Mortality Statistics: Out-of-Work Working Age benefit claimants. Background Information Note

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1. Data Background

This release contains experimental statistics on the mortality rates of out-of-work working age benefit claimants in Great Britain who have been in receipt of a DWP benefit in the last 11 years. For the purposes of this analysis; individuals of working age are classified as males aged 16-64 and females aged 16-59; DWP benefits included are Incapacity Benefit (IB), Severe Disablement Allowance (SDA), Employment and Support Allowance (ESA), Jobseeker's Allowance (JSA) and Income Support (IS).

In addition to deaths, these statistics show Age-Standardised Mortality Rates (ASMR) for each benefit, or combination of benefits, and how these have changed over time. Age Standardisation is an internationally recognised indicator which allows comparisons to be made between populations with different characteristics, such as age and gender. This approach is consistent with other published statistics on mortality, in particular by the Office for National Statistics (ONS) and the General Register Office for Scotland (GROS)[1].

The information contained within this release should not be used as evidence to support a link or otherwise between those receiving benefit payments and mortality. A number of other possible factors may contribute to an increased/decreased mortality rate such as income, housing and education.

1.1 Data Sources

Under the Social Security (Notification of Deaths) Regulations 2012 and s125 of Social Security Administration Act 1992 date of death is provided to the Department for all registered deaths. Additionally next of kin also provide information on the date of death of an individual and this information is used appropriately in the administration of Departmental benefits.

Data used to produce these specific statistics is taken from DWP Work and Pensions Longitudinal Study.

Statistics on the general working age population and the numbers of deaths are taken from the following publications:

- Office for National Statistics (ONS): Death Registrations Summary Tables, England and Wales, 2013[2]
- National Records of Scotland: Births, Marriages and Deaths registered in Scotland: 1974 to 2013[3]
- ONS Population Estimates for UK, England and Wales, Scotland and Northern Ireland, Mid-2013[4]

Part of the methodology uses data from the European Standard Population to derive mortality rates. More details are given in the Calculations section.

1.2 Data Coverage

Data for all benefits recorded is based on females aged between 16 and 59 years old, and males aged between 16 and 64 years old, who have been in receipt of one or more of the following DWP benefits at any point in the period March 2003 to February 2013: IB, SDA, ESA, JSA and IS

There are some differences in the methodology used to produce the ASMR for the benefit and general populations. The benefit population is defined as those who have been in receipt of at least one of the benefits listed above at some point from the beginning of March to the end of February each year. The number of deaths is those in the benefit population whose death occurred during the same period regardless of whether they were in receipt of benefit at the time. The ASMR for the general population is derived from mid-year population estimates and the number of deaths registered during the calendar year both of which are published by the Office of National Statistics (ONS). These figures are for males aged 15-64 and females aged 15-59 as this is consistent with the European Standard Population. See the Definitions section for more information on methodology and ASMR measures.

Although mortality statistics based on registrations are not entirely comparable to those based on occurrences, the differences are relatively small, since in most cases deaths occur and are registered in the same calendar year. For example, the number of death registrations in 2013 involving deaths occurring in 2013 was 482,658 while the number of 2013 death occurrences was 502,670 (a difference of 4.1%)[5].

1.3 Definitions

Annual
A year is measured from the beginning of March to the end of February, from March 2003 to February 2014.

Population
Population is calculated as the number of people who have claimed an out-of-work working age benefit at any time, during the year.

Deaths
Deaths are defined as the number of people who have died within 6 months of the quarter end in which they came off benefit, in the same year.

If someone has been in receipt of the benefit for two or more spells in the period they will only be counted once in the figures.

When looking across benefits, i.e. the total working age benefit population, each individual will only be included once in the figures irrespective of the number of benefits claimed or the number of spells on benefit in the period.

Age-standardised mortality rates (ASMR)

Age-standardised mortality rates allow for differences in the age structure of populations and allow valid comparisons to be made between different groups and over time. ASMR is an internationally recognised measure used by the Office for National Statistics. These are presented as the number of deaths per 100 thousand people. So a figure of 1,000 is equivalent to 1 in every 100 people.

1.4 Calculations

Age Specific Rates

The age specific death rate, sometimes referred to as the crude death rate, is often measured per 100,000 of the population and provides an indication of the rate of death which does not take account of other factors such as age or sex.

In the Benefit Mortality Statistics tables, to disseminate the data by 5-year age group would have resulted in several instances where age specific rates could not be calculated due to being based on small numbers. Consequently, the rates would be imprecise and difficult to interpret and so the age-specific rates have therefore only been provided by broader age groups (16-24, 25-54, 55-64 for males and 55-59 for females).

