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in brief

Population estimates for England and Wales

Mid-2002 and revised mid-2001 population estimates for England and Wales were published on 26th September 2003. The mid-2002 population estimate for England and Wales is 52,455,300. The revised mid-2001 population estimate for England and Wales is 52,277,100. The change in population between mid-2001 and mid-2002 is an increase of 178,200 for England and Wales.

Since the release of Census data in September 2002, ONS has been conducting a number of studies to understand better the reasons for the difference between the 2001 Census based estimates and the mid-year population estimates rolled forward from earlier Censuses. A high proportion of the difference has been explained by two factors. These are the previous overestimation of the mid-1991 population estimates, which impacted on the rolled forward estimates between 1991 and 2001, and errors in estimating migration. It is well known that migration is difficult to estimate accurately due to the lack of data sources, particularly on emigration. The mid-1991 population estimates were revised in Feb 2003 and migration estimates were revised in June 2003. Those two revisions explained around 60 per cent of the difference. However, as ONS explained when the migration revisions were published they did not account for all of the difference.

Further research was required to help explain the difference and it was these studies that led to the decision to revise the mid-2001 population estimates. The revised mid-2001 population of England and Wales is increased by 192,600 compared to the mid-2001 population estimates previously published in October 2002, most of the increase is to young men aged 25–34. Both 2001 and 2002 mid-

year population estimates are based upon the best available evidence and our understanding of the population. More information about the revision and the evidence that led to the decision to revise mid-2001 is available on the National Statistics website at http://www.statistics.gov.uk/about/methodology_by_theme/revisions_to_population_estimates/default.asp

The revisions to the mid-2001 population estimates mean that the historic population series for 1992 to 2000 needs to be revised to ensure consistency over time. ONS plan to issue an interim revised series for England and Wales on 23 October that will be a guide to the extent of revision that is required and that will meet some specific user needs for an historic series. A more detailed revised historic series at local authority level will be published in Spring 2004.

ONS has a programme of continual research into population statistics and recently a study was published *A Demographic Statistics Service for the 21st Century* that may have implications for how population estimates are produced in the future. In addition matching studies are currently being undertaken for Manchester and Westminster and until these are completed we cannot preclude further adjustments to the population estimates for some areas.

The implications for population statistics included in the reference tables

The mid-2002 and revised mid-2001 population estimates by age and sex, published on 26 September, have been included in the reference tables in this edition of *Health Statistics Quarterly*, both in their own right and as denominators. The historic estimates for mid-1992 to mid-2000 are those that were published in February 2003; these had been revised on the basis of the original mid-2001 population estimates. They do not take account of the recent revision to the mid-2001 population estimates and so they are shortly to be revised again. Users are alerted to the temporary status of these estimates by the fact that they carry green background shading. The population estimates for earlier years 1982–1991 are not subject to further revision and these are therefore unshaded.

Some other estimates shown in the tables eg population estimates by marital status for 2001 carry a grey background shading. This is to signify that these are original estimates that have not yet been revised

Seasonal mortality

An article describing seasonal variation in mortality over the last 50 years appears in this issue of *Health Statistics Quarterly*. Figures for Excess Winter Mortality for 2001/2 and provisional figures for 2002/3 and estimates of the number of deaths occurring during the months of July and August 2003 are available in the 'Society' section of 'UK at a glance' on the National Statistics website:

<http://www.statistics.gov.uk/glance/>

Further work is planned to analyse the impact of the weather and air quality on mortality and other health indicators over the 2003 summer period.

Preliminary results from the 2001 Census – Longitudinal Study Link

On 19 September 2003 the Office for National Statistics (ONS) published *Longitudinal Study 1971–2001: Completeness of Census Linkage*, which is the tenth in the series of ONS volumes on the Longitudinal Study (LS). The LS links census and vital events information for 1% of the population of England and Wales from 1971. Following the first successful linkage between the 1971 and 1981 censuses, a detailed report was produced on the quality of linkage and changes in individual circumstances over the intercensal period. Information from the LS has also been used to validate information collected at census as well as for substantive analyses of intercensal change and prospective analysis of fertility, migration and mortality. The extent to which linkage is successfully achieved at each census is crucial to these uses.

This report provides a first assessment of the linkage of 2001 census records to the existing study records, using provisional data obtained from the recently completed linkage. It compares success rates in matching 2001 census records to those achieved in 1981 and 1991. It addresses the following questions:

- How many individuals identified in the LS on previous occasions were not found in 2001?
- What were their characteristics?
- What might account for the loss to follow-up of these individuals?

To assess whether the reduction in coverage in the LS over time can readily be explained, adjustments were made to the numbers lost to follow-up for reasons other than recorded migration and death. These adjustments took account of both losses to follow-up (from unrecorded migration and mismatched census records), comparable to those that might be expected in any longitudinal study, and recognised levels of under-enumeration in recent censuses.

The adjustments that were made to account for losses to follow up from the LS in 1991 and 2001 were based on the assumption that these losses reflected the accumulation of similar types of loss to those that had occurred in the study during the 1970s.

The report is available free from the National Statistics website at <http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=10721>

Life expectancy at birth – results for health and local authorities in England and Wales, 2000–2002

Life expectancy at birth figures for subnational areas of England and Wales have now been published on the National Statistics website for the aggregated years 2000–2002. These present results for local authorities, Government Office Regions, Strategic Health Authorities in England and the three Regional Offices of the Welsh National Assembly's NHS Wales Department. They are available on the NS website at:

<http://www.statistics.gov.uk/statbase/Product.asp?vlnk=8841>

These figures have been based on deaths registered in 2000–2002 and mid-year population estimates for these years. The population estimates used were as follows. For 2000, revised estimates based on the 2001 Census published in February 2003. For 2001, revised estimates first published in September 2003, and for 2002, estimates first published in September 2003.

Revised mid-year population estimates for local authorities for the years 1992–2000 are planned for release by ONS in spring 2004. Once these are available the current time series of life expectancy results from 1991–1993 to 2000–2002 will be revised. Results for health and local authorities in Scotland and Northern Ireland for 2000–2002 will also be published in a further report in 2004.

In 2001 the government announced two national health inequalities targets. One of these is to reduce by at least 10 per cent the gap between the fifth of local authorities with the lowest life expectancy at birth and the population as a whole. To facilitate monitoring of this target, ONS has calculated for the first time in this report the aggregated life expectancy of that fifth of local authorities with the lowest life expectancy at birth results. This has been done for England and Wales separately. Those authorities which fall in the bottom fifth can also be identified in the tables published on the website.

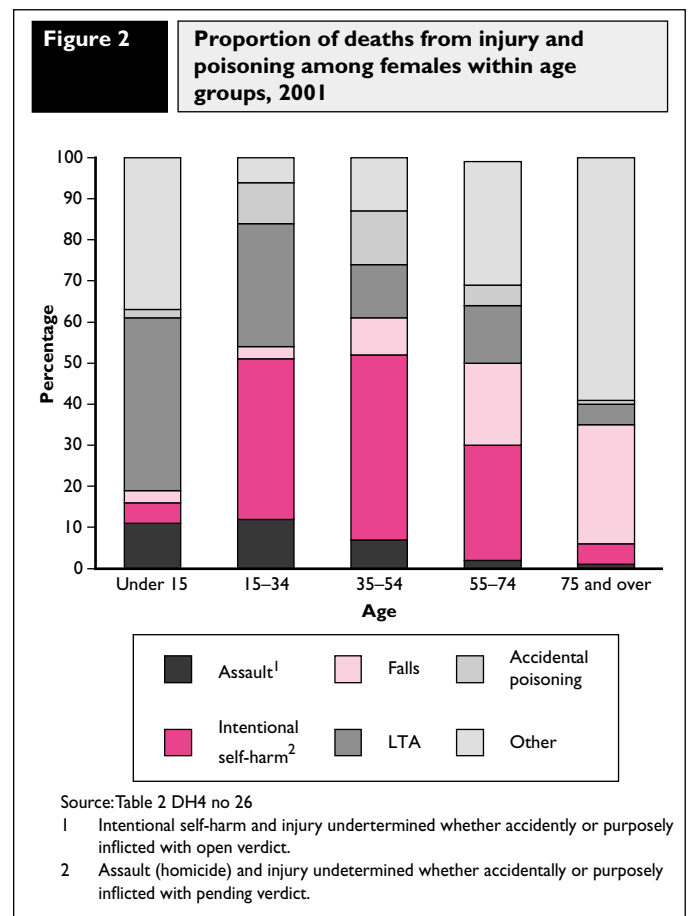
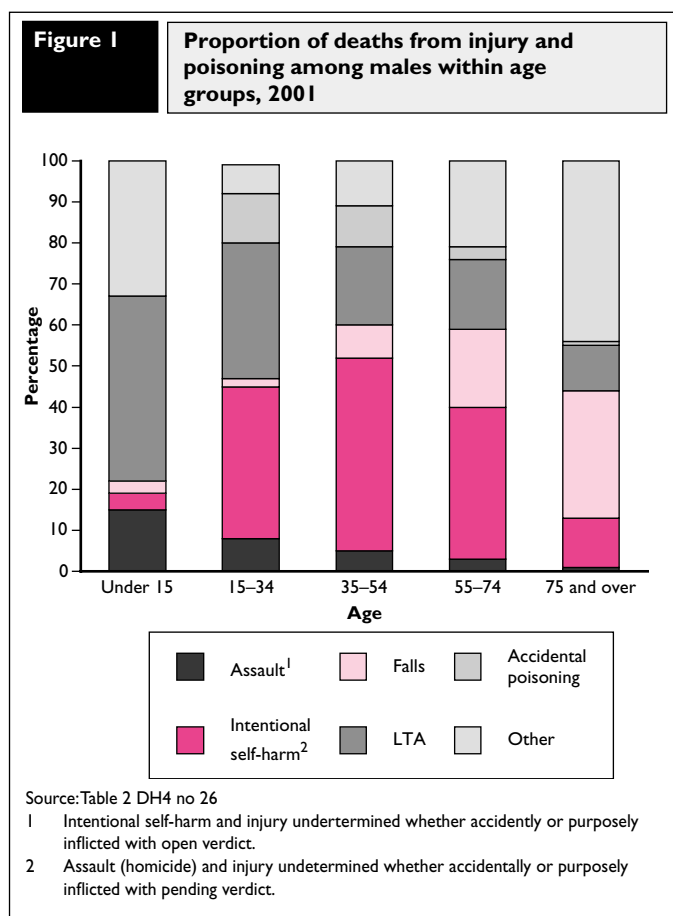
Correction to Mortality statistics 2001: injury and poisoning

A formatting error has been detected in the annual update 'Mortality statistics 2001: injury and poisoning' which was published in *Health Statistics Quarterly* 19 on 21 August 2003.

In Figures 1 and 2 on page 76, several categories were missing from the chart, with the result that certain proportions were misrepresented in the diagram.

In Figure 2, for females aged 15–34, several causes were omitted from the bar chart: Deaths due to falls; Land transport accidents (LTAs); Accidental poisoning and Other. The result was that the proportions shown for Assault and Intentional self-harm were inaccurate. Similar errors were found in some of the other age categories in both Figures 1 and 2.

Figures 1 and 2 shown below correct the formatting error.



Recent Publications

Census 2001 Report for Parliamentary Constituencies (TSO, £45 (including VAT), September ISBN 0-11-621667-0). A CD-ROM is also included with this publication.

Contraception and sexual health, 2002, (September, available on the National Statistics website at www.statistics.gov.uk/statbase/Product.asp?vlnk=6988)

LS User Guide 20. Researching households and families using the ONS Longitudinal Study (September, available on the National Statistics website at www.statistics.gov.uk/statbase/Product.asp?vlnk=10641)

Mortality statistics, 2001, injury and poisoning, England and Wales, Series DH4 no.26 (July, available on the National Statistics website at www.statistics.gov.uk/statbase/Product.asp?vlnk=621)

Population Trends 113 (TSO, £20, September, ISBN 0-11-621635-2)

All of the above publications from TSO can be ordered on 0870 600 5522 or online at www.tso.co.uk/bookshop. They can also be downloaded free of charge from the National Statistics website.

Health indicators

England and Wales

Figure A Population change (mid-year to mid-year)¹

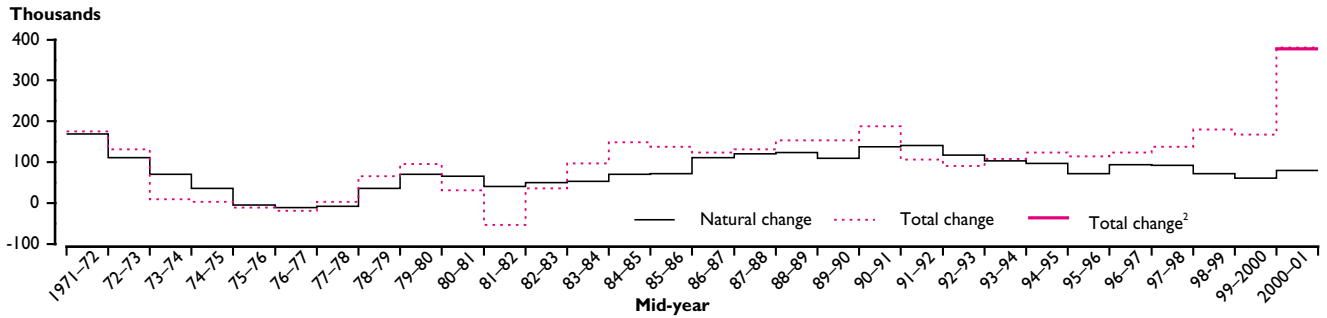


Figure B Age-standardised mortality rate¹

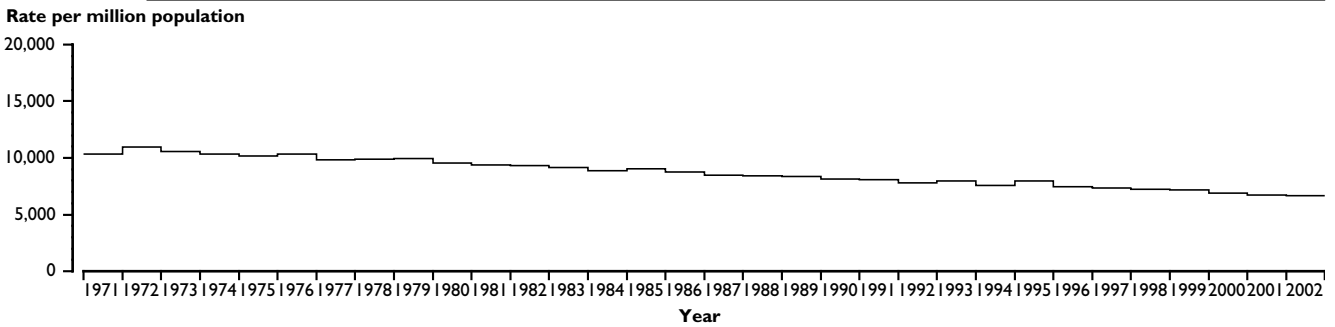


Figure C Infant mortality (under 1 year)

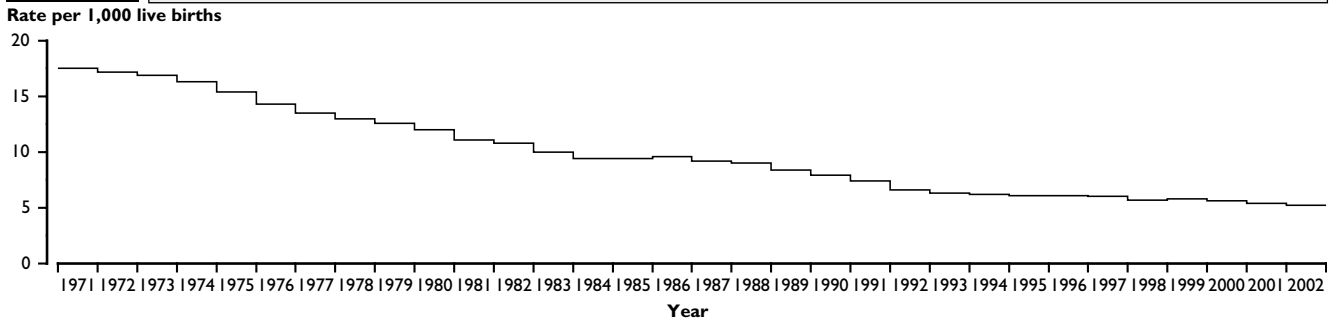
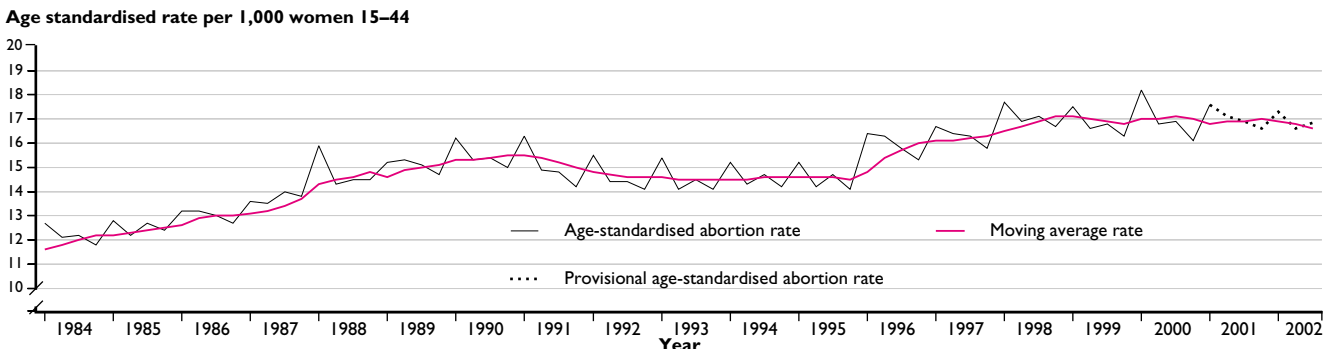


Figure D Age-standardised quarterly abortion rates – residents¹



¹ Population estimates/denominators from 1982 to 2000 are the revised estimates based on the original mid-2001 population estimates. They will be revised in light of the revisions made to the original mid-2001 estimates, which were released on 26 September 2003. See page 2 of 'in brief' for details.

² Population estimates for mid-2001 are those which were released on 26 September 2003.

Trends in suicide by method in England and Wales, 1979 to 2001

Anita Brock and Clare Griffiths,
Office for National Statistics

INTRODUCTION

A recently published article in *Health Statistics Quarterly 19*¹ found that mortality had increased in young adults during the 1990s, contrary to the trend seen in other age groups. In 1998 suicide deaths in young adult males reached a peak (accounted for approximately a fifth of all young adult male deaths). The Government has put several health strategies in place to reduce deaths in young adults, which includes a Suicide Prevention Strategy² target of reducing suicide deaths in all ages by a fifth by 2010. This article takes a more in-depth look at trends in suicide among young adults and also examines suicide trends by method for older age groups.

This article updates and extends previous work³ that investigated the trends in suicide in England and Wales. We have used population estimates (published in March 2003) that were revised on the basis of the 2001 Census results and have extended previous analyses to 2001. In addition, we have examined trends in suicide by the method of injury taken from textual information on death certificates in some cases.

As the Tenth Revision of the International Classification of Diseases (ICD-10) was introduced in 2001 for mortality data in England and Wales, we have also examined the impact of this on data available to examine trends in suicide. This is the most radical change in the ICD within the last 50 years. ONS has developed webpages documenting the effect that ICD-10 has had on mortality statistics for England and Wales and has produced several articles and reports⁴⁻⁶ including a recently published article documenting changes in injury and poisoning deaths.⁷ The main change between these two revisions for suicide is that the fourth digit of ICD-10 now classifies place of occurrence of the event. This is useful but means that some detail on specific methods of injury

This article examines trends in suicide by method in England and Wales for 1979 to 2001. It updates previous analyses with population estimates revised following the 2001 Census and extends analyses to 2001. The article also examines the impact of the introduction of ICD-10 on analysis of trends in suicide by method and, for the first time, uses textual information from death certificates to look in more detail at particular methods of suicide.

have been lost. In this article we have examined whether it is possible to categorise these methods by investigating the cause of death and coroner's text on the death records.

DATA AND METHODS

In this analysis 'suicide' has been defined as deaths where the coroner has given a verdict of suicide or where an open verdict was reached in a death from injury and poisoning. Open verdicts accounted for an average of a quarter of male and a third of female suicide deaths from 1979 to 2001, although this figure had risen slightly over this period and in 2001 stood at 28 per cent for men and 38 per cent for women. Except in children, it is thought that most open verdicts are cases where the harm was self-inflicted but there was insufficient evidence to prove that the deceased deliberately intended to kill themselves.⁸ In this analysis we have excluded all deaths assigned to code ICD-9 E988.8 and ICD-10 Y33.9 where the verdict was still pending investigation, as these codes are used in England and Wales in cases where a coroner adjourns an inquest awaiting prosecution of a third party in a higher court. The coroner is able to register these deaths before legal proceedings have been completed (accelerated registration).⁹ As a large proportion of these cases are subsequently found to be homicides, these deaths were not included in this analysis as their inclusion would present a misleading picture of suicide trends. There were an average of 230 male and 110 female deaths each year from 1979 to 2001 coded to these codes that were excluded from this analysis.

Suicide data for children are not comparable to those for adults due to the high number of open verdicts compared to suicide verdicts that are recorded in these cases. These open verdicts cannot be considered suicides in the way that they are for adults. Therefore, although a section has been included on child suicide, the data are not comparable to the rest of the article which concentrates on suicide mortality in persons aged 15 and over.

As suicide deaths are coded using the coroner's verdict, the total numbers of deaths per year are comparable between ICD-9 and ICD-10. However, there are several changes within the classification by method of injury between ICD-9 and ICD-10. These mainly concern 4th digit definitions. In ICD-9 the 4th digit was used as a more detailed classification for method of injury. In ICD-10, however, the 4th digit has been used to code place of occurrence of event.

This means that a more detailed classification cannot be attained by using ICD codes alone for certain methods of suicide in ICD-10. An example of this is ICD-9 E952.0 – Self-inflicted injury by poisoning by other gases and vapours, motor vehicle exhaust gas. In ICD-10 the comparable code is X67 – Intentional self-harm by other gases and vapours. This code contains carbon monoxide, tear gas, nitrogen oxide, sulphur dioxide, and utility gas as well as motor vehicle exhaust gas. In this case the poison can be identified using nature of injury code ICD-10 T58 – Toxic effect of carbon monoxide, but the source of the poison can not, eg domestic supply, motor vehicle exhaust gas, etc. This is also the case for hanging (ICD-9 E953.0) and suffocation by plastic bag (ICD-9 E953.1) where the comparable ICD-10 code is X70 – 'Hanging, strangulation and suffocation'. The nature of injury code ICD-10 T71 – Asphyxiation, is of no use here as there is no differentiation between the source of the mechanical threat to breathing or suffocation. Since 1993, the text from death certificates, including information from the coroner, has been stored electronically. In this analysis we have therefore used this information to examine whether consistency across ICD Revisions for these two methods of suicide can be achieved.

There has also been considerable interest in suicide deaths from 'tracked vehicles', including railway and underground trains. In both ICD-9 and ICD-10 a definition for self-inflicted or undetermined injury incurred by or from trains did not exist – they were included in the wider definition of 'Jumping or lying before moving object' (ICD-9 E958.0; ICD-10 X81) and 'Electrocution' (ICD-9 E958.4; ICD-10 X83). Using the electronic text information held by ONS, these data have been analysed to look for mentions of these forms of transport. Text was also checked for mention of tracked vehicles in ICD-9 E958.8 and ICD-10 X82 – crashing of motor vehicle.

The relevant ICD codes for open verdicts were also examined in this way. Annex 1 shows the ICD codes, for both the Ninth and Tenth Revisions, used in this analysis.

The mortality rates examined in this article were calculated using the latest revised population estimates for England and Wales. These revised population estimates have affected the mortality rates of young men and elderly women. The impact of this on suicide mortality rates is shown in Box 1.

Most of the rates that appear in this article have been directly age-standardised. Directly age-standardised rates make allowances for differences in the age structure of the population, over time and between sexes. The age-standardised rate (ASR) for a particular disease is that which would have occurred if the observed age-specific rates (ie (deaths in age-group/mid-year population in age group)* 100,000) for the disease had applied in a given standard population, in this case the European Standard Population. This is a hypothetical population standard, which is the same for both males and females, allowing standardised rates to be compared for each sex over time, or between places, and between males and females.

DATA QUALITY

ONS uses the ICD to code suicide deaths based on a coroner's verdict. For the coroner to reach a suicide verdict he/she requires proof beyond reasonable doubt of the intention to end life, not just that the death occurred as a result of the actions taken by the person who died. This proof is often hard to establish, since there may often be a possibility that the individual took the action leading to the death as a sign of acute distress and a signal for help. This, taken with the wish of many coroners to avoid adding to the family's distress, means that the outcomes of coroner's inquests understate the scale of suicide. For this reason, ONS routinely includes open verdicts in deaths from injury and poisoning within its definition of suicide, although some of these cases may be the result of accidents or abuse. Others have suggested that some accidental death verdicts should also be counted as suicide.¹¹ In this analysis, however, we have classified suicide as deaths from injury and poisoning with a suicide or an open verdict.

Suicide data used in this article are for deaths registered during the calendar year from 1979 to 1992, and for deaths occurring in the calendar year from 1993 onwards. From 1993, ONS annual mortality statistics changed to an occurrence basis to make it easier to analyse changes over time. By law a death should be registered 'before the expiration of five days from the date of the death'¹² unless it has been reported to the coroner. All deaths for which a verdict of suicide (or an open verdict) was reached would have been subject to a coroner's inquest. In the case of violent deaths, however, where a coroner needs to hold an inquest before reaching a verdict, this is almost impossible. Previous analysis has shown that a large proportion (71 per cent) of suicide deaths are

Box one

The effect of the revised population estimates on mortality rates for adults in England and Wales

The 2001 Census results showed that previous mid-year population estimates (MYEs) for England and Wales were overestimates of the population. MYEs based on the 2001 Census were published in September 2002 and figures for the years 1982 to 2000 were rebased using the 2001 Census data and released in March 2003. The main groups affected by these revisions were young men and elderly women.¹⁰ The analysis in this article is based entirely on the 2001 Census rebased MYEs. The MYEs for 2001 have since been revised (in September 2003). The revision mainly affects young men aged 25 to 34. Revised MYEs for 1992 to 2000 are to be released after this article goes to publication.

Figure A shows age-standardised suicide[†] mortality rates for young adult men aged 15–44 in England and Wales from 1979 to 2001. The rate has been calculated using the original MYEs based on the 1991 Census, the revised MYEs based on the 2001 Census, and an age-standardised rate has been calculated using the September 2003 revision to the 2001 MYEs. When a similar figure was calculated for women and elderly adults the effect on the age-standardised mortality rate was minimal.

Table A below shows age-standardised rates for young adult men aged 15–44 for the year 2001 using both the original and revised MYEs for 2001 for all causes of death and for suicide.

† See Annex I for definition of suicide.

Figure A Age-standardised rate for suicide, men aged 15–44, using original and revised population estimates, 1979–2001

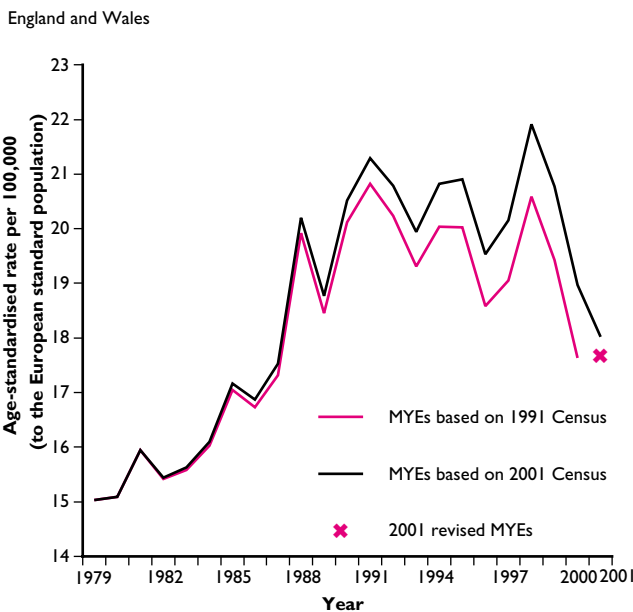


Table A Age-standardised mortality rate in young adult men aged 15–44 using the original and revised population estimates, 2001

	Rate per 100,000 population*	
	All causes	Suicide
Original 2001 population estimates	108.57	18.02
Revised 2001 population estimates	106.92	17.68
Percentage difference	-1.52	-1.89

* Age-standardised to the European standard population.

registered within 3 months of the death occurring,¹³ ONS therefore extracts a dataset based on date of occurrence of death roughly 9 months after the end of the year, by which time 98 per cent of suicides occurring in the year have been registered.

In 1993 a revised coroner’s reporting form was introduced (Form 99(REV)). The form, for deaths certified after inquest, contains a section (Part V) which asks the coroner to list the details of how an ‘accident’ happened.¹⁴ It is not compulsory for the coroner to complete this part of the form and they are only asked to do so for accidents. However, some coroner’s provide additional information for suicides. These details, along with any text entered into the cause of death section of the form, have been stored electronically by ONS since this time and have been used in this analysis to examine whether more detailed methods of injury could be obtained. As it is not compulsory for the coroner to complete Part V of the form any results obtained in this way will be incomplete.

RESULTS

Trends by sex and age

As previous research has shown that suicide and attempted suicide among children is primarily a problem in older teenagers³ our analysis does not cover the age group 0–9. We have classified persons aged 15 and over as adults so that comparisons can be made with previous analysis of young adult mortality trends.¹ Although suicide accounted for less than 1 per cent of deaths at all ages in 2001 it accounted for 14 per cent of all deaths in young adults aged 15–44.

Children aged 10–14

There were no suicide verdicts recorded during the period covered for children under the age of 11 but in Table 1 we have included children aged 10 to be consistent with previous analysis.³ There are more undetermined deaths than suicide deaths at all ages in children and

there are on average two and a half times the number of male deaths to female deaths although this decreases with age. It is not possible to ascertain from ONS records how many of these undetermined deaths are really suicides that could not be confirmed and how many were caused by unverifiable abuse, neglect, or accidents. These verdicts combined accounted for just over 2 per cent of all deaths in children aged 10–14 during this period. Over two thirds of male deaths with a suicide or open verdict were from ‘hanging, strangulation or suffocation’ whereas this method accounted for a third of suicide and a fifth of open verdicts in females. Poisoning accounted for almost half of all suicide and over half of all open verdicts in females but less than 12 per cent of suicides and 4 per cent of open verdicts in males. Other research has found no indication of a major change in suicide rates in children aged 10-14.¹⁵

Adults aged 15 and over

In adults, when suicide is examined by sex it can be seen that more men commit suicide than women and that this gap had widened. In 1979 there were roughly 1.6 suicide deaths in men for every suicide death in women. By 2001 this had increased to 3.5 male deaths to one female death. This

is also seen in open verdicts where there were 1.2 male deaths to every female death in 1979 but this had increased to 2.2 male deaths to each female death in 2001. Figure 1 shows the age-standardised rate for both suicide and open verdicts by sex from 1979 to 2001. Suicide deaths in women had fallen by half from 1979 to the mid-1990s but then levelled off whereas open verdicts started to slowly decline from the mid-1980s. Suicide deaths in men, however, rose throughout the 1980s by almost 20 per cent. From this time they declined steadily and in 2001 stood at just under what they were in 1979. This increase during the 1980s was also seen in deaths with an open verdict but a decline was not seen during the 1990s.

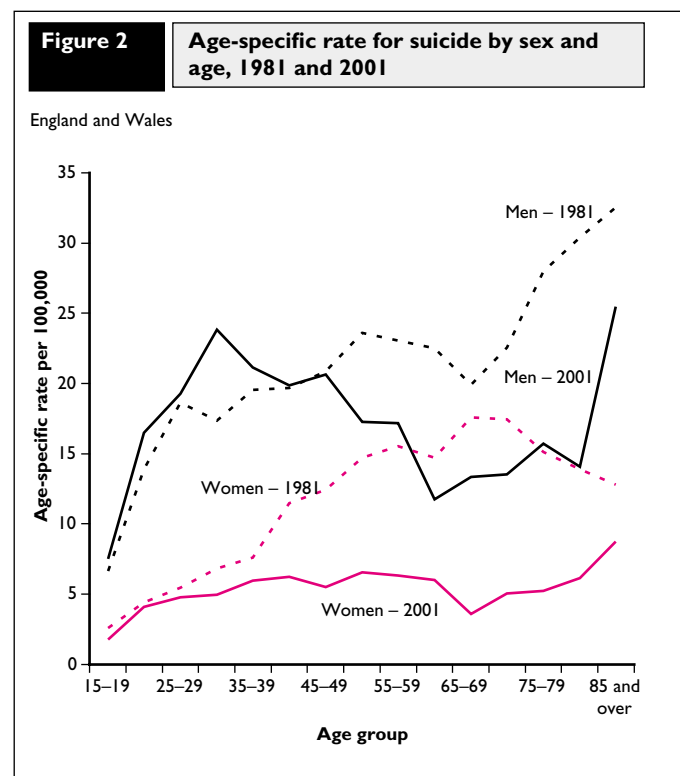
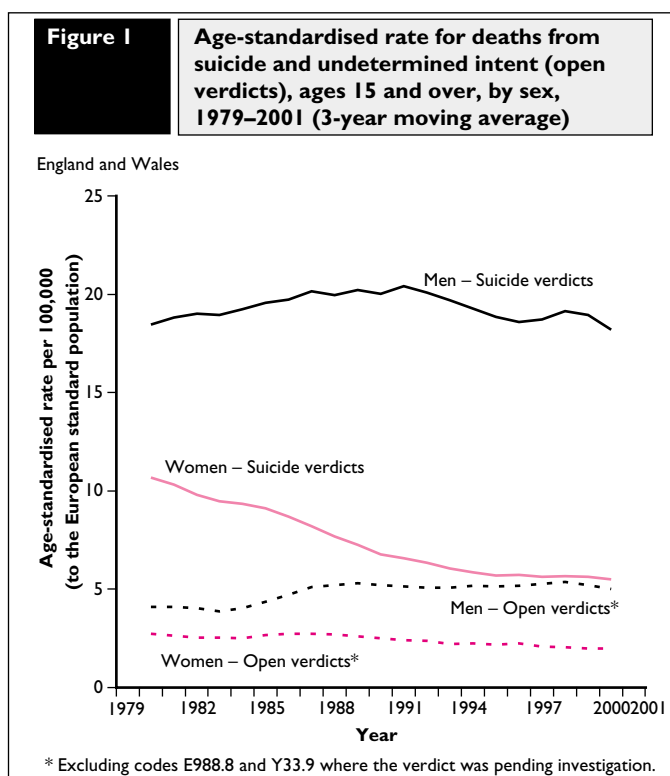
The term ‘suicide’ is used in the remainder of this article to refer to suicide and open verdicts combined. Open verdicts accounted for 28 and 38 per cent of all suicide deaths in 2001 for men and women respectively, compared with 23 and 28 per cent respectively in 1979.

Figure 2 shows age-specific mortality rates by sex and age group from suicide for 1981 and 2001. It can be seen that in 1981 men had a higher

Table 1 Number of suicides and undetermined intent deaths (open verdicts) by sex, ages 10–14, 1979–2001

		Age						Percentage by method		
		10	11	12	13	14	10–14	Hanging*	Poisoning†	Other methods
Males	Suicide verdict	0	3	5	14	38	60	70.0	11.7	18.3
	Open verdict	14	16	26	44	68	168	68.5	4.2	27.3
Females	Suicide verdict	0	0	1	15	21	37	35.1	40.5	24.4
	Open verdict	3	5	12	12	33	65	21.5	58.5	20.0

* Hanging, strangulation and suffocation.
† Poisoning by solid or liquid substance.



mortality rate from age 50 onwards than they did in 2001, whereas for men aged 15–44 the mortality rate was higher in 2001 than in 1981. Women, however, had a higher suicide rate in 1981 than in 2001 at all ages. Among older men, suicide rates generally increased with age in 1981 (although there was a slight decrease between ages 50 to 69). In 2001, male suicide rates by age rose to a peak at ages 30–34, then decreased with age until age 64 after which they again rose with age. Although the rates in older adult women decreased with age from age 65 in 1981 this pattern was reversed in 2001 when the suicide rate increased with age above age 65.

Figure 3 shows age standardised suicide rates by sex and age group from 1979 to 2001. The age groups 15–44, 45–74 and 75 and over have been used to facilitate comparisons with previous analysis into mortality trends in young adults.¹ In this article those aged 15 to 44 will be referred to as young adults, those aged 45–74 as older adults and those aged 75 and over as the elderly. It can be seen that suicide rates in young adult men aged 15–44 increased throughout the 1980s whereas rates were stabilising or falling for older adults during this period. Since the late 1990s, young adult men have had the highest suicide rate of all age groups and this age group accounted for 56 per cent of all suicide deaths in men in 2001 (60 per cent at a peak in 1998). In women suicide rates have been falling in all age groups but have stopped declining since the late 1990s. However, suicide in young adult women accounted for nearly a half of all women's suicide deaths from the late 1990s.

Trends by method of suicide

The likelihood of committing suicide will depend to some extent on the ease of access to, and knowledge of, effective means.³ Figure 4 shows the age-standardised suicide rate by sex for the 4 most common methods of injury from 1979 to 2001 in adults.

The three main methods of suicide in men during this period in order of magnitude were 'hanging, strangulation and suffocation'; drug poisoning; and 'other poisoning' (which was mainly comprised of motor vehicle exhaust gas). 'Hanging, strangulation and suffocation' had been the most common method of suicide since the 1980s although 'other poisoning' briefly became the most common method during the early 1990s. 'Hanging, strangulation and suffocation' as a method of suicide

in men increased dramatically during the 1990s and accounted for almost half of all suicide deaths in men from 1998 onwards. Suicide from drug poisoning fell by almost a third between 1979 and the mid-1980s, but then stopped declining and averaged around 3.7 deaths per 100,000 from 1990 onwards. Drug poisoning accounted for a fifth of all suicide deaths in men in 2001. 'Other poisoning' deaths increased dramatically during the 1980s and then just as dramatically declined during the 1990s. This coincides with legislation from January 1993 onwards which required all new petrol vehicles to be fitted with catalytic converters, which reduce carbon monoxide emissions, and the reduction in the carbon monoxide content of the domestic gas supply.³ At its peak in the early 1990s 'other poisoning' accounted for almost a third of suicide deaths in men, but by 2001 this method accounted for only 10 per cent.

In contrast, drug poisoning was the most common method of suicide in women, followed by 'hanging, strangulation and suffocation', and drowning, although from 1990 to 1997 suicide rates from 'other poisoning' replaced drowning to become the third most common method. Drug poisoning accounted for approximately half of all suicide deaths throughout the period covered. Although the drug poisoning suicide rate fell by almost half during the 1980s this decline slowed and the rate only fell by 12 per cent during the 1990s. Suicide from 'hanging, strangulation and suffocation' fell from the mid-1980s to the mid-1990s but then saw an increase of over 50 per cent into the new century and accounted for a quarter of all suicide deaths in women in 2001. Suicide deaths due to drowning saw a steady decline throughout the 1980s and 1990s with the rate falling by 75 per cent over this period. Although drowning accounted for 15 per cent of all suicide deaths in women in 1979 this had dropped to 7 per cent by 2001. Suicides from 'other' poisoning saw the same increase and decline that occurred in men but also saw an earlier rise in 1985. At a peak in 1990 this method accounted for 10 per cent of suicide deaths in women.

Table 2 shows suicide data by sex, age group and method for the years 1981, 1991 and 2001. It can be seen that there has been an increase in the proportion of suicide deaths in young adults of both sexes although that seen in women is greater than in men. In 2001, over half of all suicides in men and almost half of all suicides in women occurred in young adults.

