# Homeless Deaths Methodology

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Methodology document for the experimental statistics publication of homeless deaths in Scotland.

Identifying whether a person was homeless when they died is not straightforward using the information recorded at death registration. There is no specific question on the death certificate asking if a person was homeless at the time of death.

To compensate for this lack of information we searched death registration records for any evidence that the deceased may have been homeless at the time of their death. We used a number of search strategies (detailed below) to identify these deaths and then applied a statistical method called capture-recapture modelling to estimate the likely number of additional deaths which were not identified via these searches.

**Search one – Place of residence**

The place of residence on the death registration record was searched for terms such as "no fixed abode", "shelter", "homeless", "rough sleeper" or "no address known". Additionally we compiled a list of addresses which are used by local authorities to provide temporary accommodation for homeless people. We matched the place of residence against these addresses and identified any which matched.

**Search two – Place of death**

The place of death on the death registration record was searched for terms such as "no fixed abode", "shelter", "homeless", "rough sleeper" or "no address known". We matched the place of death against the list of temporary accommodation addresses mentioned in search one and identified any which matched.

**Search three – Institution codes**

Death registration records contain an institution code where the person died in a hospital, care home, hostel or other type of institution. Institution codes which specified a homeless hostel or shelter were listed and any deaths which contained one of these codes were identified.

**Search four – Hospital deaths**

Where the place of death was recorded as being in a hospital and there was no information provided for the place of residence, the deceased was identified as potentially homeless. This was an attempt to identify homeless people who may have been found unwell on the street and taken to hospital where they subsequently died. As it is possible for people (particularly elderly people) to spend a long time in hospital prior to their death, we excluded any deaths where the deceased had been in hospital for more than a year.

**Search five – Registrar notes**

The registrar notes section on the death registration record were searched for terms such as "no fixed abode", "shelter", "homeless", "rough sleeper" or "no address known".

**Quality Assurance**

All records identified by one or more of these searches were checked individually to prevent errors. For example, the search for the term "shelter" identified some records where the deceased lived in a sheltered housing complex. These records were excluded. For searches one and two, where we found a match with one of the addresses being used as temporary accommodation by a local authority, we asked them to confirm that the address was being used as temporary homeless accommodation at the date of death.

A lower age cut-off of 15 and an upper age cut-off of 75 was applied to the data. This decision was driven by evidence that deaths of elderly people who had spent time in an institutional setting for some time prior to their death, and for whom no prior place of residence was recorded, could have erroneously been included.

**How we calculated the estimates**

The estimation was carried out using the Rcapture package in the R programming language. The calculations estimate the likely size of an unknown closed population based on multiple captures (searches). The model looks at how many deaths were identified in each of the five searches and the degree of overlap between searches (it is possible for a death to appear in more than one search). It then provides an estimate of the likely number of deaths which were not picked up in these searches to give an estimate of the total number of homeless deaths.

Based on the nature of the data and the diagnostic and goodness-of-fit statistics produced by the package, the Chao model was selected out of several alternatives. This is a robust but conservative model, so the figures produced should be taken as the lowest probable estimates and it is likely that the true number may be higher.

**Definitions of homelessness**

The identification of homeless people for the purposes of these statistics is not based on an existing definition of homelessness but is based on our ability to identify such individuals in the death registration records. The records we have identified are mainly those people using emergency accommodation such as homeless shelters, hostels and temporary homeless accommodation at the time of their death. In some instances we have been able to identify those who are rough sleeping, but we expect there are more which we have not been able to identify from the death registration records.

**Comparisons with ONS**

Estimates of homeless deaths in other parts of the UK are not comparable with those for Scotland.

An [article](#) exploring the different sources of data used to estimate homeless deaths across the UK has been jointly produced by NRS, the Office for National Statistics (ONS), the Northern Ireland Statistics and Research Agency (NISRA) and the Government Statistical Service (GSS) Homelessness Coherence Team.  This concluded that estimates were not produced on a comparable basis across the UK and that they should not be compared.

NRS engage regularly with local authorities in Scotland throughout the process of estimating homeless deaths. Data on temporary accommodation is collected directly from the local authorities and extensive data quality assurance is carried out in partnership. This methodology and process is likely to identify proportionately more homeless deaths than in other parts of the UK, hence why it is concluded that the estimates for Scotland are not comparable with those for the rest of the UK countries.

**Improving our methodology**

These statistics are experimental and the methodology is still under development. We recognise that there may be better methods to estimate homeless deaths or better sources of information to feed into our current methodology. We are publishing them at an early stage to involve users and stakeholders in assessing their suitability and quality.

We welcome any feedback from users on ways in which the methodology or data sources may be developed to improve the quality of these statistics in future years.

**Updates for the most recent publication**

This year, in addition to the data we usually receive, we requested extra data from councils to allow us to investigate improvements to the accuracy of our estimates. As well as asking councils for their list of temporary accommodation addresses for us to match to our deaths database, we also asked for details of deaths of homeless people who were known to local authorities.

This new stream of data will essentially be used as a quality assurance resource, to help us strengthen the confidence we have in each match identified across our five existing data sources. As we continue to improve the methodology, we will look to directly include this sixth source of homeless deaths in our estimation model. We will report on the impact on our estimates of including this additional data source in due course.