**NHS Digital**

**Indicator Supporting Documentation**

**IAP00016 Life expectancy at 75**

|  |  |
| --- | --- |
| IAP Code | IAP00016 |
| Title | Life Expectancy at 75  |
| Published by | Department of Health and Social Care |
| Reporting period | Annual |
| Geographical Coverage | England |
| Reporting level(s) | National |
| Based on data from | Office of National Statistics (ONS) Interim Life Tables, England.http://www.ons.gov.uk/ons/rel/lifetables/interim-life-tables/interim-life-tables/united-kingdom--interim-life-tables--1980-82-to-2007-09.xls |
| Contact Author Name | Andrew Parker |
| Contact Author Email | Andrew.Parker@dh.gsi.gov.uk |
| Rating | Fit for use |
| Assurance date | 14/12/2016 |
| Review date | 14/12/2019  |
| Indicator set | NHS Outcomes Framework |
| Brief Description | This indicator reports the average number of additional years a man or woman aged 75 can be expected to live if they continue to live in the same place and the death rates in their area remain the same for the rest of their life.  |
| Purpose | The purpose and use of the NHS Outcomes Framework is to: 1. Understand overall health and care outcomes for England alongside the Public Health Outcomes Framework and Adult Social Care Outcomes Framework, including international comparisons where possible
2. Provide an accountability mechanism to the public and Parliament and inform public debate on how well Government is improving health and care outcomes for England. For example, it supports the Annual Report and Accounts required by law and the Shared Delivery Plan agreed with the Treasury
3. Underpin the mandate from Department of Health and Social Care (DHSC) to NHS England (NHSE) as part of the NHSE assessment process required by law, with NHSE being expected to make progress against each of the indicators
4. Demonstrate the government’s commitment to reduce inequality under both the Equality Act 2010 and Section 1C of the National Health Service Act 2006, whereby patients should all be able to expect the same quality of service from the NHS, regardless of who they are or where they live
5. Operationally within the NHS, help managers target areas where they can most improve the health of their patients and review progress

 The NHS Outcomes Framework includes a number of indicators relating to premature mortality, defined as deaths at age under 75. Determining a single, clear cause of death becomes more difficult as the age of death increases as people commonly suffer from multiple conditions, so these condition-specific premature mortality indicators are limited to those under 75. To ensure that the NHS is held to account for doing all that it can to prevent avoidable deaths in older people, life expectancy at 75 is included as an overarching indicator in Domain 1. This indicator captures all deaths at ages 75 and over. |
| Definition | The national indicator value is the sum of all life expectancy divided by the population. It is reported as expected years of life both for single year periods at England level with no confidence intervals and for 3 year periods with 95% confidence intervals at England, Region, Local authority and Deprivation decile levels.  |
| Data Source | Office of National Statistics (ONS). Mortality and population statistics. |
| Numerator | Estimated number of years of life expectancy at age 75. The figures are produced by aggregating deaths and population estimates. |
| Denominator | See application form |
| Calculation | See application form |
| Interpretation Guidelines | Three-year rolling averages are used to smooth fluctuations due to exceptional events, for example a flu epidemic. They are known as interim life tables since fully graduated life tables have also been prepared every 10 years based on data around a census year.The indicator will be used to ensure that focus on amenable mortality (by definition covering only deaths below age 75) will not have a detrimental effect on expectancy of life at 75. Although women live longer than men, they also spend more years in sub-optimal health. This indicator does not reflect these differences, but they will hopefully be picked up in other domains. |
| Caveats | None. |

**Application form**

Introduction / Overview

|  |  |
| --- | --- |
| Title | Life expectancy at 75 |
| Set or domain | 1b NHS Outcomes Framework – Domain 1 – Preventing people from dying prematurelyOverarching indicator |
| Topic area | Premature mortality |
| Definition | This indicator reports the average number of additional years a man or woman aged 75 can be expected to live if they continue to live in the same place and the death rates in their area remain the same for the rest of their life.The national indicator value is the sum of all life expectancy divided by the population.It is reported as expected years of life both for single year periods at England level with no confidence intervals, and for 3 year periods with 95% confidence intervals at England, Region, Local authority and Deprivation decile levels.Data for the national indicator (single year estimates) are from the period life expectancy tables published biennially (every two years) by the ONS. Life expectancy is one of the three components of demographic change used by the ONS for their biennial population estimates and projections. The 3-year average figures at national level and for the disaggregations are supplied annually by the ONS. |
| Indicator owner & contact details | Department of HealthAndrew ParkerPrincipal Operational Research AnalystOutcomes Analysis TeamDepartment of HealthAndrew.Parker@dh.gsi.gov.uk |
| Publication status | Currently in publication |