Figure 3

Age-standardised rate for suicide by sex and adult age group, 1979–2001 (3-year moving average)

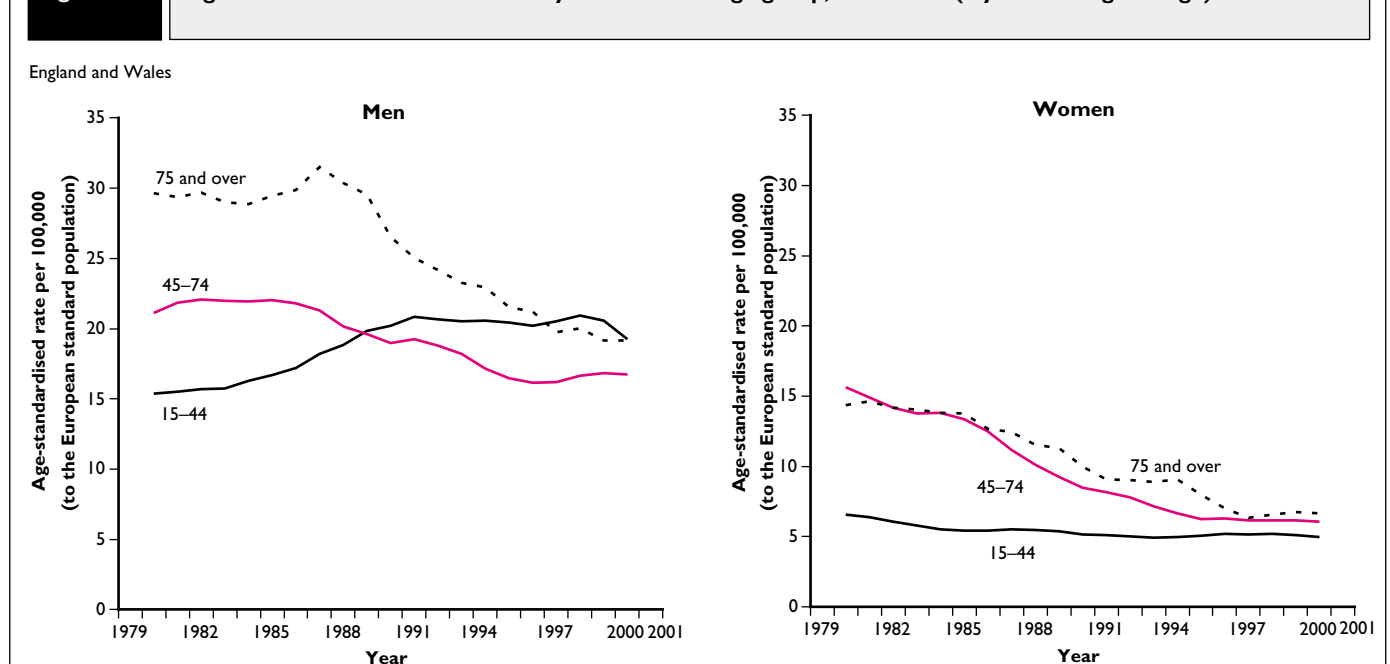
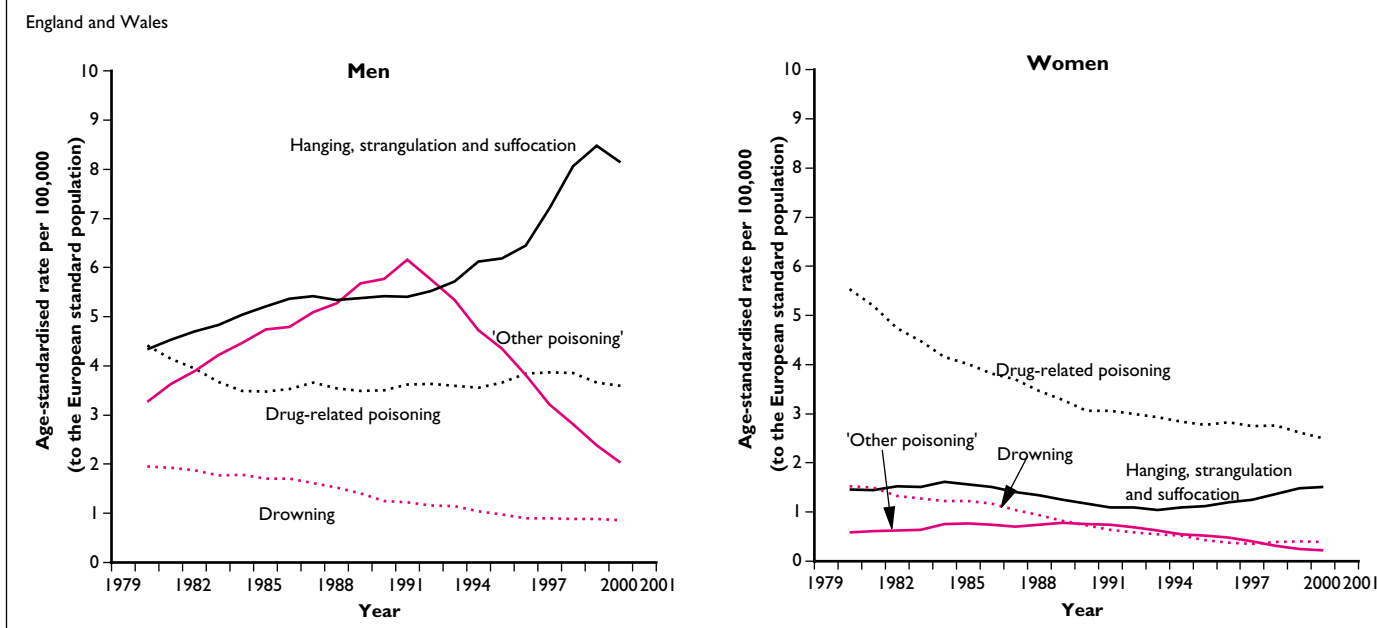


Figure 4

Age-standardised rate for suicide by method of injury and sex, ages 15 and over, 1979–2001 (3-year moving average)



In young adult men aged 15–44 in 1981 and 1991, ‘other poisoning’ (which was mostly comprised of motor vehicle exhaust gas) was the main method used accounting for a quarter of suicide deaths. In 2001, however, ‘hanging, strangulation and suffocation’ was responsible for almost a half of all suicides in young adult men and ‘other poisoning’ accounted for only 10 per cent. In older adult men aged 45–74, ‘hanging, strangulation and suffocation’ was the most common method of suicide in 1981 accounting for a quarter of all suicide deaths in this age group. In 1991, however, although this method still accounted for a quarter of all suicide deaths in older adult men, more were caused by ‘other poisoning’. But by 2001, as in young adult men, suicide from ‘other poisoning’ had decreased and suicide by ‘hanging, strangulation and suffocation’ was the most common method. In elderly men ‘hanging, strangulation and suffocation’ was the most common method of suicide accounting for a third of all suicide deaths in this age group in 1981 and 1991 and over 40 per cent in 2001.

Drug poisoning was the most common method of suicide in women in all age groups across the period covered. Drug poisoning accounted for almost half of all suicide deaths in all age groups in women. The second most common method across all age groups was ‘hanging, strangulation and suffocation’. In women of all ages the proportion using this method of injury had increased but this had especially been the case in young adult women where ‘hanging, strangulation and suffocation’ was responsible for almost a third of suicide deaths in 2001 compared to 13 per cent in 1981.

‘Hanging, strangulation and suffocation’

This is the most common method of suicide in men and the second most common in women. In ICD-10 there is no more detailed definition than the broad group ‘Hanging, strangulation and suffocation’, whereas in ICD-9 the 4th digit was used to classify deaths from hanging and from suffocation by plastic bag separately, and the nature of injury code does not aid in classifying these deaths any further. We therefore inspected any text on death certificates and any coroner’s text to classify these cases. A death was classified as hanging if the words ‘hanging’, ‘hung’, or ‘suspended’ were found in the death or coroner’s text. If ‘plastic bag’ or ‘bag’ without mention of any other method was found these cases were classified as plastic bag. If ‘ligature’ was mentioned without any

other text referring to either hanging or plastic bag then this was noted as ‘not stated’. Table 3 below shows that most of these deaths in both sexes, except in elderly adults, were due to hanging which concurs with data where ICD classifications were available (the second part of the table). The high proportion of ‘not stated’ classifications in elderly adult women may show that the details in Part V of the coroners certificate for these cases were not completed as fully as they were for persons of younger ages or men of the same age.

Figure 5 shows the age-standardised suicide rates for hanging only by age group, using these data for 2001. For men, the suicide rate in young adults aged 15–44 increased by over 150 per cent from the beginning of the 1980s to the mid-1990s. The suicide rate increased even more steeply during the late 1990s and reached a peak in 1998 with a rate of 9.8 deaths per 100,000, since when it has declined. For older adults aged 45–74 a rise was also seen in this method of suicide during the 1990s. This increase during the 1990s in suicide from hanging was not seen, however, in elderly men. During the 1980s and early-1990s elderly men had the highest suicide rate from hanging but by the mid-1990s the suicide rate from hanging in young adult men had overtaken them. The suicide rate in older adult men aged 45–74 also increased during the 1990s and from 1998 was higher than the rate in elderly men aged 75 and over.

For women, the suicide rate from hanging was much lower than that for men with older adult women aged 45–74 having the highest mortality rate from this method up until the early-1990s. The suicide rate from hanging in young adult women almost doubled during the 1990s and although the rate in older adult women also increased during this time, young adult women still had the highest suicide rate in 2001.

Drug-related poisoning suicides

This was the most common method of suicide in women and the second most common in men from the late-1990s. This definition includes over-the-counter medications and prescription medicines as well as illegal drugs. Data by specific drug mention were taken from the drug-related poisoning database held by ONS, data from which are published annually.¹⁶

Table 2

Percentage of all suicides in adults (aged 15 and over) by sex, age group and method, 1981, 1991 and 2001

England and Wales

	Men				Women			
	15-44	45-74	75 plus	All adults	15-44	45-74	75 plus	All adults
1981					1981			
Hanging*	20.2	25.3	32.0	23.5	Drug-related poisoning	45.4	51.1	47.5
Drug-related poisoning	20.7	23.5	19.8	21.9	Hanging*	12.7	16.4	20.9
'Other' poisoning†	24.6	16.1	9.4	19.5	Drowning	10.0	15.4	17.0
Drowning	7.4	12.1	16.9	10.3	Other and unspecified	10.5	4.9	7.8
Other and unspecified	10.3	8.4	7.9	9.2	'Other' poisoning†	7.9	5.5	3.5
Firearms and explosives	6.0	4.9	4.3	5.4	Moving object**	4.9	1.9	0.4
Moving object**	4.2	3.5	2.9	3.8	Jumping/falling from high place	6.8	3.1	1.4
Sharp objects	1.3	3.2	2.5	2.2	Sharp objects	1.0	1.3	1.1
Jumping/falling from high place	5.4	3.0	4.3	4.2	Firearms and explosives	0.8	0.3	0.4
All suicides	1,637	1,643	278	3,558	All suicides	630	1,265	282
% of all adult suicides	46.0	46.2	7.8		% of all adult suicides	28.9	58.1	13.0
1991					1991			
'Other' poisoning†	31.7	28.1	16.1	29.3	Drug-related poisoning	43.1	46.1	47.2
Hanging*	27.8	25.8	32.1	27.4	Hanging*	18.6	15.7	22.0
Drug-related poisoning	17.8	18.1	20.1	18.1	'Other' poisoning†	14.4	9.8	3.3
Drowning	3.7	7.1	15.1	5.7	Drowning	3.8	14.4	14.0
Other and unspecified	4.2	4.7	4.0	4.3	Other and unspecified	5.1	3.2	6.1
Firearms and explosives	3.6	5.2	2.7	4.1	Moving object**	5.4	3.7	0.9
Moving object**	4.3	3.8	1.7	4.0	Jumping/falling from high place	7.2	4.8	5.6
Jumping/falling from high place	5.4	4.7	4.3	5.1	Sharp object	1.1	2.0	0.9
Sharp objects	1.5	2.5	4.0	2.0	Firearms and explosives	1.4	0.3	0.0
All suicides	2,374	1,374	299	4,047	All suicides	555	651	214
% of all adult suicides	58.7	34.0	7.4		% of all adult suicides	39.1	45.8	15.0
2001					2001			
Hanging*	47.2	40.3	41.8	44.2	Drug-related poisoning	44.7	47.5	45.4
Drug-related poisoning	20.0	20.7	18.9	20.1	Hanging*	31.5	22.7	23.3
'Other' poisoning†	9.6	9.6	10.0	9.7	Other and unspecified	6.0	9.5	18.4
Other and unspecified	8.4	9.5	9.6	8.9	Drowning	3.3	9.7	9.8
Drowning	3.2	7.7	6.8	5.2	Moving object**	5.8	1.9	0.0
Moving object**	4.1	3.3	1.6	3.6	'Other' poisoning†	3.3	3.3	0.6
Firearms and explosives	2.2	3.9	4.0	2.9	Jumping/falling from high place	3.5	3.7	1.8
Sharp objects	1.8	2.3	4.4	2.2	Sharp objects	1.2	0.8	0.6
Jumping/falling from high place	3.5	2.6	2.8	3.1	Firearms and explosives	0.6	0.8	0.0
All suicides	1,959	1,321	249	3,529	All suicides	514	484	163
% of all adult suicides	55.5	37.4	7.1		% of all adult suicides	44.3	41.7	14.0

* Hanging, strangulation and suffocation.

† Includes MVEG.

** Jumping/lying/falling before moving object.

Table 3

Percentage of deaths by method coded to 'hanging, strangulation and suffocation' (ICD-10 X70 and Y20) by method stated on statistical death record, 2001

England and Wales

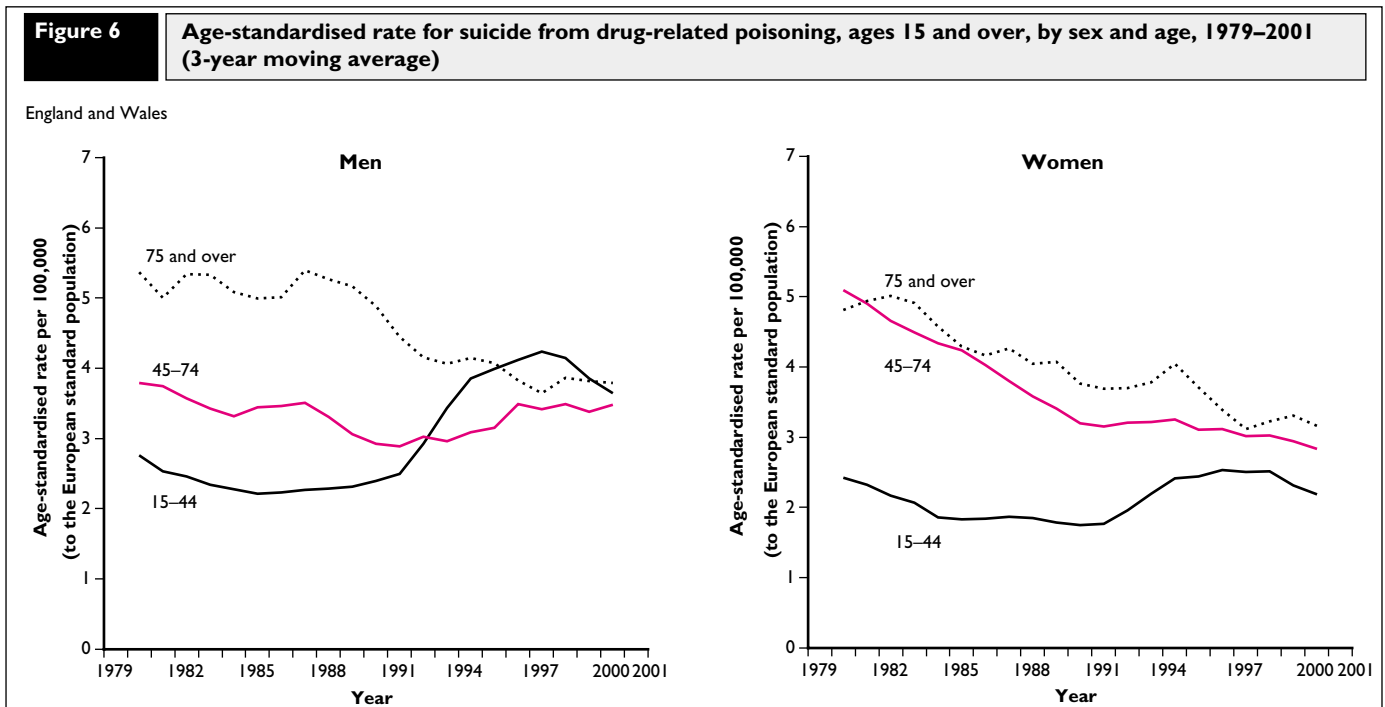
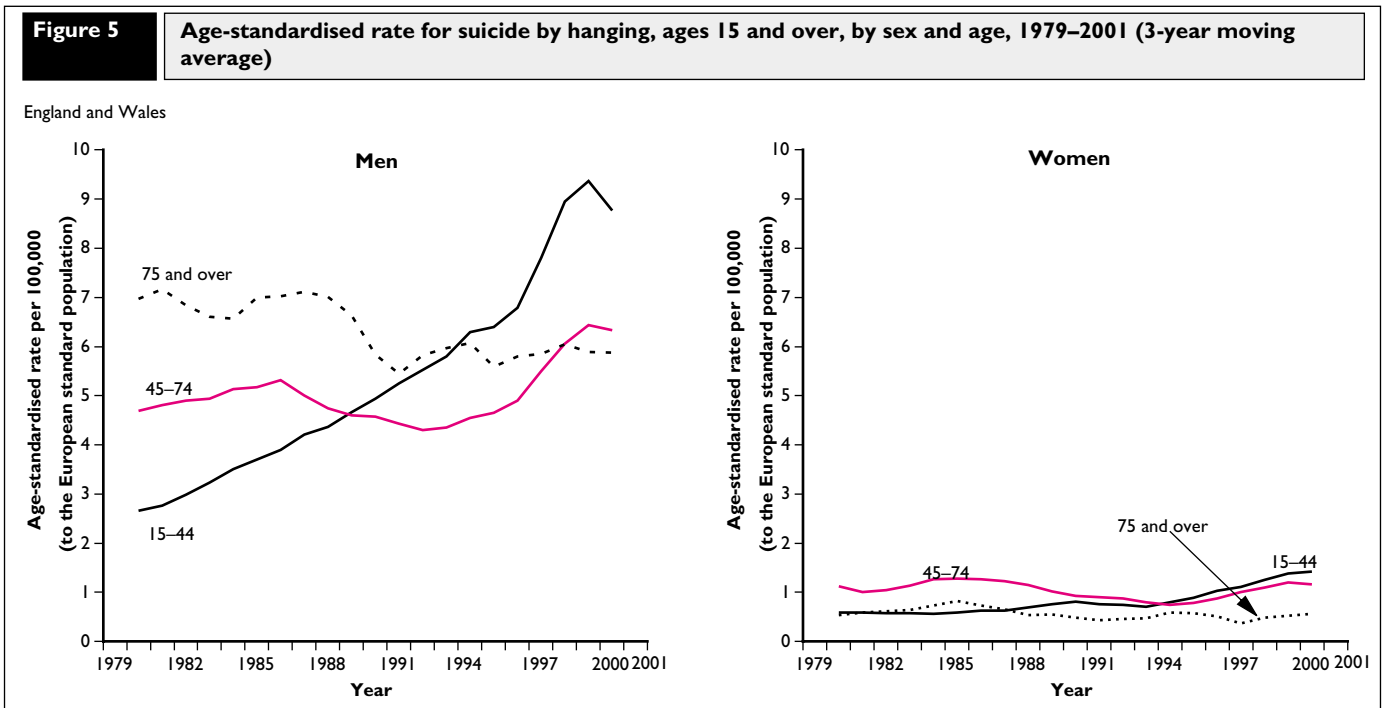
Age group	Men				Women			
	15-44	45-74	75 and over	All adults	15-44	45-74	75 and over	All adults
Hanging	94.4	93.6	78.8	93.1	92.6	78.2	28.9	79.7
Plastic bag	1.0	2.6	8.7	2.1	2.5	14.5	36.8	11.0
Not stated	4.7	3.8	12.5	4.9	4.9	7.3	34.2	9.4
Total number	924	533	104	1,561	162	110	38	310
Data for 2000 using ICD-9 4th digit definitions								
Hanging (E953.0,E983.0)	95.3	92.3	78.8	93.3	93.0	76.8	30.6	80.0
Plastic bag (E953.1,E983.1)	1.0	3.2	15.4	2.7	1.8	13.0	44.4	10.7
Other and unspecified	3.7	4.5	5.8	4.1	5.3	10.1	25.0	9.3
Total number	984	558	104	1,646	171	138	36	345

As Figure 6 shows, the young adult male suicide rate from drug poisoning increased by 90 per cent between 1990 to peak in 1997 but has since fallen. Older adults also saw a peak around this time but unlike young adults this rate has stayed roughly the same since then. In elderly men the suicide rate from drug poisoning fluctuated during the 1980s but has since fallen.

In women, the overall trend was downward at ages 45 and over, but during the 1990s there was an increase in drug-poisoning suicide rates in young adult women. This increase in young adult women mirrored the one seen in young adult men but was not as dramatic, although the rates increased by 50 per cent between 1991 and a peak in 1997.

Table 4 shows the three main substances mentioned on the death certificate in adult drug poisoning suicides by sex for 1993 and 2001. In men, paracetamol and its compounds was the most common substance mentioned on drug-poisoning suicide death certificates in both 1993 and 2001, with antidepressants a close second. The numbers of deaths where these substances were mentioned has decreased however. Although benzodiazepines were the third most commonly mentioned substance in drug-poisoning suicide death certificates in 1993, heroin/morphine was the third most common in 2001.

In women, antidepressants and paracetamol and its compounds were also the most common substances mentioned on drug-poisoning suicide death certificates in both 1993 and 2001. Although the number of



deaths certificates where these substances were mentioned decreased within this time, antidepressants fell more than paracetamol. In 1993, benzodiazepines were the third most common substance mentioned on death certificates for suicides by drug poisoning, for both men and women. However, by 2001 numbers had declined sharply. This is probably related to trends in prescribing.

In 1998 legislation was introduced concerning the maximum number of paracetamol allowed in a pack¹⁷ and the decrease in the numbers of suicide deaths where paracetamol are mentioned may show the effect of this. As paracetamol and antidepressants were the most commonly mentioned drugs over this period any changes in the use of these substances will affect the overall rate of drug-related poisoning suicide.

Motor vehicle exhaust fumes

Motor vehicle exhaust gas (MVEG) comprises part of 'other poisoning'

in Figure 4 and accounted for almost all of these deaths in both sexes. Figure 7 shows the age-standardised rates for 'other poisoning' and MVEG by sex for all adults from 1979 to 2001. The large decrease in MVEG deaths in 1993 was due to a revised coroner's reporting form, introduced in May 1993.¹⁸ As there is not a separate code for this method of injury in ICD-10, the cause of death and coroner's inquest text were examined for mentions of type of poison or exposure factor to determine whether a comparable number of deaths were recorded in 2001 for MVEG. If a record had 'motor vehicle', 'car', 'van', 'lorry', 'camper van', 'motor bike' or 'motor cycle' in the death text then these were classified as MVEG. Table 5 shows these findings for the year 2001. From these results it does not seem possible to use the cause of death or coroner's text on these death records to obtain comparable data to earlier years when ICD-9 was used due to the large proportion of death records where relevant textual information was not present.

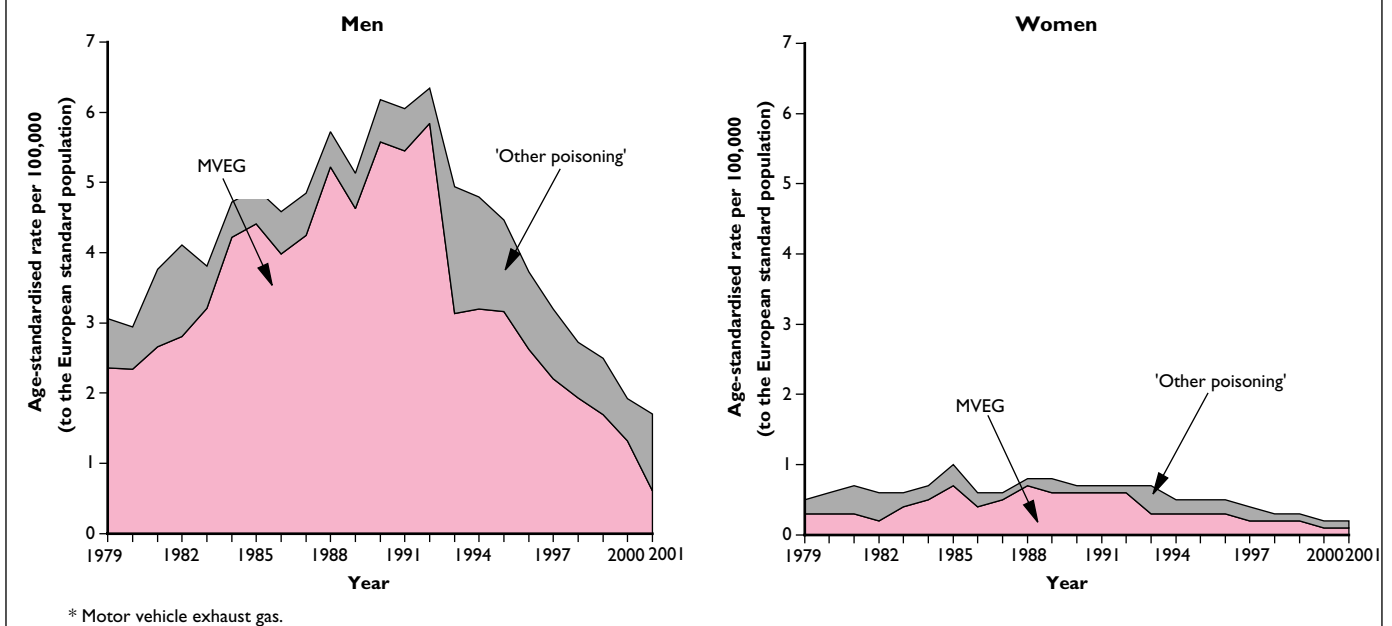
Table 4 Suicides by drug poisoning in adults aged 15 and over, main substances taken by sex, 1993 and 2001

England and Wales

3 main substances	1993				3 main substances	2001			
	Number of deaths	Percentage of suicides by poisoning	Percentage of all suicides	Percentage of all drug poisonings		Number of deaths	Percentage of suicides by poisoning	Percentage of all suicides	Percentage of all drug poisonings
Men					Men				
Paracetamol including compounds	193	28	5	14	Paracetamol including compounds	184	26	5	9
All antidepressants	163	24	4	12	All antidepressants	157	22	4	8
Benzodiazepines	69	10	2	5	Heroin/morphine	78	11	2	4
Women					Women				
All antidepressants	188	30	14	21	Paracetamol including compounds	171	32	15	19
Paracetamol including compounds	177	28	13	20	All antidepressants	148	28	13	17
Benzodiazepines	81	13	6	9	No specific drug mentioned	59	11	5	7

Figure 7 Age-standardised rate for 'other' poisoning and MVEG* for adults aged 15 and over by sex, 1979-2001

England and Wales



* Motor vehicle exhaust gas.

Table 5 Percentage of deaths coded to ICD-10 X67 and Y17 (poisoning by other gases and vapours) by method stated on statistical death record, by sex and age, 2001

England and Wales

Age groups	Men				Women			
	15-44	45-74	75 and over	All adults	15-44	45-74	75 and over	All adults
Motor vehicle exhaust gas	43.1	31.7	40.9	38.7	50.0	53.8	-	50.0
Other	1.7	2.4	-	1.8	-	-	-	-
Not stated	55.2	65.9	59.1	59.5	50.0	46.2	100.0	50.0
Total number	181	123	22	326	14	13	1	28
% of total suicide deaths	0.9	1.0	0.9	1.0	0.3	0.3	0.1	0.2

Figure 8 shows these data by age and sex. In each age-group shown there was a sharp peak in male death rates during the early 1990s. The decline coincides with legislation which required all new cars to have catalytic converters and cleaner fuel for motor cars becoming widely available. Young adult men had the highest suicide rates from this cause during the period covered. In women, however older adults aged 45-74 and young adult women had roughly the same rate of suicide from MVEG throughout this period.

Railway suicides

There has been substantial interest in the number of suicides occurring on railways and a report has recently been published examining the consequences of railway suicide.¹⁹ ICD codes in either ICD-9 or ICD-10 do not exist to identify these suicides. Therefore, we examined the cause of death and coroner’s text on death records coded to ‘jumping or lying before moving object’, ‘electrocution’, and ‘crashing of motor vehicle’ to attempt to identify the number of these suicides which occurred on railways. Within the classification of ‘tracked vehicles’ we also included deaths occurring on underground tracks and by trams.

If a record had ‘railway’, ‘train’, ‘tube’, ‘metro’, ‘tram’ or ‘track line’ mentioned in the text, then we classified the death as railway. We also classified deaths where the deceased was killed by motor vehicles without mention of any railway-specific text as road vehicle. An ‘other’ category was chosen where textual information on the death certificate indicated that neither a tracked nor motor vehicle was involved in the death – most of these deaths were from electrocution from domestic appliances.

Table 6 shows these findings for the combined years 1993-2001. It can be seen that although a large proportion had no mention of any vehicle or text that would distinguish the involvement of a vehicle, approximately half mentioned tracked vehicles. These deaths combined accounted for only a small proportion (3 per cent) of all suicide deaths and no discernible trend could be seen in age-specific rates. However, it is clear that men aged 75 and over had a higher proportion of deaths (43 per cent) where no detail was given on the death certificate to allow the identification of tracked vehicles. In elderly women, however, almost half of the records referred to other mentioned methods.

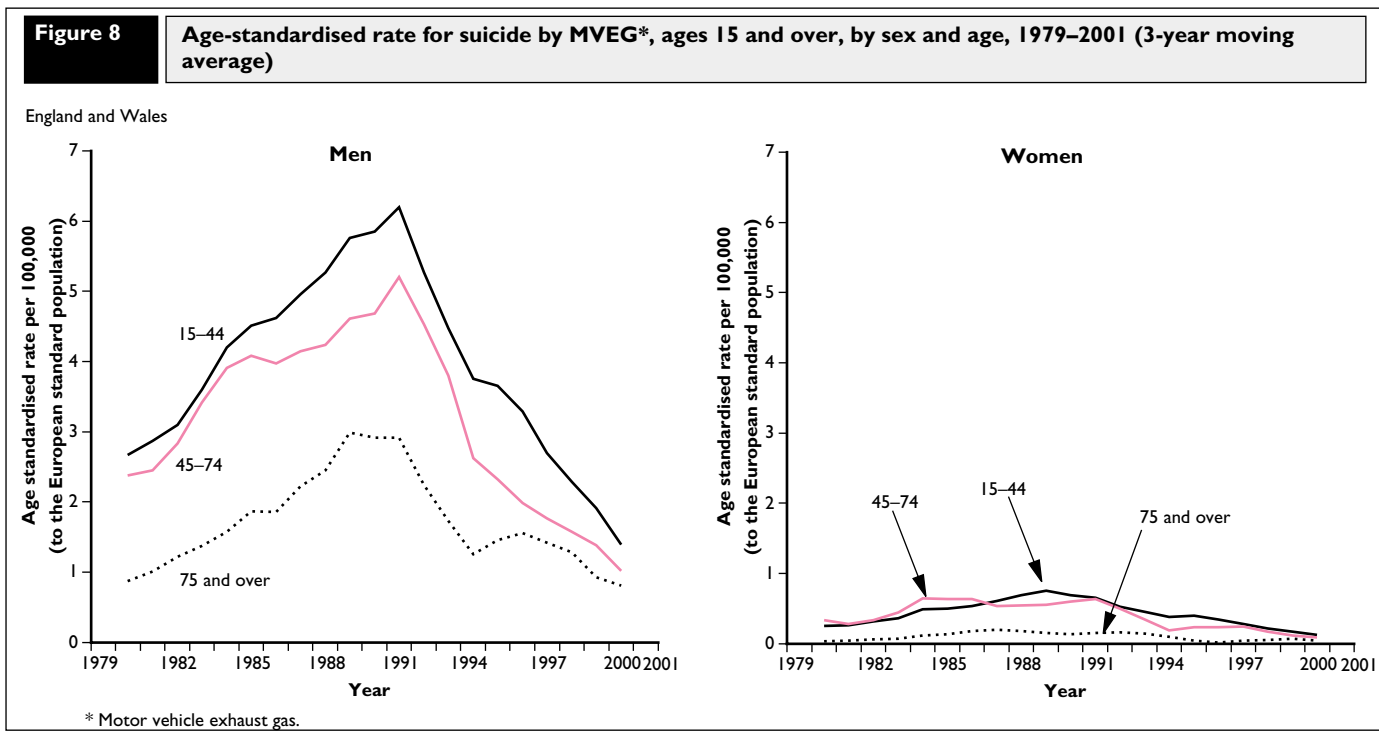


Table 6

Percentage of deaths coded to ICD-9 E958.0, E958.4, E958.5, E988.0, E988.4, E988.5 and ICD-10 X81-X83, Y31-Y33 by whether tracked vehicle stated on statistical death record, by sex and age, 1993–2001

England and Wales

Age groups	Men				Women			
	15–44	45–74	75 and over	All adults	15–44	45–74	75 and over	All adults
Railway*	50.0	48.9	37.3	48.9	64.8	52.9	29.4	57.2
Road vehicle	5.6	2.5	1.5	4.4	4.9	3.6	0.0	4.0
Not stated	37.2	35.4	43.3	37.0	27.5	37.9	23.5	32.1
Other	7.2	13.2	17.9	9.7	2.8	5.7	47.1	6.7
Total number	774	393	67	1,234	142	140	17	299
% of total suicide deaths	3.9	3.3	2.8	3.6	2.9	2.9	1.1	2.6

* Railway includes underground trains and trams.

DISCUSSION

There are many issues surrounding suicide statistics and the way in which coroners reach verdicts in these cases that need to be taken into consideration when examining ONS mortality data. This article has described some of them, particularly relating to the introduction of ICD-10 and its impact on analysis of trends by method of suicide.

Although the introduction of ICD-10 for the coding of mortality statistics from 2001 has not affected overall suicide figures, it has affected some classifications of method of suicide. The main differences between ICD-10 and ICD-9 for suicide are that the fourth digit now classifies place of occurrence of the event, and that some detail on specific methods of injury has been lost e.g. hanging and suffocation by plastic bag, and motor vehicle exhaust gas. The data collected by ONS from coroners may help overcome some of these problems, such as defining self-inflicted injury from hanging and by plastic bag, but may not be of use in other cases such as sorting deaths from motor vehicle exhaust gas from other forms of poisoning involving carbon monoxide.

The Fundamental Review of Coroners²⁰ and the Shipman Inquiry²¹ published recommendations in 2003 concerning the investigation and certification of deaths. Some of these impact directly on suicides, for example proposed abolition of the short-form verdict of “suicide” and the removal of the need to meet the criminal standard of proof “beyond reasonable doubt”.

The increase in suicide rates in young adults throughout the 1990s appears to have stopped, but in 2001 young adult men still had the highest suicide rate in England and Wales of all sex and age groups. The Government has introduced a Suicide Prevention Strategy² which includes targets to reduce suicide rates in all ages by a fifth by 2010 and a drug misuse-related deaths²² strategy has also been introduced which may have some bearing on drug-poisoning suicide rates, where controlled drugs are involved.

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Key findings

- Open verdicts accounted for 28 and 38 per cent of all suicide deaths in 2001 for men and women aged 15 and over respectively, compared with 23 and 28 per cent in 1979.
- Suicide and open verdicts accounted for 2 per cent of deaths in children aged 10–14. Over two thirds of these deaths in males were from ‘hanging, strangulation or suffocation’, and half in females were from poisoning.
- Of all sex and age groups, young adult men have had the highest suicide rate since the late 1990s and this age group accounted for 60 per cent of all suicide deaths in men at a peak in 1998.
- Among adults, young adult women had the lowest suicide rate across the period covered but this age group accounted for almost half of the number of women’s suicide deaths during the late 1990s.
- The three most common methods of suicide in men in 2001 were ‘hanging, strangulation and suffocation’ (44 per cent), drug-related poisoning (20 per cent), and ‘other poisoning’ (10 per cent) which included motor vehicle exhaust gas. The three most common methods in women in 2001 were drug-related poisoning (46 per cent), ‘hanging, strangulation and suffocation’ (27 per cent), and drowning (7 per cent).
- Suicide from ‘hanging, strangulation and suffocation’ almost doubled in young adult men from 1979 to a peak in 1998 and increased by 50 per cent in young adult women during the 1990s.
- Antidepressants and paracetamol and its compounds were the two most commonly mentioned substances on drug-related poisoning suicide death certificates in both 1993 and 2001.

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Annex I | ICD-9 and ICD-10 codes used in this analysis

	ICD-9		ICD-10	
	Suicide verdict	Open verdict	Suicide verdict	Open verdict
Suicide	E950–E959	E980–E989 excluding E988.8	X60–X84	Y10–Y34 excluding Y33.9 where verdict pending
Poisoning	E950–E952	E980–E982	X60–X69	Y10–Y19
Drug-related poisoning	E950.0–E950.5	E980.0–E980.5	X60–X64	Y10–Y14
‘Other’ poisoning	E950.6–E950.9, E951–E952	E980.6–E980.9, E981–E982	X65–X69	Y15–Y19
Motor vehicle exhaust gas (MVEG)	E952.0	E982.0	X67 (part)	Y17 (part)
Hanging, strangulation and suffocation	E953	E983	X70	Y20
Hanging	E953.0	E983.0	n/a	n/a
Suffocation by plastic bag	E953.1	E983.1	n/a	n/a
Drowning	E954	E984	X71	Y21
Firearms and explosives	E955	E985	X72–X75	Y22–Y25
Sharp objects	E956	E986	X78	Y28
Jumping/falling from a high place	E957	E987	X80	Y30
Jumping/lying/falling before moving object	E958.0	E988.0	X81	Y31
Electrocution	E958.4	E988.4	X83 (part)	Y33 (part)
Crashing of motor vehicle	E958.5	E988.5	X82	Y32

Estimating excess winter mortality in England and Wales

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INTRODUCTION

England and Wales, in common with other European countries, experiences higher levels of mortality in the winter than in the summer. A measure of this increase is provided, on an annual basis, in the form of the excess winter mortality figure. This figure is a simple way to assess mortality levels over the winter as a whole and can be used as a basis for comparison with previous years. The EWM index (excess winter deaths divided by the average non-winter deaths expressed as a percentage) can be used as a comparison with other countries. There is evidence that EWM is to some extent preventable. Recent research that aimed to identify measures that could reduce excess winter mortality levels in England and Wales has focused on indoor temperature (adequate home heating)¹ and measures to reduce outdoor cold stress (keeping warm while outdoors).²

Lower temperatures in winter are responsible for some deaths. The Eurowinter Group² in their study of winter mortality in Europe found that mortality increased, in a broadly linear way, with each fall in mean daily temperature below 18°C. Mortality during winter increases more in England and Wales than other European countries with colder climates.^{2,3} This finding suggests that factors, other than temperature alone, contributed to higher levels of excess winter mortality in England and Wales.

The Eurowinter Group² looked at possible explanations for greater increases in mortality, for a given fall in temperature, in regions with warm winters (for example, England and Wales) compared with other European countries with colder winters. Findings were that regions with warm winters had cooler homes and took fewer protective measures against the cold, such as wearing warm clothing when outdoors. Indoor

During the winter months, mortality in England and Wales reaches higher levels than during the summer months. The aim of calculating an excess winter mortality figure is to measure this annual increase. For each winter, excess winter mortality (EWM) is calculated in the same way, using an arbitrarily defined winter period. Over the last 50 years, in December to March mortality levels have remained above average and in May to October mortality has been consistently below average. There has been a steady log-linear decline in EWM. Although year-on-year variability, which is most pronounced in the winter months, remains. In general, the current ONS method of estimating EWM gives similar results to other methods of calculating EWM over the last 50 years. However, due to the year-on-year variability seen in seasonal mortality, mortality can also be above average in the autumn or spring. Where these periods are included in the comparison period for excess winter mortality calculations, as with the current ONS method, this has the effect of decreasing the EWM estimate.

temperatures are also important; improving the thermal efficiency of homes and the affordability of home heating could have substantial health benefits.¹ Measures to reduce cold stress, i.e. keeping warm while indoors and outdoors, are therefore important if current levels of winter mortality are to be further reduced.⁴

This article examines trends in EWM in England and Wales looking at cause-specific patterns over the period 1993–2001. It also looks at EWM in the context of long-term trends in seasonal mortality and examines the effectiveness of the current ONS method of estimating EWM compared with alternative methods, using data for 1993–2001. The choice of December to March as a winter period is arbitrary, as is the choice of comparison non-winter period, and the rationale for these choices will be examined with reference to average monthly mortality over the last 50 years.

