

Demography 2016

Caveats regarding Office for National Statistics (ONS) population estimates

Caution is required when using the information presented in *Demography 2016*, due to an issue surrounding ONS estimates of the very elderly population. To aid interpretation, this brief paper provides further details of the impact of the issue on this publication.

Background

- Observatory analysts found a number of Lower Super Output Areas (LSOAs¹) in which the number of deaths in the 90+ age group is higher than the ONS population estimate for that age group. The worst-affected LSOA is W01000228 (situated in Rhyl, Denbighshire). In this LSOA, 47 deaths were registered in females aged 90+ in 2014, and the population resident in this area in mid-2014 is estimated by ONS to be one. Though the very elderly population appears to be underestimated in a number of LSOAs, the Rhyl example is by far the most extreme.
- One possible reason for the very elderly population being underestimated is that this group was undercounted by the 2011 Census, perhaps due to difficulties in enumerating people living in nursing homes. This is being investigated by ONS.
- The issue was discovered during the production of *Demography 2016* and delayed its publication from March to July 2016.
- Having assessed the impact on *Demography 2016*, it was decided that the majority of the analyses could still be published, with additional caveats provided to aid interpretation (see below).

General impact on *Demography 2016*

- Analyses have been conducted at various levels of geography. At any level, an area that includes LSOA01000228 will be most affected compared with other areas at that level. The smaller the level the greater the effect.
- The impact on figures reported for Denbighshire as a whole is likely to be small, and the impact on figures reported for Betsi Cadwaladr UHB is likely to be very small. For Wales as a whole, the impact is likely to be negligible.
- The impact on areas outside Denbighshire is likely to be small.

Impact on specific indicators within *Demography 2016*

- *All-cause mortality, age-standardised rates*

The impact on all-age figures within Middle Super Output Areas (MSOAs²) is potentially large, and therefore the maps representing these figures have been removed from *Demography 2016*.

¹ LSOAs are a geographical unit designed by ONS for the purpose of statistical analysis. There are 1,909 LSOAs in Wales, with an average population size of 1,600.

² MSOAs are a geographical unit designed by ONS for the purpose of statistical analysis. There are 410 MSOAs in Wales, with an average population size of 7,500.

- *Population estimates, trends by age group*

Trends in the 85+ age group should be interpreted with caution. For example, in Denbighshire the trend in the female population appears to have fallen from 1,800 in 2005 to 1,700 in 2014. However, if the latter figure is underestimated by 100 or more, then this falling trend is misleading and could affect service planning.

- *Population pyramids, percentage of population by age and sex*

The impact on these figures will be small and will result in underestimates in the 85-89 and 90+ age groups of some areas. For example, if the female population in Denbighshire aged 90+ is underestimated by 100 there will be an increase in the rounded count from 700 to 800 (0.7% to 0.8%).

- *Small area maps, percentage of total population aged 85+*

The impact on small area maps for the 85+ age group is potentially large. For example, comparisons with GP registrations data found that in the Betsi Cadwaladr UHB map the percentage of the population aged 85+ in LSOA W01000228 in Rhyl is likely to be underestimated by around 9% (from 2.5% to 11.5%). This results in a value which is bigger than any current LSOA value.

- *Population projections, trends by age group*

ONS population estimates are used in the calculation of population projections so the resulting projections are likely to be underestimated in the 85+ age group in some areas. For example, in Denbighshire the estimated population of around 2,600 in 2011 is likely to be an underestimate of at least 100, and therefore subsequent figures of 2,900 and 3,400 for 2016 and 2021 respectively are also likely to be underestimated.

Further information

If you have any concerns or further questions, please contact us via publichealthwalesobservatory@wales.nhs.uk

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