Rationale

|  |  |
| --- | --- |
| Purpose | The purpose and use of the NHS Outcomes Framework is to:a. Understand overall health & care outcomes for England, alongside the Public Health Outcomes Framework and Adult Social Care Outcomes Framework, including international comparisons where possible;b. Provide an accountability mechanism to the public and Parliament and inform public debate on how well Government is improving health & care outcomes for England. For example, it supports the Annual Report & Accounts required by law[[1]](#footnote-1), and the Shared Delivery Plan agreed with the Treasury;c. Underpin the mandate from DH to NHS England (NHSE) as part of the NHSE assessment process required by law[[2]](#footnote-2), with NHSE being expected to make progress against each of the indicators;d. Demonstrate the government’s commitment to reduce inequality, under both the Equality Act 2010 and Section 1C of the National Health Service Act 2006, whereby patients should all be able to expect the same quality of service from the NHS, regardless of who they are or where they live;e. Operationally, within the NHS, to help managers target areas where they can most improve the health of their patients, and review progress.The NHS Outcomes framework includes a number of indicators relating to premature mortality, defined as deaths at age under 75. Determining a single, clear cause of death becomes more difficult as the age of death increases, as people commonly suffer from multiple conditions, so these condition-specific premature mortality indicators are limited to those under 75.To ensure that the NHS is held to account for doing all that it can to prevent avoidable deaths in older people, life expectancy at 75 is included as an overarching indicator in Domain 1 This indicator captures all deaths at ages 75 and over |
| Sponsor | Heather White, NHS Services Team, Department of HealthTel: 020 7210 5811e-mail: Heather.White@dh.gsi.gov.uk |
| Endorsement | Life expectancy is a commonly used measure of the overall health of the population and can be used to measure change over time and variation between areas.The ONS have published life expectancy data as National Statistics at birth and at 65 for many years. They use a well-established method of calculating life expectancy, based on the numbers of births and deaths observed. The indicator presented in the NHS Outcomes Framework is a consolidation of data in the public domain and data provided specifically for this purpose by the ONS.PHE have begun publishing analysis of life expectancy at older ages in response to a demand to monitor the health of older age groups |
| Evidence and Policy base | While many mortality indicators consider premature (often considered to be under 75) mortality, as the average age at death increases, patterns of mortality in older age groups become increasingly important both in their own right and as a contribution to overall mortality. |