METHODS

EWM is calculated by comparing the number of deaths in winter with a non-winter period:

$$EWM = \text{winter deaths} - \text{average non-winter deaths}$$

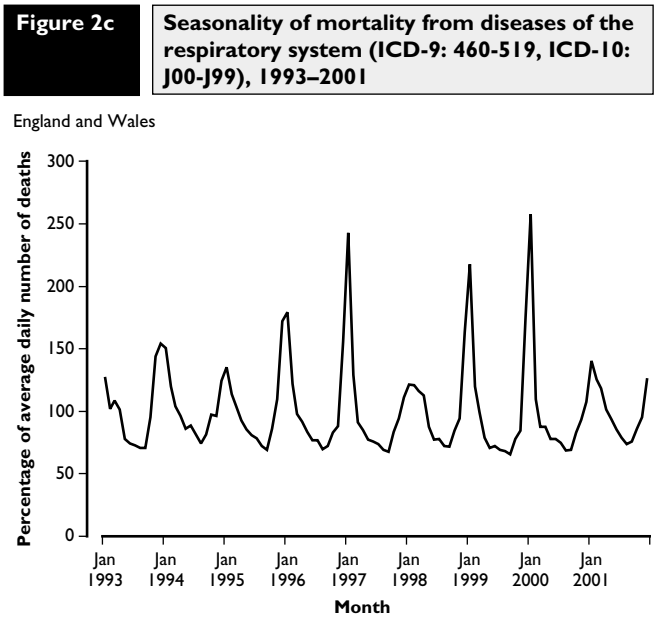
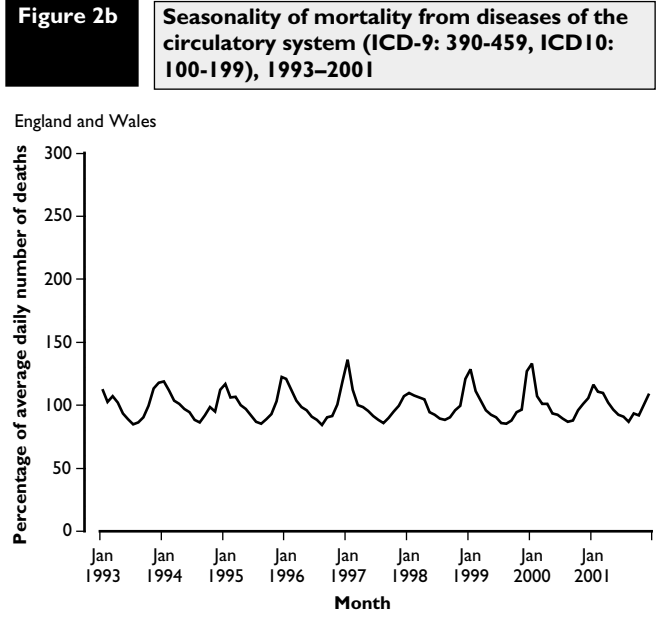
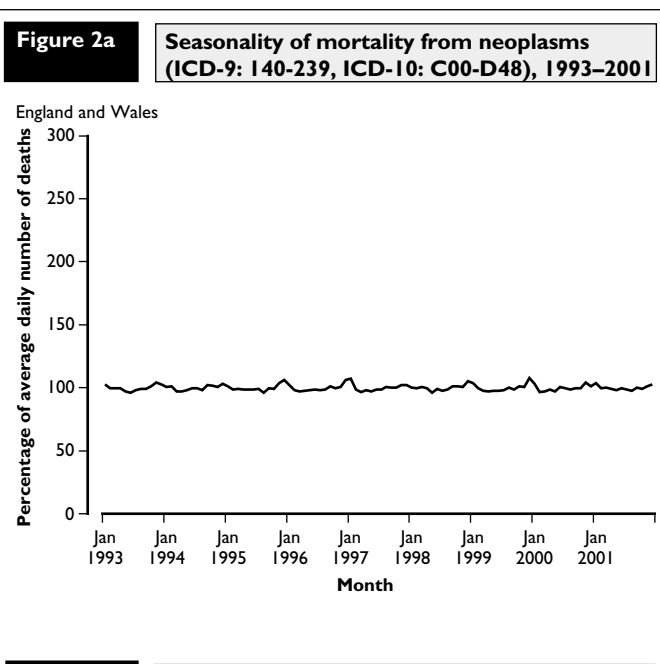
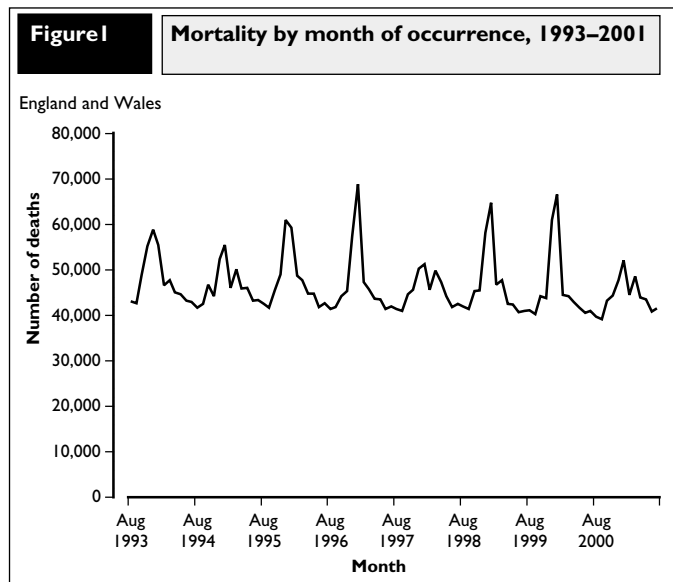
Currently a standard method for the calculation of EWM is used each year for England and Wales. This is referred to in the article as the ‘ONS method’. This defines the winter period as December to March and compares it with the average of deaths occurring in the preceding August to November and the following April to July.

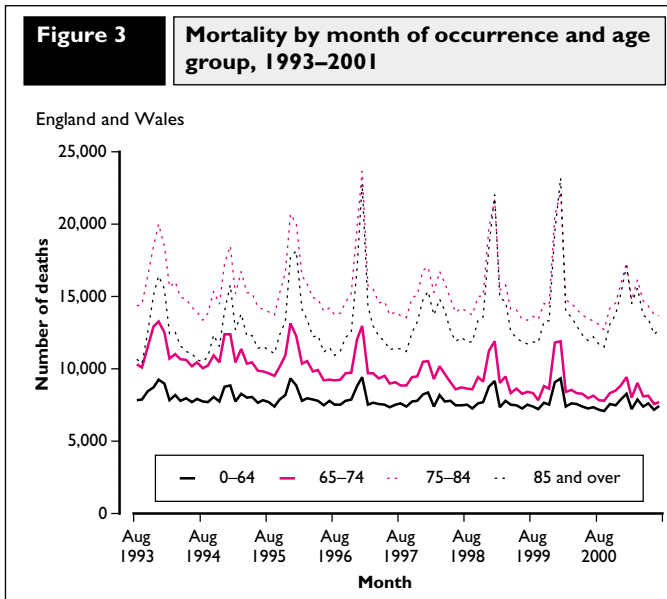
Two other methods will be considered. The first method compares deaths occurring in the four months December to March with the deaths occurring in a four-month non-winter period (August and September preceding; June and July following the winter period). The second method takes a six-month period of October to March as winter and compares it with a six-month non-winter period (August and September preceding plus April to July following).

RESULTS

Winter Mortality 1993–2001

More deaths occurred in the winter months of 1993 to 2001 than in the summer (Figure 1). While the number of deaths in the summer period were at consistent levels the winter peaks had much greater variation in size. Winters with particularly high numbers of deaths were 1996/97,





1998/99 and 1999/2000. Winters with particularly low peaks were 1997/98 and 2000/01.

This seasonal variation in mortality does not reflect a change in mortality from all causes of death. Curwen³ observed a specific rather than general effect on cause of death that could be seen during the winter months. The Eurowinter Group⁵ note the increase of deaths in winter months is due to either a breakdown of the cardiovascular or respiratory systems. This could be seen for 1993 to 2001 in England and Wales (Figure 2). When examining average daily deaths by month, shown as a percentage of average daily deaths for the whole year,⁶ circulatory and respiratory illnesses exhibited marked seasonal fluctuations. Deaths from respiratory illnesses had the largest percentage seasonal increase. Deaths from neoplasms have also been presented and as expected there was no clear seasonal pattern.

Seasonality of mortality also varied with age. Increased mortality in the winter months affected those over the age of sixty-five (Figure 3). Of this group, the largest difference between mortality in winter and summer was seen in those over the age of 85.

Winter mortality 1950–1999

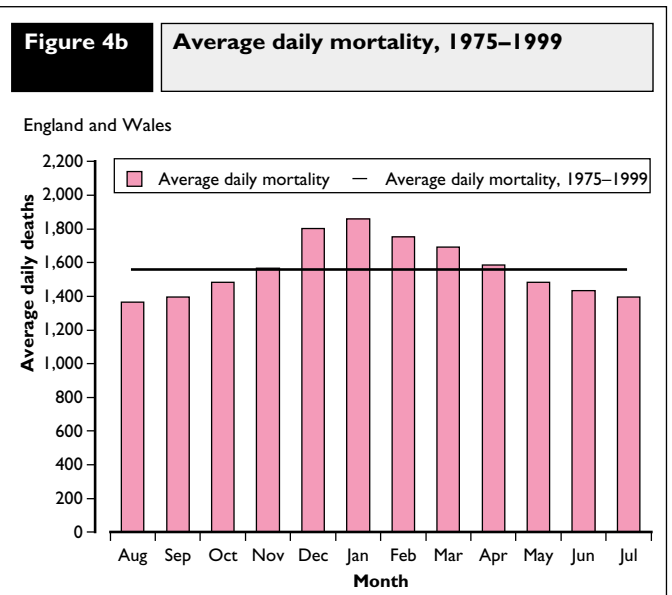
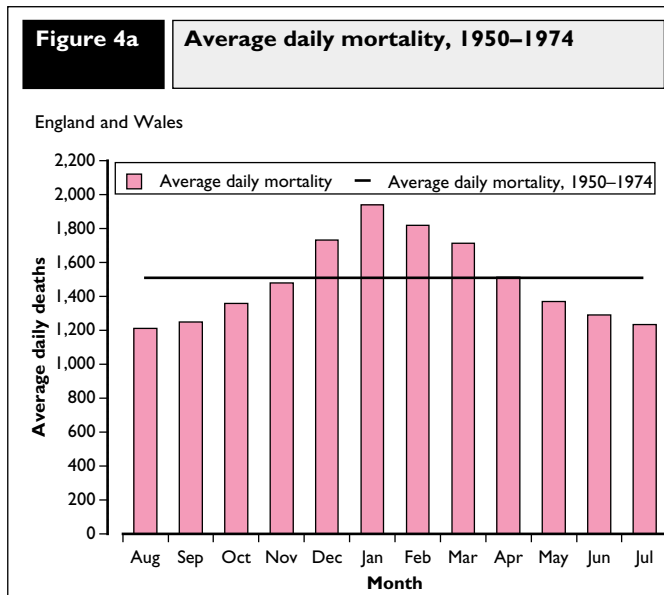
On average, over the last 50 years, December through to March (which corresponds to the winter months used in the ONS method of calculating EWM) has stood out as the period with the highest mortality levels (Figure 4). There has been little change in the seasonal pattern of mortality over the second half of the Twentieth Century, although there has been a decrease in the difference between the typically highest winter months (December to March) and the lowest summer months of June to September. November and April had average mortality in both 25-year periods.

In the period 1975–99, there was still clear absolute variability in seasonal mortality although this was much less pronounced than in the preceding 25 years (Figure 4) – leading to reduced excess winter mortality. This reduction in variability could be due to the fact that influenza had much greater impact on winter mortality levels prior to the 1970s. For example, the high EWM figure in the winter of 1950/51 reflected a severe influenza epidemic which occurred at that time. Although influenza was not always the cause of high mortality; the winter of 1962/63 was particularly cold.

Smoothed EWM estimates allowed long-term trends to be clearly seen (Figure 5). There has been a log-linear decrease over time, showing a general downward trend over a period of years rather than a sharp decline in any particular time-period. This trendline shows EWM tending towards a value of 13,500 over the very long term. Relative year-on-year variability in EWM has not declined over the last 50 years.

Comparison of different methods of estimating EWM

A problem with defining the winter period as December to March (the winter period in the ONS method) is that if mortality starts to increase prior to this, in November for example, the number of deaths in the comparison non-winter period will be increased. This serves to decrease the estimate of excess winter mortality. Daily deaths in England and Wales in 1993 started to rise above average in October, and both 1993 and 1995 had daily deaths above average in November (Figure 6). A similar increase was reported in Scottish mortality figures in November 1993.⁷ The nature of the method of the calculation of excess winter mortality can therefore lead to the perverse situation of a longer more sustained winter period (beyond December to March) resulting in a lowered estimate of excess winter mortality than if the increased deaths were confined to December to March only.



Information which could therefore usefully supplement the annual EWM figure is the daily pattern of deaths for the winter the EWM figure relates to. For example, average daily deaths in November 1993 were higher than average daily deaths in January (Figure 7a). Daily deaths in April 1998 were above average (Figure 7b). Figure 7c shows a more typical pattern for the winter of 1998/99, with December through to March higher than the daily average for the whole period.

One alternative method of estimating EWM is to compare December to March with June to September, which is the period where deaths are lowest and vary least (Table 1). The difference between the spring/autumn period and the summer period of June to September was also calculated; the number of deaths in this spring/autumn period was consistently higher than June to September and this increase in spring/autumn varied from year to year. By removing the spring and autumn from the calculation this variability was removed. This necessarily resulted in an increased EWM estimate compared with the ONS method, as the comparison figure was lowered. It can be seen by looking at the figures for spring/autumn against summer (June to September) that there was a particularly high excess in spring/autumn in 1993/94. Therefore, inclusion of spring/autumn decreased the ONS estimate of EWM in

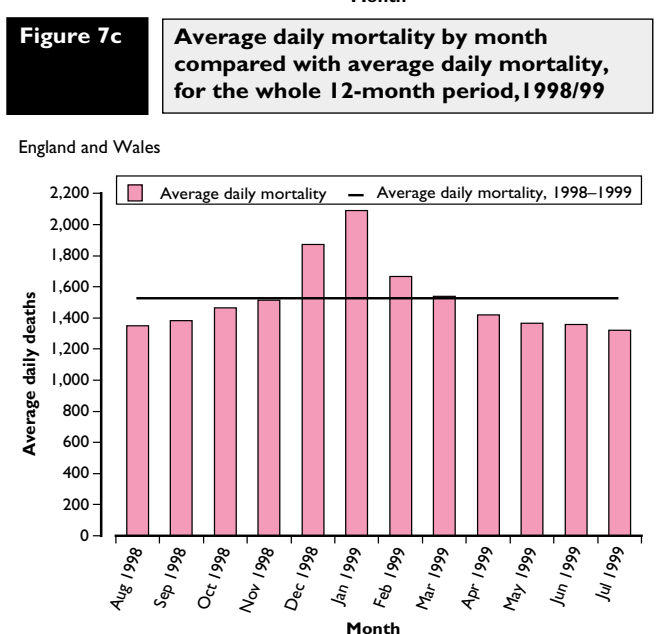
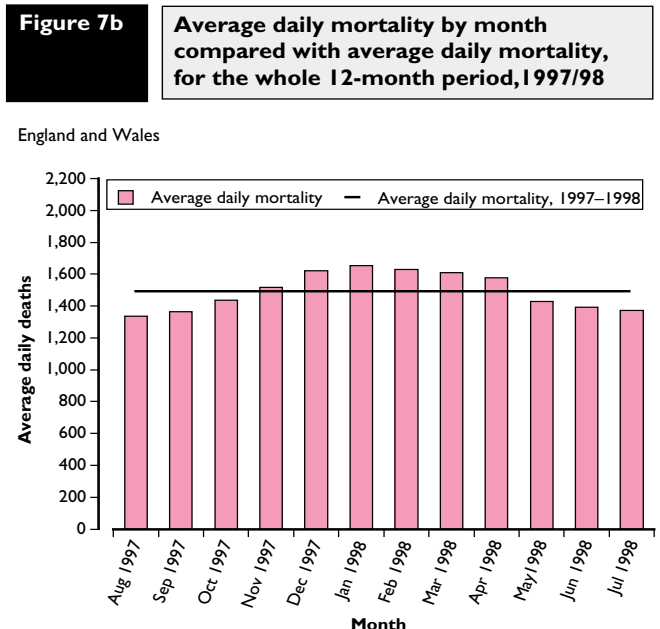
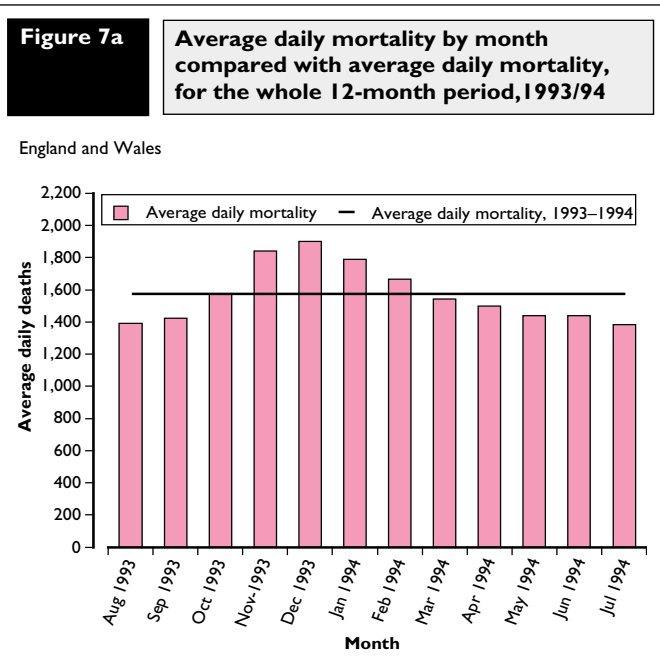
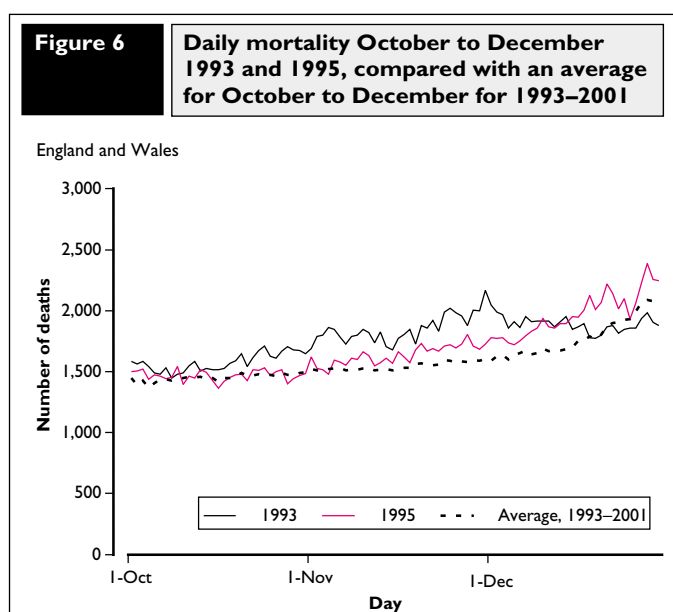
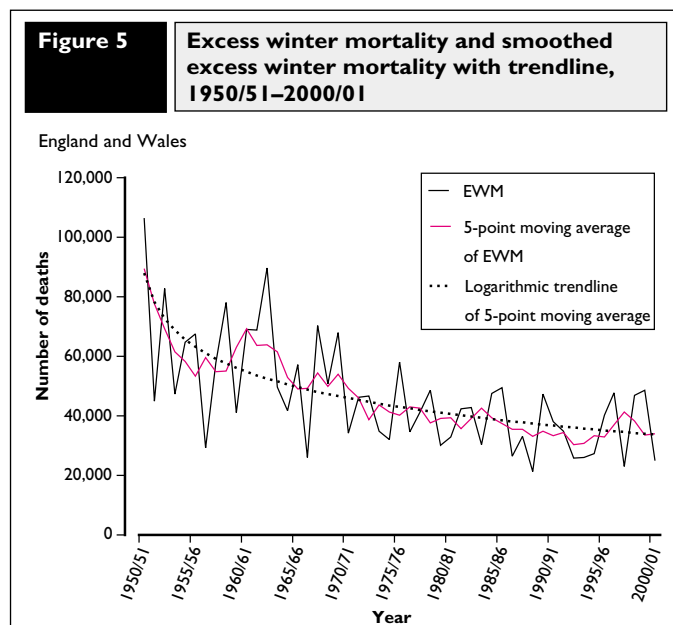


Table 1 Comparisons of ONS method with alternative methods of estimating excess winter mortality and spring/autumn excess, 1993/94–2000/01

England and Wales

	Current ONS method: (December to March) – (The average of August to November and April to July)	Winter against summer: (December to March) – (June to September)	Spring/autumn against summer: (April + May + Oct + Nov) – (June to September)	Winter against summer – Current ONS method
1993/94	25,900	36,680	21,610	10,780
1994/95	27,290	33,240	11,890	5,950
1995/96	40,190	47,900	15,410	7,710
1996/97	47,680	52,840	10,310	5,160
1997/98	22,900	30,380	14,960	7,480
1998/99	46,840	52,170	10,660	5,330
1999/00	48,440	53,270	9,670	4,830
2000/01	24,840	31,690	13,710	6,850

1993/94 – EWM was around 10,000 less than if the same winter months were compared with a restricted summer period.

When deaths increase prior to December it could be argued that these deaths should be included as part of excess winter mortality. Figure 8 therefore compares the ‘winter against summer’ method described above with the current ONS method and another method using a six-month winter period (as discussed by Bowie and Jackson⁷ using Scottish mortality data). For the winter of 1993/4 in particular, the six-month method produced a much higher estimate of EWM than the other methods. However, this was due to the fact that a high November period was included in the winter period. Comparing December to March with a summer baseline of June to September did increase EWM estimates beyond those with the existing ONS method; but not to the same extent as the six-month method shown where the ‘spring/autumn excess’ was included as part of ‘winter’ mortality. Table 2 assesses the advantages and disadvantages of these three different methods of estimating EWM.

Figure 8 Comparison of ONS estimate of excess winter mortality with alternative methods of estimating excess winter mortality, 1993/94–2000/01

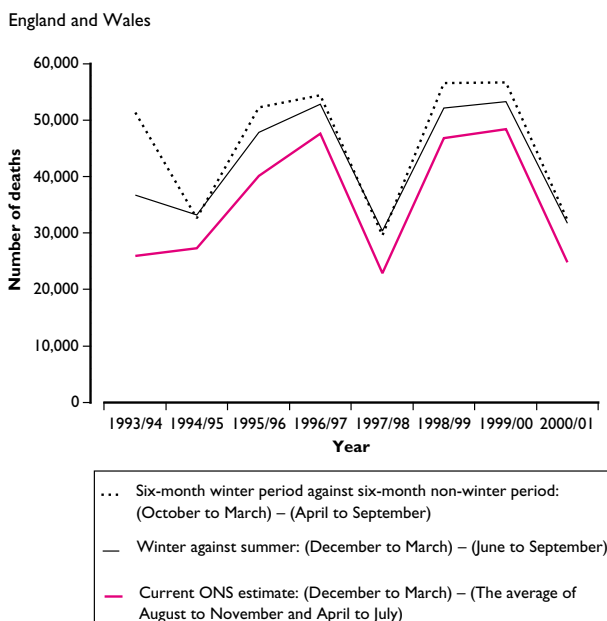


Table 2 Advantages and disadvantages of three methods of estimating excess winter mortality

Method	Advantages	Disadvantages
Current ONS method: (December to March) – (The average of August to November and April to July)	<ul style="list-style-type: none"> The winter period reflects the months which over the last 50 years have displayed above average monthly mortality 	<ul style="list-style-type: none"> Some years will show an annual increase in mortality that is not included in the winter period Excess in the autumn or spring will artificially decrease the winter period
Six-month winter period against six-month non-winter period: (October to March) – (April to September)	<ul style="list-style-type: none"> Most annual increases in mortality are included in the comparison period 	<ul style="list-style-type: none"> The comparison period includes months which over the last 50 years have shown generally below average mortality Excess in the autumn will increase the winter period
Winter against summer: (December to March) – (June to September)	<ul style="list-style-type: none"> The winter period reflects the months which over the last 50 years have displayed above average monthly mortality The summer period reflects the months which have low mortality and least year-on-year variability The autumn and spring which are on average neither high or low, are not included in either the winter or the summer 	<ul style="list-style-type: none"> Some years will show an annual increase in mortality that is not included in the winter period

DISCUSSION

A standard method of calculating EWM can have drawbacks when a pre-determined winter period does not reflect the size and timing of a winter peak in a particular year. However, over the last 50 years there has been little change in the months in which mortality is above average (December to March) and those where it is below average (May to October). For this reason, the EWM figure calculated using the ONS method usually provides a clear guide to winter mortality levels. For the purposes of assessing change in EWM in England and Wales this estimate can be useful when viewed in the context of long-term trends.

Of the methods of measuring EWM discussed here, comparing December to March against a summer period of June to September offers a potential alternative to the current ONS method of estimating EWM. There are three main reasons why this method has advantages over the current ONS method. Firstly, removing the autumn and spring periods from the ‘non-winter’ average avoids the situation where EWM is decreased due to the fact that winter deaths are being subtracted from an inflated non-winter period. Secondly, by restricting the ‘winter’ to December to March as opposed to extending it to all months where an annual increase could be seen, the measure is providing a guide to excess winter mortality rather than including an autumn or spring excess. Lastly, mortality returns to consistent levels during the summer (June to September) and this is therefore a reasonable baseline against which to compare numbers of deaths in December to March.

The four-month-baseline method also has advantages for use in England and Wales compared with the six-month period method used by Bowie and Jackson for Scottish data,⁷ as it does not include October in the winter period. Our analysis has shown that, in England and Wales over the last 50 years, October has had consistently below average mortality. In fact, if a six-month winter period were to be used, April would be the better month to choose as it has had higher mortality than October over the last 50 years.

As discussed, December to March does not always have the highest mortality, although these are the months that had consistently higher mortality than the annual average over a 50-year period (Figure 4), and therefore make the most sensible choice of winter period. A useful addition to the annual winter mortality figure published by ONS could be to provide details of average daily deaths per month (as shown in Figure 7) giving an indication of the size and timing of winter peaks.

It has been shown in this article that winter mortality is cause and age specific. The elderly are more vulnerable than others during the winter. Policies aimed at tackling excess winter mortality, such as winter fuel payments,⁸ and influenza vaccinations⁹ focus particularly on the elderly, who are more likely to develop life-threatening complications of influenza such as pneumonia.¹⁰

CONCLUSION

On average, over the last 50 years, the December to March period has stood out as having above average levels of mortality. The period from May to October has stood out as having below average levels.

Over time EWM has been declining log-linearly in England and Wales, although year-on-year variability remains. When interpreting the impact of seasonal mortality in England and Wales changes over time can be disguised by short-term variations. It is therefore important to interpret the impact of measures such as winter fuel payments and influenza vaccinations in the context of long-term trends. However, the lack of any sharp downturn in any particular period in the last 25 years makes it difficult to draw conclusions over the effectiveness of any recent initiatives.

A consistent measure of excess winter mortality is necessary if comparisons are to be made over time. Generally the current ONS method of calculating EWM produces broadly similar patterns to other methods. The selection of winter months does not always reflect the months which saw the highest number of deaths, however over the last 50 years December to March are the months in which mortality is consistently above average. Levels of mortality in spring and autumn are more variable. Where these periods are included in the 'summer' period against which the winter excess is compared, and mortality is above average in these months, estimates of excess winter mortality are artificially decreased. On average spring and autumn are neither particularly high or low. There is therefore no rationale for including them in either the winter or the summer of excess winter mortality calculations. By removing spring and autumn from excess winter mortality calculations, and instead using a comparison period of June to September, the effect of an autumn or spring excess on excess winter mortality is removed.

Key findings

- On average, over the last 50 years, the months from December to March have stood out as having above average mortality levels, and the months from May to October have had consistently below average mortality.
- Over the last 50 years levels of EWM have decreased, although there is still clear year-on-year variability.
- The current ONS method of calculating EWM includes the autumn and spring as part of the 'summer' which is compared with the December to March 'winter'. In most years this produces broadly similar results to other methods of calculating EWM. However, if mortality is high in the spring or autumn this has the effect of decreasing the ONS estimate of EWM.
- An alternative method of calculating EWM compares December to March with a restricted summer period of June to September. This is the period where deaths are typically low and vary least. Any spring or autumn excess will therefore not influence the estimated level of excess winter mortality.

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Trends in social class differences in mortality by cause, 1986 to 2000

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Yuan Huang Chow
Office for National Statistics

INTRODUCTION

The measurement of socio-economic differences in mortality has a long history in the United Kingdom (UK). Since the influential report on health inequalities by Sir Douglas Black in 1980,¹ a wide-ranging and increasingly sophisticated variety of analyses²⁻⁶ have explored the complex relationships between socio-economic disadvantage and increased risk of premature death. Socio-economic status is a key determinant of health status throughout life,⁷ and maintains its unique influence on mortality after taking account of health-related behaviour and other factors.⁸

The volume and consistency of the research evidence since the Black report was synthesised and presented in the Acheson Report in 1998,⁹ leading to the development and implementation of a number of specific national initiatives designed to tackle the mortality divide between socially advantaged and disadvantaged groups.¹⁰⁻¹³

Much interest in recent years has focussed on whether the well-established social class gradients in mortality in the UK are increasing, stabilising or shrinking over time, and on what influence differential rates of improvement or worsening of mortality from specific conditions have had on these gradients. For instance, Drever and Bunting reported in the 1997 *ONS Decennial Supplement on Health Inequalities*¹⁴ a comparative analysis of male mortality by social class for the period 1991 to 1993, while Hattersley¹⁵ and Donkin *et al*¹⁶ traced trends in social class inequalities in life expectancy from 1972 to 1999. The latter article also examined trends in inequalities using standardised mortality ratios (SMRs) for the same time period.

This article extends previous research on social class trends in mortality, to include both sexes and the whole of the 1990s. It reports two sets of analyses by social class and cause of death at ages 35–64: age-standardised mortality rates in 1993–99 for men and women in England and Wales using the ONS Longitudinal Study (LS), and proportional mortality rates in 1993–2000 for men and women in England and Wales and in 1991–99 for men in Scotland using death registrations.

Although overall mortality fell, inequalities increased for men and decreased for women. A major contribution to the increasing social class gap in male mortality was made by ischaemic heart disease, cerebrovascular disease and respiratory diseases, where large falls in deaths in Social Classes I&II were not matched by the lower social classes. The inverse social gradient in breast cancer contributed to the relative improvement of mortality rates in women in the lower social classes.

This combined use of the LS and death registrations have benefits in overcoming the limitations of both data sources.

The overall picture is one of falling death rates across the social spectrum, but with the sharpest declines in non-manual classes, leading to an overall widening of the social class divide. There is evidence from Britain¹⁷ and some other European countries^{18,19} that cerebrovascular disease, and ischaemic heart disease in particular, has contributed strongly to the widening of social class differences in mortality through greater improvement in the non-manual classes.

This article uses two data sources, the ONS Longitudinal Study (LS) in England and Wales and death registrations in Great Britain, to update and extend the analyses by Drever and Bunting to both sexes and to the end of the twentieth century. Patterns of mortality by social class and gender are examined, with particular reference to time trends in selected major causes of death.

METHODS

Social class

Registrar General's Social Class (RGSC) based on occupation has been the principal social classification used in the UK since its first appearance in the *Registrar General's Annual Report* of 1911.²⁰ RGSC is derived from the individual's current or former occupation (see Box 1) and employment status (such as employee, manager, or self-employed). For some occupations the size of workplace is also used in data sources for which that information is available, such as the Census.

Box one

REGISTRAR GENERAL'S SOCIAL CLASS – EXAMPLES OF OCCUPATIONS

Non manual

I	Professional	Doctors, lawyers, chartered accountants, professionally qualified engineers
II	Intermediate	Managers, school teachers, journalists
IIIN	Skilled non-manual	Clerks, cashiers, retail staff
Manual		
IIIM	Skilled manual	Supervisors of manual workers, plumbers, electricians, bus drivers
IV	Partly skilled	Warehousemen, security guards, machine tool operators, care assistants
V	Unskilled	Labourers, cleaners and messengers

Cause of death

This article provides new results by social class from 1993–99. Results for this period are compared with those presented by Harding, Bethune, Maxwell and Brown²¹ for the period 1986–92. In both 1986–92 and 1993–99 cause of death was coded to the ninth revision of the International Classification of Diseases (ICD).²² However, the application of ICD rule 3 to the derivation of the underlying cause of death was altered in 1993, which may affect comparisons between the

two analyses. The main causes of death affected by the rule 3 change are to respiratory diseases. A fuller description of the implications of rule 3 for trend analysis can be accessed from the ONS website²³ and in a number of articles.^{24–26} A different time period was selected for analysis of deaths by social class in Scotland because the tenth revision of ICD²⁷ was introduced in 2000 in Scotland compared with 2001 in England and Wales.

The ONS Longitudinal Study

The LS is a representative sample of approximately 1 per cent of the population of England and Wales, linking data from censuses from 1971 onwards with birth and death registrations and other life events.²⁸ All members of the LS who entered the study at the 1971 Census, and were traced in the NHS Central Register were eligible for inclusion in this analysis. The analysis covered those aged 35–64 in the time period 1993–99. Harding *et al* excluded persons aged 15–34 to allow comparisons of the same ages at death in the periods 1976–81, 1981–85 and 1986–92²¹ and we have restricted the present analysis to that age group for ease of comparison with their results.

Deaths occurring to the sample formed the numerators for the calculation of directly age-standardised mortality rates (DSRs) per 100,000 person years at risk, using the WHO European Standard Population as the reference population. Rates are presented for the periods 1986–92, 1993–96, and 1997–99, with 95% confidence intervals. Person years of risk were calculated as the denominators, allowing for exits and re-entries into the sample. Mortality from all causes and from selected major causes of death was examined, combining Social Classes I&II and IV&V to provide sufficiently large numbers of events in the highest and lowest classes for reliable analysis.

For the LS data, social class was derived from individual census characteristics collected at the 1971 Census, replicating the approach adopted by Harding *et al*.²¹ Where possible an individual's own social class was used, but for those with no assigned occupation and for those who had been classified as armed forces, inadequately described, students, retired, permanently sick or housewives, an attempt was made to assign a social class using other data. For example, if their spouse had a social class this was used. If not, for anyone who had never worked and who was living with parents in 1971, their father's social class was used (or, failing that, their mother's). This method reduces those unclassified to a smaller proportion, which are presented in Tables 1 and 2 for each time period. Donkin *et al*¹⁵ demonstrated the advantage of assigning social class at the earliest available point in time to minimise the proportion of persons who cannot be classified.

Death registrations

Death registrations in England and Wales from 1993 to 2000 and in Scotland from 1991 to 1999 were used in the analysis. Deaths in England and Wales before 1993 were excluded because of the effect of the Rule 3 change; this did not apply in Scotland. Comparison of mortality in Scotland ends with 1999 because of the earlier introduction there of ICD10. Analysis was restricted to deaths at the ages of 35 to 64 to facilitate comparison with the LS data, and to those to whom a social class could be assigned. As population numbers by social class are available only around Census points, proportional mortality ratios (PMRs) were calculated. PMRs reflect the proportional contribution of a specific cause of death, taking account of age, to total mortality within a group (see Box 2) and are therefore independent of population denominators. PMRs for two periods were calculated to allow comparisons over time; these periods were 1993–96 and 1997–2000 for England and Wales, and 1991–95 and 1996–99 for Scotland.

Box two

CALCULATION OF PROPORTIONAL MORTALITY RATIO

$$PMR = \frac{\text{observed proportional deaths due to cause}_x \text{ in group}_i \times 100}{\text{expected proportional deaths due to cause}_x \text{ in total}}$$

It should be noted that a high PMR indicates the raised frequency of deaths from that cause relative to other causes within the same class, but not necessarily in comparison to other social classes. As it is a proportional measure, the PMR for one cause could be high because the frequency of other causes of death is low. A higher PMR does not necessarily mean that the actual risk of death is higher in that social class or time period than in others.

Death registrations for persons aged 16 and over include their last or main occupation and, where possible, additional information on employment status and industry. For married and widowed women in England and Wales, both the woman's occupation and that of her husband are recorded. For this analysis own social class was used. Until 1996, the recording of women's occupation and social class in Scotland was based on their husband's occupation. As valid comparison between the time periods used in this article is therefore not possible, no analysis for women in Scotland is presented.

RESULTS

PART I – TRENDS IN AGE-STANDARDISED MORTALITY RATES BY SOCIAL CLASS, ENGLAND AND WALES, 1986–99

All-cause mortality

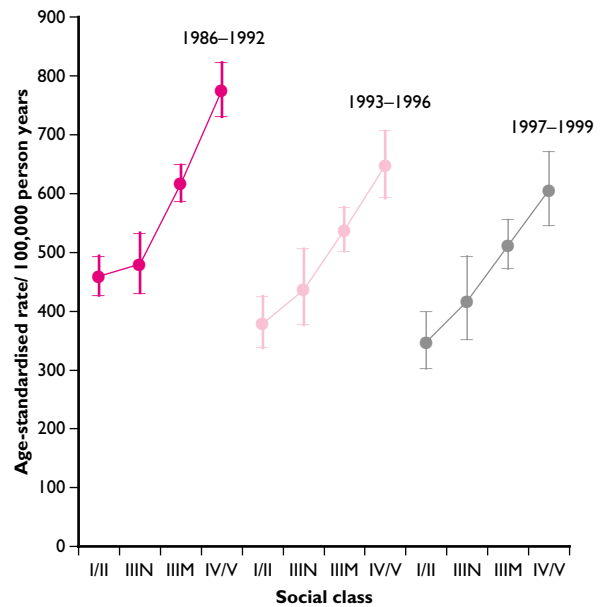
While all cause mortality in men aged 35–64 fell in all social classes over the period 1986 to 1999, it showed a consistent social class gradient throughout (Table 1). The gap in mortality rates between Social Classes IV&V and I&II widened over the period, with a ratio of 1.69 in 1986–92 rising to 1.71 in 1993–96 and 1.75 in 1997–99. The highest falls in all cause death rates occurred in Social Classes I&II (a reduction of 24 per cent from 1986–92 to 1997–99), while Social Classes IV&V experienced a reduction of 21 per cent. The smallest fall in mortality was experienced by Social Class IIIN (13 per cent), and this was the only social class not to experience a statistically significant fall from baseline (see Figure 1).

For women, all cause mortality showed a lesser social class gradient across the same period, and a narrowing of the difference between Social Classes I&II and IV&V (Table 2). The ratio of mortality rates between Social Classes I&II and IV&V was 1.54 in 1986–92, 1.44 in 1993–96 and 1.41 in 1997–99. The largest fall between 1986–92 and 1997–99 was 21 per cent in Social Classes IV&V and the smallest fall was 7 per cent in Social Class IIIM. In contrast to the pattern in men, mortality in women in Social Classes I&II fell by only 13 per cent over the same period (see Figure 2).

Male mortality from selected causes

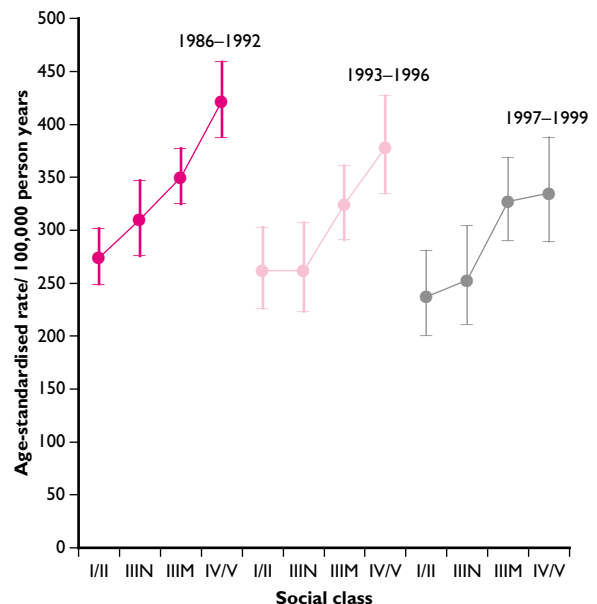
Trends in age-standardised mortality rates from selected major causes of death for men aged 35–64 are shown in Table 3.

Figure 1 Directly age-standardised all-cause mortality rates/100,000 person years in males aged 35–64 by social class for selected time periods



Source: ONS Longitudinal Study

Figure 2 Directly age-standardised all-cause mortality rates/100,000 person years in females aged 35–64 by social class for selected time periods



Source: ONS Longitudinal Study

Table 1 Trends in all cause mortality by social class 1986–1999, males aged 35–64, directly age-standardised death rates (DSR) per 100,000 person years, with 95% confidence interval (CI)

England and Wales

Social Class	DSR (95% CI)			% Change		
	1986–92	1993–96	1997–99	1986–92 to 1993–96	1993–96 to 1997–99	1986–92 to 1997–99
I&II	460 (427–494)	379 (338–426)	347 (302–399)	-17	-8	-24
IIIN	480 (431–533)	437 (377–506)	417 (352–494)	-9	-5	-13
IIIM	617 (587–649)	538 (502–577)	512 (472–556)	-13	-5	-17
IV&V	776 (731–823)	648 (593–707)	606 (546–672)	-16	-6	-21
Ratio IV&V: I&II	1.69	1.71	1.75			
Non-Manual	466 (439–494)	396 (363–433)	371 (334–413)	-15	-6	-20
Manual	674 (649–700)	577 (546–610)	546 (512–582)	-14	-5	-19
% unassigned deaths	6.69	9.16	11.39			
Deaths analysed	3779	1877	1291			
PYRs analysed	586,099	327,327	253,135			

Source: ONS Longitudinal Study.

