



Quality and Methodology Information (QMI) for Northern Ireland death statistics

Introduction

The purpose of this QMI is to inform users about the quality of Death Statistics in Northern Ireland and associated outputs. This document provides a range of information that describes the quality of the data and details any points that should be noted when using the outputs.

Background to Vital Events Data

The Northern Ireland Statistics and Research Agency (NISRA) produce statistics on births, deaths, marriages, civil partnerships and adoptions from civil registration events which are registered with the General Register Office (GRO). Figures on divorces and civil partnership dissolutions are compiled from returns of 'Decrees made Absolute' supplied by the Northern Ireland Courts and Tribunals Service. Vital Events data is produced on a weekly, monthly, quarterly and annual basis depending on user requirements.

Statistics which are produced from vital events registered in Northern Ireland are of a high quality and should have complete population coverage as it is a legal requirement to register any of these events that occur in Northern Ireland.

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Dimension	Assessment by the Author
Relevance	<p><i>The degree to which the statistical product meets user needs in both coverage and content.</i></p> <p>Registration of deaths in Northern Ireland is a legal requirement under the Births and Deaths Registration (Northern Ireland) Order 1976. All information recorded at registration is normally provided to a District Registrar in a District Registration Office by a qualified informant and / or the Coroner’s Service for Northern Ireland. During registration all information is entered on to an electronic system called the Northern Ireland Registration Office System (NIROS), which is managed by NISRA’s General Registrar Office (GRO). Statisticians within NISRA’s Vital Statistics Unit have access to the data contained within NIROS for analysis on behalf of the Registrar General for Northern Ireland.</p> <p>In view of the legal requirement to register all deaths, the coverage of the data is complete for the population of Northern Ireland. The content of the information collected reflects what is possible legally and the ongoing needs of users.</p> <p>Published figures relate only to deaths which occurred in Northern Ireland. As such, this includes deaths of individuals whose usual residence is outside Northern Ireland and excludes deaths of usual residents where the death occurred while outside Northern Ireland.</p> <p>Key users of mortality statistics include NISRA in the production of population (and in turn household) estimates/projections and the Office for National Statistics (ONS) in the production of life expectancy estimates.</p> <p>The Department of Health is also a key user of mortality statistics to help plan health services and to monitor mortality from particular causes of death such as suicide, drug and alcohol deaths or healthcare-associated infections. Mortality data also inform pensions policy and the social welfare system.</p> <p>Public Health England (PHE) use the weekly death figures for influenza surveillance and for monitoring the impact of cold weather and heat waves. Monthly death figures assist local authorities in public health monitoring and civil contingency planning. Funeral directors also use these figures to monitor their market share.</p> <p>Other users include academics, demographers and health researchers, who conduct research into mortality trends and characteristics. Much of this research is carried out using the Northern Ireland Mortality Study (NIMS); a large-scale data linkage study linking 100 per cent of deaths data to the 1991, 2001 and 2011 Census returns. Deaths data in Northern Ireland is also available for research purposes within the Northern Ireland Longitudinal Study (NILS) and Administrative Data Research for Northern Ireland (ADR-NI).</p> <p>Lobby groups also use mortality statistics to support their cause, for example, alcohol misuse or suicide. Organisations such as Eurostat and the United Nations use death statistics to make international comparisons.</p>

Accuracy

The proximity between an estimate and the unknown true value.

Data Collection

All deaths in Northern Ireland should be registered within 5 days from the date of death. There are some situations where the registration of a death can be delayed, specifically where the death has been accidental, unexpected or suspicious. These deaths must be referred to the Coroner and can result in a delay in registration. Deaths from suspected suicide are particularly affected by this. See [SUICIDE STATISTICS IN NORTHERN IRELAND: Impact of Time Taken to Investigate the Death for further details](#).

For deaths not referred to the Coroner, 89 per cent are registered within 7 days of the date of death, with 98 per cent registered within a year.

Where a death has been referred to the Coroner and an inquest has been held the Registrar will register the death on receipt of Form 21 from the Coroner. If there has been no inquest and on receipt of Form 17 from the Coroner, the Registrar will write to the deceased's family (or other informant) to ask them to register the death. On average, 75 per cent of Coroner's Cases in 2017 were registered within 90 days of the death occurring. This figure increased to 94 per cent by one year. If the death is not registered within one year of its occurrence, the GRO is able to authorise the registration of the death on the authority of the Registrar General.