Data

|  |  |
| --- | --- |
| Data source | England period life expectancy tables (single year figures) – National Statistics:Published every two years (calendar years) by the Office for National Statistics (ONS).Available in autumn following end of second year.England interim life tables (3-year average figures) – National Statistics:Published annually (calendar years) by the ONS.Available in autumn following year-end. |
| Justification of source and others considered | The ONS are the producer of life expectancy tables for England; they supply indicator values fully calculated.Expectations of life can be calculated in 2 ways: “period life expectancy” or “cohort life expectancy”.Period life expectancy at a given age for a local area is the average number of years a person would live, if he or she experienced the particular local area’s age-specific mortality rates for that time period throughout his or her life. It makes no allowance for any later actual or projected changes in mortality. In practice, death rates of the area are likely to change in the future, so period life expectancy does not therefore give the number of years someone could actually expect to live. Also, people may live in other areas for at least some part of their lives.Cohort life expectancies are calculated using age-specific mortality rates that allow for known or projected changes in mortality in later years and are thus regarded as a more appropriate measure of how long a person of a given age would be expected to live, on average, than period life expectancy.For example, period life expectancy at age 65 in 2000 would be worked out using the mortality rate for age 65 in 2000, for age 66 in 2000, for age 67 in 2000, and so on. Cohort life expectancy at age 65 in 2000 would be worked out using the mortality rate for age 65 in 2000, for age 66 in 2001, for age 67 in 2002, and so on.Period life expectancies are a useful measure of mortality rates actually experienced over a given period and, for past years, provide an objective means of comparison of the trends in mortality over time, between areas of a country and with other countries. Official life tables in the UK and in other countries which relate to past years are generally period life tables for these reasons. Cohort life expectancies, even for past years, usually require projected mortality rates for their calculation and hence, in such cases, involve an element of subjectivity.Period life expectancies are sometimes mistakenly interpreted by users as allowing for subsequent mortality changes. Period life expectancy answers the question “For a group of people aged x in a given year, how long would they live, on average, if they experienced the age-specific mortality rates above age x of the period in question over the course of their remaining lives?”The cohort life expectancy answers the question “For a group of people aged x in a given year, how long would we expect them to live, on average, if they experienced the actual or projected future age-specific mortality rates not from the given year but from the series of future years in which they will actually reach each succeeding age if they survive?” If mortality rates at age x and above are projected to decrease in future years, the cohort life expectancy at age x will be greater than the period life expectancy at age x.Period life expectancy is used in all indicators as it is based on actual events and does not require or rely on any predictions.No other data sources were considered suitable for this indicator. |
| Data availability | Data for the national indicator (single year estimates) are from the period life expectancy tables published biennially by the ONS[[3]](#endnote-1). Life expectancy is one of the three components of demographic change used by the ONS for their biennial population estimates and projections. The 3-year average figures at national level and for all disaggregations are supplied annually by the ONS.3-year average values are presented for sub-national disaggregations to reduce the effect of random variation where a small number of deaths in an age group in a small area would cause fluctuation in life expectancy. |
| Data quality | The data source for the calculation of life expectancy is the number of births, deaths and population estimates. Summary quality reports for the data used in the calculation of national life tables are available here: [births](http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/population/quality-and-methodology-information-for-birth-statistics.pdf) (257.9 Kb Pdf) , [deaths](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) (222.3 Kb Pdf) and [population estimates](http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/population/quality-and-methodology-information-for-annual-mid-year-population-estimates.pdf) (236.8 Kb Pdf) .The ONS use well-established and internationally recognised methods to calculate national life tables[[4]](#endnote-2). These are used at the national level and are described as ‘complete’ life tables because single-year age groups are used throughout, as the data used at national level are sufficiently reliable to do so. This is preferable to the ‘abridged’ life table where some data are lost in the grouping of ages. Area-specific abridged life tables are used at the local area level. These are more suitable for calculating sub-national life expectancy than complete life tables due to small numbers of deaths by single year of age, particularly among younger age groups and in smaller areas. Sub-national life expectancy[[5]](#endnote-3) and associated quality report[[6]](#endnote-4) are published on the ONS web site.Where there has been a revision in the input data, ONS has checked that this would not imply any revision of practical significance to users. There have been revisions[[7]](#endnote-5) to the life tables for 2000-02 to 2010-12 following the rebasing of the mid-year population estimates to the 2011 Census results. Any revisions observe the Population Statistics Revisions Policy[[8]](#endnote-6) which is consistent with the ONS Revisions policy. |
| Quality assurance | Quality assurance of the period and cohort life expectancy figures is provided by expert discussion of mortality assumptions (which also feed into the National Population Projections). The expert advisory group was set up following a recommendation of the NS Quality Review Series No. 8 - National Population Projections: Review of Methodology for Projecting Mortality[[9]](#footnote-3) specifically for this purpose. The minutes[[10]](#footnote-4) of meetings and responses to the expert questionnaire have all been published on the ONS website.NHS Digital review the supplied data on receipt, comparing change over time at national and sub-national level to detect unusual change. |
| Quality improvement plan  | N/A |
| Data linkage | No data linkage is carried out |
| Quality of data linkage | N/A |
| Data fields | The life expectancy and 95 per cent confidence intervals are extracted from the files that the ONS supply. |
| Data filters | Rows relating to age band 75-79, for abridged life tables, and 75 for complete life tables are extracted. |
| Justifications of inclusions and exclusions  | N/A |
| Data processing | The indicator values are supplied fully calculated by the ONS; NHS Digital staff collate the data into a single file for publication. |