Table 2 Trends in all cause mortality by social class 1986–1999, females aged 35–64, directly age-standardised death rates (DSR) per 100,000 person years, with 95% confidence interval (CI)

England and Wales

Social Class	DSR (95% CI)			% Change		
	1986–92	1993–96	1997–99	1986–92 to 1993–96	1993–96 to 1997–99	1986–92 to 1997–99
I&II	274 (249–302)	262 (226–303)	237 (201–281)	-5	-9	-13
IIIN	310 (276–347)	262 (223–307)	253 (211–304)	-15	-3	-18
IIIM	350 (325–377)	324 (291–361)	327 (290–369)	-7	1	-7
IV&V	422 (388–459)	378 (335–427)	335 (289–388)	-10	-11	-21
Ratio IV&V: I&II	1.54	1.44	1.41			
Non-Manual	289 (268–310)	257 (232–284)	246 (219–278)	-11	-4	-15
Manual	379 (358–401)	344 (317–373)	330 (301–362)	-9	-4	-13
% unassigned deaths	19.8	23.7	21.6			
Deaths analysed	2027	998	731			
PYRs analysed	548,600	307,584	239,522			

Source: ONS Longitudinal Study.

Ischaemic heart disease

Ischaemic heart disease (IHD) made the single largest contribution to overall male mortality, accounting for 31 per cent of all male deaths in 1997–99. Although there were marked falls in deaths from IHD in all social classes, the rate of improvement varied significantly between social classes. The greatest fall was in Social Classes I&II, particularly between 1986–92 and 1993–96 when a 40 per cent fall was sustained. The pattern of improvement over time in Social Classes IV&V was different from the other classes. While the reduction in IHD deaths in Social Classes I & II, IIIN and IIIM was mainly before 1996, the fall in Social Classes IV&V was slower but continued at the same rate throughout the period to 1999. Despite these differences in the rate of change, the gradient between social classes remained present throughout and widened over the period. The ratio of mortality rates between Social Classes IV&V and I&II rose from 1.69 in 1986–92 to 2.22 in 1993–96, then fell back to 1.86 in 1997–99.

Cerebrovascular disease

Mortality rates from cerebrovascular disease fell in all social classes between 1986–92 and 1997–99. The rate of improvement varied markedly between social classes, with a steep decline of 56 per cent in Social Classes I&II causing a clear widening in the social class gradient in males. Social class IIIN also showed a decline of more than half. In

contrast, mortality in Social Classes IV&V men increased by 16 per cent between 1986–92 and 1993–96, before falling sufficiently to result in a decrease of 18 per cent over the period as a whole. The ratio between the lowest and highest social classes increased from 1.34 to 2.67, with the rate in Social Classes IV&V at the end of the period still higher than that in Social Classes I&II at the beginning.

Respiratory disease

Trends in male deaths from respiratory disease were uneven, with marked differences between social classes but no change in their rank order. From 1986–92 to 1993–96 there was a relative worsening in mortality in the non-manual social classes and improvement in the manual classes, while in the period up to 1997–99 there was improvement in Social Classes I&II and worsening in all other social classes. The change to ICD-9 Rule 3 has to be taken into account in interpreting trends in respiratory disease. Looking at the period 1993–96 to 1997–99 only, as this comparison is not affected by coding changes, the largest increase in deaths from respiratory disease was 45 per cent in Social Class IIIM, while the only fall was 33 per cent in Social Classes I&II. The contrasting trends resulted in the ratio between classes IV&V and I&II increasing from 2.75 to 5.55, the largest social class difference seen for any cause of death.

Table 3

Trends in mortality from selected causes of death by social class 1986–1999, males aged 35–64, directly age-standardised death rates (DSR) per 100,000 person years, with 95% confidence interval (CI)

England and Wales

Social Class	DSR (95% CI)			% Change		
	1986–92	1993–96	1997–99	1986–92 to 1993–96	1993–96 to 1997–99	1986–92 to 1997–99
Ischaemic Heart Disease (ICD-9 codes 410–414)						
I&II	160 (142–181)	97 (79–119)	90 (69–116)	–40	–7	–44
IIIN	162 (135–194)	117 (88–155)	117 (85–160)	–28	0	–28
IIIM	228 (210–247)	159 (139–181)	141 (120–164)	–30	–11	–38
IV&V	270 (245–299)	215 (184–250)	167 (137–204)	–21	–22	–38
Ratio IV&V: I&II	1.69	2.22	1.86			
Non-Manual	162 (146–179)	105 (89–124)	100 (82–123)	–35	–4	–38
Manual	243 (228–259)	179 (162–197)	150 (133–169)	–27	–16	–38
Cerebrovascular disease (ICD-9 codes 430–438)						
I&II	29 (22–38)	22 (13–37)	12 (6–24)	–22	–44	–56
IIIN	28 (18–43)	17 (8–35)	13 (5–33)	–39	–26	–54
IIIM	33 (27–41)	30 (22–40)	24 (16–35)	–10	–20	–28
IV&V	39 (30–51)	45 (32–63)	32 (20–50)	16	–30	–18
Ratio IV&V: I&II	1.34	2.05	2.67			
Non-Manual	28 (22–36)	20 (13–29)	12 (7–21)	–31	–37	–56
Manual	35 (30–41)	35 (28–44)	27 (20–36)	0	–24	–24
Respiratory disease (ICD-9 codes 460–519)						
I&II	13 (8–19)	16 (9–27)	11 (5–21)	26	–33	–16
IIIN	21 (13–35)	28 (16–49)	40 (23–68)	34	41	90
IIIM	37 (30–45)	32 (24–43)	47 (36–62)	–13	45	26
IV&V	49 (39–62)	44 (32–62)	61 (44–84)	–9	38	25
Ratio IV&V: I&II	3.77	2.75	5.55			
Non-Manual	15 (11–21)	21 (14–32)	20 (13–31)	40	–5	34
Manual	41 (35–48)	37 (30–46)	52 (42–64)	–11	41	26
Lung cancer (ICD-9 code 162)						
I&II	36 (28–46)	33 (23–47)	21 (12–36)	–8	–37	–42
IIIN	50 (36–69)	26 (14–47)	23 (11–46)	–48	–12	–54
IIIM	76 (66–87)	66 (54–80)	47 (36–61)	–13	–29	–38
IV&V	81 (68–97)	72 (55–93)	66 (48–90)	–11	–9	–19
Ratio IV&V: I&II	2.25	2.18	3.14			
Non-Manual	40 (33–49)	31 (23–41)	22 (14–33)	–35	–29	–45
Manual	77 (69–87)	68 (58–80)	54 (44–66)	–27	–21	–31
Stomach cancer (ICD-9 code 151)						
I&II	5 (2–10)	3 (1–10)	6 (2–21)	–36	96	25
IIIN	7 (3–16)	7 (2–22)	6 (2–25)	10	–14	–5
IIIM	15 (11–21)	9 (5–16)	11 (7–20)	–40	26	–24
IV&V	19 (13–28)	8 (3–17)	7 (3–18)	–61	–8	–64
Ratio IV&V: I&II	3.8	2.67	1.17			
Non-Manual	5 (3–9)	4 (2–10)	6 (2–14)	–21	31	3
Manual	17 (13–21)	9 (5–13)	10 (6–16)	–49	16	–40
Colorectal cancer (ICD-9 codes 153–154)						
I&II	19 (13–28)	20 (13–31)	20 (12–34)	4	4	8
IIIN	27 (17–43)	30 (17–52)	24 (12–49)	9	–18	–11
IIIM	23 (17–29)	21 (14–30)	17 (11–27)	–9	–17	–24
IV&V	19 (13–28)	17 (10–29)	15 (8–29)	–9	–13	–21
Ratio IV&V: I&II	1.00	0.85	0.75			
Non-Manual	21 (16–28)	23 (16–34)	22 (15–34)	11	–5	6
Manual	21 (17–26)	19 (14–26)	16 (11–24)	–9	–16	–24
Prostate cancer (ICD-9 code 185)						
I&II	7 (4–12)	6 (3–13)	12 (6–24)	–18	111	74
IIIN	6 (2–15)	17 (8–36)	9 (3–29)	204	–45	68
IIIM	7 (4–11)	6 (3–11)	8 (4–15)	–14	33	14
IV&V	7 (4–12)	8 (3–17)	5 (2–15)	12	–35	–27
Ratio IV&V: I&II	1.00	1.33	0.42			
Non-Manual	7 (4–11)	9 (5–16)	11 (6–20)	35	25	70
Manual	7 (5–10)	6 (4–11)	7 (4–12)	–6	6	–1

Source: ONS Longitudinal Study.

Lung cancer

Mortality from lung cancer declined for men in all social classes, but not at the same rate. The largest fall from 1986–92 to 1997–99 was 42 per cent in Social Classes I&II, more than twice the percentage decrease in Social Classes IV&V. The ratio of mortality rates between the lowest and highest classes rose from 2.25 to 3.14 over the period.

Stomach, colorectal and prostate cancer

Deaths from the less common cancers are sparse in the LS, leading to imprecise estimates of risk, and unstable estimates of trends over time. While a statistically significant difference in death rates between Social Classes I&II and Social Classes IV&V was present in 1986–92, differences shrank markedly by 1993–96 due to an apparent increase in Social Classes I&II and a decrease in Social Classes IV&V. Changes over time within social classes were not statistically significant. Colorectal and prostate cancer showed no clear patterns and ended the period with small inverse social class gradients. (An inverse social gradient is one in which, contrary to the commonly observed pattern, the mortality rate is greater in the ‘higher’ Social Classes (I&II) than in the ‘lower’ Social classes (IV&V)). However, neither differences between social classes nor those over time achieved significance.

Female mortality from selected causes

Trends in age-standardised mortality rates from selected major causes of death for women aged 35–64 are shown in Table 4.

Ischaemic heart disease

Between 1986–92 and 1997–99, IHD mortality in women showed similar falls of around 30 per cent in all social classes. Social class gradients

persisted throughout the period, although the difference between Social Classes I&II and Social Classes IV&V marginally failed to achieve statistical significance in 1997–99. The ratio of mortality rates between Social Classes IV&V and I&II fell slightly from 2.38 to 2.27.

Cerebrovascular disease

Patterns of female mortality from cerebrovascular disease were mixed. Taking the period as a whole, there were large falls in Social Classes IIIN and IV&V of 58 per cent and 41 per cent respectively, and smaller increases in Social Classes I&II and IIIM. These contrasting trends reduced a ratio of 2.36 between Social Classes IV&V and I&II in 1986–92 to a non-significant 1.06 in 1997–99.

Respiratory disease

As with male deaths, respiratory disease mortality in women showed mixed patterns that in part reflect coding changes. Comparing 1993–96 and 1997–99, the rate in Social Classes I&II and IIIN doubled, while there was a small fall in Social Class IIIM. This sharp increase in the non-manual classes narrowed the comparison between Social Classes IV&V and I&II from 4.20 to 2.64.

Breast cancer

Breast cancer contributes substantially to overall female mortality, representing 15 per cent of deaths between 1986 and 1999. Falls in mortality were experienced by all social classes between 1986–92 and 1993–96, with the largest falls occurring in Social Classes I&II and IIIN. There was no statistically significant social class gradient in the periods 1986–92 and 1993–96, and an inverse gradient in 1997–99 when Social Classes IV&V had only 65 per cent of the mortality of Social Classes I&II.

Table 4

Trends in mortality from selected causes of death by social class 1986–1999, females aged 35–64, directly age-standardised death rates (DSR) per 100,000 person years, with 95% confidence interval (CI)

England and Wales

Social Class	DSR (95% CI)			% Change		
	1986–92	1993–96	1997–99	1986–92 to 1993–96	1993–96 to 1997–99	1986–92 to 1997–99
Ischaemic Heart Disease (ICD-9 codes 410–414)						
I&II	31 (23–41)	21 (13–32)	22 (13–36)	–33	6	–29
IIIN	44 (32–59)	35 (23–54)	30 (17–51)	–20	–15	–32
IIIM	58 (49–70)	46 (35–60)	41 (30–57)	–22	–10	–30
IV&V	74 (61–90)	48 (34–67)	50 (35–73)	–35	6	–32
Ratio IV&V: I&II	2.38	2.29	2.27			
Non-Manual	36 (29–44)	27 (20–37)	26 (18–38)	–25	–3	–27
Manual	65 (57–74)	46 (37–57)	45 (35–57)	–29	–3	–31
Cerebrovascular disease (ICD-9 codes 430–438)						
I&II	14 (9–21)	8 (4–16)	18 (10–33)	–46	133	26
IIIN	21 (14–33)	14 (7–28)	9 (3–24)	–32	–38	–58
IIIM	17 (12–24)	24 (15–37)	22 (14–35)	37	–8	25
IV&V	33 (24–44)	22 (13–36)	19 (10–36)	–33	–12	–41
Ratio IV&V: I&II	2.36	2.75	1.06			
Non-Manual	17 (13–23)	11 (7–18)	14 (8–23)	–33	21	–19
Manual	23 (19–29)	22 (16–30)	21 (14–30)	–6	–5	–10
Respiratory disease (ICD-9 codes 460–519)						
I&II	10 (6–16)	5 (2–13)	11 (4–25)	–49	103	4
IIIN	11 (6–21)	18 (10–34)	37 (22–60)	62	102	227
IIIM	24 (18–31)	21 (14–32)	20 (13–31)	–11	–6	–16
IV&V	30 (22–41)	21 (13–35)	29 (18–48)	–30	39	–3
Ratio IV&V: I&II	3.00	4.20	2.64			
Non-Manual	10 (7–15)	11 (6–18)	20 (13–31)	2	88	92
Manual	26 (21–32)	21 (15–28)	23 (17–33)	–22	13	–11
Breast cancer (ICD-9 code 174)						
I&II	52 (41–65)	42 (30–61)	57 (40–80)	–18	33	10
IIIN	50 (38–67)	36 (23–56)	47 (31–71)	–28	31	–6
IIIM	45 (36–56)	41 (30–57)	42 (30–59)	–8	1	–7
IV&V	59 (47–74)	53 (39–74)	37 (23–58)	–10	–31	–38
Ratio IV&V: I&II	1.13	1.26	0.65			
Non-Manual	51 (43–61)	38 (29–50)	56 (43–72)	–25	45	9
Manual	50 (43–59)	46 (37–58)	39 (30–52)	–9	–15	–22

**Table 4
continued****Trends in mortality from selected causes of death by social class 1986–1999, females aged 35–64, directly age-standardised death rates (DSR) per 100,000 person years, with 95% confidence interval (CI)**

England and Wales

Social Class	DSR (95% CI)			% Change		
	1986–92	1993–96	1997–99	1986–92 to 1993–96	1993–96 to 1997–99	1986–92 to 1997–99
Lung cancer (ICD-9 code 162)						
I&II	19 (13–27)	29 (17–49)	18 (9–33)	52	–39	–7
IIIN	17 (11–27)	8 (3–20)	4 (1–17)	–53	–48	–75
IIIM	34 (27–43)	33 (24–46)	23 (15–37)	–2	–29	–30
IV&V	45 (35–58)	43 (30–62)	40 (26–61)	–5	–7	–11
Ratio IV&V: I&II	2.37	1.48	2.22			
Non-Manual	19 (14–25)	16 (11–24)	11 (7–19)	–13	–31	–40
Manual	38 (32–45)	37 (29–47)	29 (21–40)	–3	–21	–24
Stomach cancer (ICD-9 code 151)						
I&II	3 (1–8)	1 (0–7)	0 (0–0)	–71	–100	–100
IIIN	3 (1–9)	4 (1–16)	5 (2–16)	34	34	79
IIIM	4 (2–9)	4 (1–10)	4 (2–11)	–20	15	–8
IV&V	2 (1–6)	1 (0–11)	5 (2–15)	–37	227	106
Ratio IV&V: I&II	0.67	1.50	–			
Non-Manual	3 (2–6)	2 (1–6)	3 (1–8)	–37	24	–22
Manual	4 (2–6)	3 (1–7)	4 (2–9)	–24	56	19
Colorectal cancer (ICD-9 codes 153–154)						
I&II	14 (9–21)	20 (12–32)	7 (3–18)	45	–63	–46
IIIN	12 (7–22)	15 (8–31)	5 (1–20)	24	–67	–59
IIIM	13 (9–19)	19 (12–28)	9 (4–18)	44	–52	–31
IV&V	15 (10–23)	11 (5–22)	8 (3–20)	–28	–31	–50
Ratio IV&V: I&II	1.07	0.55	1.14			
Non-Manual	14 (10–19)	18 (12–26)	6 (3–13)	30	–64	–53
Manual	14 (10–19)	16 (11–22)	9 (5–15)	13	–45	–38
Cervical cancer (ICD-9 code 180)						
I&II	4 (2–9)	3 (1–11)	1 (0–9)	–20	–63	–70
IIIN	5 (2–11)	4 (1–10)	4 (1–17)	–21	16	–8
IIIM	9 (5–15)	8 (4–19)	10 (5–21)	–8	24	14
IV&V	13 (8–21)	8 (3–19)	14 (7–30)	–38	76	8
Ratio IV&V: I&II	3.25	2.67	14.00			
Non-Manual	5 (3–9)	5 (2–10)	3 (1–8)	–2	–48	–49
Manual	10 (7–15)	8 (4–14)	12 (7–21)	–26	58	17

Source: ONS Longitudinal Study.

Lung cancer

Lung cancer is the third most common cause of death in women, after breast cancer and IHD. The largest fall in rates between 1986–92 and 1997–99 was 75 per cent in Social Class IIIN, while Social Classes I&II fell by only 7 per cent. Mortality in Social Classes IV&V remained substantially higher than all other social classes throughout the period. Despite the minimal improvement in Social Classes I&II, the mortality rate of Social Classes IV&V was more than double that of the highest social classes at both the beginning and the end of the period.

Stomach, colorectal and cervical cancer

There were insufficient deaths from the less common stomach and colorectal cancers for differences over time or between social classes to be significant. While the number of deaths from cervical cancer in the LS was also too small to allow reliable measurement of social class differences, the figures give a clear impression of a social class gradient.

PART 2 – TRENDS IN PROPORTIONAL MORTALITY RATIOS BY SOCIAL CLASS, GREAT BRITAIN 1991–2000**Social class patterns and time trends in major causes of death**

Table 5 shows PMRs by social class for men aged 35–64 in England and Wales, for four major groups of causes of death, in the two periods 1993–96 and 1997–2000. Table 6 shows the corresponding figures for women in England and Wales. Table 7 shows the corresponding figures for men in Scotland, but for the slightly earlier periods 1991–95 and 1996–99.

Major causes of death in men, England and Wales 1993–2000

For men in England and Wales, there was a moderate social class gradient in deaths from heart and circulatory diseases which was consistent across both periods. Deaths from cancer showed an inverse social class gradient, though with PMRs in Social Class IIIM higher than in IIIN, which was again consistent across time. There was a clear social class gradient for respiratory diseases in both periods, but with a reduction of the Social Class V PMR from 134 in 1993–96 to 125 in 1997–2000 (see Figure 3). Injuries and poisoning showed a more mixed pattern with a raised PMR in Social Class I in 1993–96 and in Social Class V in both periods.

Major causes of death in women, England and Wales 1993–2000

The figures for women showed a steeper social class gradient than in men for heart and circulatory diseases, with the PMR of 124 in Social Class V in 1997–2000 more than twice that in Social Class I. There was a smooth inverse gradient for deaths from cancer in both periods that remained stable over time across the social class hierarchy, with a small increase over time in Social Class I and a small decrease in Social Class V. Respiratory diseases showed a similar social class gradient in both periods, with the PMRs in Social Class V around twice those in Social Class I, though with small reductions over time in the PMR at both ends of the social scale. The highest PMRs for injuries and poisoning in women were in Social Class I by a large margin in both periods, 177 in 1993–96 and 166 in 1997–2000, with an otherwise mixed pattern across the social classes (see Figure 4).

Table 5 Mortality from selected major causes of death by social class 1993–96 and 1997–2000, males aged 35–64, Proportional mortality ratios (PMR)

England and Wales

Cause of death	ICD-9 codes	Number of deaths	Percentage of all deaths	PMR for each social class						
				I	II	IIIN	IIIM	IV	V	
Heart & circulatory diseases	1993–96	390–459	81,240	40.6	93	98	102	102	105	103
	1997–2000		69,860	36.7	93	99	104	102	105	101
All cancers	1993–96	140–239	68,647	34.3	113	107	98	106	99	89
	1997–2000		64,713	34.0	118	113	100	106	99	88
Respiratory diseases	1993–96	460–519	13,068	6.53	63	74	87	96	106	134
	1997–2000		14,078	7.4	67	70	88	99	108	125
External causes of injury & poisoning	1993–96	E800–E999	14,183	7.1	104	95	95	89	87	103
	1997–2000		15,458	8.1	96	92	82	87	91	108
All other causes	1993–96	N/A	23,060	11.52	102	102	110	84	91	102
	1997–2000		26,380	13.8	95	91	106	87	91	109

Source: ONS, death registrations.

Table 6 Mortality from selected major causes of death by social class 1993–96 and 1997–2000, females aged 35–64, Proportional mortality ratios (PMR)

England and Wales

Cause of death	ICD-9 codes	Number of deaths	Percentage of all deaths	PMR for each social class						
				I	II	IIIN	IIIM	IV	V	
Heart & circulatory diseases	1993–96	390–459	30,915	24.5	58	76	82	107	108	115
	1997–2000		27,340	22.2	58	79	83	99	107	124
All cancers	1993–96	140–239	65,151	51.6	124	121	117	105	103	97
	1997–2000		62,261	50.7	127	121	118	107	104	94
Respiratory diseases	1993–96	460–519	8,755	6.9	54	63	66	81	91	109
	1997–2000		9,804	8.0	46	60	68	91	92	103
External causes of injury & poisoning	1993–96	E800–E999	5,448	4.3	177	105	98	86	93	98
	1997–2000		5,747	4.7	166	105	94	91	104	116
All other causes	1993–96	N/A	15,983	12.7	80	81	83	80	81	78
	1997–2000		17,740	14.4	79	80	83	83	79	77

Source: ONS, death registrations.

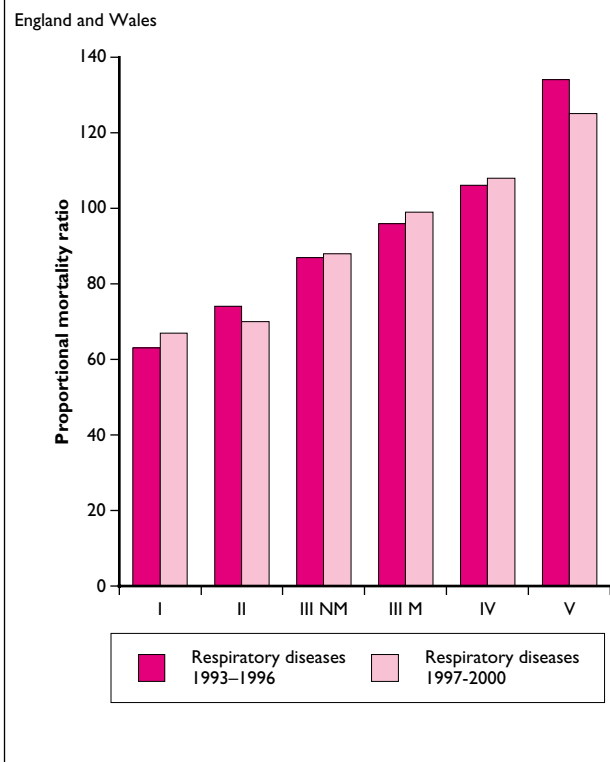
Table 7 Mortality from selected major causes of death by social class 1991–95 and 1996–1999, males aged 35–64, Proportional mortality ratios (PMR)

Scotland

Cause of death	ICD-9 codes	Number of deaths	Percentage of all deaths	PMR for each social class						
				I	II	IIIN	IIIM	IV	V	
Heart & circulatory diseases	1991–95	390–459	14,298	42.5	93	99	105	101	100	100
	1996–99		9,638	37.0	91	100	109	100	103	102
All cancers	1991–95	140–239	10,460	31.1	114	104	95	104	104	88
	1996–99		7,826	30.1	125	114	95	103	102	85
Respiratory diseases	1991–95	460–519	1,951	5.8	53	66	75	101	110	126
	1996–99		1,642	6.3	58	67	92	100	103	120
External causes of injury & poisoning	1991–95	E800–E999	2,870	8.5	119	110	94	90	94	109
	1996–99		2,309	8.9	88	101	99	95	104	107
All other causes	1991–95	N/A	4,079	12.1	98	102	111	91	89	114
			4,604	17.7	96	88	91	97	88	112

Source: GROS, death registrations.

Figure 3 Proportional mortality for respiratory diseases by social class for early and late 1990s, men aged 35–64



Major causes of death in men, Scotland 1991–1999

For men in Scotland, the moderate gradient in deaths from heart and circulatory diseases was similar to that for men in England and Wales in both periods. There was an inverse gradient in deaths from cancer except for lower PMRs in Social Class IIIN than in IIIM and IV. The PMR for cancer increased over time in both Social Classes I and II. There was a clear social class gradient in respiratory diseases, again with a small reduction over time in Social Class V. Injuries and poisoning showed a mixed pattern, with the highest PMRs being in Social Classes I and II in 1991–95, and in Social Classes IV and V in 1996–99.

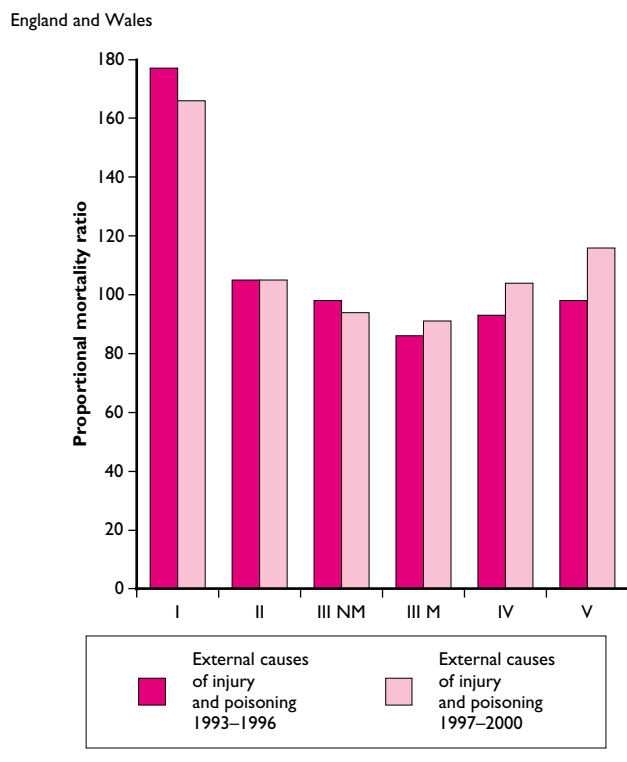
Social class patterns and time trends in selected other causes of death

Table 8 shows PMRs by social class for men aged 35–64 in England and Wales, for a number of other selected causes of death, in the two periods 1993–96 and 1997–2000. Table 9 contains figures for women in England and Wales. In both tables, the causes of death shown include all those for which there was either a significant difference in PMRs between social classes within either time period, or a significant change between the two periods in the PMR for any social class.

For men, there were significant social class gradients in the PMRs for neoplasms of the larynx, trachea, lung and bronchus, drug dependence, pneumonia, chronic lower respiratory disorders, stomach ulcers, accidents and events of undetermined intent (the latter are often suicides). There were significant inverse social gradients in cancers of the colon, rectum, liver, pancreas, prostate, malignant melanoma, and infectious diseases.

There were a small number of significant changes in PMRs between the time periods. Deaths from drug dependence in Social Class V fell from 198 to 133, though this was still by far the highest of any social class. Pneumonia deaths in Social Class II fell more than in any other social class; the Social Class II PMR was second lowest in 1993–6 and lowest

Figure 4 Proportional mortality for external causes of injury and poisoning by social class for early and late 1990s, women aged 35–64



in 1997–99. The PMR for infectious diseases in Social Class II fell from 154, the highest, to second highest at 121. Deaths from bladder cancer in Social Class V rose sharply from 73 to 106 between the two periods.

For women, there were clear social class gradients only in the PMRs for ischaemic heart disease, chronic lower respiratory disorders, and – except for Social Class II – asthma. There were inverse social gradients in cancers of the lip and breast, malignant melanoma, to some extent in accidents, and in suicide and intentional self-harm. There were no significant differences in PMRs for women between the two time periods.

DISCUSSION

Relatively large populations and numbers of events are needed to measure differences in mortality between social classes over time. In this article, advantage has been taken both of the ability of the LS to provide absolute measures of mortality (DSRs) through prospective analysis using person years at risk, and of the larger numbers contained in the national death registration data to provide greater statistical reliability and more detailed information on individual social classes and less common causes of death.

Inequalities in male mortality

Inequality in overall male mortality between the highest and lowest social classes has increased moderately from 1986 to 1999. Although mortality has fallen substantially in all social classes, and at either end of the social spectrum more than in Social Classes IIIN and IIIM, the widening social gap reflects a greater fall in Social Classes I&II than in IV&V. This is consistent with the long-term increase in inequality, whether measured by life expectancy at birth or SMRs, reported by Donkin *et al.*¹⁵ Donkin *et al.* found a slight ‘catch up’ by men in Social Class V in 1997–99, but this was not statistically significant at working age. The increasing disadvantage of men in Social Classes IV&V reflects

Table 8 Mortality from selected causes of death by social class 1993–96 and 1997–2000, males aged 35–64
Proportional mortality ratios (PMR)

England and Wales

Cause of death	ICD-9 codes	Number of deaths	Percentage of all deaths	PMR for each social class						
				I	II	IIIN	IIIM	IV	V	
Infectious & parasitic diseases	1993–96	See note*	1,199	<i>0.60</i>	125	154	131	73	74	86
	1997–2000		1,050	<i>0.55</i>	110	121	126	85	96	88
Neoplasms, colon	1993–96	153	4,872	2.43	158	134	114	93	88	71
	1997–2000		4,258	2.24	170	133	109	96	92	69
Neoplasms, rectum/anus	1993–96	154	2,954	1.48	138	112	103	104	95	85
	1997–2000		2,659	1.40	134	122	108	101	97	78
Neoplasms, liver	1993–96	155	1,174	0.59	137	117	120	96	85	93
	1997–2000		1,302	0.68	122	143	128	88	86	73
Neoplasms, pancreas	1993–96	157	3,149	1.57	135	122	104	101	91	79
	1997–2000		3,226	1.69	141	130	104	103	90	74
Neoplasms, larynx, trachea, lung and bronchus	1993–96	161–162	19,857	9.92	59	81	82	117	114	114
	1997–2000		17,594	9.24	64	85	83	118	116	111
Neoplasms, melanoma of skin	1993–96	172	1,244	0.62	231	159	110	88	64	51
	1997–2000		1,322	0.69	222	146	136	97	63	41
Neoplasms, prostate	1993–96	185	2,527	1.26	167	130	98	102	91	63
	1997–2000		2,442	1.28	180	125	109	97	99	70
Neoplasms, bladder	1993–96	188	1,832	0.92	112	107	96	112	100	73
	1997–2000		1,596	0.84	98	110	107	107	94	106
Neoplasms, kidney	1993–96	189	2,169	1.08	137	137	108	99	83	65
	1997–2000		2,139	1.12	147	134	116	99	88	73
Neoplasms, lymph & haematopoietic tissue	1993–96	200–208	5,931	2.96	156	136	118	94	87	61
	1997–2000		5,698	2.99	161	140	117	95	87	62
Diabetes mellitus	1993–96	250	2,157	1.08	83	92	113	95	108	109
	1997–2000		2,021	1.06	85	89	108	98	105	120
Drug dependence, toxicomania	1993–96	304–305	529	0.26	35	50	57	78	86	198
	1997–2000		971	0.51	33	42	54	75	69	133
Pneumonia	1993–96	480–486	5,228	2.61	87	85	95	83	94	119
	1997–2000		6,163	3.24	77	74	93	89	92	118
Chronic lower respiratory disorder	1993–96	493	5,475	2.73	40	58	76	109	118	158
	1997–2000		5,431	2.85	44	59	80	109	125	142
Ulcer of stomach, duodenum, etc.	1993–96	531–534	1,148	0.57	64	71	87	90	114	129
	1997–2000		1,217	0.64	65	61	104	85	116	148
Accidental falls	1993–96	E880–E888	1,245	0.62	109	83	84	88	96	142
	1997–2000		1,429	0.75	79	80	71	87	108	122
Accidental poisoning	1993–96	E850–E869	967	0.48	78	58	78	77	88	158
	1997–2000		1,221	0.64	59	50	67	72	84	139
Suicide and Events of undetermined intent	1993–96	E950–E959, E980–E989	2,519	2.00	111	99	104	87	85	92
	1997–2000		2,668	2.17	103	94	90	84	92	101
Other accidents	1993–96	E849, E870–879, E889–E929	1,797	0.90	79	80	78	93	85	114
	1997–2000		1,943	1.02	71	79	81	85	89	134

* Infectious and parasitic diseases: ICD-9 codes 001–139 excl. 010–018, 036, 042–044, 070, 137.

Key:

italic font = significant deviation within time period from whole population.

Bold font and shaded cell = significant change between time periods.

Bold and italic font and shaded cell = both significant deviation within time period from whole population and significant change between time periods.

Table 9

Mortality from selected causes of death by social class 1993–96 and 1997–2000, females aged 35–64
Proportional mortality ratios (PMR)

England and Wales

Cause of death	ICD-9 codes	Number of deaths	Percentage of all deaths	PMR for each social class						
				I	II	IIIN	IIIM	IV	V	
Neoplasms, lip, mouth & pharynx	1993–96	140–149	1,237	<i>0.98</i>	169	126	109	96	97	77
	1997–2000		1,361	<i>1.11</i>	90	124	99	89	104	88
Neoplasms, larynx, trachea, lung and bronchus	1993–96	161–162	9,869	<i>7.82</i>	52	93	96	129	127	141
	1997–2000		9,777	<i>7.96</i>	53	87	96	133	133	135
Neoplasms, melanoma of skin	1993–96	172	1,038	<i>0.82</i>	202	165	136	95	79	76
	1997–2000		1,055	<i>0.86</i>	170	151	146	109	92	62
Neoplasms, breast	1993–96	174–175	18,288	<i>14.49</i>	169	137	128	94	90	73
	1997–2000		16,835	<i>13.70</i>	174	139	130	98	85	67
Neoplasms, bladder	1993–96	188	645	<i>0.51</i>	87	101	111	87	102	122
	1997–2000		587	<i>0.48</i>	19	92	103	141	119	108
Neoplasms, lymph and haematopoietic tissue	1993–96	200–208	4,057	<i>3.21</i>	131	115	118	104	99	88
	1997–2000		3,979	<i>3.24</i>	183	128	111	116	102	78
Diabetes mellitus	1993–96	250	1,483	<i>1.17</i>	38	61	52	60	79	85
	1997–2000		1,316	<i>1.07</i>	17	64	48	97	75	109
Ischaemic heart disease	1993–96	410–414	16,321	<i>12.93</i>	40	64	76	108	108	121
	1997–2000		13,242	<i>10.78</i>	40	67	75	103	109	134
Pneumonia	1993–96	480–486	3,263	<i>2.58</i>	81	65	71	75	83	91
	1997–2000		4,010	<i>3.26</i>	56	64	71	91	82	88
Chronic lower respiratory disorders	1993–96	490–92,	3,745	<i>2.97</i>	15	50	54	87	99	131
	1997–2000	494, 496	3,853	<i>3.14</i>	29	49	59	93	101	122
Asthma	1993–96	493	813	<i>0.64</i>	34	82	73	91	101	102
	1997–2000		805	<i>0.66</i>	56	85	89	95	105	114
Accidents, transport related	1993–96	E800–E848	995	<i>0.79</i>	266	132	107	90	113	110
	1997–2000		908	<i>0.74</i>	222	136	103	103	107	130
Suicide and events of undetermined self-harm	1993–96	E950–E959	1,493	<i>1.18</i>	177	106	103	87	88	88
	1997–2000	E980–E989	1,604	<i>1.31</i>	189	112	96	83	105	104

Key:*Italic font* = significant deviation within time period from whole population.

the least improvement of any social class in mortality rates from three of the major causes of death, cerebrovascular disease, respiratory disease and lung cancer.

Males in Social Class IIIN had the smallest reduction in all cause mortality over time, with findings including the smallest reduction in deaths from IHD and a large increase in respiratory disease. Patterns in Social Class IIIN are not commented on extensively in the literature, perhaps because of the tendency to concentrate analysis on either extreme of the social class scale, the heterogeneity of the occupations that are classified into this social class²⁹ and its relatively small size compared with I, II, IIM, and IV&V combined. An analysis undertaken by Goldblatt and Fox found a raised SMR for IHD between 1971–81 in male clerical workers, who constituted a high proportion of Social Class IIIN.³⁰ They also found that relative IHD mortality increased between 1971–75 and 1976–81 in Social Class IIIN,² which is consistent with the relative worsening in IHD mortality found in this analysis.

Although there was a substantial reduction in mortality from IHD in all social classes, there was a noticeable difference between non-manual and manual groups in the pattern over time. The improvement in the former was almost all between 1986–92 and 1993–96, while the latter showed slower but consistent improvements over the whole time period. Consequently, the social class gradient in IHD rose in 1993–96 but fell again in 1997–99. The social gradient in smoking prevalence

increased substantially over the period, so reductions in smoking in manual groups cannot explain the reduced social class difference.³¹ A possible contributing factor to the narrowing of the gap between 1993–96 and 1997–99 may be more equitable access to life-saving procedures such as revascularisation,³² and the effectiveness of simple treatments such as aspirin, ACE inhibitors and beta blockers given to survivors of myocardial infarction.^{33,34}

Social class differences in respiratory disease mortality were clear, with a six-fold increased risk of death for Social Classes IV&V compared to Social Classes I&II. The complex pattern of changes over time in part reflects the influence of the ICD-9 Rule 3 change. However, the gradients seen in the PMR analysis combined with more detailed analysis of the LS data (not reported here) suggest that a marked divergence of manual and non-manual classes in non-pneumonia respiratory deaths is a substantive finding meriting further investigation.

Lung cancer deaths in males have been on the decrease in all social classes for over two decades. A lowering in the prevalence of smoking among men has contributed substantially to this decline, although the distribution of beneficial behavioural changes has not been constant among social groups.^{35,36} The substantial inverse social class gradients found here for prostate cancer and melanoma are consistent with previous research investigating the association between these conditions and deprivation.³⁷

A social class gradient in mortality from accidents and violence is well-established and is reflected here in respect of deaths from falls and poisoning in particular. While there is some indication of reductions in these causes at both ends of the social scale, the changes are not statistically significant because of the relatively small numbers of deaths involved. The highest rates of mortality from accidents and violence are found in younger men,³⁸ so it is a limitation of this analysis that, by excluding the population below 35, social class differences in these causes of death are somewhat understated.

Inequalities in female mortality

In this analysis, as in much previous research,⁶ social class gradients in women's mortality were generally less clear than in men. The gap in all cause mortality between women in Social Classes I&II and IV&V narrowed over the period examined, reversing the trend seen in the period 1976–92.¹⁵ Differences between the social classes in time trends in breast cancer played an important part in this reduction in the social gradient.

An interesting parallel with male mortality is the relative worsening of female mortality in Social Class IIIM compared to other social classes. This is consistent with the observation by Donkin *et al* that a narrowing gap between the extremes of the social class scale can conceal changes across the social spectrum.¹⁵

The inverse social gradient in mortality from breast cancer is well-established, as is that for melanoma.³⁸ This analysis suggests that despite research showing that socially advantaged women have benefited more than others from improvements in breast cancer screening uptake and survival,³⁹ the inverse gradient in mortality from breast cancer has increased over time. Deaths from breast cancer in Social Classes I&II and IIIN fell between 1986–92 and 1993–6 but increased between 1993–6 and 1997–99, in the case of Social Class I&II leading to an overall 10 per cent increase. In contrast, rates in Social Classes IV&V fell substantially throughout the period.

Because analysis by social class is often limited to males, long-standing social class gradients in female mortality are not always remarked on. The PMR analysis showed inequalities in relation to IHD and respiratory diseases in women as well as men. The very high PMRs for traffic accidents and suicide for women in Social Class I are noteworthy, although the proportional nature of PMRs means that these could be inflated by the very low PMRs in Social Class I for some of the more common causes of death.

