

Main Points

Background

The concept of 'avoidable mortality' was designed to highlight areas of potential weakness in healthcare that could benefit from further investigation: where there are many premature deaths caused by conditions for which effective public health and medical interventions are available. Ideally, such deaths should not occur given timely and effective healthcare. However, the results must be interpreted cautiously, and are not intended for use to assess possible differences in the effectiveness of healthcare systems.

These figures were produced using a definition of 'avoidable' mortality which was developed by the Office for National Statistics (ONS). Refer to the [Methodology paper](#) for further information. This definition counts as 'avoidable' deaths from those causes for which all or most such deaths (subject to age limits if appropriate) are considered potentially avoidable through public health interventions or timely and effective healthcare. It should be noted that not every death from those causes could be avoided.

This web section has been improved by adding a new Table 9, which provides a time-series of the number of 'avoidable' deaths by sex and underlying cause, and whether they were counted as 'preventable', 'avoidable' or both.

Key points

Slightly over a quarter of all deaths registered in Scotland are counted as (potentially) avoidable for the purpose of these statistics. Table 1 shows that in 2017, there were 57,883 deaths registered in Scotland, of which 15,774 (27%) were counted as 'avoidable': the same percentage as in two of the previous three years. There are no figures for the years before 2014 because that is the first year for the current ONS definition (for more on this, refer to the [methodology paper](#)).

Around a third of all male deaths are counted as 'avoidable': 9,300 out of 28,250 (33%) in 2017, compared with a little over a fifth of female deaths (6,474 out of 29,633 or 22%). The difference between the sexes arises because the definition counts as 'avoidable' only a small proportion of deaths aged 75 or older. On average, women live longer than men, so a larger percentage of women die aged 75 or older, and hence a smaller proportion of female deaths is counted as 'avoidable' (for the purpose of these statistics).

'Preventable' and 'amenable' (to treatment) causes of death

The ONS definition of 'avoidable' mortality covers deaths from two types of cause. First, those which are counted as 'preventable', because all or most deaths from those causes (subject to age limits if appropriate) could be avoided by public health interventions. Second, those which are counted as 'amenable' (to treatment), because all or most deaths from those causes (subject to age limits if appropriate)

could be avoided by good quality healthcare. Some causes of death are counted as both 'preventable' and 'amenable'. More information about this is available in the [Methodology paper](#).

Table 1 shows that (in terms of the definitions used for these statistics), of the deaths that were registered in 2017:

- 7,838 were counted as 'preventable' but not 'amenable';
- 2,213 were counted as 'amenable' but not 'preventable'; and
- 5,723 were counted as both 'preventable' and 'amenable'.

In consequence:

- 13,561 deaths (23% of all the deaths that were registered in the year) were 'preventable' (some of which were also 'amenable' to treatment); and
- 7,936 deaths (14% of all deaths) were 'amenable' (some of which were also 'preventable').

From the figures in Table 1, it can be seen that roughly half of all 'avoidable' deaths were counted as 'preventable' but not 'amenable', around a sixth were counted as 'amenable' but not 'preventable' and just over a third were counted as both 'preventable' and 'amenable'. It follows that, in terms of the definitions that are used for these statistics, around five-sixths of all 'avoidable' deaths are 'preventable', and roughly half are 'amenable' (to treatment).

The main causes of (potentially) avoidable deaths

The ONS document which defines 'avoidable' mortality lists all the causes of death that are counted as 'preventable' and/or 'amenable'. In most cases, it specifies that only deaths in a particular age-range (for example 0 to 74 years) should be counted as 'avoidable', for the purpose of these statistics. Table 2 shows the underlying causes of deaths registered in Scotland in 2017, in terms of the chapters of the World Health Organisation's International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10), in total and for each sex. The first column of Table 2 shows that, on that basis, the main causes of the deaths that were registered in 2017 were:

- neoplasms (mainly cancer) – 16,531 (29% of the total of 57,883 deaths from all causes);
- circulatory system diseases (for example ischaemic/coronary heart disease and cerebrovascular diseases, such as strokes) – 15,114 (26% of deaths from all causes);
- respiratory system diseases (for example pneumonia and chronic obstructive pulmonary disease) – 6,854 (12% of deaths from all causes); and
- mental and behavioural disorders (for example dementia) – 4,591 (8% of deaths from all causes).

Together, those four ICD-10 chapters accounted for almost three-quarters of all the deaths that were registered in Scotland. The third column of Table 2 shows that many of the 'avoidable' deaths registered in 2017 were caused by:

- neoplasms – 5,043 (32% of all the ‘avoidable’ deaths);
- circulatory system diseases - 3,929 (25% of all the ‘avoidable’ deaths);
- respiratory system diseases - 1,544 (10% of all the ‘avoidable’ deaths);

but relatively few were due to mental and behavioural diseases - 288 (2% of all the ‘avoidable’ deaths) - because most of that ICD-10 chapter’s causes of death are not counted as ‘avoidable’ for the purpose of these statistics.

From the percentages that are given in Table 2, one can observe that the proportion of all deaths that are counted as ‘avoidable’ varies greatly between the ICD-10 chapters. For example:

- almost all of the deaths which were due to ‘external causes’ (for example accidents, intentional self-harm) are counted as ‘avoidable’; whereas
- under a tenth of the deaths which were due to mental and behavioural disorders are counted as ‘avoidable’.

