

EXPERIMENTAL STATISTICS

Avoidable Mortality in England and Wales, 2010

Coverage: **England and Wales**

Date: **15 May 2012**

Geographical Area: **Region**

Theme: **Health and Social Care**

Key findings

- In 2010, deaths caused by conditions considered avoidable represented 24 per cent of all deaths registered in England and Wales
- Mortality rates for causes considered avoidable decreased by 25 per cent between 2001 and 2010 in England and Wales
- For each of the years during 2001–10, avoidable mortality rates were higher in Wales when compared with England. This difference was statistically significant throughout the period
- Avoidable mortality rates varied between the regions of England and tended to be highest in the North of England and lowest in the South and East of England over the period 2001–10

Summary

This bulletin presents mortality figures for causes of death that are considered avoidable in the presence of timely and effective healthcare or public health interventions (avoidable mortality). Figures are presented for England and Wales and the regions of England for the period 2001–10. Trends in mortality by causes considered preventable (preventable mortality) or amenable to health care (amenable mortality), which are subsets of total avoidable mortality, are also presented. Definitions of avoidable, preventable and amenable mortality are shown in Box 1.

This is the first time a statistical bulletin containing statistics on total avoidable mortality has been published for England and Wales and it is intended that this bulletin will be published annually. Since they are in the early stages of development, the statistics presented here are considered experimental, and the Office for National Statistics (ONS) welcomes comments and suggestions for improvement from users.

In 2001, deaths due to causes considered avoidable represented approximately 26 per cent of all deaths registered in England and Wales. This proportion decreased slightly over the period 2001–10 with avoidable deaths accounting for almost 24 per cent of all deaths in 2010.

Between 2001 and 2010, mortality rates due to causes considered avoidable have decreased by 25 per cent, falling from 243.2 deaths per 100,000 population in 2001 to 183.6 per 100,000 in 2010 in England and Wales. This decrease has been observed in both males and females, with avoidable mortality falling from 313.3 to 232.6 per 100,000 population for males and from 178.1 to 137.3 per 100,000 population for females between 2001 and 2010 (Figure 1).

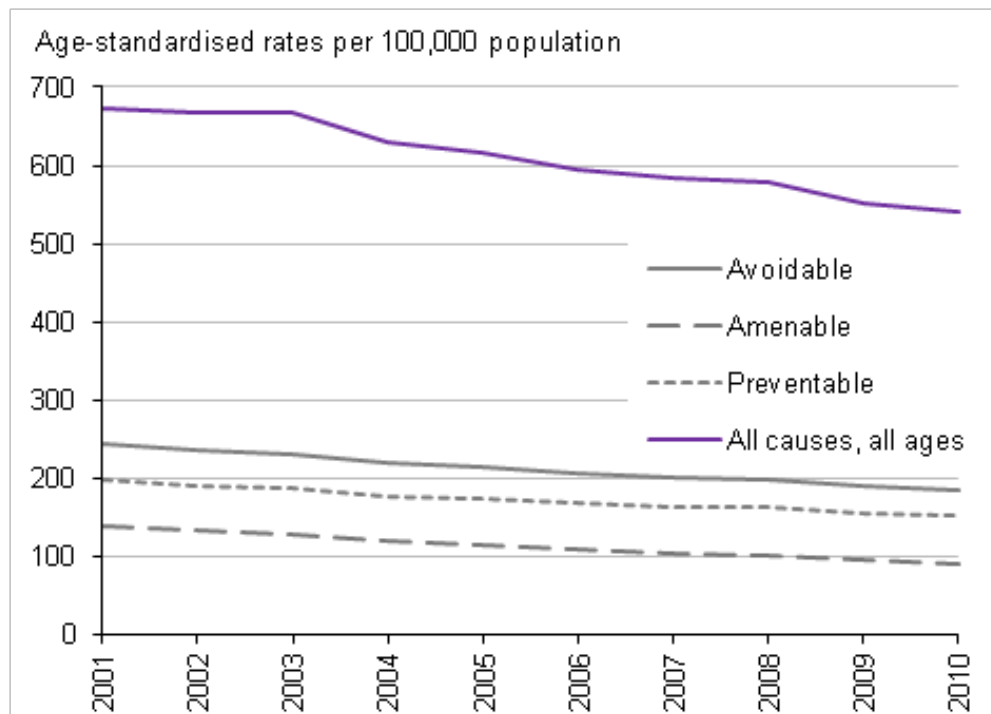
Mortality caused by conditions considered preventable and those considered amenable to healthcare also decreased between 2001 and 2010. In England and Wales, amenable mortality decreased by 35 per cent over the period 2001–2010 from 138.5 per 100,000 population in 2001 to 90.7 per 100,000 population in 2010. Over the same period, preventable mortality decreased by 23 per cent from 196.6 per 100,000 population in 2001 to 150.9 per 100,000 in 2010.

Mortality by causes considered to be avoidable was statistically significantly higher in Wales than in England throughout the period 2001–10. In 2010, the avoidable mortality rate in Wales was 205.2 per 100,000 population compared with a rate of 181.4 per 100,000 population in England.