Construction

|  |  |
| --- | --- |
| Numerator | See computation below |
| Denominator | See computation below |
| Computation | The England level, single year values are calculated from complete life tables, i.e. where life expectancy at age 75 is available. The maximum age present in the table for deaths in 2014 is 100.The sub-national, pooled year values are calculated from abridged life tables, i.e. where life expectancy for age 75-79 to available. The maximum age band present in the table for deaths in 2012-14 is 85+.Each life table is based on the population estimates and deaths by date of registration data for a period of 3 consecutive years. This helps to reduce the effect of annual fluctuations in the number of deaths caused by seasonal events such as winter ’flu. The national life tables are based on the mid-year population estimates and corresponding data on births, infant deaths and deaths by individual age from those years.Life tablesLife tables are usually constructed separately for males and females because of their very different mortality patterns. A life table describes the course of mortality throughout the life cycle. A life table contains:mx The central rate of mortality, defined as the average annual number of deaths at age x last birthday in the 3-year period to which the national life table relates, divided by the average population at that age over the same period.qx The mortality rate between age x and (x +1); that is, the probability that a person aged x exactly will die before reaching age (x +1).lx The number of survivors to exact age x of 100,000 live births of the same sex who are assumed to be subject throughout their lives to the mortality rates experienced in the 3-year period to which the national life table relates.dx The number dying between exact age x and (x +1) described similarly to lx, that is, dx=lx–lx+1.ex The average period expectation of life at exactly age x, that is, the average number of years that those aged x exactly will live thereafter based on the mortality rates experienced in the 3-year period to which the national life table relates.MethodologyStarting with a radix of 100,000 simultaneous births (l0), the life table population is calculated by multiplying l0 by q0 to give d0, the number of deaths aged 0. The resulting d0 is then subtracted from the l0 to give l1. Similarly l2 is l1 less d1 (where d1 = l1 x q1) and so on.Generally:dx= qx.lx lx+1= lx – dxThe calculation of expectation of life at each ageIn order to calculate the expectation of life at exact age x, the number of “years alive” at each individual age (Lx) needs to be calculated.For ages above 1, where deaths can be assumed to occur linearly over a year of age, this can be taken as:equation for calculation of life expectancyBelow age 1, this assumption is unrealistic. L0 is calculated using the following formula:L0 = a0l0+(1–a0)l1 where a0 is the average age of death of those dying within the first year of life (see [Appendix A](http://www.ons.gov.uk/ons/guide-method/method-quality/specific/population-and-migration/demography/guide-to-calculating-national-life-tables/appendix-a/index.html)). Summing the Lx column from age x to the oldest age gives the total number of years lived (Tx) from age x. The period expectation of life at exact age x is given by dividing the number of years lived by the number at that age, that is:Equation to show life expectancy at a given ageA life table template which illustrates the method used to calculate life expectancy (and 95% confidence intervals) can be found on the ONS website: <http://www.ons.gov.uk/ons/rel/subnational-health4/life-expec-at-birth-age-65/2004-06-to-2008-10/ref-life-table-template.xls> |
| Risk adjustment or standardisation type and methodology | None |
| Justification of risk adjustment type and variables | Life tables are constructed separately for men and for women because of their very different mortality patterns. |
| Confidence interval / control limit use and methodology | Confidence intervalsThe 95 per cent confidence interval for each area is calculated using the revised Chiang method (Chiang II - <http://www.ons.gov.uk/ons/rel/subnational-health4/life-expec-at-birth-age-65/2004-06-to-2008-10/ref-life-table-template.xls>), allowing the calculation of the variance of the mortality rates for those age groups with no deaths registered in the analysis period.At present confidence intervals are only available for the bespoke data supplied by the ONS; the single year, published England level figures do not present confidence intervals. NHS Digital has requested that these be made available and will include them if possible. |
| Justification of confidence intervals / control limits used | Chiang II is the approved standard for ONS outputs of life expectancy at sub-national level. |

