance
- 5.2 Accuracy and Reliability
  - 5.2.1. Sampling Effects, Representativity
  - 5.2.2. Non-Sampling Effects
    - 5.2.2.1 Quality of the Data Sources used
    - 5.2.2.2 Register Coverage
    - 5.2.2.3 Non-response (Unit and Item)
    - 5.2.2.4 Measurement Errors
    - 5.2.2.5 Processing Errors
    - 5.2.2.6 Model-related Effects
- 5.3 Timeliness and Punctuality
  - 5.3.1 Provisional Results
  - 5.3.2 Final Results
- 5.4 Coherence
- 5.5 Comparability
- 5.6 Accessibility and Clarity
  - 5.6.1 Assistance to Users, Special Analyses
  - 5.6.2 Revisions
  - 5.6.3 Publications
    - 5.6.3.1 Releases, Regular Publications
    - 5.6.3.2 Statistical Reports
    - 5.6.3.3 Internet
  - 5.6.4 Confidentiality

## 6 Additional documentation and publications

## **1 Overview**

Every death occurring in Ireland must be registered with the General Register Office. The details of these death registrations are compiled into statistical reports by the Central Statistics Office, acting on behalf of the Department of Health and Children. For some deaths there is a large delay between the death occurring, and the death being registered. Deaths that are not registered in the calendar year they occurred, or in the following calendar year, are classified as Late Deaths, and the statistics on these deaths are presented separately.

## **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

Sandra Tobin      Tel. +353 (21) 4535307, email: [sandra.tobin@csa.ie](mailto:sandra.tobin@csa.ie)

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

Statistics on deaths registered in Ireland have been collected and published since 1864. This was initially done by the General Register Office. Since 1953 the reports have been compiled by the Central Statistics Office, based on administrative data supplied by the General Register Office.

They provide a comprehensive picture of the number of deaths, ages at death, and underlying causes of death of the population. They are crucial for demographic research, and for much of health research.

### **2.5 Periodicity**

Statistics on Late Deaths registered are published as separate tables in the Fourth Quarter and Annual Summary of births, deaths and marriages registered.

There is an annual publication of births and deaths occurring in the year.

### **2.6 Client**

Vital Statistics releases and publications are prepared 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 and Section 73 of the Civil Registration Act 2004.

### **2.7 Users**

- Government
- Other CSO sections

- Demographic Researchers, Health Researchers
- The general public
- Professional Bodies
- European Union/Eurostat
- World Health Organisation

## **2.8 Legal basis**

Vital Statistics releases and publications are prepared 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 and Section 73 of the Civil Registration Act 2004.

Where a death involves an inquest, the CSO sends a form (Form 104) to the Gardai. This form should be completed by the Garda who investigated the death. The Garda states whether, in his/her opinion, the death was accidental, suicidal, homicidal, or the intent cannot be determined. The legal basis for Form104 is the 1993 Statistics Act.

## **3 Statistical Concepts, Methods**

### **3.1 Subject of the Statistics**

Information on deaths occurring in Ireland where there has been delay in registration..

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

Deaths as recorded on death certificates.

For the quarterly publication on births, deaths and marriages registered in the reference quarter, tables on late deaths are presented by sex, underlying cause of death and year of death in the fourth quarter and yearly summary.

For the annual publication on births and deaths occurring in the reference year, tables on late deaths are presented by age, sex, underlying cause of death and year of death.

### **3.3 Data Sources**

General Registration Office. Gardai.

### **3.4 Reporting Unit/Respondents**

Every death occurring in Ireland must be registered with the General Register Office.

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

Aggregation of administrative data concerning late registered deaths.

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

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

Not applicable

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

Not applicable

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

Weekly files of deaths registered in the previous week are sent electronically from the General Register Office to the Central Statistics Office.

For deaths involving an inquest, a form (Form 104) is posted by the CSO to the Gardai investigating the death. This form is completed by the Gardai and returned to the CSO.

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

For deaths that required an inquest, a survey form (Form 104) is sent to the Garda Inspector in whose area the death occurred. The Garda Inspector then forwards the form to the relevant garda subdistrict or station. The primary purpose of this form is to help determine whether the death was accidental, homicide, suicide, or from natural causes.

### **3.9 Participation in the Survey**

Not applicable

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

Aggregations classified by age, sex, underlying cause of death and year of death.

### **3.11 Classifications used**

All deaths 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>

Deaths from 1979 to 2006 were coded according to ICD-9. Causes of death for other years were classified by earlier versions of ICD.

### **3.12 Regional Breakdown of Results**

Deaths are classified by the residence of the deceased. The classification is at the level of counties, cities and certain towns.

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

### **4.1 Data Capture**

The attending physician completes the medical certificate of the cause of death on paper. This information, together with demographic information provided by the next of kin or other qualified informant, is entered electronically at registry offices around the country. The registrations of the previous week from all registry offices are sent in a weekly XML file from the General Register Office to the Central Statistics Office. For unexpected deaths, or deaths due to external causes, the cause of death is determined by the coroner, following a post mortem and possibly an inquest. These deaths are included in the weekly file sent by the General Register Office to the Central Statistics Office.