Avoidable mortality varied between the regions of England and tended to be highest in the North of England and lowest in the South and East of England. In 2010, rates for males were highest in the North West (280.6 per 100,000 population) and lowest in the East of England (199.4 per 100,000 population). For females, rates were also highest in the North West (169.2 per 100,000 population) and lowest in the South West of England (117.9 per 100,000).

Figure 1. Age-standardised mortality rates for causes considered avoidable and all causes of death, 2001–10

England and Wales



Source: Office for National Statistics

Notes:

1. Figures are for deaths registered in the calendar year and include deaths of non-residents.
2. See the 'Definition and Limitations' section for details of the causes of death included and the age-limits used for avoidable causes. All causes includes all deaths that were registered in England and Wales for all ages.
3. Rates per 100,000 population, standardised to the European Standard Population.

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Definition and Limitations

The basic concept of avoidable mortality is that deaths caused by certain conditions, for which effective public health and medical interventions are available, should be rare, and ideally should not occur. The definitions of avoidable, amenable and preventable mortality used to compile the statistics presented in this bulletin are shown in Box 1.

Box 1. Definitions of amenable, preventable and avoidable mortality

Amenable mortality

A death is amenable if, in the light of medical knowledge and technology at the time of death, all or most deaths from that cause (subject to age limits if appropriate) could be avoided through good quality healthcare.


Preventable mortality

A death is preventable if, in the light of understanding of the determinants of health at the time of death, all or most deaths from that cause (subject to age limits if appropriate) could be avoided by public health interventions in the broadest sense.

Avoidable mortality

Avoidable deaths are all those defined as preventable, amenable, or both, where each death is counted only once. Where a cause of death falls within both the preventable and amenable definition, all deaths from that cause are counted in both categories when they are presented separately.

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One of the main difficulties in producing an indicator of avoidable mortality is the selection of the causes of deaths for inclusion. There is limited evidence on which to base the selection and the choices are heavily influenced by the persons making the selection. The full list of causes that ONS considers to be avoidable, amenable or preventable, which has been used to compile the statistics presented in this bulletin, along with further information about how this list was selected, is available [here](#). Due to the difficulties associated with the selection of causes, this list should be viewed with caution. It is intended that this list of causes, and the associated age limits, will be reviewed every three years to ensure the list remains relevant and up to date.

While a particular condition can be considered to be avoidable, this does not mean that every death caused by this condition could be prevented. In compiling the statistics presented in this bulletin, no account has been taken of the precise nature of each death such as the age of the patient, the extent of disease progression at diagnosis or the existence of medical conditions. For this reason, the statistics cannot be used to draw conclusions about the exact number of 'unnecessary' deaths that occur in England and Wales.

It is expected that the main use that will be made of these statistics is in the assessment of the quality and performance of healthcare and public health policies. However, it is recommended that great care is taken if using these statistics for this purpose. Several studies have been unable to find an association between avoidable mortality rate and healthcare innovation (AMIEHS, 2011; Grant

et al. 2006) and analysis of avoidable mortality through time does not take into account changes in disease incidence through time. This means that if there was a sudden increase in the incidence of a particular condition, and a subsequent increase in mortality rate for this condition as a result, this might be interpreted mistakenly as a decrease in the quality of the healthcare provided. There is also likely to be a substantial time lag between the introduction of a public health policy or improved healthcare services and a corresponding reduction in mortality. Therefore, these statistics will not necessarily be responsive to changes in healthcare or public health policy in the short- or medium-term.

The mortality rates presented in this bulletin are calculated using the mid-year population estimates for persons of all ages as the denominator, despite age-limits being in place for many of the individual causes. This method has been adopted since the whole population is considered to be at risk of mortality due to conditions considered avoidable at an aggregate level and also to allow avoidable mortality to be presented by cause group and for amenable and preventable causes on a comparable basis. Where mortality rates are presented broken down by cause group, this is intended to provide an indication of the relative contribution of each group to the overall avoidable mortality rate for all causes. It is therefore not intended to enable comparisons between groups where the eligibility criteria for inclusion in the numerator (number of deaths) differ. For example, only deaths occurring among 0-74 year olds are considered to be avoidable for neoplasms (cancer) while deaths due to infections are based on all ages. It is therefore more appropriate to compare these two groups using age-specific rates as they are much more informative than the age-standardised rates presented in this bulletin.

Results - England and Wales

In 2001, deaths due to causes considered avoidable represented approximately 26 per cent of all deaths registered in England and Wales. This proportion decreased slightly over the period between 2001 and 2010 with avoidable deaths accounting for almost 24 per cent of all deaths in 2010.

Between 2001 and 2010, the mortality rate for causes considered avoidable decreased by 25 per cent, falling from 243.2 deaths per 100,000 population in 2001 to 183.6 per 100,000 in 2010 in England and Wales. This decrease was observed in both males and females, with the avoidable mortality rate falling from 313.3 to 232.6 per 100,000 population for males and from 178.1 to 137.3 per 100,000 population for females between 2001 and 2010.