Age-standardised Mortality Rates (ASMR)

A comparison of the crude mortality rate between the General population and the benefit population, which have different age structures, would be inappropriate, because the age structure of the population can affect the number of deaths and thereby the crude death rate. To overcome this problem, the common approach is to adjust or standardise the mortality rates to take account of differences between the age structures of the populations.

Age-standardised rates are calculated using the direct method of standardisation, while the 2013 European Standard Population (ESP) is used as a standard population. In this method, the age-specific rates for each year are applied to a standard population structure to obtain the number of cases expected in each age group in the standard population. The numbers of expected cases are then added up across all age groups and divided by the total standard population to obtain a summary rate figure. The rate is usually expressed per 100,000.

Age-standardised rates are calculated as follows:

$$\frac{\sum_k (P_k R_k)}{\sum_k P_k}$$

where:

- k is age/sex group (e.g. 15-19, 20-24, 25-29, ... , 60-64 years)
- p_k is the standard population in sex/age group *k*
- R_k is the observed age-specific rate (deaths per 100,000 persons) in sex/age group *k,* given by:

$$R_k = \frac{d_k}{n_k}$$

where:

- d_k is the observed number of deaths in the subject population in sex/age group *k*
- n_k is the number of individuals in the subject population in sex/age group *k*

A Microsoft Excel template which demonstrates how age-standardised rates and 95% confidence intervals are calculated is available on ONS's website.

European Standard Population

Age-standardised rates are standardised to the European Standard Population. The European Standard Population (ESP) is an artificial population structure used to weight mortality or incidence data to produce age-standardised rates. It assumes that the age structure is the same in both sexes, therefore allowing comparisons to be made between the sexes as well as between geographical areas.

The European Standard Population was first introduced in 1976. Eurostat, the statistical office of the European Union, updated this population structure at the end of 2012. The 2013 ESP takes into account changes in the EU population, providing a more current, methodologically sound and widely acceptable basis for calculating age-standardised rates than the previous 1976 ESP (Eurostat, 2013).

The 2013 European Standard Population, ages 15-64

Age Group	Population
Total (15-59)	**58,500**
Total (15-64)	**64,500**
15-19	5,500
20-24	6,000
25-29	6,000
30-34	6,500
35-39	7,000
40-44	7,000
45-49	7,000
50-54	7,000
55-59	6,500
60-64	6,000

Source: Eurostat

Confidence Intervals

95% confidence intervals (CIs) are usually calculated for the ASMR to give an indication of the level of uncertainty of the calculation. Statistical uncertainties usually arise because the rates or ratios are based on a random sample of finite size from a population of interest. Confidence intervals are then used to assess what would happen if we were to repeat the same study, over and over, using different samples each time. The precise statistical definition of the 95% confidence interval states that on repeated sampling, 95 times out of 100 the true population value would be within the calculated confidence interval range and 5 times the true value would be either higher or lower than the range.

CIs are calculated using a simple approximation method as shown below:

95 per cent confidence interval =

$$ASMR \pm 1.96. \frac{ASMR}{\sqrt{\sum_k d_k}}$$

where:

- $ASMR$ is the age-standardised mortality rate
- d_k is the total number of deaths in gender/age group *k*
- k is age/sex group (e.g. 15-19, 20-24, 25-29, ... , 60-64 years)

Significance is assigned on the basis of non-overlapping CIs. While more formalised and accurate methods of significance testing are available, the non-overlapping CI method is used because it is both simple to calculate and easily understood.

Traditionally, a normal approximation method is used to calculate CIs on the assumption that the underlying deaths data is normally distributed.

For both age-standardised and age-specific rates, normal approximation methods were used to calculate 95% CI's where there were 100 or more deaths.

However, in some cases, the annual number of deaths per specific broad age group for each benefit type may be relatively small (fewer than 100), and may be assumed to follow a Poisson probability distribution. In such cases, it is more appropriate to use the confidence limit factors from a Poisson distribution table to calculate the confidence intervals instead of a normal approximation method.

For age-specific rates (for the broad age groups), the exact Poisson limit factors for the number of deaths is multiplied by the rate to calculate the 95% CIs where there are fewer than 100 deaths in a particular broad age group.

$$LL(R) = L \cdot R \text{ and } UL(R) = U \cdot R$$

Conversely, the normal approximation method below is used where there are 100 or more deaths.

$$R_{LL/UL} = R \pm 1.96 \cdot \frac{R}{\sqrt{N}}$$

where:

- LL and UL are the lower and upper 95% confidence limits, respectively
- R is the age-specific rate
- L and U are the exact lower and upper Poisson confidence limit factors for the age-specific number of deaths
- N is the total number of deaths in gender/age group

For the broad age groups, age specific rates based on 5 to 24 deaths are marked with a ‘u’ to warn users that their reliability is low.