Two findings in the LS data in relation to women in Social Class IIIN, a large increase in mortality from respiratory disease and a large fall in lung cancer, can be seen by comparison with the PMR figures to reflect the instability over time of rates based on the relatively small numbers of deaths in the LS. This highlights the benefits of using multiple data sources in mortality analysis by using the LS along with national death registrations.

Key findings

- In men, social class gradients in ischaemic heart disease and cerebrovascular disease increased over the period as rapid reductions in the higher social classes outpaced trends in the lower social classes.
- The difference in male respiratory disease mortality increased from a ratio of 2.75 to one of 5.55 between Social Classes IV&V and I&II in the period 1993–96 to 1997–99.
- The difference in female respiratory disease mortality contracted from a ratio of 4.20 to one of 2.64 between Social Classes IV&V and I&II.
- In women, the inverse social class gradient in breast cancer increased, contributing to the reduction in overall class gradients.
- Inverse gradients were identified in several less common causes of death.
- Patterns for men in Scotland were similar to those in England and Wales.

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Symbols

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- : not applicable
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Table I.1 Population and vital rates: international

Selected countries		Numbers (thousands)/Rates per thousand											
Year	United Kingdom i	Austria ii	Belgium ii	Denmark ii	Finland ii	France ii	Germany ¹ ii	Greece ii	Irish Republic ii	Italy ii	Luxembourg ii	Netherlands ii	Portugal ii
Population (thousands)													
1971	55,928	7,501	9,673	4,963	4,612	51,251	78,313	8,831	2,992	54,073	342	13,194	8,644
1976	56,216	7,566	9,818	5,073	4,726	52,909	78,337	9,167	3,238	55,718	361	13,774	9,356
1981	56,357	7,569	9,859	5,121	4,800	54,182	78,408	9,729	3,443	56,502	365	14,247	9,851
1986	56,684	7,588	9,862	5,120	4,918	55,547	77,720	9,967	3,543	56,596	368	14,572	10,011
1991	57,439	7,813	10,004	5,154	5,014	57,055	80,014	10,247	3,534	56,751	387	15,070	9,871
1993	57,672 ⁸	7,992	10,084	5,189	5,066	57,654	81,190	10,379	3,576	57,049	398	15,290	9,881
1994	57,797 ⁸	8,030	10,116	5,206	5,088	57,900	81,420	10,426	3,590	57,204	404	15,383	9,902
1995	57,928 ⁸	8,050	10,137	5,230	5,110	58,140	81,660	10,450	3,598	57,269	407	15,460	9,920
1996	58,043 ⁸	8,059	10,157	5,263	5,120	58,370	81,900	10,476	3,636	57,397	416	15,530	9,927
1997	58,167 ⁸	8,072	10,181	5,280	5,140	58,610	82,060	10,499	3,673	57,520	421	15,611	9,946
1998	58,305 ⁸	8,078	10,210	5,304	5,153	58,850	82,020	10,516	3,700	57,588	426	15,707	9,968
1999	58,481 ⁸	8,090	10,230	5,330	5,170	59,100	82,090	10,522	3,750	57,650	429	15,810	9,890
2000	58,643 ⁸	8,110	10,250	5,340	5,180	58,890	82,180	10,010	3,790	57,760	436	15,910	10,010
2001	59,031 ⁹	8,080	10,263	5,330	5,190	59,190	82,360	10,020	3,840	57,950	441	16,040	10,020
2002	59,207	..	..	..	..	..	..	..	..	..	..	..	..
Population changes (per 1,000 per annum)													
1971-76	1.0	1.7	3.0	4.4	4.9	6.5	0.1	7.6	16.4	6.1	10.7	8.8	16.5
1976-81	0.5	0.1	0.8	1.9	3.1	4.8	0.2	12.3	12.7	2.8	2.5	6.9	10.6
1981-86	1.2	0.5	0.1	0.0	4.9	5.0	-1.8	4.9	5.8	0.3	1.8	4.6	3.2
1986-91	2.6	5.9	2.9	1.3	3.9	5.4	5.9	5.6	-0.5	0.5	10.2	6.8	-2.8
1991-96	2.1 ⁸	6.3	3.1	4.2	3.8	4.6	4.7	4.5	3.6	2.3	14.9	6.1	1.1
1997-98	2.5 ⁸	0.7	2.8	4.5	2.5	4.1	0.5	1.6	7.4	1.2	11.9	6.1	2.2
1998-99	3.2 ⁸	1.5	2.0	4.9	3.3	4.2	0.9	0.6	13.5	-1.5	7.0	6.6	-7.8
1999-2000	2.1 ⁸	2.5	2.0	1.9	1.9	-3.6	1.1	-48.7	10.7	4.5	16.3	6.3	12.1
2000-01	6.6 ^{8,9}	-3.7	1.3	-1.9	1.9	5.1	2.2	1.0	13.2	3.3	11.5	8.2	1.0
2001-02	3.0	..	..	..	..	..	..	..	..	..	..	..	..
Live birth rate (per 1,000 per annum)													
1971-75	14.1	13.3	13.4	14.6	13.1	16.0	10.5	15.8	22.2	16.0	11.6	14.9	20.3
1976-80	12.5	11.5	12.5	12.0	13.6	14.1	10.5	15.6	21.3	12.6	11.2	12.6	17.9
1981-85	12.9	12.0	12.0	10.2	13.4	14.2	10.7	13.3	19.2	10.6	11.6	12.2	14.5
1986-90	13.7	11.6	12.1	11.5	12.7	13.8	9.8	10.6	15.8	9.8	12.2	12.8	11.9
1991-95	13.2	11.8	12.0	13.1	12.9	12.7	10.9	9.9	14.0	9.6	13.3	12.8	11.4
1996	12.6	11.0	11.2	12.9	11.8	12.6	9.7	9.6	13.9	9.2	13.7	12.2	11.1
1997	12.5	10.4	11.3	12.8	11.5	12.4	9.9	9.7	14.4	9.3	13.1	12.3	11.4
1998	12.3	10.1	11.3	12.5	11.1	12.6	9.7	9.6	14.5	9.0	12.6	12.7	11.4
1999	12.0	9.7	11.1	12.4	11.2	12.7	9.4	11.0	14.2	9.1	13.0	12.7	11.6
2000	11.6	9.6	11.2	12.6	11.0	13.2	9.4	11.7	14.3	9.3	13.1	13.0	11.8
2001	11.3	9.2	11.3	12.2	10.8	13.1	9.1	..	15.1	9.2	12.4	12.6	10.8
2002	11.3 ^p	..	..	..	..	..	..	..	..	..	..	..	..
Death rate (per 1,000 per annum)													
1971-75	11.8	12.6	12.1	10.1	9.5	10.7	12.3	8.6	11.0	9.8	12.2	8.3	11.0
1976-80	11.9	12.3	11.6	10.5	9.3	10.2	12.2	8.8	10.2	9.7	11.5	8.1	10.1
1981-85	11.7	12.0	11.4	11.1	9.3	10.1	12.0	9.0	9.4	9.5	11.2	8.3	9.6
1986-90	11.4	11.1	10.8	11.5	9.8	9.5	11.6	9.3	9.1	9.4	10.5	8.5	9.6
1991-95	11.1	10.4	10.4	11.9	9.8	9.1	10.8	9.5	8.8	9.7	9.8	8.8	10.4
1996	11.0	10.0	10.3	11.6	9.6	9.2	10.8	9.6	8.7	9.6	9.4	8.9	10.8
1997	10.8	9.8	10.2	11.3	9.6	9.0	10.5	9.5	8.6	9.8	9.4	8.7	10.6
1998	10.8	9.7	10.2	11.0	9.6	9.2	10.4	9.6	8.5	10.0	9.1	8.8	10.7
1999	10.8	9.7	10.3	11.1	9.5	9.2	10.4	9.8	8.5	9.8	8.8	8.9	10.8
2000	10.4	9.3	10.2	10.9	9.5	9.1	10.2	10.5	8.2	9.7	8.6	8.8	10.6
2001	10.2	9.1	10.2	10.9	9.3	8.9	10.0	..	7.8	9.6	7.2	8.8	10.4
2002	10.2	..	..	..	..	..	..	..	..	..	..	..	..

Note: Figures may not add exactly due to rounding.

Population estimated as follows:

- i At 30 June.
- ii Estimated mid-year population, live birth and death rates at latest available date, as given in the *United Nations Monthly Bulletin of Statistics*, the *United Nations Demographic Yearbook* and *Demographic Statistics* (Eurostat).
- iii The European Union consists of 15 member countries (EU15).

- 1 Including former GDR throughout.
- 2 Estimates prepared by the Population Division of the United Nations – excludes Hong-Kong.
- 3 Rates are based on births to, or deaths of Japanese nationals only.
- 4 Rates are for 1990-1995.
- 5 Estimates prepared by Eurostat.
- 6 Including Hong Kong.
- 7 Including the Indian held part of Jammu and Kashmir, the final status of which has not yet been determined.
- 8 Mid 1992-2000 population estimates for England and Wales will be revised in light of the revisions made to the mid 2001 population estimates, which were released on 26 September 2003. Interim revised estimates, for those years at a national level, will be released on 23 October 2003. The final revised estimates will be published in Spring 2004.
- 9 Mid 2001 England and Wales population estimates were revised on 26 September 2003, in light of research into the population estimates following the 2001 Census.
- .. Figures not available.
- p Provisional

See page 2 of 'in brief' or 'Notes to tables' on page 60.

Table I.1
continued
Population and vital rates: international

Selected countries											
Year	Spain ii	Sweden ii	European Union iii	Russian Federation ii	Australia ii	Canada ii	New Zealand ii	China ii	India ⁷ ii	Japan ³ ii	USA ii
Population (thousands)											
1971	34,216	8,098	342,631	130,934	13,067	22,026	2,899	852,290	551,311	105,145	207,661
1976	36,118	8,222	350,598	135,027	14,033	23,517	3,163	937,170 ²	617,248	113,094	218,035
1981	37,741	8,320	356,494	139,225	14,923	24,900	3,195	1,008,460 ²	675,185	117,902	229,958
1986	38,536	8,370	359,418	144,154	16,018	26,204	3,317	1,086,733 ²	767,199	121,672	240,680
1991	38,920	8,617	365,923	147,885	17,284	28,030	3,480	1,170,100 ²	851,900	123,964	252,618
1993	39,086	8,719	369,254	148,146	17,667	28,700	3,550	1,195,660 ²	886,250	124,829	258,080
1994	39,149	8,781	370,424	147,968	17,855	29,040	3,600	1,207,580 ²	903,940	125,178	260,602
1995	39,210	8,830	371,429	147,939	18,072	29,350	3,660	1,236,700 ²	921,990	125,472	263,040
1996	39,270	8,841	372,438	147,373	18,311	29,670	3,710	1,246,240 ²	939,540	127,761	265,460
1997	39,323	8,846	373,386	146,938	18,520	29,900	3,760	1,242,800 ²	955,220	126,070	268,010
1998	39,371	8,851	374,091	146,534	18,730	30,250	3,790	1,253,900 ²	970,930	126,410	270,300
1999	39,420	8,854	374,720	146,328	18,970	30,490	3,810	1,264,770 ²	986,610	126,650 ²	272,690
2000	39,470	8,862	374,852	145,560	19,160	30,770	3,830	1,275,130	1,002,140	126,870	275,260 ²
2001	40,270	8,833	376,714	144,819	19,490	31,110	3,850	1,284,970	1,017,540	127,340	284,800
2002	..	..	..	..	..	..	..	..	..	..	..
Population changes (per 1,000 per annum)											
1971-76	11.1	3.1	4.7	6.3	14.8	13.5	18.2	19.9	23.9	15.1	10.0
1976-81	9.0	2.1	3.4	6.2	12.7	11.8	2.0	15.2	18.8	8.5	10.9
1981-86	4.2	1.2	1.6	7.1	14.7	10.5	7.6	15.5	27.3	6.4	9.3
1986-91	2.0	5.9	3.6	5.2	15.8	13.9	9.8	15.3	22.1	3.8	9.9
1991-96	1.8	5.2	3.6	0.7	11.9	11.7	13.2	13.0	20.6	6.1	10.2
1997-98	1.2	0.6	1.9	-2.7	11.3	8.7	8.0	8.9	-24.4	2.7	8.5
1998-99	1.2	0.3	1.7	-1.4	12.8	7.9	5.3	8.7	16.1	0.7	8.8
1999-2000	1.3	0.9	0.4	-5.2	10.0	8.5	5.2	8.2	15.7	2.9	9.4
2000-01	20.3	2.4	5.0	-5.1	17.2	11.0	5.2	7.7	15.4	3.7	34.7
2001-02	..	..	..	..	..	..	..	..	..	..	..
Live birth rate (per 1,000 per annum)											
1971-75	19.2	13.5	14.7	..	18.8	15.9	20.4	27.2	35.6	18.6	15.3
1976-80	17.1	11.6	13.1	..	15.7	15.5	16.8	18.6	33.4	14.9	15.2
1981-85	12.8	11.3	12.2	..	15.6	15.1	15.8	19.2	..	12.6	15.7
1986-90	10.8	13.2	12.0	..	15.1	14.8	17.1	..	..	10.6	16.0
1991-95	9.8	13.3	9.7	10.2	..	..	..	18.5 ⁴	..	..	..
1996	9.2	10.8	10.8	8.8	13.9	12.2	15.4	9.8	27.3	9.6	14.7
1997	9.4	10.2	10.8	8.6	13.6	11.9	15.4	9.1 ⁶	..	9.5	14.5
1998	9.3	10.1	10.7 ⁵	8.8	13.3	..	14.6	8.1 ⁶	..	9.5	14.6
1999	9.6	10.0	..	8.3	13.1	..	15.0	7.8 ⁶	..	9.3	14.5
2000	10.0	10.2	..	8.7	13.0	..	14.8	8.1 ⁶	..	9.4	14.7
2001	10.0	10.3	..	9.1	12.6	..	..	7.2 ⁶	..	..	..
2002	..	..	..	..	..	..	..	..	..	..	..
Death rate (per 1,000 per annum)											
1971-75	8.5	10.5	10.8	..	8.2	7.4	8.4	7.3	15.5	6.4	9.1
1976-80	8.0	10.9	10.6	..	7.6	7.2	8.2	6.6	13.8	6.1	8.7
1981-85	7.7	11.0	10.4	..	7.3	7.0	8.1	6.7	..	6.1	8.6
1986-90	8.2	11.1	10.2	..	7.2	7.3	8.2	..	..	6.4	8.7
1991-95	8.7	10.9	10.0	13.7	..	..	..	..	..	..	..
1996	8.9	10.6	10.0	14.1	7.0	7.1	7.6	5.0	8.9	7.1	8.7
1997	8.9	10.5	9.8	13.7	7.0	7.2	7.3	4.9 ⁶	..	7.2	8.6
1998	9.1	10.5	9.9 ⁵	13.6	6.8	..	6.9	5.0 ⁶	..	7.4	8.6
1999	9.4	10.7	..	14.7	6.8	..	7.4	5.0 ⁶	..	7.8	8.8
2000	9.0	10.5	..	15.3	6.7	..	7.0	5.0 ⁶	..	7.6	8.7
2001	8.9	10.5	..	15.6	6.6	..	..	4.8 ⁶	..	..	..
2002	..	..	..	..	..	..	..	..	..	..	..

Note: Figures may not add exactly due to rounding.

Population estimated as follows:

- i At 30 June.
- ii Estimated mid-year population, live birth and death rates at latest available date, as given in the *United Nations Monthly Bulletin of Statistics*, the *United Nations Demographic Yearbook* and *Demographic Statistics* (Eurostat)
- iii The European Union consists of 15 member countries (EU15).

1 Including former GDR throughout.

2 Estimates prepared by the Population Division of the United Nations – excludes Hong Kong.

3 Rates are based on births to, or deaths of Japanese nationals only.

4 Rates are for 1990–1995.

5 Estimates prepared by Eurostat.

6 Including Hong Kong.

7 Including the Indian held part of Jammu and Kashmir, the final status of which has not yet been determined.

.. Figures not available.

p Provisional

Table 1.2 Population: national

Constituent countries of the United Kingdom		Numbers (thousands) and percentage age distribution					
Mid-year	United Kingdom	Great Britain	England and Wales	England	Wales	Scotland	Northern Ireland
Estimates							
1971	55,928	54,388	49,152	46,412	2,740	5,236	1,540
1976	56,216	54,693	49,459	46,660	2,799	5,233	1,524
1981	56,357	54,815	49,634	46,821	2,813	5,180	1,543
1986	56,684	55,110	49,999	47,188	2,811	5,112	1,574
1991	57,439	55,831	50,748	47,875	2,873	5,083	1,607
1993 ³	57,672	56,037	50,944	48,063	2,882	5,092	1,636
1994 ³	57,797	56,154	51,051	48,166	2,885	5,102	1,644
1995 ³	57,928	56,279	51,175	48,290	2,885	5,104	1,649
1996 ³	58,043	56,381	51,289	48,402	2,887	5,092	1,662
1997 ³	58,167	56,496	51,413	48,523	2,890	5,083	1,671
1998 ³	58,305	56,627	51,550	48,658	2,893	5,077	1,678
1999 ³	58,481	56,802	51,730	48,836	2,894	5,072	1,679
2000 ³	58,643	56,960	51,897	48,997	2,900	5,063	1,683
2001 ⁴	59,031	57,341	52,277	49,370	2,908	5,064	1,689
2002	59,207	57,510	52,455	49,537	2,919	5,055	1,697
of which (percentages)							
0-4	5.8	5.7	5.8	5.8	5.6	5.3	6.6
5-15	14.1	14.0	14.1	14.1	14.4	13.6	16.5
16-44	40.3	40.2	40.2	40.4	37.5	40.2	41.6
45-64M/59F	21.5	21.5	21.5	21.4	22.4	22.1	19.6
65M/60F-74	10.9	10.9	10.8	10.8	11.8	11.6	9.6
75 and over	7.5	7.6	7.6	7.6	8.4	7.2	6.1
Projections¹							
2006	59,657	57,943	52,920	49,994	2,926	5,023	1,714
2011	60,524	58,789	53,806	50,859	2,947	4,983	1,735
2016	61,459	59,705	54,762	51,790	2,972	4,943	1,754
2021	62,386	60,617	55,722	52,725	2,997	4,895	1,769
of which (percentages)							
0-4	5.7	5.7	5.7	5.7	5.5	5.1	5.9
5-15	12.3	12.3	12.3	12.3	12.3	11.3	13.3
16-44	36.2	36.2	36.3	36.4	34.5	35.0	36.5
45-64 ²	26.3	26.3	26.2	26.2	25.9	28.1	26.5
65-74 ²	10.5	10.5	10.4	10.4	11.6	11.4	9.8
75 and over	9.0	9.0	9.0	9.0	10.0	9.2	8.1

Note: Figures may not add exactly due to rounding.

1 'Interim' national projections based on the original mid-2001 population estimates.

2 Between 2010 and 2020, state retirement age will change from 65 years for men and 60 years for women to 65 years for both sexes.

3 Mid 1992-2000 population estimates for England and Wales will be revised in light of the revisions made to the mid-2001 population estimates, which were released on 26 September 2003. Interim revised estimates for these years at a national level, will be released on 23 October 2003. The final revised estimates will be published in Spring 2004.

4 Mid 2001 England and Wales population estimates were revised on 26 September 2003, in light of research into population estimates following the 2001 Census.

See page 2 of 'in brief' and 'Notes to tables' on page 60.

Table 1.3 Population: subnational

Government Office Regions of England ¹									
	Numbers (thousands) and percentage age distribution								
Mid-year	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East	London	South East	South West
Estimates									
1971	2,679	7,108	4,902	3,652	5,146	4,454	7,529	6,830	4,112
1976	2,671	7,043	4,924	3,774	5,178	4,672	7,089	7,029	4,280
1981	2,636	6,940	4,918	3,853	5,187	4,854	6,806	7,245	4,381
1986	2,594	6,833	4,884	3,908	5,180	4,999	6,774	7,468	4,548
1991	2,587	6,843	4,936	4,011	5,230	5,121	6,829	7,629	4,688
1993 ⁵	2,589	6,836	4,955	4,053	5,246	5,152	6,832	7,672	4,729
1994 ⁵	2,582	6,823	4,958	4,070	5,248	5,177	6,844	7,711	4,753
1995 ⁵	2,573	6,809	4,957	4,089	5,255	5,205	6,860	7,764	4,778
1996 ⁵	2,564	6,787	4,954	4,105	5,260	5,236	6,901	7,805	4,789
1997 ⁵	2,554	6,769	4,951	4,116	5,261	5,270	6,928	7,857	4,819
1998 ⁵	2,544	6,762	4,950	4,125	5,267	5,306	6,969	7,891	4,843
1999 ⁵	2,531	6,738	4,947	4,144	5,265	5,341	7,041	7,955	4,874
2000 ⁵	2,523	6,737	4,950	4,157	5,260	5,375	7,104	7,982	4,909
2001 ⁶	2,519	6,747	4,971	4,183	5,283	5,401	7,308	8,021	4,937
2002	2,513	6,749	4,983	4,215	5,304	5,420	7,355	8,037	4,960
of which (percentages)									
0-4	5.3	5.7	5.7	5.6	5.9	5.8	6.4	5.7	5.3
5-15	14.1	14.6	14.5	14.2	14.6	14.1	13.1	14.0	13.5
16-44	39.1	39.3	39.5	39.3	39.3	38.7	48.6	39.3	36.9
45-64M/59F	22.2	21.7	21.6	22.3	21.7	22.2	17.8	22.0	22.8
65M/60F-74	11.8	11.2	11.1	11.0	11.1	11.2	8.3	10.8	12.1
75 and over	7.6	7.4	7.6	7.6	7.5	7.9	5.7	8.1	9.3
Projections²									
2001	2,579	6,871	5,071	4,234	5,343	5,448	7,215	8,134	4,977
2006	2,555	6,843	5,098	4,312	5,358	5,582	7,337	8,344	5,098
2011	2,536	6,820	5,130	4,384	5,372	5,702	7,470	8,534	5,213
2016	2,521	6,813	5,165	4,455	5,391	5,823	7,609	8,722	5,333
2021	2,509	6,808	5,200	4,523	5,411	5,941	7,736	8,905	5,452
of which (percentages)⁴									
0-4	5.4	5.7	5.6	5.4	5.7	5.5	6.4	5.4	4.9
5-15	12.1	12.4	12.2	12.0	12.5	12.1	12.5	12.1	11.2
16-44	35.1	35.4	35.9	35.1	34.9	34.5	41.5	34.9	32.8
45-64 ³	27.7	27.5	27.3	27.4	27.3	27.2	26.3	27.4	27.8
65-74 ³	11.2	10.6	10.6	11.1	10.7	11.2	7.7	10.9	12.4
75 and over	8.4	8.4	8.4	9.0	8.9	9.5	5.6	9.3	10.8

Note: Figures may not add exactly due to rounding.

1 From 1 April 2002 there are four Directorates of Health and Social Care (DHSCs) within the Department of Health. The GORs sit within the DHSCs as follows: North East, North West, Yorkshire and The Humber GORs are within North DHSC, East Midlands, West Midlands and East GORs are within Midlands and Eastern DHSC, London GOR equates to London DHSC and South East and South West GORs are within South DHSC. See 'In brief' *Health Statistics Quarterly number 15* for further details of changes to Health Areas.

2 These projections are based on the mid-1996 population estimates and are consistent with the 1996-based national projections produced by the Government Actuary's Department.

3 Between 2010 and 2020, state retirement age will change from 65 years for men and 60 years for women to 65 years for both sexes.

4 The percentages shown in this table are correct and show the proportion in each age group for 2021. These replace the percentage figures shown in *Health Statistics Quarterly* numbers 01, 02 and 03, and *Population Trends* 95 and 96, which were miscalculated.

5 Mid 1992-2000 population estimates for England and Wales will be revised in light of the revisions made to the mid 2001 population estimates, which were released on 26 September 2003. Interim revised estimates for these years, at a national level, will be released on 23 October 2003. The final revised estimates will be published in Spring 2004.

6 Mid 2001 England and Wales population estimates were revised on 26 September 2003, in light of research into the population estimates following the 2001 Census.

See page 2 of 'in brief' and 'Notes to tables' on page 60.

Table 1.4 Population: age and sex

Constituent countries of the United Kingdom															Numbers (thousands)		
Mid-year	All ages	Age group															
		Under 1	1-4	5-14	15-24	25-34	35-44	45-59	60-64	65-74	75-84	85-89	90 and over	Under 16	16-64/59	65/60 and over	
United Kingdom																	
Persons																	
1976	56,216	677	3,043	9,176	8,126	7,868	6,361	9,836	3,131	5,112	2,348	390	147	13,797	32,757	9,663	
1981	56,357	730	2,726	8,147	9,019	8,010	6,774	9,540	2,935	5,195	2,677	..	..	12,543	33,780	10,035
1986	56,684	748	2,886	7,143	9,200	8,007	7,711	9,212	3,069	5,020	2,971	716	..	11,645	34,725	10,313	
1991	57,439	790	3,077	7,141	8,168	8,898	7,918	9,500	2,888	5,067	3,119	626	248	11,685	35,197	10,557	
1996 ¹	58,043	719	3,020	7,524	7,182	9,094	7,956	10,551	2,782	5,061	3,127	710	317	11,996	35,408	10,639	
1998 ¹	58,305	713	2,929	7,654	6,993	8,878	8,284	10,762	2,833	4,973	3,209	735	344	12,008	35,591	10,706	
1999 ¹	58,481	704	2,896	7,687	7,019	8,697	8,464	10,875	2,874	4,941	3,226	745	353	12,012	35,736	10,733	
2000 ¹	58,643	681	2,867	7,653	7,080	8,523	8,655	10,992	2,897	4,933	3,244	755	363	11,955	35,914	10,774	
2001 ²	59,031	662	2,815	7,615	7,228	8,493	8,825	11,153	2,880	4,940	3,290	752	376	11,847	36,354	10,830	
2002	59,207	660	2,746	7,583	7,372	8,268	8,966	11,297	2,887	4,963	3,339	737	387	11,755	36,550	10,901	
Males																	
1976	27,360	348	1,564	4,711	4,145	3,981	3,214	4,820	1,466	2,204	775	101	31	7,083	17,167	3,111	
1981	27,412	374	1,400	4,184	4,596	4,035	3,409	4,711	1,376	2,264	922	..	..	6,439	17,646	3,327
1986	27,542	384	1,478	3,664	4,663	4,022	3,864	4,572	1,463	2,206	1,060	166	..	5,968	18,142	3,432	
1991	27,909	403	1,572	3,655	4,146	4,432	3,949	4,732	1,390	2,272	1,146	166	46	5,976	18,303	3,768	
1996 ¹	28,182	369	1,548	3,843	3,601	4,505	3,953	5,243	1,358	2,309	1,187	201	65	6,130	18,290	3,762	
1998 ¹	28,310	365	1,502	3,915	3,500	4,376	4,108	5,340	1,387	2,291	1,239	215	73	6,145	18,348	3,818	
1999 ¹	28,406	361	1,485	3,934	3,518	4,275	4,192	5,393	1,408	2,286	1,257	220	77	6,150	18,415	3,840	
2000 ¹	28,491	349	1,468	3,920	3,559	4,179	4,279	5,446	1,418	2,291	1,276	225	80	6,124	18,901	3,872	
2001 ²	28,800	338	1,443	3,901	3,648	4,244	4,367	5,528	1,409	2,304	1,306	227	85	6,069	18,809	3,922	
2002	28,901	338	1,406	3,886	3,730	4,121	4,438	5,595	1,412	2,324	1,337	225	89	6,022	18,904	3,975	
Females																	
1976	28,856	330	1,479	4,465	3,980	3,887	3,147	5,015	1,665	2,908	1,573	289	116	6,714	15,590	6,552	
1981	28,946	356	1,327	3,963	4,423	3,975	3,365	4,829	1,559	2,931	1,756	..	..	6,104	16,134	6,708
1986	29,142	364	1,408	3,480	4,538	3,985	3,847	4,639	1,606	2,814	1,911	550	..	5,678	16,583	6,881	
1991	29,530	387	1,505	3,487	4,021	4,466	3,968	4,769	1,498	2,795	1,972	460	202	5,709	16,894	6,927	
1996 ¹	29,861	350	1,473	3,681	3,581	4,589	4,003	5,307	1,424	2,751	1,941	509	252	5,866	17,118	6,877	
1998 ¹	29,995	348	1,427	3,739	3,493	4,502	4,177	5,422	1,446	2,682	1,969	520	271	5,863	17,244	6,888	
1999 ¹	30,075	343	1,411	3,753	3,501	4,422	4,271	5,482	1,467	2,655	1,969	525	277	5,862	17,321	6,892	
2000 ¹	30,153	332	1,398	3,733	3,521	4,344	4,376	5,546	1,479	2,643	1,968	529	283	5,831	17,419	6,902	
2001 ²	30,230	324	1,373	3,714	3,580	4,250	4,458	5,625	1,471	2,636	1,984	525	291	5,778	17,545	6,907	
2002	30,306	322	1,341	3,697	3,643	4,146	4,529	5,702	1,475	2,639	2,003	511	298	5,733	17,647	6,926	
England and Wales																	
Persons																	
1976	49,459	585	2,642	7,967	7,077	6,979	5,608	8,707	2,777	4,540	2,093	351	135	11,973	28,894	8,593	
1981	49,634	634	2,372	7,085	7,873	7,086	5,996	8,433	2,607	4,619	2,388	383	157	10,910	29,796	8,928	
1986	49,999	654	2,522	6,226	8,061	7,052	6,856	8,136	2,725	4,470	2,655	461	182	10,161	30,647	9,190	
1991	50,748	698	2,713	6,248	7,165	7,862	7,022	8,407	2,553	4,506	2,790	561	223	10,247	31,101	9,400	
1996 ¹	51,289	636	2,670	6,616	6,287	8,038	7,015	9,360	2,454	4,490	2,799	638	285	10,562	31,263	9,464	
1998 ¹	51,550	632	2,593	6,745	6,125	7,855	7,304	9,547	2,501	4,406	2,872	660	310	10,594	31,436	9,520	
1999 ¹	51,730	625	2,565	6,782	6,157	7,702	7,464	9,644	2,539	4,375	2,887	670	319	10,609	31,579	9,542	
2000 ¹	51,897	606	2,542	6,758	6,216	7,559	7,637	9,746	2,561	4,365	2,902	679	328	10,567	31,753	9,578	
2001 ²	52,277	589	2,498	6,731	6,355	7,554	7,795	9,884	2,545	4,370	2,941	676	340	10,480	32,174	9,623	
2002	52,455	588	2,438	6,708	6,490	7,361	7,927	10,008	2,550	4,389	2,984	662	350	10,407	32,363	9,685	
Males																	
1976	24,089	300	1,358	4,091	3,610	3,532	2,843	4,280	1,304	1,963	690	91	29	6,148	15,169	2,773	
1981	24,160	324	1,218	3,639	4,011	3,569	3,024	4,178	1,227	2,020	825	94	32	5,601	15,589	2,970	
1986	24,311	335	1,292	3,194	4,083	3,542	3,438	4,053	1,302	1,972	951	115	35	5,208	16,031	3,072	
1991	24,681	356	1,385	3,198	3,638	3,920	3,504	4,199	1,234	2,027	1,029	150	42	5,240	16,193	3,248	
1996 ¹	24,924	327	1,369	3,379	3,150	3,985	3,489	4,658	1,203	2,058	1,067	182	59	5,397	16,162	3,365	
1998 ¹	25,052	323	1,330	3,450	3,064	3,875	3,626	4,742	1,229	2,039	1,115	194	66	5,421	16,217	3,414	
1999 ¹	25,151	320	1,315	3,471	3,086	3,789	3,703	4,786	1,248	2,033	1,131	199	70	5,432	16,286	3,433	
2000 ¹	25,238	310	1,302	3,462	3,125	3,709	3,783	4,831	1,257	2,037	1,147	204	73	5,413	16,365	3,460	
2001 ²	25,542	301	1,279	3,448	3,208	3,786	3,866	4,901	1,249	2,048	1,173	206	77	5,368	16,670	3,504	
2002	25,640	301	1,247	3,437	3,282	3,679	3,933	4,959	1,251	2,065	1,200	204	81	5,331	16,759	3,551	
Females																	
1976	25,370	285	1,284	3,876	3,467	3,447	2,765	4,428	1,473	2,577	1,403	261	106	5,826	13,725	5,820	
1981	25,474	310	1,154	3,446	3,863	3,517	2,972	4,255	1,380	2,599	1,564	289	126	5,309	14,207	5,958	
1986	25,687	319	1,231	3,032	3,978	3,509	3,418	4,083	1,422	2,498	1,704	346	148	4,953	14,616	6,118	
1991	26,067	342	1,328	3,050	3,527	3,943	3,517	4,208	1,319	2,479	1,761	411	181	5,007	14,908	6,152	
1996 ¹	26,365	310	1,301	3,237	3,137	4,054	3,526	4,701	1,251	2,433	1,732	456	227	5,165	15,101	6,099	
1998 ¹	26,498	308	1,263	3,295	3,062	3,981	3,677	4,805	1,272	2,367	1,758	466	244	5,173	15,219	6,107	
1999 ¹	26,579	305	1,250	3,311	3,072	3,914	3,761	4,858	1,291	2,341	1,756	471	249	5,177	15,293	6,109	
2000 ¹	26,659	295	1,240	3,296	3,091	3,850	3,854	4,915	1,303	2,329	1,755	475	255	5,154	15,387	6,117	
2001 ²	26,735	288	1,218	3,283	3,147	3,768	3,929	4,983	1,296	2,322	1,768	471	263	5,112	15,504	6,119	
2002	26,815	287	1,191	3,271	3,208	3,682	3,994	5,049	1,299	2,324	1,784	459	269	5,076	15,604	6,134	

.. Figures not available.

Note: Figures may not add exactly due to rounding.

1 Mid 1992-2000 population estimates for England and Wales will be revised in light of the revisions made to the mid 2001 population estimates, which were released on 26 September 2003. Interim revised estimates for these years, at a national level, will be released on 23 October 2003. The final revised estimates will be published in Spring 2004.

2 Mid 2001 England and Wales population estimates were revised on 26 September 2003, in light of research into the population estimates following the 2001 Census.

See page 2 of 'in brief' or 'Notes to tables' on page 60.

Table 1.4 continued

Population: age and sex

Constituent countries of the United Kingdom

Numbers (thousands)

Mid-year	All ages	Age group												Under 16	16-64/59	65/60 and over
		Under 1	1-4	5-14	15-24	25-34	35-44	45-59	60-64	65-74	75-84	85-89	90 and over			
England Persons																
1976	46,660	551	2,491	7,513	6,688	6,599	5,298	8,199	2,616	4,274	1,972	332	127	11,293	27,275	8,092
1981	46,821	598	2,235	6,678	7,440	6,703	5,663	7,948	2,449	4,347	2,249	362	149	10,285	28,133	8,403
1986	47,188	618	2,380	5,869	7,623	6,682	6,478	7,672	2,559	4,199	2,501	435	172	9,583	28,962	8,643
1991	47,875	660	2,560	5,885	6,772	7,460	6,633	7,920	2,399	4,222	2,626	529	210	9,658	29,390	8,827
1996 ¹	48,402	603	2,524	6,236	5,937	7,630	6,636	8,819	2,307	4,212	2,629	601	269	9,966	29,551	8,885
1998 ¹	48,658	598	2,452	6,360	5,785	7,458	6,914	8,994	2,352	4,134	2,696	622	292	9,998	29,719	8,940
1999 ¹	48,836	592	2,426	6,397	5,813	7,316	7,069	9,086	2,388	4,107	2,709	632	300	10,015	29,859	8,963
2000 ¹	48,997	574	2,404	6,375	5,866	7,183	7,234	9,181	2,408	4,100	2,722	640	309	9,976	30,024	8,997
2001 ²	49,370	557	2,362	6,349	6,000	7,189	7,386	9,312	2,392	4,106	2,758	637	320	9,893	30,436	9,040
2002	49,537	557	2,306	6,328	6,126	7,006	7,513	9,429	2,394	4,125	2,799	624	330	9,826	30,614	9,907
Males																
1976	22,728	283	1,280	3,858	3,413	3,339	2,686	4,031	1,228	1,849	649	85	27	5,798	14,320	2,610
1981	22,795	306	1,147	3,430	3,790	3,377	2,856	3,938	1,154	1,902	777	89	30	5,280	14,717	2,798
1986	22,949	317	1,219	3,010	3,862	3,357	3,249	3,822	1,224	1,853	897	108	33	4,911	15,147	2,891
1991	23,291	336	1,307	3,011	3,439	3,721	3,311	3,957	1,159	1,900	970	141	39	4,938	15,302	3,050
1996 ¹	23,527	309	1,294	3,185	2,974	3,783	3,302	4,390	1,132	1,930	1,002	172	55	5,093	15,275	3,159
1998 ¹	23,650	306	1,257	3,253	2,892	3,678	3,435	4,467	1,156	1,914	1,047	183	62	5,116	15,328	3,206
1999 ¹	23,748	303	1,244	3,274	2,912	3,599	3,509	4,509	1,174	1,910	1,061	188	66	5,128	15,396	3,225
2000 ¹	23,835	294	1,231	3,265	2,950	3,525	3,585	4,551	1,182	1,913	1,076	192	69	5,109	15,475	3,251
2001 ²	24,135	285	1,210	3,252	3,030	3,608	3,666	4,618	1,174	1,924	1,101	194	73	5,067	15,776	3,292
2002	24,230	286	1,180	3,242	3,100	3,508	3,731	4,673	1,175	1,941	1,126	192	76	5,033	15,861	3,336
Females																
1976	23,932	269	1,211	3,656	3,275	3,260	2,612	4,168	1,387	2,425	1,323	246	100	5,495	14,968	5,481
1981	24,026	292	1,088	3,248	3,650	3,327	2,807	4,009	1,295	2,445	1,472	273	119	5,004	13,416	5,605
1986	24,239	301	1,161	2,859	3,761	3,325	3,229	3,850	1,335	2,346	1,604	326	140	4,672	13,815	5,752
1991	24,584	324	1,253	2,873	3,333	3,739	3,322	3,964	1,239	2,323	1,656	388	171	4,720	14,088	5,777
1996 ¹	24,875	293	1,230	3,052	2,963	3,848	3,334	4,430	1,175	2,282	1,626	429	214	4,873	14,276	5,726
1998 ¹	25,007	292	1,195	3,107	2,893	3,780	3,480	4,527	1,196	2,221	1,649	439	230	4,882	14,391	5,734
1999 ¹	25,088	288	1,183	3,124	2,901	3,718	3,560	4,576	1,214	2,198	1,648	444	235	4,888	14,463	5,738
2000 ¹	25,163	280	1,173	3,110	2,917	3,658	3,649	4,630	1,226	2,187	1,646	448	240	4,866	14,550	5,746
2001 ²	25,235	273	1,152	3,097	2,970	3,581	3,720	4,694	1,218	2,182	1,658	443	247	4,826	14,661	5,748
2002	25,307	272	1,126	3,086	3,026	3,498	3,782	4,756	1,220	2,184	1,672	431	253	4,793	14,753	5,761
Wales Persons																
1976	2,799	33	151	453	388	379	309	509	161	267	121	19	7	680	1,618	501
1981	2,813	36	136	407	434	383	333	485	158	272	139	21	8	626	1,663	525
1986	2,811	37	143	357	438	369	378	464	166	271	154	26	10	578	1,686	547
1991	2,873	38	153	363	393	402	389	486	154	284	164	32	13	589	1,711	573
1996 ¹	2,887	34	146	380	351	408	379	540	147	279	170	37	17	596	1,713	578
1998 ¹	2,893	34	141	385	341	397	389	553	149	271	176	38	18	596	1,717	580
1999 ¹	2,894	33	139	385	344	386	395	558	151	267	178	38	19	594	1,720	579
2000 ¹	2,900	32	138	383	349	375	403	564	152	265	180	39	19	591	1,728	581
2001 ²	2,908	32	136	381	355	365	409	571	153	264	183	39	20	587	1,737	584
2002	2,919	30	132	380	364	355	414	578	156	265	185	39	20	582	1,749	588
Males																
1976	1,361	17	78	233	197	193	157	249	75	114	41	5	2	350	849	162
1981	1,365	18	70	209	221	193	168	240	73	118	48	5	2	321	871	173
1986	1,362	19	73	184	221	186	190	231	79	119	54	7	2	297	885	181
1991	1,391	20	78	186	199	199	194	242	74	128	60	8	2	302	891	198
1996 ¹	1,398	17	74	194	177	202	187	269	72	128	64	10	3	304	887	206
1998 ¹	1,402	17	72	197	172	196	192	274	73	125	68	11	4	305	889	208
1999 ¹	1,403	17	71	198	173	190	194	277	74	124	69	11	4	305	890	208
2000 ¹	1,403	16	71	196	175	183	197	279	75	124	70	12	4	303	891	210
2001 ²	1,408	16	70	196	178	178	200	282	75	124	73	12	4	301	895	212
2002	1,411	16	68	195	182	172	202	285	77	125	74	12	4	299	897	215
Females																
1976	1,438	16	73	220	191	187	153	260	86	152	80	14	6	330	770	339
1981	1,448	18	66	199	213	190	165	246	85	154	91	16	6	305	791	352
1986	1,449	18	70	173	217	184	188	233	87	152	100	20	8	282	801	366
1991	1,482	19	75	177	194	203	195	244	80	156	104	24	10	288	820	375
1996 ¹	1,490	16	71	186	174	206	192	272	75	151	106	27	13	292	825	373
1998 ¹	1,491	17	69	188	169	201	198	278	76	146	109	27	14	291	828	372
1999 ¹	1,491	16	68	188	171	196	201	281	77	144	109	27	15	289	831	371
2000 ¹	1,497	15	67	187	174	192	205	285	77	142	109	28	15	288	838	371
2001 ²	1,500	15	66	185	177	187	209	289	78	141	110	27	15	285	843	372
2002	1,508	15	65	185	182	183	212	293	80	140	111	27	16	283	851	374

Note: Figures may not add exactly due to rounding.