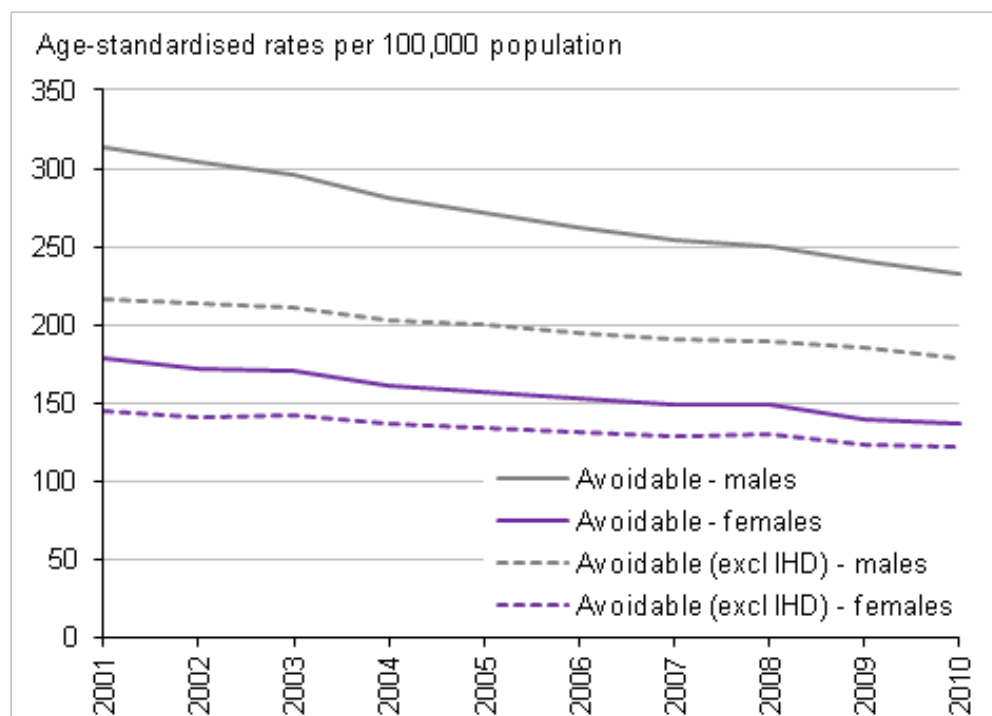
Mortality caused by conditions considered preventable and those considered amenable to healthcare also decreased between 2001 and 2010. In England and Wales, the amenable mortality rate decreased by 35 per cent over the period 2001–10 from 138.5 per 100,000 population in 2001 to 90.7 per 100,000 population in 2010. Over the same period, the preventable mortality rate decreased by 23 per cent from 196.6 per 100,000 population in 2001 to 150.9 per 100,000 in 2010.

The condition making the largest contribution to avoidable mortality was Ischaemic Heart Disease (IHD) which caused a total of 21,800 deaths in 2010, a rate of 34.2 per 100,000 population. Considering males and females separately, IHD was the main avoidable cause of death for males but was not the main cause of female avoidable mortality with avoidable neoplasm of trachea,

bronchus and lung causing the most female deaths. The relative impact of IHD on male and female avoidable mortality rate is shown in Figure 2.

Figure 2. Age-standardised mortality rates for causes considered avoidable (including and excluding Ischaemic Heart Disease (IHD)), males and females, 2001–10

England and Wales



Source: Office for National Statistics

Notes:

1. Figures are for deaths registered in the calendar year and include deaths of non-residents.
2. See the 'Definition and Limitations' section for details of the causes of death included and the age-limits used for avoidable causes.
3. Rates per 100,000 population, standardised to the European Standard Population.