During the registration a provisional copy of the information is shared with the informant before the registration is finalised and the informant is asked to check the information supplied and verify that it is both complete and accurate (e.g. to check that all spellings/dates are correct). Any further errors can be addressed at this stage, before being finalised on GRO's electronic system (NIROS).

For around three quarters of deaths, a doctor involved in the care of a person during their last 28 days of life completes a Medical Certificate of Cause of Death (MCCD). In these cases, the Registrar must receive a MCCD form from the informant before the death can be registered. The Registrar records the cause of death directly from the MCCD. Thousands of practising doctors complete MCCDs and the nature and amount of training they have had in death certification varies. 'Issuing death certificates' is included as a competency that newly-qualified doctors should be able to demonstrate during their training. Doctors are required to ensure their knowledge and skills, in the area, are up to date, but keeping abreast of constant changes in clinical knowledge, practice and guidelines can, in some instances, take a higher priority.

Around one out of every four deaths in Northern Ireland are referred to the Coroner. These include deaths where the cause is unknown; the deceased was not seen by the certifying doctor either after death or within the 28 days before the death; or the death was accidental, unexpected or suspicious. Coroners have a number of possible courses of action once a death has been referred. If the reason why a doctor cannot certify the death is simply because they have not treated the patient in the last 28 days, then the Coroner will discuss the cause of death with the doctor. If the Coroner is satisfied that the death was from natural causes and no further investigation is necessary, then the Coroner may accept the medical cause of death that the doctor gives and issue a Coroners Notification (Form 14) to enable the death to be registered. Alternatively, coroners will certify the cause of death following a post-mortem by a

pathologist, an inquest or both. In these cases the coroner sends information to the registrar and this is used instead of the MCCD.

Following a consultation on administrative re-design for the Coroner Service in Northern Ireland¹ in 2004, the Coroner's Service was reduced from seven jurisdictions to one in order to achieve uniformity of practice across Northern Ireland. Annually, there are approximately 110 coroner's inquests held in Northern Ireland that conclude with a verdict.

Cause of Death Coding

Coding for cause of death in Northern Ireland is carried out according to the World Health Organisation (WHO) International Classification of Diseases (ICD tenth revision)².

Part I of the MCCD used gives the condition or sequence of conditions leading directly to the death, while Part II gives details of any associated conditions that contributed to the death but which were not part of the causal sequence. The selection of the underlying cause of death is generally made from the conditions entered in the lowest line Part I of the MCCD. If there is more than one cause per line with no indication of sequence, or the conditions entered are not an acceptable causal sequence, selection rules are applied, based on the ICD. Modification rules are also used for particular conditions, combinations or circumstances to select the correct underlying cause of death, for example, when two or more causes may point to another cause not mentioned directly on the certificate. The purpose behind the selection and modification rules is to uniformly derive the most accurate cause of death information to ensure comparability over time and place, and ensure each death has only one underlying cause.

Until 2016 cause of death coding in Northern Ireland was carried out by an experienced coder in GRO. NI Deaths have since been coded by ONS on behalf of NISRA. For approximately three quarters of NI deaths (around 75 per cent) ONS codes the underlying cause of death using automated cause coding software. The remainder are coded manually by a team of experienced coders. Manual coding is necessary for deaths involving a coroner's inquest. Using an automated coding tool improves the international and temporal comparability of mortality statistics.

Where the underlying cause of death is assigned to an external cause (for example, a transport accident), at least one code is assigned to define the nature of the injury. If multiple injuries are recorded, one will be selected as the secondary cause code. Again, how this selection is done is based on rules assigned by the WHO to ensure accuracy and comparability of statistics.

¹ The Coroners Service of Northern Ireland Proposals for Administrative Redesign, http://www.courtsni.gov.uk/en-gb/publications/public_consultation/documents/the%20coroners%20service%20of%20northern%20ireland%20proposals%20for%20administrative%20redesign/p_pc_thecoronersserviceofnorthernirelandpdf.html#creating

² International Classification of Diseases (ICD) (Tenth Revision) <http://www.who.int/classifications/icd/en/>



Following the Shipman Inquiry and the Luce Review, Northern Ireland embarked on a Review of Death Certification in Northern Ireland. The Death Certification Implementation Group has been established to take forward the recommendations of this Review. Additional scrutiny is being introduced which is expected to improve the quality (precision and completeness) of the cause of death recorded on the MCCD and, consequently, may have an impact on cause of death statistics.