Presentation and Interpretation

Presentation of indicator

The indicator is published on the NHS Digital Indicator Portal (<https://indicators.hscic.gov.uk/webview/>) and includes an Excel and CSV file, a domain specification document including information on this indicator and an indicator quality statement. Data output fields include:

|  |  |
| --- | --- |
| Column name  | Output  |
| Year  | Calendar year and 3-year period  |
| Period of coverage  | 1/1 to 31/12 of respective period  |
| Breakdown  | England, local authority, region, deprivation decile  |
| Level  | Level of breakdown  |
| Level description  | Description of breakdown category  |
| Gender  | Male or female  |
| Indicator value  | Period expectations of life (years)  |
| Lower CI  | Lower limit of 95% confidence interval where applicable  |
| Upper CI  | Upper limit of 95% confidence interval where applicable  |
| Population | The population of the deprivation deciles is presented to allow the calculation of slope index of inequality. |

|  |  |
| --- | --- |
| Contextual information provided alongside indicator | The population for deprivation deciles are shown in the data file. |
| Calculation and data source of contextual information | N/A |
| Use of bandings, benchmarks or targets | The NHS Outcomes Framework does not employ bandings or benchmarks as it is not part of the purpose of the framework.Values can be compared over time and against the England rate to see how a Local Authority is performing against its region, nationally and its neighbours. Values can also be used to review performance over time. |
| Banding, benchmark or target methodology | N/A |
| Interpretation guidelines | Interim life tables[[11]](#footnote-5) are not fully graduated life tables. Three-year rolling averages are used to smooth fluctuations due to exceptional events, for example a flu epidemic. They are known as interim life tables since fully graduated life tables have also been prepared every 10 years (decennial life tables[[12]](#footnote-6)), based on data around a census year.Birth and death registration data necessary for the calculation of mortality rates (the major component of a life table) are from high quality administrative sources based on a statutory obligation to register these events. The ONS official mid-year population estimates are used as the denominator in the calculation of mortality rates and these estimates are the best estimates of the UK population available.Existing sources of data are used, namely: birth and death registrations, mid-year population estimates and estimates of the very elderly, so there is no additional cost or burden in the collection of statistics. These data are the best possible sources for the calculation of life tables.Users should note that comparison over time is limited by changes to the calculation methods of the underlying data and of the life tables. For example, a planned extension of the maximum age band for the abridged life tables is likely to affect the 75-79 age band life expectancy estimate. |
| Limitations and potential bias | In some cases local biases may influence ward/Local authority level life expectancy results. For example, the presence of nursing homes in a ward/local authority may lead to local migration effects which will influence mortality rates. The interpretation of ward level life expectancies will in some cases therefore require local knowledge[[13]](#footnote-7), though the fact that the lowest level of geography presented in the NHS OF is local authority mitigates this issue.As period life expectancy presents contemporary life expectancy, it does not give the number of years someone could actually expect to live. Also, people may live in other areas for at least some part of their lives. |
| Improvement actions | None identified |
| **Evidence of variability** |  |

**Appraisal log**

Final Assurance Rating from the Indicator Governance Board –

14/12/2016

|  |  |
| --- | --- |
| Reason for assessment | Scheduled review (review date reached) |
| Iteration | 1st IGB meeting |
| Outcome | This indicator has been approved for inclusion in the National Library of Quality Assured Indicators |

Key findings from Assurance

* IGB endorse the MRG’s recommendation that the indicator is rated ‘Fit for use’ and is suitable for inclusion in the Library.
* A three year review period has been set, after which the indicator will be reconsidered by the assurance process.

|  |  |
| --- | --- |
| Approval date | 14/12/2016 |
| Review date | 14/12/2019 |

Details of Methodology Appraisal

|  |  |
| --- | --- |
| Methodology appraisal body | Indicator & Methodology Assurance Service |
| Reason for assessment | Scheduled review (review date reached) |
| Iteration | 1st MRG meeting |

Summary Recommendation to Applicant:

The indicator is recommended to IGB as being fit for use against pending a response to the minor points of clarification discussed in the MRG meeting 8/9/16 (detailed in the appraisal log below)

Summary Recommendation to IGB:

The indicator is recommended to IGB as being fit for use against the assessment criteria and therefore suitable for inclusion in the Library of Quality Assured Indicators.

It is noted that MRG has not conducted assurance of the ONS methodology for calculating life expectancy but has considered (and accepted) its appropriateness as a “building block” as part of the assurance of this indicator.