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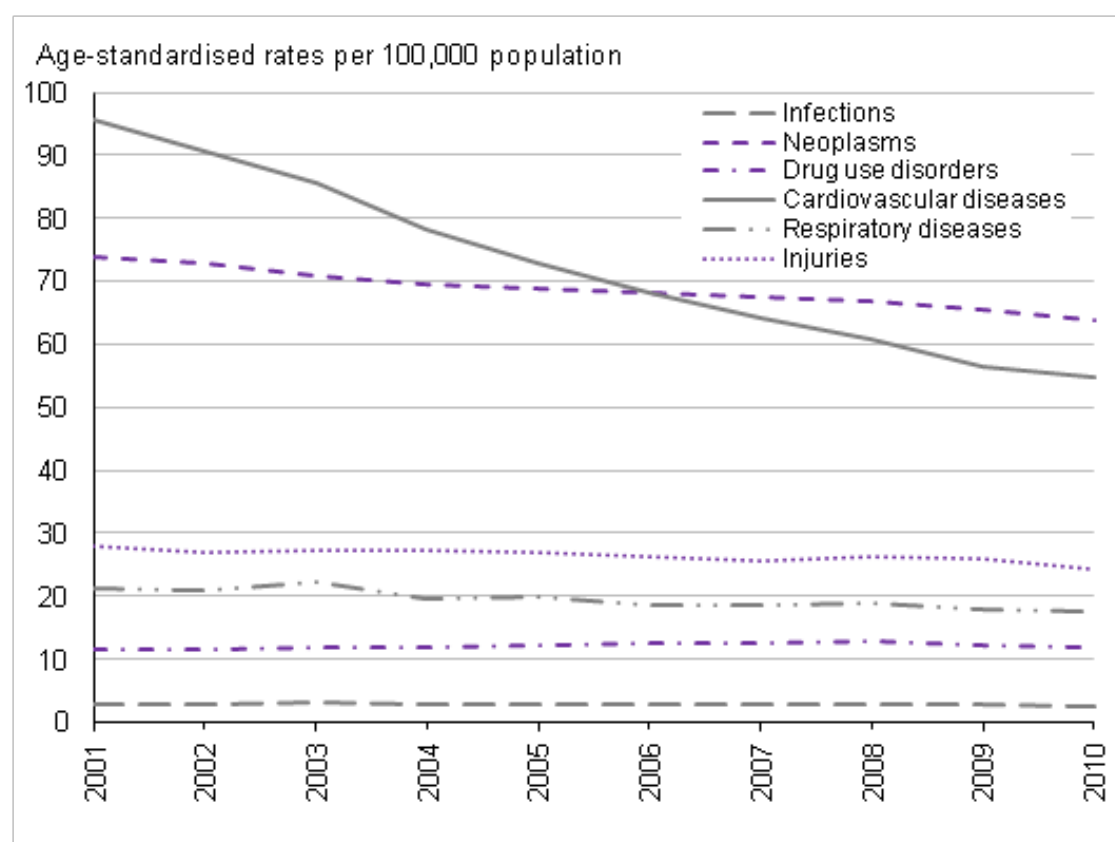
During the period 2001–10, mortality decreased for all of the groups of causes considered avoidable, with the exception of drug use disorders. Mortality caused by drug use increased by over 5 per cent between 2001 and 2010, increasing from 11.4 per 100,000 population in 2001 to 12.0 per 100,000 population in 2010. This increase was statistically significant.

The largest decrease in the mortality rate was observed in cardiovascular diseases which fell by 43 per cent between 2001 and 2010, from 95.5 per 100,000 in 2001 to 54.8 per 100,000 in 2010. This reduction, which has largely been attributed to the introduction of statins (Mills et al, 2009), meant

that while mortality for cardiovascular diseases was the highest of all the groups of avoidable causes in 2001, this was no longer the case in 2007 when the mortality rate was higher for neoplasms, as shown in Figure 3. Neoplasms have remained the group of potentially avoidable causes of death with the highest mortality rate between 2007 and 2010. In 2010, the mortality rate for cardiovascular diseases and neoplasms considered avoidable was 54.8 and 64.0 per 100,000 respectively.

Figure 3. Age-standardised mortality rates for grouped causes considered avoidable, 2001–10

England and Wales



Source: Office for National Statistics

Notes:

1. Figures are for deaths registered in the calendar year and include deaths of non-residents.
2. See the 'Definition and Limitations' section for details of the causes of death included and the age-limits used for avoidable causes.
3. Rates per 100,000 population, standardised to the European Standard Population.

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Results - England

Figures for avoidable mortality in England show a similar pattern to figures for England and Wales as a whole. The mortality rate for causes considered avoidable decreased by almost 25 per cent in England over the period 2001–10 from 240.4 per 100,000 population in 2001 to 181.4 per 100,000 in 2010. Similar decreases in mortality rates were observed in males and females during the period with male and female avoidable mortality falling by 26 per cent and 23 per cent respectively. Male avoidable mortality decreased from 309.8 per 100,000 in 2001 to 229.7 per 100,000 in 2010 and female mortality decreased from 175.9 per 100,000 in 2001 to 135.6 per 100,000 in 2010.