1 Mid 1992-2000 population estimates for England and Wales will be revised in light of the revisions made to the mid-2001 population estimates, which were released on 26 September 2003. Interim revised estimates for those years at a national level, will be released on 23 October 2003. The final revised estimates will be published in Spring 2004.

2 Mid 2001 England and Wales population estimates were revised on 26 September 2003, in light of research into the population estimates following the 2001 Census.

See page 2 of 'in brief' or 'Notes to tables' on page 60

**Table 1.4
continued****Population: age and sex**

Constituent countries of the United Kingdom

Numbers (thousands)

Mid-year	All ages	Age group														
		Under 1	1-4	5-14	15-24	25-34	35-44	45-59	60-64	65-74	75-84	85-89	90 and over	Under 16	16-64/59	65/60 and over
Scotland																
Persons																
1976	5,233	67	291	904	806	692	591	897	282	460	202	31	11	1,352	3,023	858
1981	5,180	69	249	780	875	724	603	880	260	460	232	35	14	1,188	3,110	882
1986	5,112	66	257	656	863	739	665	849	273	435	252	42	15	1,061	3,161	890
1991	5,083	66	258	634	746	795	696	853	265	441	259	51	19	1,021	3,151	912
1996	5,092	59	252	643	651	798	722	925	259	448	256	57	24	1,019	3,151	922
1998	5,077	58	239	644	628	766	749	941	261	445	262	59	26	1,003	3,145	929
1999	5,072	56	234	643	625	743	762	951	262	444	265	59	27	995	3,144	933
2000	5,063	53	230	636	628	717	774	962	263	445	267	59	28	985	3,141	937
2001	5,064	52	224	629	633	696	782	979	262	447	272	59	29	970	3,150	944
2002	5,055	51	217	622	639	669	788	993	262	449	276	58	30	955	3,150	950
Males																
1976	2,517	34	149	463	408	347	290	429	128	193	65	8	2	693	1,556	269
1981	2,495	35	128	400	445	364	298	424	118	194	77	8	3	610	1,603	282
1986	2,462	34	131	336	438	371	331	410	127	184	86	10	3	543	1,636	283
1991	2,445	34	132	324	377	394	345	415	124	192	91	13	3	522	1,623	299
1996	2,447	30	128	328	327	392	355	454	122	198	93	15	5	521	1,616	310
1998	2,439	30	122	329	315	374	367	463	124	198	96	16	5	513	1,610	316
1999	2,437	29	120	329	313	362	372	469	125	198	98	16	6	510	1,609	318
2000	2,432	28	118	326	315	347	377	474	125	199	100	17	6	505	1,606	322
2001	2,434	26	115	322	319	337	379	483	125	200	103	17	6	497	1,610	327
2002	2,432	26	111	319	324	325	382	490	125	202	106	17	7	489	1,612	331
Females																
1976	2,716	32	142	440	398	345	301	468	154	267	137	23	8	659	1,468	589
1981	2,685	33	121	380	430	359	305	456	142	265	155	27	11	579	1,506	600
1986	2,649	32	126	320	424	368	334	439	146	250	166	32	12	518	1,525	606
1991	2,639	32	126	309	369	402	351	437	141	249	168	38	16	499	1,528	612
1996	2,645	28	123	315	324	406	367	470	137	250	164	42	20	498	1,535	612
1998	2,638	28	116	315	313	392	382	478	137	248	166	43	21	490	1,535	614
1999	2,635	27	114	314	312	381	390	483	138	246	166	43	22	486	1,535	614
2000	2,631	26	112	310	313	369	397	488	138	246	166	43	22	480	1,535	616
2001	2,630	26	109	307	314	359	403	496	137	246	169	43	23	473	1,540	617
2002	2,623	25	106	303	315	344	406	504	137	247	171	41	23	466	1,538	619
Northern Ireland																
Persons																
1976	1,524	26	111	306	243	198	163	231	73	111	53	8	2	471	840	212
1981	1,543	27	106	282	271	200	175	227	68	116	57	..	..	444	874	224
1986	1,574	28	107	261	277	217	190	227	71	115	64	16	..	423	917	234
1991	1,607	26	106	260	256	240	200	241	70	120	69	14	6	417	945	246
1996	1,662	24	99	266	244	257	220	266	70	123	72	15	7	415	993	253
1998	1,678	24	97	264	239	257	231	275	71	122	74	16	7	411	1,010	257
1999	1,679	23	96	262	237	252	237	279	73	122	75	16	7	408	1,014	258
2000	1,683	22	95	259	237	247	243	284	73	123	75	16	7	403	1,020	259
2001	1,689	22	93	255	240	243	248	290	74	123	77	16	7	397	1,030	262
2002	1,697	22	91	253	243	238	251	296	75	125	79	16	7	393	1,037	266
Males																
1976	754	13	58	157	127	102	81	111	34	47	19	3	0	242	442	70
1981	757	14	54	145	140	102	87	109	32	50	21	..	..	228	454	75
1986	768	14	55	134	142	109	95	110	33	50	23	4	..	217	474	77
1991	783	13	54	133	131	119	100	118	32	53	26	4	1	213	487	83
1996	810	12	51	136	124	128	109	131	33	54	27	4	1	212	511	87
1998	819	12	50	135	121	128	114	135	34	54	28	5	2	211	520	89
1999	818	12	49	134	119	125	117	138	35	54	29	5	2	209	521	89
2000	820	11	49	133	120	122	119	141	35	55	29	5	2	207	524	90
2001	824	11	48	131	122	120	122	144	35	56	30	5	2	204	529	92
2002	829	11	47	130	124	117	123	147	36	56	31	5	2	202	534	94
Females																
1976	769	13	53	149	116	96	81	120	38	64	33	6	2	229	398	143
1981	786	13	52	137	130	98	88	118	37	66	37	..	..	216	420	150
1986	805	13	52	127	135	107	96	118	38	65	41	12	..	206	442	157
1991	824	13	52	127	125	121	100	123	38	67	44	10	4	203	458	163
1996	851	11	49	130	120	129	110	135	37	69	45	11	6	203	482	167
1998	859	12	47	129	118	129	117	139	37	68	46	11	6	201	490	168
1999	861	11	47	128	117	127	120	141	38	68	46	11	6	199	493	169
2000	862	11	46	126	118	125	124	143	38	68	46	11	6	196	497	169
2001	865	10	45	124	119	123	126	146	38	68	47	11	6	193	501	170
2002	868	11	44	123	119	120	128	149	39	68	48	11	6	191	504	173

See notes opposite.

Table 1.5 Population: age, sex and legal marital status

England and Wales											
											Numbers (thousands)
Mid-year	Total population	Males					Females				
		Single	Married	Divorced	Widowed	Total	Single	Married	Divorced	Widowed	Total
Aged											
16 and over											
1971	36,818	4,173	12,522	187	682	17,563	3,583	12,566	296	2,810	19,255
1976	37,486	4,369	12,511	376	686	17,941	3,597	12,538	533	2,877	19,545
1981	38,724	5,013	12,238	611	698	18,559	4,114	12,284	828	2,939	20,165
1986 ¹	39,837	5,625	11,867	917	695	19,103	4,617	12,000	1,165	2,953	20,734
1991 ¹	40,501	5,891	11,636	1,187	727	19,441	4,817	11,833	1,459	2,951	21,060
1994 ¹	40,520	5,993	11,318	1,388	726	19,425	4,957	11,563	1,681	2,894	21,095
1995 ¹	40,613	6,081	11,217	1,450	724	19,472	5,059	11,463	1,749	2,870	21,141
1996 ¹	40,727	6,182	11,114	1,508	723	19,527	5,171	11,375	1,813	2,842	21,200
1997 ¹	40,840	6,290	11,005	1,563	721	19,578	5,295	11,284	1,874	2,810	21,263
1998 ¹	40,957	6,392	10,908	1,612	720	19,631	5,404	11,208	1,932	2,782	21,326
1999 ¹	41,121	6,528	10,816	1,660	715	19,719	5,527	11,140	1,991	2,744	21,402
2000 ¹	41,330	6,678	10,729	1,707	712	19,826	5,655	11,087	2,052	2,711	21,505
2001 ²	41,597	6,765	11,020	1,467	731	19,982	5,775	11,131	1,969	2,739	21,615
16-19											
1971	2,666	1,327	34	0	0	1,362	1,163	142	0	0	1,305
1976	2,901	1,454	28	0	0	1,482	1,289	129	0	0	1,419
1981	3,310	1,675	20	0	0	1,694	1,523	93	0	0	1,616
1986 ¹	3,131	1,587	10	0	0	1,596	1,484	49	1	0	1,535
1991 ¹	2,665	1,358	8	0	0	1,366	1,267	32	0	0	1,300
1994 ¹	2,328	1,175	3	0	0	1,178	1,136	14	0	0	1,150
1995 ¹	2,339	1,179	2	0	0	1,181	1,145	13	0	0	1,158
1996 ¹	2,394	1,205	2	0	0	1,208	1,174	12	0	0	1,187
1997 ¹	2,469	1,241	2	0	0	1,243	1,214	12	0	0	1,226
1998 ¹	2,500	1,259	2	0	0	1,261	1,228	11	0	0	1,240
1999 ¹	2,520	1,271	2	0	0	1,273	1,235	11	0	0	1,246
2000 ¹	2,507	1,273	2	0	0	1,275	1,224	9	0	0	1,233
2001 ²	2,555	1,298	5	1	1	1,305	1,231	16	1	1	1,249
20-24											
1971	3,773	1,211	689	3	0	1,904	745	1,113	9	2	1,869
1976	3,395	1,167	557	4	0	1,728	725	925	16	2	1,667
1981	3,744	1,420	466	10	1	1,896	1,007	811	27	2	1,847
1986 ¹	4,171	1,768	317	14	0	2,099	1,383	657	32	1	2,072
1991 ¹	3,911	1,717	242	12	0	1,971	1,421	490	29	1	1,941
1994 ¹	3,552	1,628	145	7	0	1,779	1,421	330	20	1	1,772
1995 ¹	3,417	1,580	120	6	0	1,706	1,410	283	17	0	1,711
1996 ¹	3,253	1,516	99	5	0	1,620	1,378	240	15	0	1,633
1997 ¹	3,100	1,451	82	4	0	1,538	1,344	206	12	0	1,562
1998 ¹	3,001	1,411	71	3	0	1,485	1,324	182	10	0	1,516
1999 ¹	3,001	1,420	64	3	0	1,486	1,339	166	9	0	1,515
2000 ¹	3,047	1,450	59	2	0	1,511	1,371	156	8	0	1,535
2001 ²	3,129	1,482	73	3	1	1,558	1,384	177	8	1	1,571
25-29											
1971	3,267	431	1,206	16	1	1,654	215	1,367	29	4	1,614
1976	3,758	533	1,326	39	2	1,900	267	1,522	65	5	1,859
1981	3,372	588	1,057	54	1	1,700	331	1,247	89	4	1,671
1986 ¹	3,713	835	949	79	1	1,863	527	1,207	113	4	1,850
1991 ¹	4,154	1,132	856	82	1	2,071	800	1,158	123	2	2,083
1994 ¹	4,052	1,227	714	72	1	2,013	906	1,009	122	2	2,039
1995 ¹	3,974	1,250	657	66	0	1,973	936	946	116	2	2,000
1996 ¹	3,915	1,280	599	60	1	1,940	977	887	109	2	1,975
1997 ¹	3,836	1,304	537	54	0	1,895	1,018	820	101	2	1,941
1998 ¹	3,747	1,317	480	47	0	1,845	1,054	754	92	2	1,902
1999 ¹	3,633	1,313	430	41	0	1,785	1,072	691	84	2	1,849
2000 ¹	3,542	1,309	390	36	0	1,735	1,091	638	76	2	1,806
2001 ²	3,416	1,242	407	27	1	1,676	1,055	624	57	3	1,739

Note: Figures may not add exactly due to rounding.
 Population estimates by marital status for 1971 and 1976 are based on the 1971 Census; those for 1981 are based on the 1981 Census and have not been rebased using the 2001 Census. Estimates for 1986 onwards are based on the 2001 Census.
 1 These are interim revised marital status estimates (based on the original mid-2001 estimates), and are subject to further revision. Final revised estimates will be published in early 2004.
 2 Figures for 2001 are subject to revision in light of research into the population estimates following the 2001 Census. These revisions are due to be published on 6 November 2003.

See page 2 of 'in brief' or 'Notes to tables' on page 60.

**Table 1.5
continued****Population: age, sex and legal marital status**

England and Wales

Numbers (thousands)

Mid-year	Total population	Males					Females				
		Single	Married	Divorced	Widowed	Total	Single	Married	Divorced	Widowed	Total
30-34											
1971	2,897	206	1,244	23	3	1,475	111	1,269	34	8	1,422
1976	3,220	236	1,338	55	3	1,632	118	1,388	75	8	1,588
1981	3,715	318	1,451	97	3	1,869	165	1,544	129	9	1,846
1986 ¹	3,338	355	1,197	124	2	1,679	206	1,293	154	6	1,660
1991 ¹	3,708	520	1,172	155	2	1,849	335	1,330	189	5	1,859
1994 ¹	4,003	693	1,126	170	2	1,992	464	1,331	211	5	2,011
1995 ¹	4,083	750	1,106	171	2	2,030	513	1,320	216	5	2,054
1996 ¹	4,123	797	1,077	168	2	2,045	554	1,301	219	5	2,078
1997 ¹	4,135	838	1,043	164	2	2,048	592	1,272	219	5	2,088
1998 ¹	4,109	868	1,002	158	2	2,030	622	1,236	217	5	2,079
1999 ¹	4,069	897	956	149	2	2,004	649	1,197	214	5	2,065
2000 ¹	4,017	926	906	140	2	1,973	674	1,156	209	5	2,044
2001 ²	3,978	900	944	104	2	1,950	708	1,140	173	7	2,028
35-44											
1971	5,736	317	2,513	48	13	2,891	201	2,529	66	48	2,845
1976	5,608	286	2,442	104	12	2,843	167	2,427	129	42	2,765
1981	5,996	316	2,519	178	12	3,024	170	2,540	222	41	2,972
1986 ¹	6,856	396	2,738	293	12	3,438	213	2,815	350	39	3,418
1991 ¹	7,022	477	2,632	384	11	3,504	280	2,760	444	34	3,517
1994 ¹	6,844	544	2,413	435	12	3,402	342	2,581	490	29	3,441
1995 ¹	6,900	584	2,384	452	12	3,432	373	2,560	507	28	3,468
1996 ¹	7,015	634	2,374	468	12	3,489	411	2,563	524	28	3,526
1997 ¹	7,153	693	2,365	484	13	3,555	455	2,574	541	28	3,598
1998 ¹	7,304	760	2,355	497	13	3,626	505	2,588	558	27	3,677
1999 ¹	7,464	834	2,348	508	13	3,703	562	2,600	572	27	3,761
2000 ¹	7,637	910	2,342	517	13	3,783	623	2,615	590	27	3,854
2001 ²	7,775	950	2,479	406	12	3,847	690	2,645	557	36	3,928
45-64											
1971	11,887	502	4,995	81	173	5,751	569	4,709	125	733	6,136
1976	11,484	496	4,787	141	160	5,583	462	4,568	188	683	5,901
1981	11,040	480	4,560	218	147	5,405	386	4,358	271	620	5,635
1986 ¹	10,860	461	4,422	331	141	5,355	327	4,220	388	570	5,505
1991 ¹	10,960	456	4,394	456	127	5,433	292	4,211	521	503	5,527
1994 ¹	11,583	488	4,553	585	120	5,746	300	4,422	659	456	5,838
1995 ¹	11,710	498	4,566	627	119	5,810	305	4,452	703	440	5,900
1996 ¹	11,814	509	4,566	669	117	5,862	310	4,471	745	426	5,952
1997 ¹	11,920	520	4,564	710	117	5,911	318	4,490	788	413	6,009
1998 ¹	12,048	535	4,569	750	116	5,971	328	4,517	831	402	6,077
1999 ¹	12,183	553	4,573	793	116	6,034	339	4,544	873	393	6,149
2000 ¹	12,306	571	4,566	834	117	6,088	352	4,565	917	385	6,218
2001 ²	12,419	641	4,637	743	121	6,142	390	4,571	915	400	6,277
65 and over											
1971	6,592	179	1,840	17	492	2,527	580	1,437	32	2,016	4,065
1976	7,119	197	2,033	33	510	2,773	569	1,579	60	2,138	4,347
1981	7,548	216	2,167	54	534	2,971	533	1,692	90	2,263	4,578
1986 ¹	7,768	223	2,234	76	539	3,072	477	1,759	127	2,333	4,696
1991 ¹	8,080	231	2,332	99	586	3,248	422	1,853	152	2,405	4,832
1994 ¹	8,157	238	2,364	120	591	3,314	388	1,875	179	2,401	4,844
1995 ¹	8,191	240	2,381	128	591	3,340	378	1,890	190	2,394	4,851
1996 ¹	8,213	241	2,396	137	590	3,365	366	1,901	201	2,381	4,848
1997 ¹	8,227	241	2,412	147	589	3,389	354	1,910	212	2,362	4,839
1998 ¹	8,248	241	2,429	156	587	3,414	344	1,921	225	2,345	4,835
1999 ¹	8,251	240	2,444	166	583	3,433	332	1,931	238	2,317	4,818
2000 ¹	8,274	239	2,464	177	580	3,460	321	1,949	251	2,292	4,814
2001 ²	8,326	253	2,474	183	594	3,503	317	1,958	258	2,291	4,823

See notes opposite.

Table 2.1 Vital statistics summary

Constituent countries of the United Kingdom Numbers (thousands) and rates

Year and quarter	All live births		Live births outside marriage		Marriages		Divorces		Deaths		Infant mortality ⁵		Neonatal mortality ⁶		Perinatal mortality ⁷		
	Number	Rate ¹	Number	Rate ²	Number	Rate ³	Number	Rate ⁴	Number	Rate ¹	Number	Rate ²	Number	Rate ²	Number	Rate ⁸	
United Kingdom																	
1976	675.5	12.0	61.1	90	406.0	..	135.4	..	680.8	12.1	9.79	14.5	6.68	9.9	12.3	18.0	
1981	730.7	13.0	91.3	125	397.8	49.4	156.4	11.3	658.0	11.7	8.16	11.2	4.93	6.7	8.79	12.0	
1986	754.8	13.3	154.3	204	393.9	..	168.2	..	660.7	11.7	7.18	9.5	4.00	5.3	7.31	9.6	
1991	792.3	13.8	236.1	298	349.7	..	173.5	..	646.2	11.2	5.82	7.4	3.46	4.4	6.45	8.1	
1996	733.2	12.6	260.4	355	317.5	..	171.7	..	636.0	11.0	4.50	6.1	3.00	4.1	6.41	8.7	
1998	716.9	12.3	269.7	376	304.8	..	160.1	..	629.2	10.8	4.08	5.7	2.72	3.8	5.94	8.2	
1999	700.0	12.0	271.6	388	301.1	..	158.7	..	632.1	10.8	4.05	5.8	2.73	3.9	5.79	8.2	
2000	679.0	11.6	268.1	395	305.9	..	154.6	..	608.4	10.4	3.79	5.6	2.63	3.9	5.56	8.1	
2001	669.1	11.3	268.0	401	286.1	..	156.8	..	602.3	10.2	3.66	5.5	2.43	3.6	5.39	8.0	
2002	668.8 ^p	11.3 ^p	271.7 ^p	406 ^p	..	..	160.5 ^p	..	606.3	10.2	3.50	5.2	2.36	3.5	5.57	8.3
2001	Sept	171.7	11.5	69.2	403	120.4	..	38.5	..	138.8	9.4	0.90	5.3	0.62	3.6	1.31	7.6
	Dec	165.6	11.1	67.7	409	51.6	..	39.7	..	152.9	10.3	0.93	5.6	0.60	3.6	1.37	8.2
2002	March	161.0 ^p	11.0 ^p	65.3 ^p	406 ^p	38.8 ^p	..	164.8	11.2	0.89	5.6	0.60	3.7	1.38	8.5
	June	165.2 ^p	11.2 ^p	65.5 ^p	396 ^p	40.8 ^p	..	144.6	9.8	0.86	5.2	0.59	3.5	1.41	8.5
	Sept	173.8 ^p	11.6 ^p	71.0 ^p	403 ^p	41.1 ^p	..	139.8	9.4	0.83	4.8	0.56	3.2	1.37	7.8
	Dec	168.9 ^p	11.3 ^p	69.9 ^p	414 ^p	39.8 ^p	..	157.1	10.6	0.92	5.4	0.62	3.7	1.41	8.3
2003	March	165.5 ^p	11.4 ^{9p}	68.7	415	162.6 ^p	11.1 ^p	0.93 ^p	5.6 ^p	0.64 ^p	3.8 ^p	1.42 ^p	8.5 ^p
	June	172.4 ^p	11.8 ^{9p}	69.8 ^p	405	146.7 ^p	9.9 ^p	0.87 ^p	5.1 ^p	0.59 ^p	3.4 ^p	1.46 ^p	8.4 ^p
England and Wales																	
1976	584.3	11.8	53.8	92	358.6	57.7	126.7	10.1	598.5	12.1	8.34	14.3	5.66	9.7	10.5	17.7	
1981	634.5	12.8	81.0	128	352.0	49.6	145.7	11.9	577.9	11.6	7.02	11.1	4.23	6.7	7.56	11.8	
1986	661.0	13.2	141.3	214	347.9	43.6	153.9	12.9	581.2	11.6	6.31	9.6	3.49	5.3	6.37	9.6	
1991	699.2	13.8	211.3	302	306.8	36.0	158.7	13.5	570.0	11.2	5.16	7.4	3.05	4.4	5.65	8.0	
1996	649.5	12.7	232.7	358	279.0	30.6	157.1	14.0	560.1	10.9	3.99	6.1	2.68	4.1	5.62	8.6	
1998	635.9	12.3	240.6	378	267.3	28.4	145.2	13.2	555.0	10.8	3.63	5.7	2.42	3.8	5.26	8.2	
1999	621.9	12.0	241.9	389	263.5	27.5	144.6	13.2	556.1	10.8	3.62	5.8	2.44	3.9	5.14	8.2	
2000	604.4	11.6	238.6	395	268.0	27.5	141.1	12.9	535.7	10.3	3.38	5.6	2.34	3.9	4.96	8.2	
2001	594.6	11.4	238.1	400	249.2	25.6	143.8	13.0	530.4	10.1	3.24	5.4	2.14	3.6	4.76	8.0	
2002	596.1 ^p	11.4 ^{9p}	242.0 ^p	406 ^p	..	..	147.7 ^p	13.3 ^p	533.6	10.2	3.13	5.2	2.13	3.6	4.99	8.3
2001	Sept	153.0	11.6	61.8	404	105.3	43.0	35.4	127.7	9.3	0.82	5.3	0.56	3.6	1.17	7.6	
	Dec	147.4	11.2	60.2	409	44.2	18.0	36.3	13.0	134.8	10.3	0.83	5.6	0.54	3.6	1.21	8.2
2002	March	143.3 ^p	11.1 ^p	58.0 ^p	405 ^p	30.8 ^p	12.8 ^{10p}	35.8 ^p	13.1 ^{10p}	145.6	11.2	0.82	5.7	0.55	3.9	1.22	8.7
	June	147.2 ^p	11.3 ^p	58.3 ^p	396 ^p	68.5 ^p	28.2 ^{10p}	37.4 ^p	13.5 ^{10p}	127.1	9.7	0.75	5.1	0.52	3.6	1.26	8.5
	Sept	155.0 ^p	11.7 ^p	63.4 ^p	409 ^p	38.0 ^p	13.6 ^{10p}	122.7	9.3	0.82	4.7	0.50	3.2	1.23	7.9
	Dec	150.6 ^p	11.4 ^p	62.3 ^p	414 ^p	36.6 ^p	13.1 ^{10p}	138.2	10.5	0.83	5.5	0.55	3.7	1.26	8.3
2003	March	147.4 ^{9p}	11.5 ^{9p}	61.0 ^p	414 ^p	143.1 ^p	11.1 ^p	0.83 ^p	5.7 ^p	0.57 ^p	3.9 ^p	1.29 ^p	8.7 ^p
	June	154.1 ^p	11.9 ^{9p}	62.2 ^p	404 ^p	129.2 ^p	9.9 ^p	0.79 ^p	5.2 ^p	0.54 ^p	3.5 ^p	1.31 ^p	8.5 ^p
England																	
1976	550.4	11.8	50.8	92	339.0	..	..	..	560.3	12.0	7.83	14.2	5.32	9.7	9.81	17.6
1981	598.2	12.8	76.9	129	332.2	..	..	..	541.0	11.6	6.50	10.9	3.93	6.6	7.04	11.7
1986	623.6	13.2	133.5	214	328.4	..	146.0	..	544.5	11.6	5.92	9.5	3.27	5.2	5.98	9.5	
1991	660.8	13.7	198.9	301	290.1	..	150.1	..	534.0	11.2	4.86	7.3	2.87	4.3	5.33	8.0	
1996	614.2	12.5	218.2	355	264.2	..	148.7	..	524.0	10.8	3.74	6.1	2.53	4.1	5.36	8.7	
1998	602.1	12.2	225.7	375	253.1	..	137.3	..	519.6	10.7	3.39	5.6	2.29	3.8	4.97	8.2	
1999	589.5	11.8	226.7	385	249.5	..	137.0	..	519.6	10.6	3.38	5.7	2.29	3.9	4.86	8.2	
2000	572.8	11.7	223.8	391	253.8	..	133.9	..	501.0	10.2	3.18	5.6	2.21	3.9	4.69	8.2	
2001	563.7	11.4	223.3	396	236.2 ^p	..	136.4	..	496.1	10.0	3.04	5.4	2.02	3.6	4.51	8.0	
2002	565.7 ^p	11.4 ^p	227.0 ^p	401 ^p	..	..	140.2 ^p	..	499.2	10.1	2.97	5.2	2.02	3.6	4.75	8.3
2001	Sept	145.2	11.7	58.0	400	99.6	..	33.6	..	114.2	8.7	0.76	5.3	0.53	3.6	1.12	7.6
	Dec	139.6	11.2	56.4	404	42.0	..	34.5	..	126.2	9.6	0.77	5.5	0.50	3.6	1.15	8.2
2002	March	135.9 ^p	11.1 ^p	54.4 ^p	400 ^p	29.2 ^p	..	34.0 ^p	..	136.4	11.1	0.78	5.7	0.53	3.9	1.20	8.8
	June	139.8 ^p	11.3 ^p	54.7 ^p	392 ^p	64.8 ^p	..	35.4 ^p	..	118.8	9.1	0.71	5.1	0.50	3.6	1.20	8.5
	Sept	147.1 ^p	11.7 ^p	59.5 ^p	404 ^p	36.1 ^p	..	114.6	8.7	0.69	4.7	0.47	3.2	1.15	7.8
	Dec	142.9 ^p	11.4 ^p	58.4 ^p	409 ^p	34.7 ^p	..	129.3	9.8	0.79	5.5	0.53	3.7	1.19	8.3
2003	March	139.9 ^p	11.5 ^{9p}	57.2 ^p	409 ^p	133.8 ^p	11.0 ^p	0.80 ^p	5.7 ^p	0.54 ^p	3.9 ^p	1.21 ^p	8.6 ^p
	June	146.2 ^p	11.9 ^{9p}	58.4 ^p	399 ^p	120.6 ^p	9.8 ^p	0.75 ^p	5.1 ^p	0.52 ^p	3.5 ^p	1.25 ^p	8.5 ^p

Notes: Death rates for 2003 are based on the mid-2002 population estimate. Rates for the most recent quarters will be particularly subject to revision, even when standard detail is given, as they are based on provisional numbers or on estimates derived from events registered in the period. Figures for England and Wales represent the numbers of deaths registered in each year up to 1992, and the number of deaths occurring in each year from 1993. Provisional figures are registrations. Marriage and divorce rates in England and Wales for 1986–2000 have been calculated using the interim revised marital status estimates (based on the original mid-2001 estimates) and are subject to further revision; final revised estimates will be published in See page 2 of 'in brief' or 'Notes to tables' on page 60.

early 2004. The marital status estimates for 2001 are subject to revision in light of research into the population estimates following the 2001 Census. These revisions are due to be published on 6 November 2003.

From 1972 figures for England and figures for Wales each exclude events for persons usually resident outside England and Wales. These events are however included in the totals for England and Wales combined, and for the United Kingdom. From 1981 births to non-resident mothers in Northern Ireland are excluded from the figures for Northern Ireland, and for the United Kingdom. Figures may not add exactly due to rounding.

Table 2.1
continued
Vital statistics summary

Constituent countries of the United Kingdom																Numbers (thousands) and rates	
Year and quarter	All live births		Live births outside marriage		Marriages		Divorces		Deaths		Infant mortality ⁵		Neonatal mortality ⁶		Perinatal mortality ⁷		
	Number	Rate ¹	Number	Rate ²	Number	Rate ³	Number	Rate ⁴	Number	Rate ¹	Number	Rate ²	Number	Rate ²	Number	Rate ⁸	
Wales																	
1976	33.4	11.9	2.9	86	19.5	..	..	..	36.3	13.0	0.46	13.7	0.32	9.6	0.64	19.0
1981	35.8	12.7	4.0	112	19.8	..	..	..	35.0	12.4	0.45	12.6	0.29	8.1	0.51	14.1
1986	37.0	13.1	7.8	211	19.5	..	7.9	..	34.7	12.3	0.35	9.5	0.21	5.6	0.38	10.3	
1991	38.1	13.3	12.3	323	16.6	..	8.6	..	34.1	11.9	0.25	6.6	0.16	4.1	0.30	7.9	
1996	34.9	11.9	14.4	412	14.8	..	8.4	..	34.6	12.0	0.20	5.6	0.13	3.6	0.26	7.5	
1998	33.4	11.4	14.8	444	14.2	..	7.9	..	34.0	11.7	0.19	5.6	0.12	3.6	0.27	8.0	
1999	32.1	10.9	14.8	461	14.0	..	7.5	..	35.0	12.1	0.20	6.1	0.13	4.0	0.25	7.7	
2000	31.3	10.8	14.8	472	14.1	..	7.2	..	33.3	11.5	0.17	5.3	0.11	3.5	0.23	7.2	
2001	30.6	10.5	14.8	483	13.0	..	7.4	..	33.0	11.3	0.16	5.4	0.11	3.5	0.23	7.5	
2002	30.2 ^p	10.3 ^p	15.0 ^p	497 ^p	..	..	7.6	..	33.2	11.4	0.14	4.6	0.10	3.2	0.24	7.7
2001	Sept	7.7	10.5	3.7	481	5.7	..	1.8	..	7.6	10.4	0.04	5.3	0.03	3.2	0.05	6.7
	Dec	7.7	10.5	3.8	499	2.2	..	1.8	..	8.3	11.3	0.04	5.2	0.03	3.8	0.06	7.5
2002	March	7.3 ^p	10.2 ^p	3.6 ^p	491 ^p	1.6 ^p	..	1.8 ^p	..	9.0	12.4	0.04	4.8	0.02	2.7	0.05	6.2
	June	7.4 ^p	10.1 ^p	3.5 ^p	481 ^p	3.7 ^p	..	2.0 ^p	..	7.9	11.0	0.04	4.8	0.02	3.1	0.06	7.8
	Sept	7.9 ^p	10.7 ^p	4.0 ^p	504 ^p	1.9 ^p	..	7.7	10.5	0.04	4.7	0.03	3.7	0.07	8.7
	Dec	7.7 ^p	10.4 ^p	3.9 ^p	513 ^p	1.9 ^p	..	8.5	11.6	0.03	4.0	0.02	3.1	0.06	8.0
2003	March	7.5 ^p	10.4 ^p	3.8 ^p	505 ^p	9.0 ^p	12.5 ^p	0.04 ^p	4.7 ^p	0.03 ^p	4.0 ^p	0.08 ^p	10.1 ^p
	June	7.8 ^p	10.7 ^p	3.8 ^p	494 ^p	8.3 ^p	11.4 ^p	0.03 ^p	4.2 ^p	0.02 ^p	2.7 ^p	0.06 ^p	7.2 ^p
Scotland																	
1976	64.9	12.5	6.0	93	37.5	53.8	8.1	6.5	65.3	12.5	0.96	14.8	0.67	10.3	1.20	18.3	
1981	69.1	13.4	8.5	122	36.2	47.5	9.9	8.0	63.8	12.3	0.78	11.3	0.47	6.9	0.81	11.6	
1986	65.8	12.9	13.6	206	35.8	42.8	12.8	10.7	63.5	12.4	0.58	8.8	0.34	5.2	0.67	10.2	
1991	67.0	13.2	19.5	291	33.8	38.7	12.4	10.6	61.0	12.0	0.47	7.1	0.29	4.6	0.58	8.6	
1996	59.3	11.6	21.4	360	30.2	32.8	12.3	10.9	60.7	11.9	0.37	6.2	0.23	3.9	0.55	9.2	
1998	57.3	11.3	22.3	389	29.7	31.2	12.4	11.2	59.2	11.7	0.32	5.5	0.20	3.5	0.49	8.5	
1999	55.1	10.9	22.7	412	29.9	31.1	11.9	10.8	60.3	11.9	0.28	5.0	0.18	3.3	0.42	7.6	
2000	53.1	10.5	22.6	426	30.4	29.5	11.1	10.3	57.8	11.4	0.31	5.7	0.21	4.0	0.45	8.4	
2001	52.5	10.4	22.8	433	29.6	28.8	10.6	9.8	57.4	11.3	0.29	5.5	0.20	3.8	0.45	8.5	
2002	51.3 ^p	10.1 ^p	22.5	440 ^p	29.8 ^p	29.5 ^p	10.7 ^p	9.9 ^p	58.1	11.5	0.27	5.3	0.16	3.2	0.39	7.6	
2001	Sept	13.2	10.3	5.6	427	11.9	46.5	2.6	9.5	13.3	10.4	0.07	4.9	0.04	3.3	0.10	7.3
	Dec	12.9	10.1	5.7	439	6.1	24.0	2.7	10.1	14.6	11.4	0.06	5.0	0.03	2.6	0.11	8.1
2002	March	12.4 ^p	9.9 ^p	5.5 ^p	448 ^p	3.5 ^p	13.6 ^p	2.4 ^p	9.0 ^p	15.3	12.2	0.05	4.1	0.03	2.1	0.09	7.2
	June	12.6 ^p	10.0 ^p	5.4 ^p	430 ^p	8.2 ^p	32.6 ^p	2.9 ^p	10.6 ^p	14.0	11.2	0.08	6.6	0.04	3.4	0.10	8.0
	Sept	13.2 ^p	10.4 ^p	5.7 ^p	431 ^p	11.9 ^p	46.8 ^p	2.6 ^p	9.5 ^p	13.6	10.7	0.07	5.2	0.05	3.7	0.10	7.3
	Dec	13.1 ^p	10.2 ^p	5.9 ^p	450 ^p	6.2 ^p	24.2 ^p	2.7 ^p	10.0 ^p	15.2	12.0	0.07	5.1	0.04	3.4	0.10	7.9
2003	March	12.8 ^p	10.2 ^p	5.9 ^p	462 ^p	3.7 ^p	14.2 ^p	2.2 ^p	8.1 ^p	15.7 ^p	12.6 ^p	0.07 ^p	5.4 ^p	0.05 ^p	3.8 ^p	0.09 ^p	6.9 ^p
	June	12.9 ^p	10.2 ^p	5.8 ^p	447 ^p	14.1 ^p	11.2 ^p	0.06 ^p	4.3 ^p	0.03 ^p	2.5 ^p	0.11 ^p	8.1 ^p
Northern Ireland																	
1976	26.4	17.3	1.3	50	9.9	..	0.6	..	17.0	11.2	0.48	18.3	0.35	13.3	0.59	22.3	
1981	27.2	17.0	1.9	69	9.6	45.4	1.4	4.2	16.3	10.6	0.36	13.2	0.23	8.3	0.42	15.3	
1986	28.0	17.8	3.6	127	10.2	..	1.5	..	16.1	10.3	0.36	13.2	0.23	8.3	0.42	15.3	
1991	26.0	16.2	5.3	203	9.2	..	2.3	..	15.1	9.4	0.19	7.4	0.12	4.6	0.22	8.4	
1996	24.4	14.7	6.3	260	8.3	..	2.3	..	15.2	9.2	0.14	5.8	0.09	3.7	0.23	9.4	
1998	23.7	14.1	6.7	284	7.8	..	2.5	..	15.0	8.9	0.13	5.6	0.09	3.9	0.20	8.1	
1999	23.0	13.7	7.0	303	7.6	..	2.3	..	15.7	9.3	0.15	6.4	0.11	4.8	0.23	10.0	
2000	21.5	12.8	6.8	318	7.6	..	2.4	..	14.9	8.9	0.11	5.1	0.82	3.8	0.15	7.3	
2001	22.0	13.0	7.1	325	7.3	..	2.4	..	14.5	8.6	0.13	6.1	0.98	4.5	0.19	8.5	
2002	21.4 ^p	12.6 ^p	7.2 ^p	335 ^p	7.6 ^p	..	2.2	..	14.6	8.6	0.10	4.7	0.74	3.5	0.19	8.9	
2001	Sept	5.6	13.1	1.8	311	3.2	..	0.5	..	3.3	7.9	0.02	4.0	0.02	2.9	0.04	7.4
	Dec	5.3	12.4	1.8	341	1.3	..	0.6	..	3.5	8.2	0.03	6.5	0.03	5.1	0.05	9.1
2002	March	5.3 ^p	12.7 ^p	1.8 ^p	337 ^p	0.8 ^p	..	5.9 ^p	..	3.9	9.2	0.02	4.5	0.02	3.6	0.04	7.9
	June	5.3 ^p	12.6 ^p	1.8 ^p	331 ^p	2.2 ^p	..	6.0 ^p	..	3.5	8.3	0.03	4.9	0.02	3.6	0.05	8.9
	Sept	5.5 ^p	13.0 ^p	1.9 ^p	335 ^p	3.3 ^p	..	4.9 ^p	..	3.5	8.3	0.02	4.2	0.02	2.9	0.05	8.6
	Dec	5.2 ^p	12.2 ^p	1.7 ^p	336 ^p	1.3 ^p	..	4.9 ^p	..	3.7	8.6	0.03	5.2	0.02	3.8	0.05	10.1
2003	March	5.4 ^p	12.8 ^p	1.8 ^p	344 ^p	3.9 ^p	9.2 ^p	0.03 ^p	4.7 ^p	0.02 ^p	3.4 ^p	0.04 ^p	7.4 ^p
	June	5.4 ^p	12.8 ^p	1.8 ^p	331 ^p	3.4 ^p	8.1 ^p	0.02 ^p	4.3 ^p	0.02 ^p	3.0 ^p	0.04 ^p	7.2 ^p

See notes opposite.

1 Per 1,000 population of all ages.

2 Per 1,000 live births.

3 Persons marrying per 1,000 unmarried population 16 and over.

4 Persons divorcing per 1,000 married population.

5 Deaths under 1 year.

See page 2 of 'in brief' or 'Notes to tables' on page 60.

6 Deaths under 4 weeks.

7 Stillbirths and deaths under 1 week. In October 1992 the legal definition of a stillbirth was changed, from baby born dead after 28 completed weeks of gestation or more, to one born dead after 24 completed weeks of gestation or more.

8 Per 1,000 live births and stillbirths.

9 Birth rates for 2003 are based on population projections for 2003.

10 Marriage/Divorce rates for 2002 are based on 2001 marital status estimates.

p Provisional.

.. Figures not available.