Validation

During the registration a provisional copy of the information is shared with the informant before the registration is finalised and the informant is asked to check the information supplied (e.g. to check that all spellings/dates are correct). Any further errors can be addressed at this stage, before being finalised on GRO's electronic system (NIROS).

There are some validation checks built into NIROS to help the Registrar with this process. Information supplied at death registration is generally believed to be correct since wilfully supplying false information may render the informant liable to prosecution for perjury.

Death statistics are extracted directly from NIROS and are subjected to further validation checks by the Vital Statistics Unit in the Vital Statistics & Administrative Research and Support Branch (VARs). Further details of these checks are available on the NISRA website:

https://www.nisra.gov.uk/sites/nisra.gov.uk/files/publications/vital_stats_QA.pdf

Timeliness and Punctuality

Timeliness refers to the time gap between publication and the reference period. Punctuality refers to the gap between planned and actual publication dates.

Timeliness

In Northern Ireland monthly death registration totals are published on the last day of each month, one month in arrears. More detailed breakdowns are published in the Registrar General Quarterly Update, published on the last working day of the quarter, one quarter in arrears. Provisional annual figures for the reference year, including detailed breakdowns, are published within 6 months of the end of the reference year. Finalised figures are usually published within 11 months of the end of the reporting period through the Registrar General Annual Report. Similar arrangements pertain across the rest of the UK reflecting user needs in the respective territories.

For more information on related releases, the [Statistics Release Calendar](#) is available online and provides 28 days advance notice of release dates.

Punctuality

The Vital Statistics work plan that includes scheduled publication dates are available on the NISRA Website. This is published at the start of each financial year at the following link: <https://www.nisra.gov.uk/publications/vital-statistics-documentation>

The [.GOV.UK release calendar](#) provides 28 days advance notice of releases. In the unlikely event of a change to the pre-announced release schedule, public attention will be drawn to the change and the reasons for the change will be explained fully at the same time, as set out in the [Code of Practice for Statistics](#).

The release of death statistics has been delayed once. Following the introduction of a



	<p>GRO's new electronic Civil Registration system (NIROS) in February 2016, quality checks carried out on the database suggested that the deaths data were incomplete. Further investigation by NISRA confirmed that there were missing entries across all registration districts in Northern Ireland. This was confirmed to be an error on the part of the system. A fix to this error was applied in early 2017. Following the receipt of the missing registrations, the first release for 2016 deaths data took place in April 2017 rather than September 2016 as originally planned.</p>
<p>Accessibility and Clarity</p>	<p><i>Accessibility is the ease with which users are able to access the data, also reflecting the format in which the data are available and the availability of supporting information. Clarity refers to the quality and sufficiency of the metadata, illustrations and accompanying advice.</i></p> <p><i>Accessibility</i></p> <p>The NISRA website is the primary vehicle for the release of Deaths statistics in Northern Ireland. A combination of narrative, charts, graphs and data (specifically tailored to draw out the key findings from the statistics) may be downloaded in PDF and Microsoft Excel. The Vital Statistics Unit are working towards making available datasets for release on OpenDataNI. This will allow users the flexibility of producing their own analysis. Updates will be posted on the Vital Statistics area on the NISRA website as they become available.</p> <p>Deaths data by Northern Ireland administrative and statistical (including small area) geographies are available on the Northern Ireland Neighbourhood Information System (NINIS). A combination of interactive maps, charts, graphs and data may be created and downloaded in Microsoft Excel, CSV & PDF formats.</p> <p>NISRA vital statistics can provide ad-hoc analysis of deaths data free of charge to users upon request.</p> <p>Deaths data in Northern Ireland is also available for research purposes within the</p> <ul style="list-style-type: none">• Northern Ireland Longitudinal Study (NILS); a large-scale, representative data-linkage study created by linking data from the Northern Ireland Health Card Registration system to the 1981, 1991, 2001 and 2011 Census returns and to administrative data from other sources, including vital events. More information is available at: https://www.nisra.gov.uk/support/research-support/northern-ireland-longitudinal-study-nils• Administrative Data Research for Northern Ireland (ADR-NI) which helps trained social and economic researchers to access project-specific linked, de-identified administrative data in a secure environment. More information is available at: https://www.nisra.gov.uk/support/research-support/administrative-data-research-northern-ireland-adr-ni <p><i>Clarity</i></p> <p>Basic quality information relevant to each release is available in the background notes of the relevant Statistical Bulletin.</p> <p>See https://www.nisra.gov.uk/statistics/births-deaths-and-marriages/deaths</p>



Coherence and Comparability

Coherence is the degree to which data that are derived from different sources or methods, but refer to the same topic, are similar. Comparability is the degree to which data can be compared over time and domain.