Results - Wales

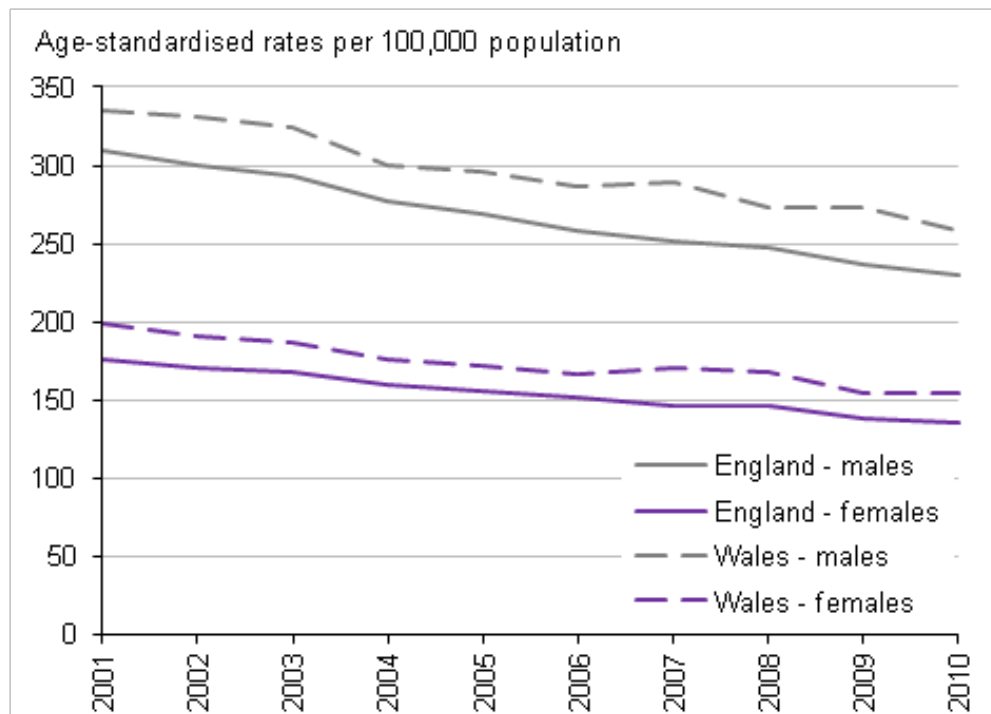
Mortality rates for causes considered to be avoidable were statistically significantly higher in Wales than in England throughout the period 2001–10. In 2010, the avoidable mortality rate in Wales was 205.2 per 100,000 population compared with a rate of 181.4 per 100,000 population in England. The difference in avoidable mortality rate between the two countries shows no clear pattern over the period but the gap was at its widest in 2007 when avoidable mortality rates in Wales and England were 227.7 per 100,000 and 197.2 per 100,000 respectively (Figure 4). This difference in avoidable mortality rates appears to be largely due to the number of deaths caused by avoidable cardiovascular diseases in Wales with avoidable cardiovascular disease mortality rates being statistically significantly higher in Wales compared to England throughout the ten-year period.

Avoidable mortality rates in Wales decreased by 22 per cent between 2001 and 2010, from 264.4 per 100,000 in 2001 to 205.2 per 100,000 in 2010, a smaller decrease than that observed in England. Avoidable mortality rates in Wales decreased for both males and females, by 23 per cent and 22 per cent respectively. Male mortality rates decreased from 335.0 per 100,000 in 2001 to 258.6 per 100,000 in 2010 and female mortality rates fell from 198.8 per 100,000 to 154.6 per 100,000 over the same period.

The largest decrease in avoidable mortality in Wales was for avoidable cardiovascular diseases where the mortality rate fell by 44 per cent from 107.1 per 100,000 in 2001 to 59.9 per 100,000 in 2010, a slightly higher decrease than the 43 per cent decrease observed in England.

Figure 4. Age-standardised mortality rates for causes considered avoidable, males and females, 2001–10

England and Wales



Source: Office for National Statistics

Notes:

1. Figures are for deaths registered in the calendar year and exclude non-residents.
2. See the 'Definition and Limitations' section for more details of the causes of death included and the age-limits used for avoidable causes.
3. Rates per 100,000 population, standardised to the European Standard Population.

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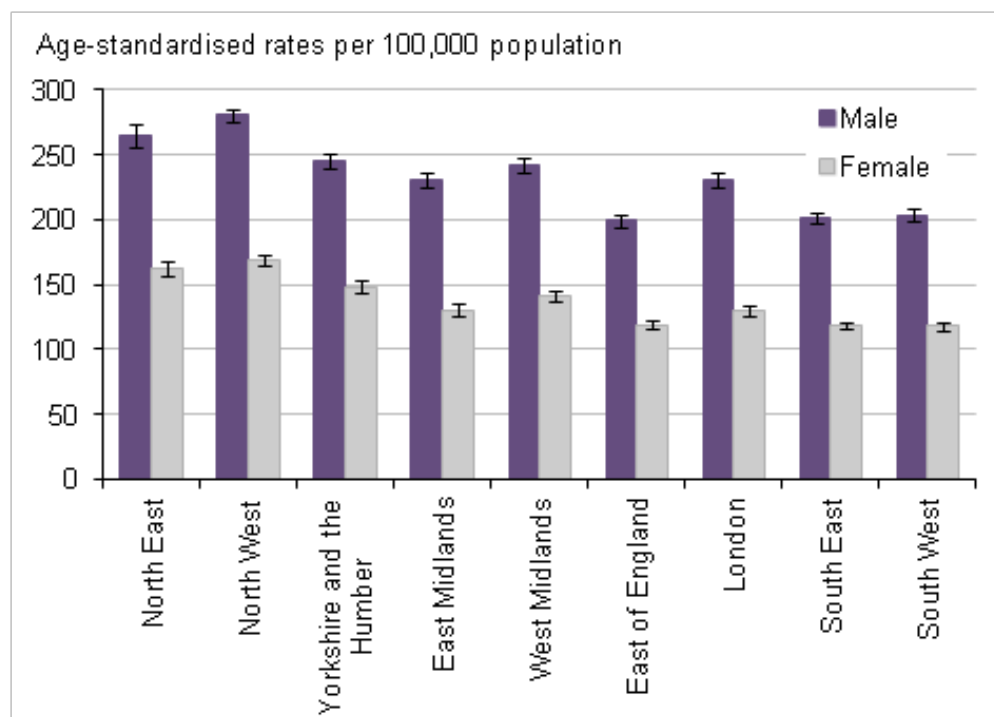
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Results - Regions of England