### **4.2 Coding**

Each death is geographically coded and given a Principal Economic Status and Socio-Economic Group code.

An Underlying Cause of Death Code is determined from the 4 lines on the medical certificate of the cause of death. World Health Organisation rules are followed in choosing this code. For deaths not involving an inquest, the Medical Mortality Data System (MMDS) software package provided by the US National Centre for Health Statistics (NCHS) is used. The MMDS package codes the underlying cause of death in about three-quarters of deaths not involving an inquest, while the remaining one-quarter more complicated cases are coded manually.

For some deaths, the CSO will send a query letter to the attending doctor, seeking details that will improve the quality of the code.

Deaths involving an inquest are all coded manually. The Form 104 received from Gardai concerning a death will help determine the correct code.

For some deaths a supplementary cause of death code is given in addition to the underlying cause of death. The most usual use of this is where the underlying cause of death is external (i.e. due to an accident, homicide or suicide), and the supplementary code describes the nature of the injuries sustained by the deceased.

### **4.3 Data Editing**

The EXCEL data file is edited to ensure that the ICD-10 code chosen as the underlying cause of death is appropriate to the sex and age of the deceased, and is an acceptable underlying cause of death. This process follows Eurostat guidelines.

The file is also edited to eliminate inconsistencies between the sex/age of the deceased, and the Principal Economic Status and Socio-Economic Group codes.

#### **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**

Use of the MMDS software coding system for underlying cause of death helps ensure that statistics are comparable internationally, and consistent over time.

### **5 Quality**

#### **5.1 Relevance**

Mortality statistics are fundamental to demographic analysis. They are also one of the most reliable and important statistics for health researchers.

#### **5.2 Accuracy and Reliability**

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

Not applicable.

##### **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 death, and the next of kin or other qualified informant for the demographic details. For unexpected deaths or deaths from external causes, the data sources are the coroner and the Gardai investigating the death.

In the case of deaths involving an inquest, the Form 104 is used for the purpose of supplementing the information on the Coroner's Certificate for better statistical classification of cause of death.

###### **5.2.2.2 Register Coverage**

All deaths occurring in Ireland are legally obliged to be registered. Non-registration is rare because of the necessity of a death certificate for many legal purposes. However, there can sometimes be considerable delay in registration of deaths, particularly in the case of deaths requiring an inquest. The current practice is that only deaths registered in the calendar year they occurred, or registered in the next calendar year, are included in the official statistics on deaths. Deaths registered after this date, are included in the Late Deaths

data file instead. In recent years, approximately 2.5% of deaths registered are included in the Late Deaths data file.

#### **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**

Details of the death may be entered incorrectly at the registry office. However, usually the original intent of the attending doctor can be deciphered by the CSO cause of death coder.

Cause of Death coding is very complicated and has a subjective element, so errors can also occur here.

However, the editing process will identify where the deceased has been assigned an underlying cause of death inappropriate to their age or sex.

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

Not applicable

### **5.3 Timeliness & Punctuality**

#### **5.3.1 Provisional Results**

Not applicable

#### **5.3.2 Final Results**

Tables summarising the Late Deaths registered in a year are included in the Fourth Quarter and Annual Summary of that year, indicating the years in which the deaths occurred.

The annual report on births, deaths, and stillbirths includes tables on the Late Deaths registered in that year, indicating the years in which the deaths occurred.

### **5.4 Coherence**

Not applicable

### **5.5 Comparability**

As cause of death 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. A bridge coding study will help to make cause of death statistics from 2007 onwards comparable to the cause of death statistics coded in International Classification of Diseases, Version 9 (ICD-9) in the years before 2007.

Deaths from 1979 to 2006 were coded according to ICD-9. Causes of death for other years were classified by earlier versions of ICD.



## **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@csso.ie

### **5.6.2 Revisions**

Generally there are no revisions. However, additional information may be taken into account in the annual occurrence results, which may not have been available at the time of publication of the quarterly registration results.

### **5.6.3 Publications**

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

Vital Statistics - Quarterly report (fourth quarter and annual summary)

Report on Vital Statistics (annual)

The most recent versions of these reports can be accessed at:

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

#### **5.6.3.2 Statistical Reports**

Statistical Yearbook

#### **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)

Users can create their own tables from the Database Direct Facility:

<http://www.cso.ie/px/pxeirestat/database/eirestat/Births%20Deaths%20and%20Marriages/Births%20Deaths%20and%20Marriages.asp>

### **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**

Many of the regular thematic CSO publications include tables of death statistics. Examples are Measuring Ireland's progress, Women and Men in Ireland, Ireland – North and South, and Ageing in Ireland. These publications can be seen at:

[http://www.cso.ie/releasespublications/other\\_publications.htm](http://www.cso.ie/releasespublications/other_publications.htm)