

## Underlying Cause of Death Codes

The underlying cause of death is defined as the disease or injury which initiated the chain of morbid events leading directly to death, or the accident/act which produced the fatal injury. Figures are normally provided on the basis of the underlying cause of death. Every death has just one underlying cause, so is counted only once in figures which are produced on this basis.

Another page, [Death Certificates and Coding the Cause of Death](#) explains how deaths are coded in accordance with the International Statistical Classification of Diseases and Related Health Problems (referred to as "ICD", or - for example - as "ICD-10" for the Tenth Revision). This page also provides some information about how the code for the underlying cause of death is held in the National Records of Scotland (NRS) statistical database.

The statistical record of each death has two fields which hold a code for the underlying cause of death which was derived from the information held in the 'amended cause of death' text. Further information can be found on the Cause of death text and codes page.

- the full ICD code, in a 5-character field called "ICDCUCD"; and
- a 'short' version of the ICD code, in a 4-character field called "ICDSHORT", which is often sufficient for the analysis of the data (in most cases, there is no need to use the full detail of the code held in ICDCUCD).

Both fields hold the code without any decimal points or full stops.

Most ICD-8 and ICD-9 codes were numeric, whereas ICD-10 codes begin with a letter, so it is usually very easy to distinguish ICD-8 and ICD-9 codes from ICD-10 codes. However, there is scope for misunderstandings in the codes which begin with 'E', ICD-8 and ICD-9 codes which began with 'E' related to 'External' causes of death, whereas ICD-10 codes which begin with 'E' are for 'Endocrine, nutritional and metabolic diseases'. Therefore, it is important to take care when using any code which begins with 'E', or any range of codes that includes codes which begin with 'E'.

### The full code for the underlying cause of death

The 5-character field called ICDCUCD contains:

- **2000 onwards** - ICD-10 codes. These are held as a letter plus either two or three digits (and one or two trailing spaces) - e.g.:
  - "A047" - represents A04.7 enterocolitis due to clostridium difficile
  - "B91" - represents B91 sequelae of poliomyelitis (in the ICD-10 code -list (there is no sub-division of 'B91' between different categories)

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- **1979 to 1999, inclusive** - ICD-9 codes. These are held either as four digits (plus a trailing space) for most causes of death - e.g.:
  - “0030” - represents 003.0 salmonella gastroenteritis
  - “7999” - represents 799.9 other unknown and unspecified cause or as ‘E’ plus four digits for ‘External cause’ codes - e.g.
  - “E8000” - represents E800.0 railway accident - railway employee
  - “E9999” - represents E999 late effects of injury due to war operations

NB: the ICD-9 codes are always stored with four digits (or with an ‘E’ followed by four digits), even if the ICD-9 codelist shows only three digits if necessary, a ‘9’ is added at the end of the value which is held in the dataset. For example, the code-list shows:

- “130” for ‘toxoplasmosis’, without any subdivision between different types (it does not show e.g., “130.1” ... “130.9”) but the NRS statistical database holds “1309” rather than “130”.
  - “E984” for ‘submersion (drowning), undetermined whether accidentally or purposefully inflicted’, without any subdivision between different types of drowning (it does not show e.g., “E984.1” or “E984.9”) but the NRS statistical database holds “E9849” rather than “E984”.
- **1974 to 1978, inclusive** - ICD-8 codes. These are held in the same way as the ICD-9 codes. In general, there is not much difference between the ICD-8 and ICD-9 code lists.

It is important to take great care when using ICDCUCD to select a range of ICD codes, because some codes may have trailing spaces and/or an extra "9".

### The short version of the code for the underlying cause of death

The 4-character field called ICDSHORT holds the ICD code without any part that would follow the full stop/decimal point. This means that most of its values have just three non-blank characters. However, values which were derived from the ICD-8 and ICD-9 "E" codes have four characters (the "E" plus three digits).

For example, ICDSHORT has the following values:

- "003 ", "004 ", "005 " - ICD-8 and ICD-9 codes
- "130 ", "135 ", "136 " - ICD-8 and ICD-9 codes
- "A02 ", "A04 ", "A05 " - ICD-10 codes
- "E76 ", "E77 ", "E78 " - ICD-10 codes
- "E800", "E802", "E804" - ICD-8 and ICD-9 codes
- "E83 " - ICD-10 code
- "E830 ", "E832 ", "E833" - ICD-8 and ICD-9 codes
- "E84 " - ICD-10 code
- "E987", "E988", "E989", "E999" - ICD-8 and ICD-9 codes
- "F01 ", "F03 ", "F05 ", - ICD-10 codes

The examples beginning with ‘E’ illustrate how the range of the ICD-10 codes overlaps with the ranges of the ICD-8 and ICD-9 codes.