Avoidable mortality varied between the regions of England and tended to be highest in the North of England and lowest in the South and East of England (Figure 5). In 2010, rates for males were highest in the North West (280.6 per 100,000 population) and lowest in the East of England (199.4 per 100,000 population). For females, rates were also highest in the North West (169.2 per 100,000 population) but lowest in the South West of England (117.9 per 100,000).

Figure 5. Age-standardised mortality rates, with 95 per cent confidence intervals, for causes considered avoidable, males and females, 2010

Regions of England



Source: Office for National Statistics

Notes:

1. Figures are for deaths registered in the calendar year and exclude deaths of non-residents.
2. See the 'Definition and Limitations' section for details of the causes of death included and the age-limits used for avoidable causes.
3. Rates per 100,000 population, standardised to the European Standard Population.

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Mortality rates for causes considered avoidable decreased in all of the regions of England between 2001 and 2010. The largest decrease in avoidable mortality over the period was observed in London where mortality rates fell by 29 per cent from 250.2 per 100,000 in 2001 to 178.1 per 100,000 in 2010. The smallest change in avoidable mortality was in the South West of England where mortality rates decreased by 22 per cent from 204.9 per 100,000 in 2001 to 159.8 per 100,000 in 2010.

Data tables - Males

Table 1. Male avoidable mortality rates: by country and region of England, 2001–2010

England and Wales

Country/ region	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
England and Wales	313.3	303.9	296.1	280.6	272.3	261.8	254.5	250.1	240.7	232.6
England	309.8	300.4	292.7	277.6	269.3	258.7	250.8	246.9	237.2	229.7
	376.9	366.3	353.9	344.9	324.9	308.9	294.7	297.6	278.2	265.1
North East	371.8	356.0	348.7	332.9	326.2	312.5	303.9	301.4	291.3	280.6
North West	330.6	323.5	307.7	295.1	288.9	277.1	269.3	268.2	254.0	245.7
Yorkshire & the Humber	299.6	297.2	293.1	269.5	262.3	246.0	246.6	244.3	235.9	230.6
East Midlands	328.3	316.7	314.6	296.7	289.1	279.7	270.4	266.4	251.7	241.8
West Midlands	264.0	257.3	247.7	238.2	230.6	222.2	216.8	209.2	202.1	199.4
East	324.7	314.7	309.1	289.0	275.7	268.7	254.7	251.1	236.3	230.9
London	268.6	258.9	254.0	239.4	231.4	224.6	215.9	209.3	209.8	201.4
South East	265.5	257.6	247.6	237.8	234.0	224.3	220.7	217.0	210.5	203.7
South West	335.0	331.6	324.2	299.4	295.6	286.8	288.8	272.8	273.5	258.6

Table source: Office for National Statistics

Table notes:

1. Figures are for deaths registered in the calendar year.
2. See the 'Definition and Limitations' section for details of the causes of death included and the age-limits used for avoidable causes.
3. Rates per 100,000 population, standardised to the European Standard Population.
4. Deaths of non-residents are included in figures for England and Wales combined but are excluded in figures for England, Wales and regions.

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Table 2. Number of male avoidable deaths: by country and region of England, 2001–2010

England and Wales

Country/ region	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
England and Wales	85,888	83,999	82,640	79,042	77,502	75,152	74,004	73,899	72,353	71,042
England	79,962	78,167	76,890	73,565	72,112	69,881	68,632	68,670	67,116	66,078
	5,239	5,100	4,972	4,852	4,618	4,402	4,232	4,334	4,082	3,948
North East	13,287	12,816	12,669	12,177	12,016	11,591	11,383	11,422	11,207	10,919
North West	8,629	8,520	8,175	7,946	7,862	7,629	7,515	7,581	7,303	7,165
Yorkshire & the Humber	6,785	6,821	6,819	6,332	6,282	5,949	6,057	6,123	6,025	6,005
East Midlands	9,270	9,008	8,991	8,566	8,413	8,183	7,992	7,970	7,655	7,468
West Midlands	7,730	7,631	7,425	7,206	7,089	6,891	6,841	6,749	6,629	6,680
East	10,180	9,903	9,754	9,139	8,732	8,537	8,156	8,149	7,806	7,721
London	11,362	11,047	10,935	10,423	10,196	9,997	9,784	9,641	9,847	9,684
South East	7,480	7,321	7,150	6,924	6,904	6,702	6,672	6,701	6,562	6,488
South West	5,387	5,382	5,307	4,987	4,974	4,843	4,928	4,749	4,827	4,602
Wales										