Table 2.2 Key demographic and health indicators

Constituent countries of the United Kingdom

Numbers (thousands), rates, percentages, mean age

	Population	Live births	Deaths	Dependency ratio		Live births			Age-standardised mortality rate ⁵	Expectation of life (in years) at birth ⁷		Infant mortality rate ⁶
				Children ¹	Elderly ²	TFR ³	Outside marriage as percentage of total live births	Mean age of mother at birth (years) ⁴		Males	Females	
United Kingdom												
1976	56,216.1	675.5	680.8	42.1	29.5	1.74	9.0	26.4	10,486	69.6	75.2	14.5
1981	56,357.5	730.7	658.0	37.1	29.7	1.82	12.5	26.8	9,506	70.8	76.8	11.2
1986	56,683.8	754.8	660.7	33.5	29.7	1.78	21.4	27.0	8,914	71.9	77.7	9.5
1991	57,438.9	792.3	646.2	33.2	30.0	1.82	29.8	27.7	8,168	73.2	78.7	7.4
1996	58,043.0 ⁹	733.2	636.0	33.9	30.0	1.73	35.5	28.6	7,591	74.2	79.4	6.1
1998	58,305.3 ⁹	716.9	629.2	33.7	30.1	1.72	37.6	28.9	7,364	74.7	79.7	5.7
1999	58,481.1 ⁹	700.0	632.1	33.6	30.0	1.69	38.8	28.9	7,328	75.0	79.9	5.8
2000	58,643.2 ⁹	679.0	608.4	33.3	30.0	1.65	39.5	29.1	6,985	75.3 ^p	80.1 ^p	5.6
2001	59,030.6 ¹⁰	669.1	602.3	32.6	29.8	1.63	40.1	29.2	6,817	..	..	5.5
2002	59,206.7	668.8 ^p	606.3	32.2	29.8	1.64 ^p	40.6 ^p	29.3 ^p	6,778	..	..	5.2
England												
1976	46,659.9	550.4	560.3	41.4	29.7	1.70	9.2	26.4	10,271	..	..	14.2
1981	46,820.8	598.2	541.0	36.4	29.9	1.79	12.9	26.8	9,298	71.1	77.0	10.9
1986	47,187.6	623.6	544.5	33.1	29.8	1.76	21.4	27.0	8,725	72.2	77.9	9.5
1991	47,875.0	660.8	534.0	32.9	30.0	1.81	30.1	27.7	8,017	73.4	78.9	7.3
1996	48,402.1 ⁹	614.2	524.0	33.7	30.1	1.73	35.5	28.7	7,422	74.5	79.6	6.1
1998	48,657.5 ⁹	602.1	519.6	33.6	30.1	1.72	37.5	29.0	7,215	75.0	79.9	5.6
1999	48,836.5 ⁹	589.5	519.6	33.5	30.0	1.70	38.5	29.0	7,149	75.3	80.1	5.7
2000	49,369.5 ⁹	572.8	501.0	33.2	30.0	1.66	39.1	29.2	6,825	75.6 ^p	80.3 ^p	5.6
2001	49,369.5 ¹⁰	563.7	496.1	32.5	29.7	1.65	39.6	29.3	6,661	..	..	5.4
2002	49,536.6	565.7 ^p	499.2	32.1	29.7	1.65 ^p	40.1 ^p	29.4 ^p	6,617	..	..	5.2
Wales												
1976	2,799.3	33.4	36.3	42.0	30.9	1.78	8.7	26.0	10,858	..	..	13.7
1981	2,813.5	35.8	35.0	37.6	31.6	1.86	11.2	26.6	9,846	70.4	76.4	12.6
1986	2,810.9	37.0	34.7	34.3	32.5	1.86	21.1	26.5	9,043	71.6	77.5	9.5
1991	2,873.0	38.1	34.1	34.4	33.5	1.88	32.3	27.0	8,149	73.1	78.8	6.6
1996	2,887.0 ⁹	34.9	34.6	34.8	33.8	1.81	41.2	27.8	7,763	73.9	79.1	5.6
1998	2,892.9 ⁹	33.4	34.0	34.7	33.8	1.78	44.4	28.0	7,478	74.4	79.4	5.6
1999	2,893.6 ⁹	32.1	35.0	34.5	33.7	1.72	46.1	28.1	7,642	74.7	79.6	6.1
2000	2,900.1 ⁹	31.3	33.3	34.2	33.6	1.68	47.2	28.2	7,182	74.9 ^p	79.8 ^p	5.3
2001	2,907.6 ¹⁰	30.6	33.0	33.8	33.6	1.66	48.3	28.3	7,024	..	..	5.4
2002	2,918.7	30.2 ^p	33.2	33.3	33.6	1.63 ^p	49.7 ^p	28.4 ^p	6,964	..	..	4.6
Scotland												
1976	5,233.4	64.9	65.3	44.7	28.4	1.80	9.3	26.0	11,675	68.2	74.4	14.8
1981	5,180.2	69.1	63.8	38.2	28.4	1.84	12.2	26.3	10,849	69.1	75.3	11.3
1986	5,111.8	65.8	63.5	33.6	28.1	1.67	20.6	26.6	10,120	70.2	76.2	8.8
1991	5,083.3	67.0	61.0	32.4	28.9	1.69	29.1	27.4	9,216	71.4	77.1	7.1
1996	5,092.2	59.3	60.7	32.3	29.2	1.56	36.0	28.5	8,791	72.2	77.9	6.2
1998	5,077.1	57.3	59.2	31.9	29.6	1.55	39.0	28.8	8,432	72.6	78.2	5.5
1999	5,072.0	55.1	60.3	31.7	29.7	1.51	41.2	28.9	8,493	72.8	78.4	5.0
2000	5,062.9	53.1	57.8	31.4	29.8	1.48	42.6	29.0	8,082	73.1	78.6	5.7
2001	5,064.2	52.5	57.4	30.8	30.0	1.49	43.3	29.2	7,930	..	..	5.5
2002	5,054.8	51.3 ^p	58.1	30.3	30.2	1.48 ^p	44.0 ^p	29.2 ^p	7,955	..	..	5.3
Northern Ireland												
1976	1,523.5	26.4	17.0	56.1	25.3	2.70	5.0	27.4	11,746	67.5	73.8	18.3
1981	1,543.0	27.2	16.3	50.6	25.3	2.59	7.0	27.5	10,567	69.2	75.5	13.2
1986	1,573.5	28.0	16.1	46.1	25.5	2.44	12.8	27.5	10,071	70.9	77.1	10.2
1991	1,607.3	26.0	15.1	44.1	26.1	2.16	20.3	28.0	8,303	72.6	78.4	7.4
1996	1,661.8	24.4	15.2	41.8	25.5	1.96	26.0	28.8	7,742	73.8	79.2	5.8
1998	1,677.8	23.7	15.0	40.7	25.4	1.90	28.5	29.0	7,460	74.3	79.5	5.6
1999	1,679.0	23.0	15.7	40.2	25.5	1.86	30.3	29.0	7,699	74.5	79.6	6.4
2000	1,682.9	21.5	14.9	39.5	25.4	1.75	31.8	29.2	7,279	74.8	79.8	5.1
2001	1,689.3	22.0	14.5	38.6	25.5	1.80	32.5	29.4	6,976	..	..	6.1
2002	1,696.6	21.4 ^p	14.6	37.9	25.7	1.77 ^p	33.5 ^p	29.5 ^p	6,930	..	..	4.7

Notes: Some of these indicators are also in other tables. They are brought together to make comparison easier.

Figures for England and Wales represent the number of deaths registered in each year up to 1992, and the number of deaths occurring in each year from 1993.

From 1981 births to non-resident mothers in Northern Ireland are excluded from the figures for Northern Ireland, and the United Kingdom.

1 Percentage of children under 16 to working population (males 16–64 and females 16–59).

2 Percentage of males 65 and over and females 60 and over to working population (males 16–64 and females 16–59).

3 TFR (total fertility rate) is the number of children that would be born to a woman if current patterns of fertility persisted throughout her childbearing life. It is sometimes called the TPF (total period fertility rate).

4 The mean ages shown in this table are not standardised for age and therefore take no account of the changing age structure of the population.

5 Per million population. The age-standardised mortality rate makes allowances for changes in the age structure of the population. See Notes to tables.

6 Deaths under one year, per 1,000 live births.

7 Figures from 1991 will be revised in 2004 following publication of the final revised population estimates for England and Wales for 1992–2000.

8 TFRs for 2002 are based on population projections for 2002.

9 Mid 1992–2000 population estimates for England and Wales will be revised in light of the revisions made to the mid-2001 population estimates, which were released on 26 September 2003. Interim estimates for those years, at a national level, will be released on 23 October 2003. The final revised estimates will be published in Spring 2004.

10 Mid-2001 England and Wales population estimates were revised on 26 September 2003, in light of research into the population estimates following the 2001 Census.

p Provisional.

.. Figures not available.

See page 2 of 'in brief' or 'Notes to tables' on page 60.

Table 3.1 Live births: age of mother

England and Wales

Numbers (thousands), rates, mean age and TFRs

Year and quarter	Age of mother at birth							Age of mother at birth							Mean ¹ age (years)	TFR ²
	All ages	Under 20	20-24	25-29	30-34	35-39	40 and over	All ages	Under 20	20-24	25-29	30-34	35-39	40 and over		
	Total live births (numbers)							Age-specific fertility rates ³								
1961	811.3	59.8	249.8	248.5	152.3	77.5	23.3	89.2	37.3	172.6	176.9	103.1	48.1	15.0	27.6	2.77
1964(max) ²	876.0	76.7	276.1	270.7	153.5	75.4	23.6	92.9	42.5	181.6	187.3	107.7	49.8	13.7	27.2	2.93
1966	849.8	86.7	285.8	253.7	136.4	67.0	20.1	90.5	47.7	176.0	174.0	97.3	45.3	12.5	26.8	2.75
1971	783.2	82.6	285.7	247.2	109.6	45.2	12.7	83.5	50.6	152.9	153.2	77.1	32.8	8.7	26.2	2.37
1976	584.3	57.9	182.2	220.7	90.8	26.1	6.5	60.4	32.2	109.3	118.7	57.2	18.6	4.8	26.4	1.71
1977(min) ²	569.3	54.5	174.5	207.9	100.8	25.5	6.0	58.1	29.4	103.7	117.5	58.6	18.2	4.4	26.5	1.66
1981	634.5	56.6	194.5	215.8	126.6	34.2	6.9	61.3	28.1	105.3	129.1	68.6	21.7	4.9	26.8	1.80
1986	661.0	57.4	192.1	229.0	129.5	45.5	7.6	60.6	30.1	92.7	123.8	78.0	24.6	4.8	27.0	1.77
1991	699.2	52.4	173.4	248.7	161.3	53.6	9.8	63.6	33.0	89.3	119.4	86.7	32.1	5.3	27.6	1.82
1992	689.7	47.9	163.3	244.8	166.8	56.7	10.2	63.6	31.7	86.2	117.5	87.3	33.4	5.8	27.9	1.80
1993	673.5	45.1	152.0	236.0	171.1	58.8	10.5	62.7	30.9	82.6	114.4	87.3	34.1	6.2	28.0	1.77
1994	664.7	42.0	140.2	229.1	179.6	63.1	10.7	62.0	28.9	79.1	112.4	89.3	35.8	6.4	28.4	1.75
1995	648.1	41.9	130.7	217.4	181.2	65.5	11.3	60.5	28.5	76.4	108.7	88.2	36.4	6.8	28.5	1.72
1996	649.5	44.7	125.7	211.1	186.4	69.5	12.1	60.6	29.7	77.0	106.9	89.7	37.5	7.2	28.6	1.74
1997	643.1	46.4	118.6	202.8	187.5	74.9	12.9	60.0	30.3	75.9	104.5	89.8	39.3	7.6	28.8	1.73
1998	635.9	48.3	113.5	193.1	188.5	78.9	13.6	59.3	31.2	74.9	101.6	90.7	40.4	7.9	28.9	1.73
1999	621.9	48.4	110.7	181.9	185.3	81.3	14.3	57.9	31.1	73.1	98.4	89.7	40.6	8.1	29.0	1.70
2000	604.4	45.8	107.7	170.7	180.1	85.0	15.1	56.0	29.5	70.2	94.5	88.1	41.4	8.4	29.1	1.66
2001	594.6	44.2	108.8	159.9	178.9	86.5	16.3	54.8	28.1	69.2	91.9	88.2	41.6	8.8	29.2	1.64
2002 ³	596.1	43.5	110.9	153.4	180.5	90.5	17.3	54.8	27.1	69.2	91.6	89.9	43.2	9.1	29.3	1.65
2000 March	148.7	11.4	26.4	42.5	44.1	20.6	3.6	55.5	30	69	94	86	41	8	29.1	1.64
2000 June	150.7	11.1	26.0	42.8	45.7	21.4	3.7	56.2	29	68	95	90	42	8	29.2	1.66
2000 Sept	155.0	11.8	27.8	43.6	46.2	21.7	3.9	57.3	30	73	94	89	43	9	29.1	1.69
2000 Dec	150.1	11.5	27.5	41.8	44.1	21.4	3.9	55.2	29	72	91	85	42	9	29.1	1.64
2001 March	145.5	11.0	26.5	39.8	43.3	21.0	4.0	54.5	28	69	91	86	41	9	29.2	1.63
2001 June	148.8	10.8	26.4	40.3	45.5	21.7	4.0	55.1	27	68	92	90	42	9	29.3	1.64
2001 Sept	153.0	11.4	28.1	41.0	46.4	22.0	4.1	56.8	29	73	91	91	43	9	29.2	1.69
2001 Dec	147.4	11.1	27.8	38.9	43.7	21.8	4.2	54.1	28	71	87	85	42	9	29.2	1.61
2002 March ⁴	143.3	10.5	26.5	37.4	43.2	21.6	4.1	53.4	26	67	92	88	42	9	29.3	1.62
2002 June ⁴	147.2	10.4	26.7	37.9	45.5	22.4	4.3	54.3	26	67	91	91	43	9	29.4	1.64
2002 Sept ⁴	155.0	11.4	28.9	39.9	46.9	23.4	4.5	56.6	28	72	95	93	44	9	29.3	1.71
2002 Dec ⁴	150.6	11.2	28.8	38.2	45.0	23.0	4.5	55.0	28	72	91	89	44	9	29.3	1.66
2003 ⁴ March ⁴	147.4	10.9	27.8	37.5	44.0	22.6	4.6	55.0	27	69	92	91	44	10	29.3	1.67
2003 ⁴ June ⁴	154.1	10.6	28.4	39.0	47.1	24.4	4.6	56.9	26	71	94	94	47	10	29.4	1.71

Note: The rates for women of all ages, under 20, and 40 and over are based upon the populations of women aged 15-44, 15-19, and 40-44 respectively.

1 The mean ages shown in this table are not standardised for age and therefore take no account of the changing age structure of the population.

2 TFR (total fertility rate) is the number of children that would be born to a woman if current patterns of fertility persisted throughout her childbearing life. It is sometimes called the TPFPR (total period fertility rate). During the post Second World War period the TFR reached a maximum in 1964 and a minimum in 1977.

3 Births per 1,000 women in the age-group; all quarterly age-specific fertility rates are adjusted for days in the quarter. They are not adjusted for seasonality, and therefore have been revised from those previously published.

4 The rates and TFR for the quarters of 2003 are based on the population projections for 2003.

See page 2 of 'in brief' or 'Notes to tables' on page 60.

Table 3.2 Live births outside marriage: age of mother and type of registration

England and Wales

Numbers (thousands), mean age and percentages

Year and quarter	Age of mother at birth								Mean ¹ age (years)	Age of mother at birth								Registration ²		
	All ages	Under 20	20-24	25-29	30-34	35-39	40 and over	All ages		Under 20	20-24	25-29	30-34	35-39	40 and over	Joint		Sole		
																Same ³ address	Different ³ address			
Live births outside marriage (numbers)								Percentage of total live births in age-group								As a percentage of all births outside marriage				
1971	65.7	21.6	22.0	11.5	6.2	3.2	1.1	23.7	8.4	26.1	7.7	4.7	5.7	7.0	9.0	45.5	54.5			
1976	53.8	19.8	16.6	9.7	4.7	2.3	0.7	23.3	9.2	34.2	9.1	4.4	5.2	8.6	10.1	51.0	49.0			
1981	81.0	26.4	28.8	14.3	7.9	1.3	0.9	23.4	12.8	46.7	14.8	6.6	6.2	3.9	12.5	58.2	41.8			
1986	141.3	39.6	54.1	27.7	13.1	5.7	1.1	23.8	21.4	69.0	28.2	12.1	10.1	12.6	14.7	46.6	19.6	33.8		
1991	211.3	43.4	77.8	52.4	25.7	9.8	2.1	24.8	30.2	82.9	44.9	21.1	16.0	18.3	21.3	54.6	19.8	25.6		
1992	215.2	40.1	77.1	55.9	28.9	10.9	2.3	25.2	31.2	83.7	47.2	22.8	17.3	19.3	22.9	55.4	20.7	23.9		
1993	216.5	38.2	75.0	57.5	31.4	11.9	2.5	25.5	32.2	84.8	49.4	24.4	18.4	20.2	23.5	54.8	22.0	23.2		
1994	215.5	35.9	71.0	58.5	34.0	13.4	2.7	25.8	32.4	85.5	50.6	25.5	18.9	21.2	25.2	57.5	19.8	22.7		
1995	219.9	36.3	69.7	59.6	37.0	14.4	3.0	26.0	33.9	86.6	53.3	27.4	20.4	22.0	26.2	58.1	20.1	21.8		
1996	232.7	39.3	71.1	62.3	40.5	16.2	3.2	26.1	35.8	88.0	56.5	29.5	21.7	23.4	26.7	58.1	19.9	21.9		
1997	238.2	41.1	69.5	63.4	42.2	18.2	3.7	26.2	37.0	88.7	58.6	31.3	22.5	24.3	28.6	59.5	19.3	21.2		
1998	240.6	43.0	67.8	62.4	43.9	19.6	3.9	26.3	37.8	89.1	59.7	32.3	23.3	24.8	29.0	60.9	18.3	20.8		
1999	241.9	43.0	67.5	61.2	45.0	20.8	4.3	26.4	38.9	89.0	61.0	33.6	24.3	25.6	30.2	61.8	18.2	19.9		
2000	238.6	41.1	67.5	59.1	43.9	22.3	4.7	26.5	39.5	89.7	62.6	34.6	24.4	26.2	31.0	62.7	18.2	19.2		
2001	238.1	39.5	68.1	56.8	45.2	23.3	5.1	26.7	40.0	89.5	62.6	35.5	25.3	26.9	31.6	63.2	18.4	18.4		
2002 ^p	242.0	38.9	70.2	55.8	46.4	25.1	5.6	26.8	40.6	89.5	63.3	36.4	25.7	27.7	32.2	63.7	18.5	17.8		
1997 March	58.6	10.2	17.4	15.7	10.2	4.2	0.9	26.1	37.0	88.7	58.4	31.1	22.4	23.9	28.7	58.4	19.5	22.0		
June	58.9	10.1	17.1	15.5	10.6	4.7	0.9	26.3	36.1	89.1	58.0	30.1	22.0	24.3	28.4	59.6	19.4	21.0		
Sept	61.4	10.5	17.9	16.5	10.9	4.7	0.9	26.2	37.3	88.8	58.9	31.8	22.7	24.4	27.8	59.9	18.9	21.2		
Dec	59.3	10.4	17.2	15.7	10.4	4.6	0.9	26.2	37.8	88.3	59.2	32.2	23.0	24.8	29.3	60.0	19.2	20.7		
1998 March	58.5	10.4	16.5	15.3	10.7	4.6	1.0	26.3	37.5	89.0	59.5	31.9	23.1	24.4	29.6	60.5	18.4	21.1		
June	58.4	10.3	16.2	15.4	10.8	4.7	0.9	26.3	36.8	89.6	59.1	31.8	22.5	24.0	28.3	61.0	18.2	20.8		
Sept	63.2	11.3	17.9	16.3	11.5	5.2	1.0	26.3	38.1	89.2	60.0	32.3	23.6	25.2	28.5	60.9	18.4	20.7		
Dec	60.5	11.0	17.2	15.4	10.9	5.0	1.0	26.3	38.9	88.5	60.4	33.3	24.0	25.7	29.7	61.2	18.4	20.4		
1999 March	59.0	10.8	16.4	15.0	10.9	5.0	1.0	26.3	38.8	89.7	60.5	33.4	24.1	25.4	29.5	61.4	18.2	20.4		
June	59.8	10.5	16.5	15.3	11.2	5.2	1.1	26.5	38.0	89.2	60.6	33.0	23.4	25.3	31.3	61.6	18.2	20.1		
Sept	62.9	11.1	17.7	16.0	11.7	5.4	1.1	26.4	39.3	88.7	61.7	34.1	24.7	25.6	29.3	62.2	18.1	19.6		
Dec	60.2	10.6	17.0	14.9	11.1	5.3	1.1	26.4	39.5	88.4	61.2	34.0	24.8	26.2	30.8	62.0	18.4	19.5		
2000 March	59.0	10.2	16.5	14.8	10.9	5.4	1.2	26.5	39.7	89.7	62.6	34.8	24.7	26.1	31.7	62.5	18.1	19.5		
June	57.9	10.0	16.1	14.4	10.9	5.5	1.1	26.6	38.5	89.7	61.9	33.5	23.8	25.7	30.6	62.9	17.8	19.2		
Sept	61.7	10.6	17.6	15.3	11.3	5.7	1.2	26.5	39.8	89.7	63.3	35.0	24.5	26.5	30.4	62.7	18.1	19.2		
Dec	60.1	10.3	17.3	14.7	10.9	5.7	1.2	26.5	40.0	89.5	62.8	35.2	24.7	26.6	31.4	62.6	18.6	18.8		
2001 March	58.0	9.9	16.7	13.9	10.8	5.7	1.1	26.5	39.8	90.4	63.0	34.9	24.8	26.9	28.0	62.5	18.7	18.8		
June	58.1	9.6	16.3	14.1	11.2	5.7	1.3	26.7	39.1	89.0	61.5	34.9	24.5	26.4	32.2	63.3	18.6	18.6		
Sept	61.8	10.2	17.6	14.7	12.0	6.0	1.3	26.7	40.4	89.5	62.6	35.9	25.8	27.2	32.2	63.5	18.4	18.2		
Dec	60.2	9.9	17.5	14.1	11.3	5.9	1.4	26.7	40.9	89.2	63.1	36.4	25.9	27.2	33.9	63.4	18.6	18.0		
2002 March ^p	58.0	9.4	16.7	13.6	10.9	6.0	1.3	26.8	40.5	89.4	63.0	36.4	25.4	27.7	31.5	63.2	18.5	18.3		
June ^p	58.3	9.3	16.6	13.5	11.4	6.1	1.4	26.8	39.6	89.4	62.2	35.6	25.0	27.2	31.7	64.2	18.2	17.7		
Sept ^p	63.5	10.2	18.4	14.6	12.3	6.5	1.5	26.8	40.9	89.3	63.8	36.6	26.1	27.9	32.7	63.9	18.5	17.5		
Dec ^p	62.3	10.0	18.4	14.1	11.9	6.5	1.5	26.8	41.4	89.7	64.1	36.9	26.4	28.0	32.8	63.3	18.9	17.8		
2003 March ^p	61.0	9.8	17.9	13.8	11.6	6.3	1.5	26.8	41.4	90.1	64.5	36.9	26.9	29.1	33.2	63.0	18.9	18.1		
June ^p	62.2	9.5	18.2	14.1	12.0	6.9	1.5	27.0	40.4	90.0	64.0	36.0	25.6	28.2	33.3	64.1	18.5	17.4		

1 The mean ages shown in this table are not standardised for age and therefore take no account of the changing age structure of the population.

2 Births outside marriage can be registered by both the mother and father (joint) or by the mother alone (sole).

3 Usual address(es) of parents.

p Provisional.

Table 4.1 Conceptions: age of women at conception

England and Wales (residents) Numbers (thousands) and rates; and percentage terminated by abortion

Year and quarter	Age of woman at conception								
	All ages	Under 16	Under 18	Under 20	20-24	25-29	30-34	35-39	40 and over
(a) numbers (thousands)									
1991	853.7	7.5	40.1	101.6	233.3	281.5	167.5	57.6	12.1
1996	816.9	8.9	43.5	94.9	179.8	252.6	200.0	75.5	14.1
1997	800.4	8.3	43.4	96.0	167.3	242.6	200.9	78.9	14.7
1998	797.0	8.5	44.1	101.6	163.3	232.4	201.4	82.9	15.4
1999	774.0	7.9	42.0	98.8	157.6	218.5	197.1	86.0	16.0
2000	767.0	8.1	41.3	97.7	159.0	209.3	195.3	88.7	17.0
2001 ^p	763.3	7.9	41.0	95.9	161.6	199.2	196.6	92.2	17.8
2000 March	193.1	2.0	10.5	25.1	40.4	53.2	48.3	21.9	4.2
June	188.7	2.1	10.4	24.3	39.3	51.5	47.5	21.8	4.3
Sept	190.0	2.1	10.0	23.5	38.4	52.0	49.7	22.2	4.2
Dec	195.2	2.0	10.4	24.7	40.9	52.7	49.8	22.7	4.3
2001 March ^p	189.2	1.9	10.2	24.3	40.4	50.0	47.8	22.3	4.4
June ^p	187.4	2.1	10.2	24.0	39.8	48.8	47.7	22.8	4.4
Sept ^p	189.3	1.9	10.0	23.1	39.2	49.5	49.9	23.2	4.4
Dec ^p	197.4	2.0	10.6	24.5	42.2	51.0	51.2	23.9	4.7
2002 March ^l	191.6	1.9	10.3	24.1	41.3	48.8	49.0	23.7	4.6
(b) rates (conceptions per thousand women in age group)									
1991	77.7	8.9	44.6	64.1	120.2	135.1	90.1	34.4	6.6
1996	76.2	9.6	46.4	63.1	110.1	127.9	96.2	40.7	8.4
1997	74.7	9.0	46.3	62.8	107.1	125.0	96.2	41.4	8.7
1998	74.3	9.0	47.6	65.8	107.7	122.2	96.9	42.4	8.9
1999	72.0	8.3	45.8	63.4	104.0	118.2	95.5	42.9	9.1
2000	71.0	8.3	44.1	62.8	103.5	115.9	95.6	43.2	9.4
2001 ^p	70.4	8.0	42.7	60.9	102.8	114.5	96.9	44.4	9.6
2000 March	72.1	8.5	45.6	65.0	106.3	117.3	94.7	43.4	9.4
June	70.3	8.5	44.8	62.8	103.2	114.3	93.4	43.0	9.6
Sept	70.0	8.3	42.2	60.1	99.1	115.1	96.8	42.9	9.3
Dec	71.8	8.0	43.7	62.9	105.1	117.7	97.2	43.9	9.5
2001 March ^p	70.9	7.8	43.4	63.0	105.2	114.9	95.2	43.8	9.7
June ^p	69.4	8.4	42.9	61.1	101.8	111.9	94.3	44.1	9.5
Sept ^p	69.2	7.7	41.2	57.9	98.7	113.4	97.8	44.2	9.3
Dec ^p	72.1	8.0	43.4	61.4	105.6	117.9	100.5	45.4	9.9
2002 March ^l	71.5	7.7	43.1	61.4	105.3	116.5	98.6	45.9	10.0
(c) percentage terminated by abortion									
1991	19.4	51.1	39.9	34.5	22.2	13.4	13.7	22.0	41.6
1996	20.8	49.2	40.0	36.2	25.7	15.6	14.1	21.2	37.6
1997	21.3	49.7	40.6	36.8	26.7	16.4	14.2	21.0	38.0
1998	22.3	52.4	42.0	37.8	27.8	17.1	14.9	21.5	37.9
1999	22.6	52.6	43.0	38.6	28.5	17.5	14.7	21.2	37.0
2000	22.7	54.0	44.2	39.3	29.2	17.7	14.5	20.5	35.4
2001 ^p	23.2	55.7	45.7	40.3	29.7	18.3	14.6	20.4	34.6
2000 March	22.9	53.8	44.3	39.6	29.6	17.7	14.5	20.4	35.3
June	23.2	55.1	44.4	39.2	29.7	18.1	15.1	20.9	35.1
Sept	22.0	53.2	43.8	38.7	28.2	17.4	14.0	19.8	35.4
Dec	22.8	54.0	44.1	39.8	29.2	17.5	14.4	20.8	35.9
2001 March ^p	23.4	54.3	44.9	40.1	29.8	18.5	14.8	20.7	34.9
June ^p	23.8	58.8	47.0	41.1	30.3	18.6	15.3	21.0	36.0
Sept ^p	22.5	55.0	45.7	40.1	29.2	18.1	13.8	20.0	33.5
Dec ^p	22.9	54.7	45.1	40.0	29.5	18.0	14.3	20.2	34.0
2002 March ^l	22.9	54.4	44.9	40.2	29.5	18.1	14.1	19.8	35.2

Notes: Conceptions are estimates derived from birth registrations and abortion notifications.

Rates for women of all ages, under 16, under 18, under 20 and 40 and over are based on the population of women aged 15-44, 13-15, 15-17, 15-19 and 40-44 respectively.

For a quarterly analysis of conceptions under 18 for local authority areas see the National Statistics website, www.statistics.gov.uk.

l Provisional estimates based on incomplete abortion data.

p Provisional.

See page 2 of 'in brief' or 'Notes to tables' on page 60.

Table 4.2 Abortions: residents and non-residents; age and gestation (residents only)

England and Wales

Numbers (thousands) and rates; and percentages for gestation weeks

Year and quarter	All ages			All women (residents)							Gestation weeks (percentages)			
	All ¹ women	Residents ¹	Non- ¹ residents	Age group							Under 9	9-12	13-19	20 and over
				Under 16	16-19	20-24	25-29	30-34	35-44	45 and over				
Numbers (thousands)											Percentages			
1976	129.7	101.9	27.8	3.4	24.0	23.6	19.3	14.6	14.7	0.5	24.8	55.8	15.0	1.1
1981	162.5	128.6	33.9	3.5	31.4	34.3	21.9	18.7	17.6	0.6	31.0	53.4	13.5	1.3
1986	172.3	147.6	24.7	3.9	33.8	45.3	28.7	18.0	17.5	0.4	33.4	53.8	11.5	1.4
1991	179.5	167.4	12.1	3.2	31.1	52.7	38.6	23.4	17.9	0.4	35.2	52.9	10.6	1.2
1996	177.5	167.9	9.6	3.6	28.8	46.4	39.3	28.2	21.1	0.4	40.0	48.7	10.1	1.3
1997	179.7	170.1	9.6	3.4	29.9	45.0	40.2	28.9	22.3	0.5	41.2	47.9	9.6	1.2
1998	187.4	177.9	9.5	3.8	33.2	45.8	40.4	30.4	23.8	0.5	41.4	47.6	9.7	1.3
1999	183.2	173.7	9.5	3.6	32.8	45.0	38.5	29.1	24.1	0.5	42.5	46.5	9.5	1.4
2000	185.4	175.5	9.8	3.7	33.2	47.1	37.9	28.7	24.4	0.5	43.3	45.0	10.3	1.5
2001	186.3 ²	176.4 ²	9.9	3.7	33.4	48.3	36.5	28.8	25.2	0.5	42.8	45.0	10.6	1.6
2002 ^p	185.0	175.6	9.4	3.5	32.2	48.4	35.8	28.5	26.2	0.5	42.2	45.2	11.0	1.6
2000 March	49.5	46.9	2.6	1.0	9.1	12.5	10.2	7.5	6.4	0.1	38.9	47.9	11.6	1.6
June	45.8	43.4	2.5	0.9	8.2	11.8	9.2	7.1	6.0	0.1	42.2	46.0	10.3	1.4
Sept	46.1	43.6	2.5	1.0	8.1	11.5	9.5	7.3	6.1	0.1	44.5	44.0	10.1	1.4
Dec	43.9	41.7	2.2	0.9	7.8	11.2	8.9	6.8	5.9	0.1	47.8	41.7	9.0	1.4
2001 March	47.8	45.3	2.5	0.9	8.7	12.4	9.4	7.3	6.4	0.1	40.5	46.3	11.6	1.5
June	46.6	44.1	2.5	0.9	8.3	12.1	9.1	7.2	6.3	0.1	42.0	45.8	10.6	1.6
Sept	46.2	43.8	2.4	1.0	8.2	11.8	9.1	7.3	6.3	0.1	43.1	44.7	10.6	1.5
Dec	45.6	43.3	2.4	0.9	8.2	11.9	8.9	7.0	6.2	0.1	45.7	43.1	9.7	1.6
2002 March ^p	47.0	44.5	2.5	0.9	8.4	12.4	9.1	7.2	6.4	0.1	38.9	47.4	12.0	1.6
June ^p	45.5	43.0	2.4	0.8	7.8	11.9	8.9	7.0	6.4	0.1	42.2	45.3	10.9	1.6
Sept ^p	45.3	42.9	2.5	0.9	8.0	11.6	8.7	7.1	6.4	0.2	42.8	45.0	10.7	1.5
Dec ^p	45.0	42.9	2.1	0.9	7.9	11.7	8.7	6.9	6.4	0.1	47.1	41.6	9.7	1.6
Rates (per thousand women residents)														
	ASR ³	Crude rate ²												
	(women 15-44)	(women 15-44)												
1976	10.2	10.5	:	2.9	16.9	14.2	10.4	9.2	5.3	0.3				
1981	11.9	12.4	:	3.0	19.4	18.6	13.1	10.1	5.9	0.4				
1986	13.0	13.5	:	3.7	22.0	21.9	15.5	10.8	5.1	0.3				
1991	15.0	15.2	:	3.8	24.0	27.1	18.5	12.6	5.1	0.3				
1996	16.0	15.7	:	3.9	24.3	28.4	19.9	13.6	6.0	0.2				
1997	16.3	15.9	:	3.7	24.4	28.8	20.7	13.8	6.2	0.3				
1998	17.2	16.6	:	4.0	26.8	30.2	21.2	14.6	6.5	0.3				
1999	16.8	16.2	:	3.8	26.3	29.7	20.8	14.1	6.4	0.3				
2000	17.0	16.3	:	3.8	26.9	30.7	21.0	14.1	6.3	0.3				
2001	17.1	16.3	:	3.7	26.7	30.7	21.0	14.2	6.4	0.3				
2002 ^p	16.9	16.1	:	3.5	25.3	30.2	21.4	14.2	6.6	0.3				
2000 March	18.2	17.4	:	4.2	29.4	32.9	22.4	14.7	6.7	0.3				
June	16.8	16.1	:	3.6	26.4	30.7	20.4	13.9	6.3	0.3				
Sept	16.9	16.1	:	4.0	26.4	30.0	21.1	14.2	6.3	0.3				
Dec	16.2	15.4	:	3.6	25.3	29.0	20.0	13.4	6.0	0.2				
2001 March	17.6	16.7	:	3.6	28.0	31.9	21.2	14.4	6.6	0.3				
June	17.1	16.3	:	3.8	26.7	30.9	20.9	14.2	6.4	0.3				
Sept	16.9	16.1	:	3.9	26.0	30.0	21.0	14.4	6.4	0.3				
Dec	16.7	15.9	:	3.6	26.1	30.1	20.8	13.8	6.3	0.2				
2002 March ^p	17.5	16.6	:	3.7	27.0	31.7	21.6	14.4	6.6	0.2				
June ^p	16.7	16.0	:	3.0	23.9	30.4	21.3	14.1	6.6	0.4				
Sept ^p	17.0	16.2	:	3.7	25.0	29.1	22.3	15.1	6.5	0.3				
Dec ^p	16.5	15.8	:	3.7	24.6	28.9	21.2	13.9	6.4	0.3				

Notes: Rates for Under 16 and 45 and over are based on female populations aged 13-15 and 45-49 respectively.

1 Includes cases with not stated age and/or gestation week.

2 Includes incomplete forms that have been returned to practitioners.

3 Rates for all women residents age-standardised to the European population for ages 15-44.

p Provisional

See page 2 of 'in brief' or 'Notes to tables' on page 60.

Table 5.1 Expectation of life at birth and selected age

Constituent countries of the United Kingdom										Years							
Year	Males								Year	Females							
	At birth	At age								At birth	At age						
		5	20	30	50	60	70	80			5	20	30	50	60	70	80
United Kingdom																	
1981	70.8	66.9	52.3	42.7	24.1	16.3	10.1	5.8	1981	76.8	72.7	57.9	48.2	29.2	20.8	13.3	7.5
1986	71.9	67.8	53.2	43.6	24.9	16.8	10.5	6.0	1986	77.7	73.4	58.6	48.8	29.8	21.2	13.8	7.8
1991	73.2	68.9	54.2	44.7	26.0	17.7	11.1	6.4	1991	78.7	74.3	59.5	49.7	30.6	21.9	14.3	8.2
1996	74.2	69.8	55.1	45.6	26.9	18.5	11.6	6.6	1996	79.4	74.9	60.1	50.3	31.2	22.3	14.5	8.3
1997	74.5	70.1	55.4	45.9	27.2	18.7	11.7	6.7	1997	79.6	75.1	60.2	50.4	31.3	22.5	14.6	8.4
1998	74.7	70.3	55.6	46.1	27.4	18.9	11.9	6.7	1998	79.7	75.2	60.3	50.5	31.4	22.6	14.7	8.4
1999	75.0	70.6	55.8	46.3	27.6	19.2	12.0	6.8	1999	79.9	75.4	60.5	50.7	31.6	22.8	14.8	8.5
2000 ^P	75.3	70.9	56.1	46.6	27.9	19.5	12.2	7.0	2000	80.1	75.6	60.8	50.9	31.8	23.0	15.0	8.6
England and Wales																	
1981	71.0	67.1	52.5	42.9	24.3	16.4	10.1	5.8	1981	77.0	72.9	58.1	48.3	29.4	20.9	13.4	7.5
1986	72.1	68.0	53.4	43.8	25.0	16.9	10.5	6.1	1986	77.9	73.6	58.8	49.0	30.0	21.4	13.9	7.9
1991	73.4	69.1	54.4	44.8	26.1	17.8	11.2	6.4	1991	78.9	74.5	59.7	49.9	30.8	22.0	14.4	8.3
1996	74.5	70.1	55.3	45.8	27.1	18.6	11.6	6.6	1996	79.6	75.1	60.2	50.4	31.3	22.5	14.6	8.4
1997	74.7	70.3	55.6	46.1	27.3	18.9	11.8	6.7	1997	79.7	75.2	60.4	50.6	31.5	22.6	14.7	8.4
1998	75.0	70.5	55.8	46.3	27.6	19.1	11.9	6.8	1998	79.9	75.3	60.5	50.7	31.6	22.7	14.8	8.4
1999	75.2	70.8	56.1	46.5	27.8	19.3	12.1	6.9	1999	80.1	75.6	60.7	50.9	31.8	22.9	14.9	8.5
2000 ^P	75.6	71.1	56.4	46.8	28.1	19.6	12.3	7.0	2000	80.3	75.8	60.9	51.1	32.0	23.1	15.1	8.6
England																	
1981	71.1	67.1	52.5	42.9	24.3	16.4	10.1	5.8	1981	77.0	72.9	58.2	48.4	29.4	20.9	13.4	7.5
1986	72.2	68.1	53.4	43.8	25.1	17.0	10.6	6.1	1986	77.9	73.6	58.8	49.0	30.0	21.4	13.9	7.9
1991	73.4	69.1	54.4	44.9	26.2	17.8	11.2	6.4	1991	78.9	74.5	59.7	49.9	30.8	22.0	14.4	8.3
1996	74.5	70.1	55.4	45.8	27.1	18.7	11.7	6.6	1996	79.6	75.1	60.3	50.4	31.3	22.5	14.6	8.4
1997	74.8	70.4	55.6	46.1	27.4	18.9	11.8	6.7	1997	79.8	75.3	60.4	50.6	31.5	22.6	14.7	8.4
1998	75.0	70.6	55.8	46.3	27.6	19.1	12.0	6.8	1998	79.9	75.4	60.5	50.7	31.6	22.7	14.8	8.5
1999	75.3	70.8	56.1	46.6	27.8	19.3	12.1	6.9	1999	80.1	75.6	60.7	50.9	31.8	22.9	14.9	8.5
2000 ^P	75.6	71.2	56.4	46.9	28.2	19.6	12.4	7.0	2000	80.3	75.8	61.0	51.2	32.0	23.1	15.1	8.6
Wales																	
1981	70.4	66.5	51.9	42.2	23.6	15.8	9.7	5.6	1981	76.4	72.3	57.5	47.7	28.9	20.5	13.1	7.4
1986	71.6	67.5	52.8	43.2	24.6	16.6	10.3	6.0	1986	77.5	73.3	58.5	48.7	29.7	21.1	13.7	7.8
1991	73.1	68.8	54.1	44.6	25.8	17.6	11.0	6.4	1991	78.8	74.3	59.5	49.7	30.6	21.8	14.3	8.3
1996	73.9	69.4	54.7	45.3	26.6	18.2	11.3	6.4	1996	79.1	74.6	59.7	49.9	30.9	22.1	14.4	8.3
1997	74.2	69.8	55.1	45.6	26.9	18.5	11.6	6.6	1997	79.3	74.8	59.9	50.1	31.0	22.2	14.5	8.4
1998	74.4	69.9	55.2	45.8	27.1	18.6	11.6	6.6	1998	79.4	74.9	60.0	50.2	31.1	22.3	14.5	8.3
1999	74.7	70.2	55.5	46.0	27.4	18.9	11.9	6.8	1999	79.6	75.0	60.2	50.4	31.3	22.5	14.6	8.4
2000 ^P	74.9	70.5	55.7	46.3	27.6	19.1	12.0	6.8	2000	79.8	75.2	60.4	50.6	31.5	22.6	14.7	8.4
Scotland																	
1981	69.1	65.2	50.6	41.1	22.9	15.4	9.6	5.5	1981	75.3	71.2	56.4	46.7	27.9	19.7	12.7	7.2
1986	70.2	66.0	51.4	41.9	23.5	15.8	9.9	5.7	1986	76.2	71.9	57.1	47.3	28.4	20.1	13.0	7.5
1991	71.4	67.1	52.5	43.0	24.6	16.6	10.4	6.1	1991	77.1	72.7	57.9	48.1	29.2	20.7	13.5	7.9
1996	72.2	67.8	53.1	43.7	25.3	17.3	10.9	6.3	1996	77.9	73.3	58.5	48.8	29.8	21.2	13.8	8.0
1997	72.4	68.0	53.3	43.9	25.6	17.5	11.0	6.4	1997	78.0	73.5	58.7	48.9	30.0	21.4	13.9	8.0
1998	72.6	68.2	53.5	44.2	25.8	17.8	11.1	6.5	1998	78.2	73.6	58.8	49.0	30.1	21.4	13.9	8.0
1999	72.8	68.4	53.7	44.4	26.0	18.0	11.3	6.6	1999	78.4	73.8	59.0	49.2	30.3	21.6	14.0	8.1
2000	73.1	68.6	53.9	44.6	26.3	18.2	11.5	6.6	2000	78.6	74.0	59.2	49.4	30.5	21.8	14.1	8.1
Northern Ireland																	
1981	69.2	65.4	50.9	41.5	23.2	15.6	9.7	5.8	1981	75.5	71.6	56.8	47.1	28.3	20.0	12.8	7.3
1986	70.9	66.8	52.2	42.7	24.2	16.4	10.4	6.2	1986	77.1	72.9	58.1	48.3	29.3	20.8	13.4	7.8
1991	72.6	68.2	53.6	44.1	25.5	17.3	11.0	6.4	1991	78.4	74.0	59.2	49.4	30.3	21.6	14.2	8.3
1996	73.8	69.4	54.7	45.3	26.6	18.2	11.4	6.6	1996	79.2	74.7	59.9	50.0	30.9	22.1	14.4	8.4
1997	74.2	69.7	55.0	45.5	26.8	18.4	11.5	6.6	1997	79.5	75.0	60.2	50.3	31.2	22.4	14.5	8.4
1998	74.3	69.8	55.2	45.7	27.0	18.6	11.6	6.6	1998	79.5	75.0	60.2	50.4	31.2	22.4	14.5	8.2
1999	74.5	70.0	55.4	45.9	27.2	18.8	11.7	6.6	1999	79.6	75.1	60.2	50.4	31.3	22.5	14.6	8.2
2000	74.8	70.4	55.7	46.2	27.6	19.1	11.9	6.6	2000	79.8	75.2	60.4	50.6	31.5	22.6	14.6	8.2

Note: Figures from 1981 are calculated from the population estimates revised in the light of the 2001 Census. Figures from 1991 will be further revised in 2004 following publication of the final revised population estimates for England and Wales for 1992–2000. All figures are based on a three-year period; see Notes to tables for further information.

