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1 Introduction

This document provides supporting information for Office for National Statistics (ONS) mortality statistics.

Publication dates for statistical releases are announced on the <u>GOV.UK release calendar</u>. Statistical bulletins are published alongside releases and provide commentary on main findings.

The registration of life events (births, deaths, marriages and civil partnerships) is a service carried out by the Local Registration Service in partnership with the General Register Office (GRO) in Southport. GRO has been part of the Identity and Passport Service since 1 April 2008.

1.1 Symbols and conventions

In ONS mortality outputs published from July 2014 onwards symbols used are:

- : denotes not available
- z denotes not applicable
- 0 denotes nil
- c confidential
- u low reliability

Rates are not calculated where there are fewer than 3 deaths in a cell, denoted by (u). It is ONS practice not to calculate rates where there are fewer than 3 deaths in a cell, as rates based on such low numbers are susceptible to inaccurate interpretation.

Rates in tables calculated from fewer than 20 deaths are denoted by (u) as a warning to the user that their reliability as a measure may be affected by the small number of events.

In ONS mortality outputs published prior to July 2014 symbols used were:

- .. denotes not available
- : denotes not appropriate/not applicable
- denotes nil
- * suppressed to protect confidentiality

Also prior to July 2014:

- Rates were not calculated where there were fewer than 3 deaths in a cell, denoted by (:). It is ONS practice not to calculate rates where there are fewer than 3 deaths in a cell, as rates based on such low numbers are susceptible to inaccurate interpretation.
- Rates in tables calculated from fewer than 20 deaths were distinguished by italic type
 as a warning to the user that their reliability as a measure may be affected by the small
 number of events.

The new set of symbols used are being implemented across ONS outputs in order to improve harmonisation and consistency and facilitate understanding of data and comparability. For further information please refer to https://gss.civilservice.gov.uk/statistics/a-z-of-policies-and-guidance/guidance-use-data-markers/

The ONS policy on protecting confidentiality in birth and death statistics is available on the ONS website. This guidance was revised in January 2014.

1.2 Information collected at death registration

The information used in mortality statistics is based on the details collected when deaths are certified and registered. Most deaths are certified by a medical practitioner, using the Medical Certificate of Cause of Death (MCCD) shown in **Annex A**. This certificate is taken to a registrar of births and deaths by a person known as an informant – usually a near relative of the deceased.

Deaths should be registered within 5 days of the date of death, although there are a number of situations when the registration of a death will be delayed, as described fully in Section 2.6.

In certain cases deaths are referred to, and sometimes then investigated by, a coroner. The coroner sends information to the registrar, and this is used instead of that on the MCCD to register the death. In some cases additional information provided on Part B of the coroner's certificate (Annex C) is forwarded to ONS by the registrar. Accordingly, the information used in ONS mortality statistics normally comes from 1 of 4 sources.

- 1. details supplied by the **doctor** when certifying a death, for example, whether the body was seen after death, cause of death, when the deceased was last seen alive, whether a post-mortem was carried out.
- 2. details supplied by the **informant** to the registrar, for example, occupation of deceased, sex, usual address, date and place of birth, marital status, date of death, place of death.
- 3. details supplied by a **coroner** to the registrar following investigation, for example, cause of death (following post-mortem), place of accident (following inquest). In the case of deaths certified after inquest, the coroner supplies the registrar with all the particulars that would have been supplied by the informant.
- 4. details derived from information supplied by one or other of the above, for example, calculated age of deceased, interval since last seen alive, coded cause of death, coded occupation.

Details are also supplied by the **informant** on the spouse of the deceased (only if the deceased is either married or civil partnered), for example name, date of birth, occupation and employment status. If these details are supplied by the **coroner** rather than the informant then occupation and employment status will not be supplied.

Mortality data used and produced by ONS are summarised below:

- death registrations refer to the number of deaths registered in a period (see Section 2.2)
- **usual residence of deceased** is supplied by the informant and is the place where the deceased was normally resident (see Section 2.4). Deaths occurring in England and Wales of those usually resident outside England and Wales are included in total figures.

However, such deaths are excluded from any sub-division of England and Wales and presented separately in area tables (usual residence outside England and Wales)

- **age** is derived from the date of birth and from the date of death supplied by the informant, except after inquest, where the coroner supplies this information
- sex is as given by the informant (or coroner)
- marital status is supplied by the informant in confidence, under the Population (Statistics) Acts, and is not entered in the public register
- place of occurrence is given by the informant, except after inquest. This may be a
 hospital or some other establishment, in which case a unique code is assigned to it by
 the registrar. These codes are then classified by ONS to give the type of establishment.
 The place of occurrence could also be the deceased's own home, or elsewhere –
 possibly another private residence or not in a building. These deaths are summarised as
 "home" or "elsewhere" respectively Section 2.5 provides further information
- years of life lost denote the number of years lost due to death at a "premature" age. The
 assumption is made here that there are suitable cut-off ages from which the age at death
 is subtracted. Years of working life lost are the number of years lost if death takes
 place before the end of the assumed working life; this is conventionally taken as 65.
 Section 2.21 provides more information
- the underlying cause of death is selected from the medical condition or conditions mentioned on the MCCD or on the coroner's certificate. More information can be found in Section 2.12

1.3 Publications

The ONS website provides a comprehensive source of freely available statistics on life events and other ONS products.