1.5 Code of Practice

In developing these statistics, DWP has acted in accordance with the Code of Practice and supporting Principles.

These figures have been labelled as experimental which is consistent with UK Statistical Authority guidance on new statistical outputs. It helps to identify the figures as new and demonstrates that we are open to feedback on their usefulness. For more information and guidance on the use of experimental statistics, please visit the following page on the ONS website:
http://www.ons.gov.uk/ons/guide-method/method-quality/general-methodology/guide-to-experimental-statistics/index.html

If you have any feedback on the usefulness of these statistics, then we would be pleased to receive this using the following email address:
stats-consultation@dwp.gsi.gov.uk

Revisions

The Department’s policy statement describes how DWP will handle revisions to statistics
https://www.gov.uk/government/publications/policy-statement-on-the-revision-of-dwp-statistics

2. Policy Background

2.1 Incapacity Benefit (IB)

IB replaced Sickness Benefit and Invalidity Benefit from 13 April 1995. It is paid to people who are assessed as being incapable of work and who meet certain contribution conditions. Incapacity Benefit was replaced by Employment and Support Allowance (ESA) for new claims from October 2008. Assessment is through the Personal Capability Assessment (PCA) which measures the claimant's ability to perform a range of every-day activities. Under the ESA regime, new claimants have to undergo the Work Capability Assessment. From February 2011 Incapacity Benefit recipients also began to undertake this assessment.

Claimants who are assessed as being incapable of work but do not meet the contribution conditions can receive 'IB Credits only'. They do not receive any IB payment but their National Insurance account is credited for the duration of their claim. They are referred to as claimants but are not beneficiaries (they are getting no monetary benefit).

For those who do meet the contribution conditions there are three rates of Incapacity Benefit. There are two short-term rates: the Lower rate, IBST(L), is paid for the first 28 weeks of sickness and the Higher rate, IBST(H), for weeks 29 to 52. The Long-term rate, IBLT, applies to those who have been sick for more than a year. Both IBST(H) and IBLT are treated as taxable income.

Those people who reached State Pension age before 13 April 1995 and who were in receipt of Invalidity Benefit were able to get Incapacity Benefit for up to five years beyond pension age. This means that by May 2000 the entitlement of all these cases should have ceased. The short term rate is now payable for people over pension age for up to a year, but only if incapacity began before they reached pension age.

Statutory Sick Pay (SSP) can be paid by the employer for up to 28 weeks. If the incapacity continues beyond the 28 week period, the period of SSP will be regarded as the customer having spent 28 weeks on the short term low rate. The claimant/ beneficiary will be eligible to receive the short term higher rate from the onset of their claim to incapacity benefit. The rate of Statutory Sick Pay paid by the employer is the same as IBST(H).

2.2 Severe Disablement Allowance (SDA)

SDA replaced Non-Contributory Invalidity Pension and Housewives Non-Contributory Invalidity Pension from 29 November 1984. Until April 2001, people who were incapable of work and did not satisfy the contribution conditions for Incapacity Benefit (IB) could get SDA. People had to be aged between 16 and 65 when they made their claim. There is no upper age limit for receiving the allowance once it has been awarded. People had to have been incapable of work for at least 28 weeks.

Anyone who became incapable of work before their 20th birthday could qualify on this basis alone. Those people who became incapable of work after their 20th birthday also had to prove they had been 80% disabled for at least 28 weeks. There have been no new claimants for SDA since 2001.

2.3 Employment and Support Allowance (ESA)

ESA replaced Incapacity Benefit (IB) and Income Support (IS) paid on the grounds of incapacity for new claims from 27 October 2008.

When a new customer applies for ESA they will initially enter an assessment phase lasting 13 weeks. During this phase the customer will have their ability to work assessed to determine their entitlement, this is called the Work Capability Assessment (WCA). During the assessment the customer will be paid based on the Jobseeker's Allowance personal allowance (subject to customers satisfying the relevant contribution condition and/or income tests).

Following the **assessment phase** the claimant can have three possible outcomes:

Individuals can be found fit for work – in this case their claim closes and the claimant can move to Jobseeker's Allowance (JSA). They are able to seek a reconsideration of the decision from DWP or appeal to Her Majesty's Courts and Tribunal Service (HMCTS).