Table source: Office for National Statistics

Table notes:

1. Figures are for deaths registered in the calendar year

2. See the 'Definition and Limitations' section for details of the causes of death included and the age-limits used for avoidable causes
3. Deaths of non-residents are included in figures for England and Wales combined but are excluded in figures for England, Wales and regions

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Data tables - Females

Table 3. Female avoidable mortality rates: by country and region of England, 2001–2010

England and Wales

Country/ region	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
England and Wales	178.1	172.1	169.8	161.5	157.2	152.7	148.6	148.3	140.0	137.3
England	175.9	170.0	167.9	159.9	155.5	151.1	146.5	146.3	138.4	135.6
	213.2	205.6	203.6	198.3	186.1	187.2	177.0	176.2	166.1	162.6
North East	214.5	203.8	199.6	190.8	187.0	183.4	180.2	181.8	171.6	169.2
North West	186.9	181.0	177.3	168.8	169.3	162.7	161.5	159.1	151.8	148.6
Yorkshire & the Humber	175.6	175.5	170.1	162.5	156.2	149.5	148.4	149.4	141.2	130.8
East Midlands	178.1	172.5	171.9	164.5	160.6	159.3	150.7	153.5	143.7	141.9
West Midlands	152.9	148.4	146.0	138.6	136.2	132.0	127.1	130.1	119.6	119.0
East	181.8	169.8	170.9	161.3	152.1	143.2	139.5	138.4	130.0	130.0
London	152.1	148.7	148.5	140.5	137.3	135.2	129.8	125.6	120.4	118.4
South East	148.2	145.9	144.4	136.6	134.5	129.0	124.0	124.9	122.7	117.9
South West	198.8	191.3	186.5	176.2	172.4	166.8	169.8	168.2	153.8	154.6
Wales										

Table source: Office for National Statistics

Table notes:

1. Figures are for deaths registered in the calendar year
2. See the 'Definition and Limitations' section for details of the causes of death included and the age-limits used for avoidable causes
3. Rates per 100,000 population, standardised to the European Standard Population
4. Deaths of non-residents are included in figures for England and Wales combined but are excluded in figures for England and Wales and regions

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Table 4. Number of female avoidable deaths: by country and region of England, 2001–2010

England and Wales

Country/ region	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
England and Wales	54,932	53,296	53,084	50,832	49,830	48,682	47,970	48,543	46,450	46,095
England	51,042	49,520	49,422	47,327	46,372	45,301	44,499	45,043	43,214	42,855
	3,392	3,272	3,257	3,163	2,990	2,990	2,846	2,869	2,745	2,682
North East	8,730	8,304	8,219	7,853	7,699	7,523	7,539	7,696	7,336	7,274
North West	5,492	5,328	5,273	5,045	5,057	4,902	4,919	4,899	4,707	4,682
Yorkshire & the Humber	4,415	4,416	4,357	4,208	4,117	3,985	3,980	4,081	3,923	3,677
East Midlands	5,606	5,458	5,478	5,299	5,207	5,192	4,974	5,094	4,851	4,818
West Midlands	4,985	4,883	4,883	4,685	4,630	4,588	4,470	4,602	4,335	4,367
East	6,367	5,964	6,031	5,714	5,427	5,085	5,003	5,020	4,753	4,857
London	7,309	7,195	7,214	6,861	6,782	6,764	6,568	6,510	6,312	6,314
South East	4,746	4,700	4,710	4,499	4,463	4,272	4,200	4,272	4,252	4,184
South West	3,650	3,550	3,440	3,308	3,260	3,164	3,269	3,279	3,031	3,055
Wales										

Table source: Office for National Statistics

Table notes:

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2. See the 'Definition and Limitations' section for details of the causes of death included and the age-limits used for avoidable causes.
3. Deaths of non-residents are included in figures for England and Wales combined but are excluded in figures for England, Wales and regions.

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Users and Policy Context

This statistical bulletin has been produced in response to user demand for statistics on avoidable mortality from central government, public health observatories, academia and charitable organisations working to reduce the prevalence of specific diseases and conditions.

One of the main uses expected to be made of these statistics is the monitoring of the quality and performance of healthcare and public health policies. The Department of Health plans to use indicators of amenable mortality in its '[NHS Outcomes Framework](#)' (Department of Health, 2011) and indicators of preventable mortality are contained in its '[Public Health Outcomes Framework](#)' (Department of Health, 2012).

Academics and public health observatories are interested in monitoring trends in avoidable, amenable and preventable mortality over long time periods and are also likely to use the definition itself to analyse existing mortality data to consider changes in the relative proportions of avoidable deaths through time.

There has been a great deal of interest in the development of statistics on avoidable mortality by charitable organisations such as the Hepatitis C Trust, the British Lung Foundation and the British Association for the Study of Liver (BASL) who would like to see the condition or disease they campaign about included in the list of causes considered avoidable. It is anticipated that inclusion in these statistics would draw increased attention towards the condition and would also allow comparisons of trends in mortality to be made against other conditions.