**Clarity**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Rec. no** | **Issue or recommendation** | **Raised by / Date** | **Response or Action taken by applicant** | **Response date** | **Resolved** | **Sign off by / Date** |
|  |  |  |  |  |  |  |

**Rationale**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Rec. no** | **Issue or recommendation** | **Raised by / Date** | **Response or Action taken by applicant** | **Response date** | **Resolved** | **Sign off by / Date** |
| 2a | Provide further clarity in the rationale as to why life expectancy at 75 has been chosen for the indicator, rather than 60 or 65 for example | MRG08/09/16 | Section 2.1 updated | 2016-09-26 |[x]  17/10/16 – MRG Chair |
| 2b | It would be useful to clarity the endorsement provided to the indicator, in particular around the role ONS play as producers of life expectancy data. | MRG08/09/16 | Section 2.3 updated | 2016-09-26 |[x]  17/10/16 – MRG Chair |

**Data**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Rec. no** | **Issue or recommendation** | **Raised by / Date** | **Response or Action taken by applicant** | **Response date** | **Resolved** | **Sign off by / Date** |
|  |  |  |  |  |  |  |

**Construction**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Rec. no** | **Issue or recommendation** | **Raised by / Date** | **Response or Action taken by applicant** | **Response date** | **Resolved** | **Sign off by / Date** |
| 4a | The documentation should be updated to clarify that single year figures use complete life tables, and three year figures use five year life tables (which is implied in section 3.10) | MRG08/09/16 | Section 4.3 updated | 2016-09-26 |[x]  17/10/16 – MRG Chair |
| 4b | Document to be updated to clarify what is the highest age band in the life tables within the construction. | MRG08/09/16 | Section 4.3 updated | 2016-09-26 |[x]  17/10/16 – MRG Chair |

**Presentation and Interpretation**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Rec. no** | **Issue or recommendation** | **Raised by / Date** | **Response or Action taken by applicant** | **Response date** | **Resolved** | **Sign off by / Date** |
|  |  |  |  |  |  |  |

**Risks and Usefulness**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Rec. no** | **Issue or recommendation** | **Raised by / Date** | **Response or Action taken by applicant** | **Response date** | **Resolved** | **Sign off by / Date** |
|  |  |  |  |  |  |  |

1. [↑](#footnote-ref-1)
2. [↑](#footnote-ref-2)
3. https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/lifeexpectancies [↑](#endnote-ref-1)
4. https://www.ons.gov.uk/file?uri=/peoplepopulationandcommunity/birthsdeathsandmarriages/lifeexpectancies/qmis/nationallifetablesqmi/qmilifetables2013oct13updatefinalforpub\_tcm77-250748.pdf [↑](#endnote-ref-2)
5. http://www.ons.gov.uk/ons/rel/subnational-health4/life-expectancy-at-birth-and-at-age-65-by-local-areas-in-england-and-wales/index.html [↑](#endnote-ref-3)
6. http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/population/index.html [↑](#endnote-ref-4)
7. http://www.ons.gov.uk/ons/rel/lifetables/interim-life-tables/2009-2011/stb-2009-2011.html#tab-Methods [↑](#endnote-ref-5)
8. http://www.ons.gov.uk/ons/guide-method/revisions/revisions-policies-by-theme/population/index.html

See our [accessibility statement](https://www.nice.org.uk/accessibility#what-to-do) if you’re having problems with this document. [↑](#endnote-ref-6)
9. <http://www.ons.gov.uk/ons/guide-method/method-quality/quality/nsqr/full-list-of-completed-quality-reviews/index.html> [↑](#footnote-ref-3)
10. <http://ons.gov.uk/ons/rel/npp/national-population-projections/2010-based-projections/rep-2010-based-npp.html#tab-Appendix-A--Note-of-the-meeting-of-the-national-population-projections-expert-advisory-group> [↑](#footnote-ref-4)
11. <http://www.ons.gov.uk/ons/publications/all-releases.html?definition=tcm%3A77-23535> [↑](#footnote-ref-5)
12. <http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Decennial+Life+Tables> [↑](#footnote-ref-6)
13. <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/gss-methodology-series/gss-methodology-series--33--life-expectancy-at-birth--methodological-options-for-small-populations.pdf> [↑](#footnote-ref-7)