Individuals can be found to have limited capability for work – in this instance they are allowed the benefit and placed in the **Work Related Activity Group**. Those in this group are not expected to work, but are provided with help and support to prepare for work where possible. They receive a higher payment than those on JSA; and

Individuals can be found to have limited capability for work and in addition, limited capability for work related activity – in this situation they are allowed the benefit and placed in the **Support Group**. Those in this group have the most severe functional impairments and so are provided with unconditional support and receive a higher premium than those in the Work Related Activity Group.

Phase of ESA claim (at off-flow) is only consistently available from December 2011 onwards. The phase is derived from payment details held on the source system. Where the claimant is not in receipt of any benefit payment, such as ESA Credits only, then the phase is shown as unknown.

2.4 Income Support

Income Support is intended to help people on low incomes who do not have to be available for employment. It can normally be claimed by people who are:

- aged 16 or over;

- not working or working under 16 hours per week (and/or with a partner working under 24 hours);
- not required to be available for full-time employment;
- and in receipt of insufficient income to meet prescribed needs.

The main types of people who receive it are lone parents, the long and short-term sick, people with disabilities and other special groups.

The amount of IS that a claimant can receive depends mainly upon their age; whether they have a partner; whether they have special needs such as a disability or caring responsibilities; and whether they have liabilities for certain types of housing costs such as mortgage interest payments. The maximum amount that a claimant can receive is normally reduced by income from other types of benefits or other sources.

During the period covered in the statistics (2003-2013) two major changes were made to Income Support eligibility.

In October 2003 most pensioners in receipt of Minimum Income Guarantee (Income Support for people aged 60 or over) were transferred to Pension Credit. Those remaining on Minimum Income Guarantee are mostly below retirement age (and therefore ineligible for Pension Credit) but whose partner is 60 or over. This resulted in large numbers of IS claimants over 60 flowing off IS to Pension Credit.

From 6 April 2010 the qualifying age for Pension Credit was increased to 65 from 60. This change resulted in the 60-64 age group of IS claimants increasing markedly as claimants can no longer off flow to Pension Credit.

These changes caused the number of 60-64 year old IS claimants to significantly decrease in the period to 2010 and then increase markedly thereafter. Consequently, the population and deaths counts for this age group have not been provided due to a extreme variations in the population and very low numbers of deaths for some periods between 2003 and 2013.

2.5 Lone Parent Obligations

From 24th November 2008 lone parent obligations (LPO) were introduced and lone parents with a youngest child aged 12 or over were no longer able to make a new or repeat claim for Income Support (IS) solely on the basis of their parental status. Existing lone parents on IS with a youngest child aged 12 or over had their eligibility removed over a period of time commencing 2 March 2009. From October 2009 this policy was extended to lone parents with a youngest child aged 10 or 11 and from October 2010, to lone parents with a youngest child aged 7 or over. The Welfare Reform Act 2012 introduced further changes and from 21 May 2012 lone parents were only eligible to claim Income Support until their youngest child is five years old.

Most effected lone parents will leave IS and claim Jobseeker's Allowance (JSA). However, there are exceptions to these rules where the youngest child can legitimately be over the ages mentioned above. Similarly, some former lone parents remain on IS for other reasons (e.g. they have a long term caring responsibility and claim Carer's Allowance). Through analysis of the affected claimants over time, it can be decided if there is a requirement to change the structure of IS lone parent statistics. In the meantime, the IS lone parents series will continue to be defined as 'single IS claimants with a child under 16'.

2.6 Equalisation of State Pension Age

The age at which women reach State Pension age is gradually increasing from 60 to 65 between April 2010 and April 2016 to November 2018. Under current legislation, State Pension age for men and women is planned to increase to: 66 between November 2018 and October 2020; 67 between 2034 and 2036; 68 between 2044 and 2046. This will introduce a small increase to the number of working age benefit recipients and a small reduction to the number of pension age recipients.

References

[1]Statistics on mortality are published by the ONS and the GROS at:
http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Deaths and
http://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/deaths

[2]England and Wales - Death Registrations
http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-317522

[3]Scotland – Deaths Registered
http://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/general-publications/births-deaths-and-other-vital-events-preliminary-annual-figures/2013

[4]Population figures
http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-322718

[5]Quality and Methodology Information for Mortality Statistics in England and Wales
http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/quality-and-methodology-information-reports-by-theme/population/quality-and-methodology-information-for-mortality-statistics-in-england-and-wales.pdf