There has been considerable interest in the concept of avoidable mortality at an international level with an European Union funded project '[Avoidable mortality in the European Union: Towards better indicators for the effectiveness of health systems](#)' (AMIEHS, 2011) and an Office for Economic Co-operation and Development (OECD) working paper '[Mortality amenable to health care in 31 OECD countries: estimates and methodological issues](#)' (OECD, 2011) both considering approaches to measuring avoidable mortality and the use of statistics as an indicator of healthcare.

Results on the Office for National Statistics Website

Mortality figures for causes considered to be potentially avoidable for England and Wales, England, Wales and the regions of England are available on the [Office for National Statistics](#).

The three workbooks contain:

- Results for England and Wales, England and Wales – age-standardised rates per 100,000 population (with 95 per cent confidence intervals) and numbers of deaths for causes considered avoidable, amenable or preventable for the period 2001–2010. Data are available split by cause group: infections; neoplasms; drug use disorders; cardiovascular diseases; respiratory diseases; injuries; and other conditions.
- Results for England and Wales, England, Wales and the regions of England – age-standardised rates per 100,000 population (with 95 per cent confidence intervals) and numbers of deaths for causes considered avoidable for the period 2001–2010. Data are available for males, females and all persons.
- Results for England and Wales, England and Wales – underlying dataset containing the number of deaths for each cause considered avoidable, grouped by sex and five-year age-group.

References

[AMIEHS \(2011\) Avoidable mortality in the European Union: Towards better indicators for the effectiveness of health systems, Final Report](#)

[Department of Health \(2011\) NHS Outcomes Framework 2012-13](#)

[Department of Health \(2012\) Public Health Outcomes Framework](#)

[Grant I, Munoz-Arroyo R, Oduro S, Whyte B and Fischbacher C \(2006\) Mortality amenable to Health Care in Scotland 1981-2004](#)

[Mills EJ, Rachlis B, Wu P, Devereaux PJ, Arora P and Perri D \(2009\) Primary prevention of cardiovascular mortality and events with statin treatments: a network meta-analysis involving more than 65,000 patients](#)

[OECD \(2011\) Mortality amenable to health care in 31 OECD countries: estimates and methodological issues OECD Working Papers No. 55](#)

[ONS \(2012\) Definition of Avoidable Mortality](#)

Background notes

1. Statistics on mortality are derived from the information provided when deaths are certified and registered. Further information about the methods and quality of these statistics can be found in 'Mortality Metadata' available here: www.ons.gov.uk/ons/guide-method/user-guidance/health-and-life-events/mortality-metadata.pdf
2. This bulletin presents age-standardised (also known as 'directly-standardised') rates, standardised to the European Standard Population. These make allowances for differences in the age structure of the population, over time and between sexes. The age-standardised rate for

a particular cause of death is that which would have occurred if the observed age-specific rates for that cause had applied in the given standard population.

3. Figures are for deaths registered in each calendar year.
4. Within this bulletin, a difference which is described as 'statistically significant' has been assessed using 95 per cent confidence intervals. If a difference is said to be statistically significant, it is unlikely that it could have occurred by chance alone.
5. Confidence intervals give a measure of the statistical precision of an estimate and show the range of uncertainty around the estimated figure. As a general rule, if the confidence interval around one figure overlaps with the interval around another, we cannot say with certainty that there is more than a chance difference between the two figures. Mortality rates included in this bulletin are presented with 95 per cent confidence intervals in the reference tables accompanying this release and can be found here: www.ons.gov.uk/ons/publications/reference-tables.html?edition=tcM%3A77-262418
6. Special extracts and tabulations of mortality data for England and Wales are available to order for a charge (subject to legal frameworks, disclosure control, resources and agreement of costs, where appropriate). Such requests or enquiries should be made to:

Mortality Analysis Team, Health and Life Events Division

Office for National Statistics

Government Buildings

Cardiff Road

Newport

NP10 8XG

Tel: +44 (0)1633 456736

E-mail: mortality@ons.gsi.gov.uk

7. As a valued user of our statistics, we would welcome feedback on this release. In particular, the content, format and structure. This is in line with the Health and Life Events user engagement strategy, available to download from the ONS website at: www.ons.gov.uk/ons/guide-method/method-quality/user-engagement/index.html

Please send feedback to the postal or e-mail address above.

8. Follow ONS on [Twitter](#) and [Facebook](#).

9. A list of the names of those given pre-publication access to the statistics and written commentary is available in '[Pre-release access list to Avoidable Mortality in England and Wales, 2010](#)'. The rules and principles which govern pre-release access are featured within the [Pre-release Access to Official Statistics Order 2008](#).
10. Experimental statistics are new official statistics undergoing evaluation. They are published in order to involve users and stakeholders in their development and as a means to build in quality at an early stage.
11. Details of the policy governing the release of new data are available by visiting www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html or from the Media Relations Office email: media.relations@ons.gsi.gov.uk

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This document is also available on our website at www.ons.gov.uk.

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