The Registration of Births and Deaths (Ireland) Act, 1863 made it a legal requirement for all deaths to be registered from 1 January 1864. Since then legislative changes have allowed for more detailed information to be collected from the informant at registration, but the basic information remains consistent e.g. name, cause of death etc.

Death registrations is the primary source of death statistics in Northern Ireland. Limited death figures are available back to 1887, with more detailed tables being available in more recent years. Death outputs are produced using the geographic boundaries in place during the year the death was registered. This approach means that changes in boundaries can affect the comparability of statistics over time.

There is a large degree of comparability in death statistics between countries within the United Kingdom (UK). Annual death statistics for the UK and its constituent countries are all based on the details collected when deaths are registered. NISRA, the Office for National Statistics (ONS) and the National Records of Scotland (NRS) quality assure all data enabling detailed death statistics to be published.

In Scotland, a death must be registered within eight days rather than five days as in England, Wales and Northern Ireland. The Procurator Fiscal replaces the coroner system in England, Wales and Northern Ireland and has a duty to investigate all sudden, suspicious, accidental, unexpected and unexplained deaths, and any death occurring in circumstances that give rise to serious public concern.

Throughout the UK, death statistics are based on the number of deaths *registered* in the reference period. Figures for the UK are produced by ONS compiling data for all jurisdictions. In co-ordination with ONS and NRS, NISRA provide data to Eurostat each year to allow publication of UK death figures alongside those for other European countries.

The definitions and classifications used across the UK in the production of death statistics are consistent but there are some differences in the methods used. For example, all jurisdictions use WHO ICD-10 cause of death coding and internationally agreed rules, but Scotland use bespoke software to apply these rules and produce ICD10 codes. ONS use IRIS Software³ to apply coding rules for England, Wales and Northern Ireland. All software has been quality tested to ensure coding rules are being applied consistently.

Another difference is in with job titles where Northern Ireland and Scotland code 100% for creation of the [Standard Occupational Classification](#) (SOC 2010), while England and Wales code only 10% of job titles. All jurisdictions use different coding tools. ONS also impute missing values for some data items whereas NISRA and NRS carry out no imputation. These differences are believed to have a negligible impact on the comparability of the statistics and the inferences that can be drawn from the

³ Iris Institute <http://www.dimdi.de/static/en/klassi/irisinstitute/about-iris/index.htm>



	information.
Assessment of User Needs and Perceptions	<p><i>The processes for finding out about users and uses, and their views on the statistical products.</i></p> <p>All Vital Statistics publications specifically invite users to provide any feedback they might have in respect of the content, format and relevance of the release. No negative feedback has been received as part of this process.</p> <p>Customer satisfaction in NISRA is monitored through the People Survey. More specific feedback for Vital Events is sought through the Vital Events Statistics User Survey. Feedback is incorporated into future outputs where possible.</p>
Performance, Cost and Respondent Burden	<p><i>The effectiveness, efficiency and economy of the statistical output.</i></p> <p>While there is a legislative requirement to register a death within 5 days, there is no subsequent respondent burden unless of course they fail to fulfil their legal obligations in this respect. The production and quality assurance processes, which are considered to be both cost effective and efficient, have been streamlined wherever possible and are kept under review from a continuous improvement perspective.</p>
Confidentiality, Transparency and Security	<p><i>The procedures and policy use to ensure sound confidentiality, security and transparent practices.</i></p> <p>NISRA adhere to the United Kingdom Statistics Authority (UKSA) <i>Code of Practice for Official Statistics</i> and the National Statistician's Guidance on Confidentiality of Official Statistics in the collection and dissemination of death statistics.</p> <p>NISRA will comply with the General Data Protection Regulation (GDPR) 2016 and the Data Protection Act (DPA) 2018 which is an Act of Parliament governing the protection of personal data.</p>