England and Wales:

To meet user needs, very timely but provisional counts of death registrations are published as follows:

- <u>Provisional counts of weekly death registrations</u> by age-sex group and region for England and Wales (published 11 days after the week ends)
- <u>Provisional counts of monthly death registrations</u> by local authorities in England and Wales (published on the fourth Tuesday of the following month)

Provisional figures have not been subject to the full quality assurance process. Figures remain provisional until they are updated to final figures following the publication of final annual statistics

Annual mortality statistics (based on deaths registered in a calendar year) are published in 3 separate packages to enable the timely release of statistics:

 the <u>first release</u> (Death registration summary tables) provides the main death registration statistics for the reference year

- <u>Series DR</u> provides detailed death registration statistics for the reference year by underlying cause of death (4 digit) classified using the <u>Tenth Revision of the</u> <u>International Classification of Diseases and Related Health Problems (ICD-10)</u>.
- <u>Mortality statistics: area of usual residence</u> provides death registration statistics by area of usual residence (down to local authority level).

ONS also publishes more detailed annual mortality statistics in the following releases:

- 20th Century mortality files
- 21st Century mortality files
- <u>Deaths involving Clostridium difficile</u> (Wales only from 2013 data year onwards)
- Deaths involving MRSA (Wales only from 2013 data year onwards)
- Deaths related to drug poisoning
- Alcohol-related deaths in the UK
- Suicides in the UK
- Avoidable mortality
- Excess winter mortality

From 1974 to 2005, mortality statistics were published in the annual reference volumes, DH1, DH2 and DH4. From 1993 to 2006, figures were based on deaths occurring annually in England and Wales. Prior to 1993, figures were based on deaths registered in England and Wales in the reference year. In 2006, these 3 volumes were replaced by a single publication, Mortality statistics: Deaths registered in England and Wales (Series DR) based on deaths registered in a reference year.

The annual reference volume <u>Child mortality statistics</u> (formerly <u>DH3</u>) contains data on stillbirths, infant deaths and childhood deaths. It includes figures on infant deaths linked to their corresponding birth records.

International, UK and constituent countries: The annual time series data table in the <u>Vital statistics: population and health reference tables</u> provides mortality statistics for the UK and its constituent countries with some measures available back to 1838. This release also provides an international comparison of the crude death rate.

Scotland: in the <u>Vital Events Reference Tables for Scotland</u>.

Northern Ireland: in the Annual Report of the Registrar General for Northern Ireland.

A summary of mortality statistics data also appear in the World Health Organization World Health Statistics Annual and World Health Report.

2 Notes and definitions

2.1 Base populations

The population estimates used to calculate mortality rates are mid-year estimates of the resident population of England and Wales based on the Census of Population. ONS mid-year population estimates are updated figures using the most recent Census, allowing for births, deaths, net migration and ageing of the population.

The population estimates used are the most up-to-date when rates are produced. The specific population estimates used to calculate rates are detailed alongside published tables. Sometimes it is necessary to revise mortality rates following population estimate revisions. Any revisions to mortality rates are footnoted on tables. Further information on population estimates, and their methodology, can be found on the ONS website.

2.2 Occurrences and registrations and the standard dataset

Up to 1992, publications gave numbers of deaths registered in the period concerned. From 1993 to 2005, the figures in annual reference volumes relate to the number of deaths that occurred in the reference period. From 2006 onwards, all tables in Series DR are based on deaths registered in a calendar period. More details on these changes can be found in the publication Mortality Statistics: Deaths Registered in 2006 (ONS, 2008).

Although the majority of mortality publications are now based on registrations, ONS continue to take an annual extract of death occurrences in the autumn following the data year, which is used for seasonal analysis of mortality data and several infant mortality outputs.

The numbers of registrations for a year which actually occurred in previous years are shown in Table 1 below.

Table 1: Number of deaths that were registered and occurred in each calendar year

England and Wales, 2001 to 2014

		Number			Percentage of
Annual		registered	Percentage of	Number	those
Dataset		which	those registered	registered which	registered that
Year for	Number of	occurred in	that occurred in	occurred in	occurred in
registrations	registrations	that year	that year	previous years	previous years
2014	501,424	477,752	95.3	23,672	4.7
2013	506,790	482,658	95.2	24,132	4.8
2012	499,331	478,733	95.9	20,598	4.1
2011	484,367	463,450	95.7	20,917	4.3
2010	493,242	473,661	96.0	19,581	4.0
2009	491,348	471,113	95.9	20,235	4.1
2008	509,090	488,764	96.0	20,326	4.0
2007	504,052	485,068	96.2	18,984	3.8
2006	502,600	485,202	96.5	17,398	3.5
2005	512,993	497,603	97.0	15,390	3.0
2004	514,250	499,081	97.1	15,169	2.9
2003	539,151	524,827	97.3	14,324	2.7
2002	535,356	520,849	97.3	14,507	2.7
2001	532,498	517,010	97.1	15,488	2.9

Source: Office for National Statistics

Of the 501,424 deaths registered in 2014, 477,752 occurred in 2014, 21,474 occurred in 2013, 1,655 occurred in 2012 and 543 occurred prior to 2012.

Although the majority of mortality publications will be based on registrations, ONS will continue to take an annual extract of death occurrences in the autumn following the data year, which will therefore be available for seasonal analysis of mortality data and for infant