Table 2 also shows that there are differences between the ICD-10 chapters in the extent to which ‘avoidable’ deaths are ‘preventable’ or ‘amenable’ or both. For example:

- almost all the ‘avoidable’ deaths from external causes are counted as ‘preventable’ but not ‘amenable’; whereas
- only a small proportion of the ‘avoidable’ deaths from circulatory system diseases are counted as ‘preventable’ but not ‘amenable’.

(Potentially) avoidable deaths of each sex by age-group, by NHS Board and by council

Table 3 shows recent years’ numbers of deaths for each age-group, and how many of them were counted as ‘avoidable’ for the purpose of these statistics. It will be seen that only small proportions of deaths of those aged 75 or older are counted as ‘avoidable’, compared to well over half of all deaths in each of the younger age-groups (with the possible exception of some age-groups which each have relatively few deaths). Note that there may be some large percentage year-to-year fluctuations when the numbers are relatively small (due simply to the inevitable variability of natural events – refer to the [Fluctuations in and possible unreliability of death statistics](#) section): for example, the number of deaths of 20-24 year olds that was counted as ‘avoidable’ was 115 in 2017, compared with 130 in 2016, 102 in 2015 and 138 in 2014. As a result, an average of the figures for all the years for which they are available may be a more reliable indication of the level of ‘avoidable’ deaths in a particular age-group than the figure for any one of those years.

Tables 4 and 5 provide the corresponding figures for individual NHS Board and council areas. Again, there may be some large percentage year-to-year fluctuations when the numbers are relatively small, and so an annual average may be a better indication of the level for an area than the figure for any one of the years. As would be expected (given that the definition counts as ‘avoidable’ only a small proportion of deaths aged 75 or over), among the areas with the larger populations, the ones with

higher percentages of their deaths that are counted as 'avoidable' tend to be the ones with the highest age-standardised death rates for under 75s (figures which can be found via the [Age-standardised Death Rates Calculated Using the European Standard Population](#) section).

(Potentially) avoidable, preventable and amenable (to treatment) deaths of each sex, cross - classified by cause and age-group

Tables 6 to 8 give the latest year's numbers of 'avoidable', 'preventable' and 'amenable' (respectively) deaths, cross-classified by cause of death (ICD-10 chapters) and age at death, in total and for each sex. As each table is for a single year, it cannot show the year-to-year variation in the figures, but it should be kept in mind that relatively small numbers may be subject to large percentage year-to-year fluctuations. These tables do not show the ICD-10 chapters for which there were no such deaths. In terms of the ICD-10 chapters, in the age-groups which account for most of the 'avoidable' deaths (which are those from 50-54 to 70-74, inclusive), neoplasms were the biggest single cause of 'avoidable' deaths and of 'preventable' deaths, but circulatory system diseases were the biggest single cause of 'amenable' (to treatment) deaths. However, the other age-groups (which had smaller numbers) had other biggest single causes of 'avoidable' deaths. The vast majority of 'avoidable' deaths under the age of one were caused by certain conditions originating in the perinatal period. The next three age-groups (1-4, 5-9 and 10-14) each had relatively few 'avoidable' deaths, so there is little point commenting on their causes. Finally, 'external' causes (for examples accidents, intentional self-harm) were the biggest single cause of 'avoidable' deaths aged 15 to 49, and the cause of all 'avoidable' deaths aged 75 or over.

(Potentially) avoidable deaths by sex, underlying cause of death and year, and whether they are counted as preventable, amenable (to treatment) or both

Table 9 gives each year's number of 'avoidable' deaths cross-classified by cause of death (ICD-10 chapters), in total and for each sex, plus similar breakdowns of the numbers that were counted as (i) 'preventable' but not 'amenable', (ii) 'amenable' but not 'preventable' and (iii) both 'preventable' and 'amendable'. ICD-10 chapters for which there were no 'avoidable' deaths do not appear. Some ICD-10 chapters have relatively small numbers, which may be subject to large percentage year-to-year fluctuations.

The number of 'avoidable' deaths increased from 14,793 in 2014 to 15,774 in 2017. It should be mentioned that, although 2017 did not have the most 'avoidable' deaths (2016 had about 1% more), this section refers to it as 2017 is the last year for which figures are currently available. In terms of the ICD-10 chapters, the majority of the rise of 981 in the number of 'avoidable' deaths between 2014 and 2017 was accounted for by increases of:

- 578 in 'avoidable' deaths due to external causes, which include falls and poisoning (2014: 2,512 such deaths; 2017: 3,090 such deaths);
- 186 in 'avoidable' deaths due to circulatory system diseases, like ischaemic heart disease and cerebrovascular diseases (2014: 3,743 such deaths; 2017: 3,929 such deaths); and

- 159 in 'avoidable' deaths due to respiratory system diseases (2014: 1,385 such deaths; 2017: 1,544 such deaths).

The other ICD-10 chapters had either much smaller increases or, in some cases, falls in their numbers of 'avoidable' deaths between 2014 and 2017.