P provisional

See page 2 of 'in brief' or 'Notes to tables' on page 60.

Table 6.1 Deaths: age and sex

England and Wales		Numbers (thousands) and rates												
Year and quarter	All ages	Age group												
		Under 1 ¹	1-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-84	85 and over
Numbers (thousands)														
Males														
1976	300.1	4.88	0.88	0.68	0.64	1.66	1.66	3.24	5.93	20.4	52.0	98.7	80.3	29.0
1981	289.0	4.12	0.65	0.45	0.57	1.73	1.58	3.18	5.54	16.9	46.9	92.2	86.8	28.5
1986	287.9	3.72	0.57	0.33	0.38	1.43	1.75	3.10	5.77	14.4	43.6	84.4	96.2	32.2
1991	277.6	2.97	0.55	0.34	0.35	1.21	1.76	3.69	6.16	13.3	34.9	77.2	95.8	39.3
1996	268.7	2.27	0.44	0.24	0.29	0.93	1.41	4.06	5.84	13.6	30.1	71.0	90.7	47.8
1998	264.7	2.07	0.41	0.24	0.29	0.88	1.29	4.01	5.90	13.6	29.1	66.1	90.5	50.4
1999	264.3	2.08	0.41	0.22	0.28	0.90	1.27	3.85	5.93	13.6	28.7	64.3	90.4	52.3
2000	255.5	1.89	0.34	0.22	0.28	0.87	1.22	3.76	6.05	13.4	27.9	60.6	87.1	51.9
2001	252.4	1.81	0.32	0.19	0.28	0.88	1.27	3.63	6.07	13.3	27.5	57.5	87.0	52.7
2002	253.2	1.81	0.32	0.20	0.28	0.84	1.24	3.47	6.20	12.9	27.7	56.3	88.3	53.6
Females														
1976	298.5	3.46	0.59	0.45	0.42	0.62	0.67	1.94	4.04	12.8	29.6	67.1	104.7	72.1
1981	288.9	2.90	0.53	0.30	0.37	0.65	0.64	1.82	3.74	10.5	27.2	62.8	103.6	73.9
1986	293.3	2.59	0.49	0.25	0.27	0.56	0.67	1.65	3.83	8.8	25.8	58.4	106.5	83.6
1991	292.5	2.19	0.44	0.25	0.22	0.46	0.64	1.73	3.70	8.4	21.3	54.2	103.3	95.7
1996	291.5	1.69	0.32	0.18	0.20	0.43	0.51	1.85	3.66	8.9	18.2	50.2	96.7	108.7
1998	290.3	1.56	0.31	0.18	0.19	0.41	0.48	1.72	3.68	9.1	17.9	46.9	94.7	113.2
1999	291.8	1.55	0.30	0.17	0.22	0.39	0.47	1.67	3.79	9.0	18.0	45.1	93.9	117.2
2000	280.1	1.49	0.25	0.16	0.18	0.38	0.47	1.69	3.87	9.1	17.6	42.2	89.3	113.4
2001	277.9	1.43	0.27	0.19	0.18	0.38	0.47	1.59	3.77	8.9	17.6	40.5	88.8	113.9
2002	280.4	1.32	0.24	0.16	0.19	0.39	0.43	1.61	3.77	8.7	17.7	39.6	90.0	116.3
Rates (deaths per 1,000 population in each age group)														
Males														
1976	12.5	16.2	0.65	0.34	0.31	0.88	0.96	0.92	2.09	6.97	19.6	50.3	116.4	243.2
1981	12.0	12.6	0.53	0.27	0.29	0.82	0.83	0.89	1.83	6.11	17.7	45.6	105.2	226.5
1986	11.8	11.0	0.44	0.21	0.23	0.72	0.83	0.88	1.68	5.27	16.6	42.8	101.2	215.4
1991	11.2	8.3	0.40	0.21	0.23	0.72	0.89	0.94	1.76	4.56	13.9	38.1	93.1	205.6
1996	10.8	6.8	0.32	0.14	0.18	0.60	0.87	1.02	1.67	4.06	11.9	34.5	85.0	199.0
1998	10.6	6.4	0.31	0.14	0.17	0.55	0.87	1.04	1.63	4.00	11.3	32.4	81.1	193.9
1999	10.5	6.5	0.31	0.12	0.16	0.56	0.85	1.02	1.60	4.00	10.9	31.6	80.0	194.7
2000	10.1	6.1	0.26	0.13	0.16	0.54	0.81	1.01	1.60	3.93	10.4	29.8	76.0	187.7
2001	9.9	5.9	0.25	0.11	0.16	0.53	0.81	0.96	1.57	3.89	10.0	28.1	74.2	186.6
2002	9.9	5.9	0.25	0.12	0.16	0.49	0.78	0.94	1.58	3.86	9.7	27.2	73.6	188.1
2001 Sept	9.1	5.8	0.22	0.14	0.13	0.54	0.83	0.96	1.59	3.72	9.6	26.3	67.5	166.0
2001 Dec	9.9	6.0	0.24	0.08	0.17	0.57	0.77	0.93	1.55	3.88	10.0	28.1	74.7	190.9
2002 March	10.8	6.7	0.35	0.14	0.19	0.52	0.78	0.94	1.60	4.05	10.1	29.5	81.1	217.0
2002 June	9.5	5.7	0.23	0.13	0.14	0.50	0.79	0.96	1.52	3.78	9.4	26.7	70.4	178.3
2002 Sept	9.1	5.3	0.22	0.10	0.15	0.49	0.81	1.00	1.61	3.73	9.3	25.1	66.9	163.9
2002 Dec	10.1	6.0	0.22	0.10	0.15	0.47	0.75	0.88	1.57	3.87	10.0	27.7	76.1	193.8
2003 ² March ^p	10.6	6.0	0.25	0.11	0.18	0.51	0.82	0.96	1.67	3.90	10.3	28.1	79.9	213.7
2003 ² June ^p	9.6	5.7	0.23	0.11	0.13	0.45	0.79	0.90	1.65	3.73	9.6	26.0	72.4	180.0
Females														
1976	11.8	12.2	0.46	0.24	0.21	0.35	0.40	0.56	1.46	4.30	10.1	26.0	74.6	196.6
1981	11.3	9.4	0.46	0.19	0.19	0.32	0.35	0.52	1.26	3.80	9.5	24.1	66.2	178.2
1986	11.4	8.0	0.40	0.17	0.17	0.29	0.33	0.47	1.12	3.24	9.2	23.4	62.5	169.4
1991	11.2	6.4	0.33	0.16	0.15	0.29	0.33	0.44	1.05	2.87	8.2	21.8	58.7	161.6
1996	11.1	5.3	0.25	0.10	0.13	0.29	0.31	0.46	1.04	2.63	7.1	20.6	55.8	159.1
1998	11.0	5.0	0.24	0.11	0.12	0.26	0.32	0.43	1.00	2.64	6.8	19.8	53.9	159.3
1999	11.0	5.1	0.24	0.10	0.13	0.25	0.31	0.43	1.01	2.62	6.7	19.3	53.4	162.8
2000	10.5	5.1	0.20	0.10	0.11	0.25	0.30	0.44	1.01	2.63	6.4	18.1	50.9	155.4
2001	10.4	4.9	0.22	0.12	0.11	0.24	0.30	0.42	0.96	2.57	6.3	17.4	50.2	155.3
2002	10.5	4.5	0.20	0.10	0.11	0.24	0.27	0.44	0.94	2.55	6.0	17.0	50.5	159.8
2001 Sept	9.4	4.9	0.15	0.11	0.08	0.22	0.25	0.41	0.97	2.47	5.9	15.9	45.5	137.3
2001 Dec	10.5	5.2	0.22	0.11	0.14	0.22	0.35	0.41	0.93	2.57	6.3	17.7	50.7	157.2
2002 March	11.7	4.7	0.21	0.11	0.12	0.30	0.26	0.44	1.01	2.60	6.2	18.5	55.9	185.6
2002 June	9.9	4.4	0.18	0.07	0.14	0.20	0.31	0.44	0.91	2.54	5.9	16.7	47.9	147.5
2002 Sept	9.5	4.1	0.19	0.10	0.12	0.22	0.23	0.47	0.91	2.41	5.9	16.0	45.7	140.6
2002 Dec	10.8	4.9	0.21	0.12	0.08	0.25	0.28	0.40	0.94	2.63	6.2	17.0	52.5	166.0
2003 ² March ^p	11.5	5.3	0.25	0.08	0.08	0.22	0.36	0.46	1.01	2.59	6.3	17.7	55.6	181.2
2003 ² June ^p	10.1	4.6	0.23	0.11	0.16	0.25	0.28	0.44	0.92	2.53	6.0	16.3	50.3	151.2

Note: Figures represent the numbers of deaths registered in each year up to 1992 and the numbers of deaths occurring in each year from 1993.

¹ Rates per 1,000 live births.

² The rates for 2003 are based on the mid-2002 population estimates.

^p Provisional registrations.

See page 2 of 'in brief' or 'Notes to tables' on page 60.

Table 6.2 Deaths: subnational

Government Office Regions of England ¹										Rates
Year and quarter	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East	London	South East	South West	
Total deaths (deaths per 1,000 population of all ages)										
1995	11.9	11.8	11.3	10.8	11.0	10.5	9.8	10.9	12.0	
1996	11.8	11.7	11.2	10.7	10.7	10.3	9.5	10.7	11.7	
1997	11.6	11.6	11.1	10.5	10.6	10.2	9.2	10.6	11.7	
1998	12.0	11.7	11.2	10.8	10.6	10.2	8.9	10.4	11.4	
1999	11.7	11.5	10.9	10.7	10.8	10.3	8.9	10.5	11.6	
2000	10.9	10.7	10.3	10.0	10.4	9.9	8.4	9.8	11.3	
2001	11.2	11.1	10.4	10.2	10.2	9.9	8.0	9.9	11.0	
2002	11.3	11.1	10.5	10.2	10.2	10.0	7.8	9.9	11.1	
2001 Sept	10.3	10.0	9.4	9.3	9.3	9.1	7.4	9.2	10.1	
2001 Dec	11.3	11.2	10.6	10.2	10.3	10.0	8.1	10.0	11.2	
2002 March	12.7	12.4	11.7	11.2	11.2	11.1	8.6	11.1	12.2	
2002 June	10.8	10.6	10.0	9.7	9.8	9.6	7.4	9.4	10.6	
2002 Sept	10.0	9.8	9.7	9.2	9.4	9.1	7.2	9.1	10.2	
2002 Dec	11.6	11.4	10.8	10.6	10.6	10.1	8.0	10.2	11.3	
2003 ² March ^p	12.3	11.9	11.3	11.3	11.3	10.8	8.6	10.7	12.0	
2003 ² June ^p	10.8	10.7	10.0	10.0	10.1	9.5	7.5	9.7	10.9	
Infant mortality (deaths under 1 year per 1,000 live births)										
1995	6.7	6.5	6.9	5.7	7.1	5.2	6.4	5.2	5.3	
1996	6.2	6.3	6.5	6.3	6.8	5.3	6.3	5.3	5.5	
1997	5.8	6.7	6.5	5.7	7.0	4.8	5.8	5.0	5.8	
1998	5.0	6.3	6.9	5.6	6.5	5.0	6.0	4.4	4.8	
1999	5.6	6.5	6.3	6.0	6.9	4.6	6.0	4.8	4.7	
2000	6.5	6.2	7.3	5.4	6.8	4.4	5.4	4.4	4.7	
2001	5.4	5.8	5.5	4.9	6.4	4.5	6.1	4.2	5.4	
2002	4.8	5.4	6.1	5.6	6.6	4.3	5.5	4.5	4.3	
2001 Sept	5.5	5.4	4.1	5.3	5.5	4.6	6.8	4.6	4.8	
2001 Dec	4.7	5.9	6.2	4.2	6.7	5.0	6.5	3.8	6.1	
2002 March	3.9	6.7	7.0	7.0	6.7	4.4	5.7	4.9	4.6	
2002 June	5.4	5.2	5.2	5.7	5.8	4.5	5.4	4.6	4.1	
2002 Sept	5.2	4.3	5.5	4.8	6.7	4.1	4.9	3.8	3.7	
2002 Dec	4.5	5.5	6.9	5.0	7.2	4.2	6.1	4.6	4.7	
2003 March ^p	5.4	5.6	6.3	5.8	8.1	4.6	6.1	4.4	5.1	
2003 June ^p	4.5	6.1	5.4	6.0	7.1	4.4	5.3	4.2	3.2	
Neonatal mortality (deaths under 4 weeks per 1,000 live births)										
1995	4.7	4.2	4.8	3.8	5.3	3.4	4.3	3.6	3.7	
1996	4.1	4.0	4.2	4.2	4.9	3.5	4.4	3.5	3.8	
1997	3.7	4.3	4.4	3.7	5.0	3.3	3.7	3.4	3.9	
1998	3.1	4.1	4.5	3.7	4.8	3.4	4.1	2.9	3.3	
1999	4.1	4.4	4.1	4.3	4.8	3.0	4.1	3.2	3.2	
2000	4.4	4.3	5.0	4.1	5.0	3.0	3.7	3.1	3.0	
2001	3.5	3.8	3.2	3.4	4.4	2.9	4.1	2.9	3.7	
2002	3.2	3.6	4.0	4.0	4.8	2.9	3.6	2.9	3.1	
2001 Sept	3.7	3.7	2.2	3.9	4.0	3.0	4.7	3.6	3.2	
2001 Dec	3.3	4.3	3.4	3.0	4.4	3.2	4.1	2.1	4.2	
2002 March	2.8	4.3	4.6	5.1	5.0	3.2	3.8	3.2	3.2	
2002 June	4.1	3.8	3.2	4.1	4.4	3.3	3.6	2.9	3.2	
2002 Sept	2.6	2.7	3.7	3.5	4.9	2.4	3.5	2.5	2.5	
2002 Dec	3.4	3.8	4.6	3.2	5.0	2.6	3.7	3.1	3.6	
2003 March ^p	3.2	4.0	4.2	4.1	5.7	3.2	4.1	2.8	3.1	
2003 June ^p	3.2	4.2	3.5	3.9	4.7	3.0	4.0	2.6	2.5	
Perinatal mortality (stillbirths and deaths under 1 week per 1,000 total births)³										
1995	10.5	8.1	9.2	8.5	10.1	7.7	9.7	7.7	7.4	
1996	9.2	8.6	8.3	8.7	10.2	7.5	9.6	7.8	7.5	
1997	8.0	8.9	8.3	7.7	9.6	7.3	9.0	7.3	8.7	
1998	8.2	8.7	9.2	8.0	9.3	7.4	9.0	6.8	7.3	
1999	8.2	8.7	8.3	7.8	9.9	7.0	9.0	6.9	7.8	
2000	8.5	8.6	9.6	7.8	9.6	7.1	9.0	6.6	6.6	
2001	7.8	8.7	7.5	7.9	9.1	7.1	8.9	6.9	7.2	
2002	8.1	8.5	9.0	8.5	10.0	7.5	9.3	6.9	6.8	
2001 Sept	8.0	8.7	5.8	7.7	8.7	7.2	8.4	7.6	5.4	
2001 Dec	7.6	9.4	7.5	8.3	9.1	6.8	8.9	6.9	8.7	
2002 March	7.1	8.8	10.6	9.5	11.1	7.3	9.3	7.7	6.8	
2002 June	8.1	8.6	9.4	8.8	9.7	7.4	10.0	6.9	7.2	
2002 Sept	7.8	8.3	7.6	7.7	9.5	7.4	8.7	6.3	6.5	
2002 Dec	9.6	8.4	8.5	8.0	9.8	7.9	9.1	6.6	6.9	
2003 March ^p	8.8	9.0	8.3	8.4	10.5	8.1	9.5	7.1	7.2	
2003 June ^p	7.8	8.9	7.3	10.1	11.7	6.6	9.8	6.4	7.6	

Note: Figures represent the numbers of deaths occurring in each year with the exception of provisional data which relate to registrations.

1. The regions presented in this table have changed from the Regional Offices of the Department of Health to the Government Office Regions. See 'In brief' *Health Statistics Quarterly no.15* for details.

2. Crude death rates for 2003 are based on the mid-2002 population estimates.

3. In October 1992 the legal definition of a stillbirth was changed, from a baby born dead after 28 completed weeks of gestation or more, to one born dead after 24 completed weeks of gestation or more.

p Provisional registrations.

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This table is spread over 2 pages. Altogether there is 1 spread (2 pages).

Table 6.3 Deaths: selected causes (International Classification)^{1,4} and sex

England and Wales Number(thousands) and rate for all deaths and age-standardised rates² per million population for selected causes

Year and quarter	All deaths		All causes (age - standardised per million population ²) A00-R99 V01-Y89	Malignant neoplasms									
	Number (thousands)	Crude rate per 100,000 population		Oesophagus	Stomach	Colon	Rectosigmoid junction, rectum, and anus	Trachea, bronchus and lung	Melanoma of skin	Other malignant neoplasms of skin	Breast	Cervix uteri	Ovary
				(C15)	(C16)	(C18)	(C19-C21)	(C33-C34)	(C43)	(C44)	(C50)	(C53)	(C56)
Males													
1971	288.4	1,207	13,466	76	317	187	144	1,066	10	12	4	:	:
1981	289.0	1,196	12,189	90	251	181	135	1,028	17	9	3	:	:
1991	277.6	1,125	10,291	118	186	194	117	844	23	10	3	:	:
1993	279.6	1,129	10,105	123	163	189	106	769	26	8	3	:	:
1994	267.6	1,079	9,582	129	163	183	102	745	24	9	3	:	:
1995	274.4	1,104	9,667	126	149	182	100	715	26	9	3	:	:
1996	268.7	1,078	9,362	126	146	175	99	684	25	8	2	:	:
1997	264.9	1,060	9,118	126	137	176	93	651	25	7	2	:	:
1998	264.7	1,057	8,994	129	132	169	95	644	26	8	3	:	:
1999	264.3	1,051	8,878	127	127	161	90	612	27	7	2	:	:
2000	255.5	1,013	8,455	128	118	158	89	593	28	7	2	:	:
2001	252.4	988	8,200	129	111	156	89	571	26	7	3	:	:
2002 ^p	253.2	987	8,093	131	110	151	91	560	27	8	3	:	:
2001 Sept	58.8	913	7,607	124	114	157	87	567	26	6	2	:	:
Dec	64.0	995	8,250	130	109	150	93	577	27	7	3	:	:
2002 March ^p	68.4	1,082	8,855	126	115	151	89	573	27	7	3	:	:
June ^p	60.9	952	7,818	126	108	147	89	560	27	9	2	:	:
Sept ^p	58.6	906	7,445	126	108	147	90	545	25	9	3	:	:
Dec ^p	65.3	1,011	8,267	144	108	158	95	561	28	8	3	:	:
2003 ³ March ^p	67.1	1,062	8,676	142	107	145	88	546	24	7	3	:	:
June ^p	61.3	959	7,847	134	98	145	93	527	32	9	2	:	:
Females													
1971	278.9	1,104	8,189	40	149	176	79	183	14	6	379	83	126
1981	288.9	1,134	7,425	42	111	157	74	252	16	5	405	69	121
1991	292.5	1,122	6,471	50	75	147	62	300	18	4	403	54	118
1993	299.2	1,143	6,430	52	66	138	53	295	22	3	378	47	115
1994	285.6	1,088	6,120	51	67	137	52	297	22	4	371	42	114
1995	295.2	1,122	6,211	52	62	131	49	295	20	4	361	42	116
1996	291.5	1,105	6,075	52	55	126	49	293	20	3	344	41	121
1997	290.4	1,099	6,007	51	57	122	48	285	20	3	337	37	115
1998	290.3	1,096	5,952	49	54	117	47	292	21	3	328	35	116
1999	291.8	1,098	5,936	52	51	116	46	289	20	3	319	33	111
2000	280.1	1,051	5,664	51	48	107	45	285	21	3	312	33	109
2001	277.9	1,040	5,552	48	46	103	45	283	20	3	308	31	112
2002 ^p	280.4	1,046	5,537	51	44	104	44	285	19	3	303	29	113
2001 Sept	63.3	939	5,068	49	43	102	46	274	19	3	308	31	109
Dec	70.8	1,051	5,609	49	42	100	45	291	20	3	311	31	111
2002 March ^p	77.2	1,168	6,089	54	45	101	44	291	20	3	309	31	111
June ^p	66.2	990	5,299	51	44	105	42	278	19	3	302	26	114
Sept ^p	64.1	948	5,091	49	45	106	47	279	20	4	287	28	116
Dec ^p	72.9	1,078	5,677	51	44	103	43	291	18	4	313	29	109
2003 ³ March ^p	76.0	1,149	5,992	52	40	101	50	292	22	4	291	29	109
June ^p	67.8	1,015	5,389	49	41	98	47	286	19	3	291	26	109

1. The Ninth Revision of the International Classification of Diseases, 1975, came into operation in England and Wales on 1 January 1979. The Tenth Revision of the International Classification of Diseases, 1992, came into operation in England and Wales on 1 January 2001. The cause descriptions and codes relate to ICD-10.
 2. Directly age-standardised to the European Standard Population. See Notes to Tables.
 3. Rates for 2003 are based on the mid-2002 population estimates.
 4. For changes to this table see 'In Brief', *Health Statistics Quarterly* number 14.
 p. Provisional registrations.

Notes: Between 1 January 1984 and 31 December 1992, ONS applied its own interpretation of the International Classification of Diseases Section Rule 3 in the coding of deaths where terminal events and other 'modes of dying' such as cardiac arrest, cardiac failure, certain thrombotic disorders, and unspecified pneumonia and bronchopneumonia, were stated by the certifier to be the underlying cause of death and other major pathology appeared on the certificate. In these cases ONS Rule 3 allowed the terminal event to be considered a direct sequel to the major pathology and that primary condition was selected as the underlying cause of death. Prior to 1984 and between 1 January 1993 and 31 December 2000, such certificates were coded to the terminal event. National Statistics also introduced automated coding of cause of death in 1993, which may also affect comparisons of deaths by cause from 1993. Further details can be found in the annual volumes *Mortality statistics: Cause 1984, Series DH2 no. 11*, and *Mortality statistics: Cause 1993 (revised) and 1994, Series DH2 no. 21*. From 1 January 2001, under ICD-10, Rule 3 has again been changed – for details see the article in *Health Statistics Quarterly* no. 13. This has resulted in a fall in the death rates from respiratory diseases, notably pneumonia, and consequently slight rises in the rates for other causes eg. strokes. For details of the major changes between ICD-9 and ICD-10, see the articles in *Health Statistics Quarterly* 08, 13 and 14.

See page 2 of 'in brief' or 'Notes to tables' on page 60.

Table 6.3
continued Deaths: selected causes (International Classification)^{1,4} and sex

England and Wales													Age-standardised rates ² per million population for selected causes	
Malignant neoplasms														
Prostate	Bladder	Leukaemia	Diabetes mellitus	Ischaemic heart disease	Cerebrovascular diseases	Pneumonia	Bronchitis, emphysema and other chronic obstructive pulmonary disease	Asthma	Gastric and duodenal ulcer	Diseases of the liver	Land transport accidents	Intentional self harm and events of undetermined intent with inquest Verdict 'Open'	Year and quarter	
(C61)	(C67)	(C91-C95)	(E10-E14)	(I20-I25)	(I60-I69)	(J12-J18)	(J40-J44)	(J45-J46)	(K25-K27)	(K70-K76)	(V01-V89)	(X60-X84, Y10-Y34)		
198	124	74	82	3,801	1,541	920	944	21	107	41	209	124	Males 1971	
214	121	74	82	3,664	1,141	1,053	683	28	90	58	119	151	1981	
304	121	77	131	2,994	945	395	609	31	73	76	125	160	1991	
298	114	71	101	2,845	801	770	571	25	67	77	97	152	1993	
297	110	69	98	2,610	762	690	498	23	67	84	93	152	1994	
298	112	72	101	2,551	762	766	528	20	64	92	90	150	1995	
290	105	66	97	2,427	752	738	484	19	64	97	95	142	1996	
279	101	67	95	2,278	723	754	479	20	61	104	95	145	1997	
277	99	67	94	2,217	707	721	464	18	60	115	87	153	1998	
273	93	68	94	2,098	674	771	475	18	64	119	87	151	1999	
260	92	67	88	1,962	623	736	417	17	59	119	87	141	2000	
274	93	70	94	1,875	691	389	404	16	56	139	86	134	2001	
272	90	68	91	1,786	691	388	397	15	56	144	84	131	2002 ^p	
259	91	75	89	1,686	631	290	313	15	51	136	94	137	2001 Sept	
280	97	72	92	1,875	703	403	394	18	51	152	84	128	Dec	
278	90	73	99	1,969	784	499	509	18	57	153	85	137	2002 March ^p	
263	86	65	89	1,741	664	354	373	13	57	128	87	136	June ^p	
272	92	65	83	1,615	599	297	319	14	53	145	88	135	Sept ^p	
273	93	70	95	1,824	721	405	388	15	56	152	76	118	Dec ^p	
279	92	70	97	1,906	741	480	474	16	60	165	87	127	2003 ³ March ^p	
268	85	73	87	1,689	644	376	392	12	55	148	85	135	June ^p	
:	32	47	89	1,668	1,352	624	193	25	44	31	82	84	Females 1971	
:	35	47	66	1,601	1,012	740	155	30	57	43	41	81	1981	
:	34	44	96	1,421	823	333	213	30	46	49	46	51	1991	
:	34	43	74	1,348	725	585	224	27	46	49	35	48	1993	
:	35	42	69	1,238	690	513	204	24	44	50	34	44	1994	
:	33	41	73	1,195	690	569	229	24	42	55	30	46	1995	
:	32	41	67	1,141	680	549	222	21	44	57	30	44	1996	
:	31	43	66	1,075	651	574	227	23	42	61	29	45	1997	
:	32	41	65	1,056	646	547	227	22	41	64	28	43	1998	
:	30	45	65	988	630	592	241	22	40	67	28	45	1999	
:	31	39	63	909	577	547	217	20	41	68	25	44	2000	
:	29	41	62	880	621	307	220	19	39	77	24	41	2001	
:	30	43	65	845	618	317	225	20	37	79	25	42	2002 ^p	
:	28	43	57	780	568	223	163	16	35	78	24	40	2001 Sept	
:	29	40	64	880	633	321	227	19	40	77	23	38	Dec	
:	30	47	72	920	684	439	308	23	42	80	25	43	2002 March ^p	
:	32	40	68	832	590	274	191	20	35	73	23	43	June ^p	
:	28	43	59	771	551	231	167	17	33	79	26	41	Sept ^p	
:	30	44	61	860	648	327	233	19	38	83	25	39	Dec ^p	
:	33	39	74	896	655	406	276	19	40	88	25	40	2003 ³ March ^p	
:	30	38	63	789	585	297	225	18	36	76	33	42	June ^p	

See notes opposite.

Notes to tables

Time series

For most tables, years start at 1971 and then continue at five-year intervals until 1991. Individual years are shown thereafter. If a year is not present the data are not available.

United Kingdom

The United Kingdom comprises England, Wales, Scotland and Northern Ireland. The Channel Islands and the Isle of Man are not part of the United Kingdom.

Population

The estimated and projected populations of an area include all those usually resident in the area, whatever their nationality. Members of HM forces stationed outside the United Kingdom are excluded. Students are taken to be resident at their term-time addresses.

The population estimates for mid-2001 are based on the 2001 Census, they have been revised in light of further research into population estimates following the census, on the 26 September 2003. Further details on the population estimates can be found on the National Statistics website at www.statistics.gov.uk/popest.

The table giving population estimates for Health Regional Office areas in England (Table 1.3 in *Health Statistics Quarterly* 14 and earlier editions) has been dropped and subsequent tables renumbered. The Government Offices for the Regions (see Table 1.4 in *Health Statistics Quarterly* 14 and earlier editions, now Table 1.3) now represent Health as well as Administrative Regions. More details can be found in *Health Statistics Quarterly* 15, page 2.

Live births

For England and Wales, figures relate to numbers occurring in a period; for Scotland and Northern Ireland, figures relate to those registered in a period. See also Note on page 63 of *Population Trends* 67.

Perinatal mortality

In October 1992 the legal definition of a stillbirth was changed, from a baby born dead after 28 completed weeks of gestation or more, to one born dead after 24 completed weeks of gestation or more.

Expectation of life

The life tables on which these expectations are based use current death rates to describe mortality levels for each year. Each individual year shown is based on a three-year period, so that for instance 1986 represents 1985–87. More details can be found in *Population Trends* 60, page 23.

Deaths

Figures for England and Wales relate to the number of deaths registered in each year up to 1992, and the number occurring in each year from 1993, though provisional figures are registrations. Figures for both Scotland and Northern Ireland relate to the number of deaths registered in each year.

Since *Health Statistics Quarterly* 15, Table 6.2 presents deaths for Government Offices for the Regions rather than Health Regional Office areas in England. More details can be found in *Health Statistics Quarterly* 15, page 2.

Age-standardised mortality

Directly age-standardised rates make allowances for changes in the age structure of the population. The age-standardised rate for a particular condition is that which would have occurred if the observed age-specific rates for the condition had applied in a given standard population. Tables 2.2 and 6.3 use the European Standard Population. This is a hypothetical population standard which is the same for both males and females allowing standardised rates to be compared for each sex, and between males and females.

Abortions

Figures relate to numbers occurring in a period.

Improvements to National Statistics on abortions performed in England and Wales were published in *Health Statistics Quarterly* 11. The revised figures are presented in Table 4.2. These changes include an improvement in the calculation of quarterly abortion rates. The mid-quarter population estimates, used to calculate these rates, were produced by linear interpolation as follows:

March quarter	$7.5/12*(P2-P1)+P1$
June quarter	$10.5/12*(P2-P1)+P1$
September quarter	$1.5/12*(P3-P2)+P2$
December quarter	$4.5/12*(P3-P2)+P2$

Where P1 = mid-year population estimate of previous year;
P2 = mid-year population estimate of year being calculated;
P3 = population projection for next year.

For example

March quarter 2000 = $7.5/12*(pop2000-pop1999)+pop1999$;

September quarter 2000 = $1.5/12*(pop2001-pop2000)+pop2000$.

Marriages and divorces

Marriages are tabulated according to date of solemnisation. Divorces are tabulated according to date of decree absolute, and the term

'divorces' includes decrees of nullity. The fact that a marriage or divorce has taken place in England, Wales, Scotland or Northern Ireland does not necessarily mean that either of the parties is resident there.

Sources

Figures for Scotland and Northern Ireland have been provided by the General Register Office for Scotland and the Northern Ireland Statistics and Research Agency respectively, except for the projections in Table 1.2 which are provided by the Government Actuary.

Rounding

All figures are rounded independently; constituent parts may not add to totals. Generally numbers and rates per 1,000 population are rounded to one decimal place (eg 123.4); where appropriate, for small figures (below 10.0), two decimal places are given (eg 7.62). Figures which are provisional or estimated are given in less detail (eg 123 or 7.6 respectively) if their reliability does not justify giving the standard amount of detail. Where, figures need to be treated with particular caution, an explanation is given as a footnote.

Latest figures

Figures for the latest quarters and years may be provisional and will be updated in future issues when later information becomes available. Where figures are not yet available, cells are left blank.

Shaded background

A shaded background indicates figures that are subject to change: the grey shading signifies that the estimates are/relate to those originally published; the coloured shading indicates estimates that had previously been revised in the light of the original mid-2001 population estimates, but that will shortly be revised again following revisions to the 2001 estimates; see page 2 of 'in brief' for details.

The national projections for England and Wales in Table 1.2 and the subnational projections in Table 1.3 are shaded grey because they are based on the original mid-2001 and mid-1996 population estimates respectively and are therefore not directly comparable with the latest estimates shown in the same tables.

Report:

Infant and perinatal mortality by social and biological factors, 2002

This report presents statistics on stillbirths and infant deaths registered in England and Wales that occurred in 2002 and have been linked to their corresponding birth records. Linkage enables analysis of infant and perinatal deaths by risk factors collected at birth registration such as birthweight, mother's age at birth of child, mother's country of birth, marital status, parity and father's social class based on his occupation.

In 2002, of the 3,129 of infant deaths that occurred in England and Wales 3,078 (98 per cent) were linked to their birth records. Of the 51 records that were not linked, 20 were born outside England and Wales (and therefore not registered in England and Wales) and 31 were not linked because no record of the birth could be found. The linkage rate for 2002 is comparable with that for previous years since linkage began in 1975.

In 2002, of all the linked infant deaths 1,603 (52 per cent) were early neonates (babies dying under 7 days), 2,099 (68 per cent) were neonatal deaths (babies dying under 28 days) and 979 (32 per cent) were postneonatal deaths (babies dying aged over 28 days but under one year).

KEY FINDINGS

- The infant mortality rates for very low birthweight babies (under 1,500 grams) and low birthweight babies (under 2,500 grams) were 104 and 22 times higher than normal birthweight babies (2,500+ grams) respectively.
- There were 857 stillbirths weighing less than 1,500 grams delivered at 24–27 weeks gestation. This represented 96 per cent of all stillbirths delivered at 24–27 weeks and 56 per cent of all very low birthweight stillbirths.
- The infant mortality rate was highest among mothers aged under 20 (8 per 1,000 live births) followed by those aged 40 and over (7.1 per 1,000 live births). The infant mortality rate was lowest among mothers in the 30–34 age-group (4.3 per 1,000 live births).
- The perinatal mortality rate for mothers aged 40 and over was 11.9 per 1,000 live births, 43 per cent higher than the overall perinatal mortality rate.

- Babies of mothers born in Pakistan had the highest infant mortality rate of 11.4 per 1,000 live births, more than double the overall infant mortality rate (5.2 per 1,000 live births).
- The infant mortality rate for births outside marriage jointly registered by both parents giving different addresses, was 42 per cent higher than the overall infant mortality rate.
- The stillbirth rate for births inside marriage where the woman had 3 or more previous children was 9.7 per 1,000 live births, 73 per cent higher than the overall stillbirth rate of 5.6 per 1,000 live births.
- For births inside marriage, the babies of fathers in semi-routine occupations had infant mortality rates over two and a half times higher than those of babies whose fathers were in higher professional occupations; rates of 7.5 and 2.7 respectively.
- In 2002, 75 per cent of all infant deaths were related to events occurring in pregnancy (i.e. congenital anomalies, antepartum infections and immaturity related conditions) as were around 85 per cent of all neonatal deaths. For post-neonatal death, 34 per cent were related to congenital anomalies and 14 per cent were from sudden infant deaths.

EXPLANATORY NOTES:

Future changes to the data

The figures presented in this report relate to our database as at 12 September 2002. Therefore, these figures may differ slightly from those published elsewhere.

National Statistics Socio-Economic Classification (NS SEC)

In 2001, the National Statistics Socio-Economic Classification (NS SEC) replaced social class based on Occupation. Although the eight-class version of NS SEC is used here, the categories can be aggregated to produce the five and three-class versions of NS SEC.

Mother's country of birth

These groupings differ slightly from those used up to 1997.

United Kingdom

England, Wales, Scotland, Northern Ireland.

Elsewhere in United Kingdom

Channel Islands, Isle of Man, UK (part not stated).

Outside United Kingdom**Irish Republic**

Irish Republic, Ireland (part not stated).

Other European Union countries

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Greenland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden.

Rest of Europe

All other European countries including Turkey, Russia, Faroe Islands and former Soviet republics.

Commonwealth

Australia, Canada and New Zealand

*New Commonwealth***Asia**

Bangladesh, India, Pakistan

East Africa:

Kenya, Malawi, Tanzania, Uganda, Zambia.

Southern Africa

Botswana, Lesotho, Namibia, South Africa, Swaziland

Rest of Africa

Cameroon, The Gambia, Ghana, Mauritius, Mozambique, Nigeria, Seychelles, Sierra Leone, Zimbabwe

Far East

Brunei, Malaysia, Singapore

Mediterranean

Cyprus, Gibraltar, Malta

Caribbean

Anguilla, Antigua, Bahamas, Barbados, Belize, Bermuda, British Virgin Islands, Cayman Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, St Christopher and Nevis, St Lucia, St Vincent, Trinidad and Tobago, Turks and Caicos Islands

Rest of the New Commonwealth

Cook Islands, Falkland Islands, Fiji, Kiribati, Maldives, Nauru, New Hebrides, Papua New Guinea, St Helena, Solomon Islands, Sri Lanka, Tonga, Tuvalu, Vanuatu, Western Samoa, British Indian Ocean Territory

Rest of the World and not stated.

Table 1 Live births, stillbirths and infant deaths by birthweight, 2002

England and Wales

Numbers and rates

Birthweight (grams)	Numbers						Rates ¹				
	Births		Deaths				Still-birth	Peri-natal	Neo-natal	Post-neonatal	Infant
	Live births	Still-births	Early neonatal	Neonatal	Post-neonatal	Infant					
All	596,131	3,377	1,603	2,099	979	3,078	5.6	8.3	3.5	1.6	5.2
Under 1500	7,469	1,542	986	1,235	258	1,493	171.1	280.5	165.4	34.5	199.9
1500–1999	9,371	359	98	131	69	200	36.9	47	14	7.4	21.3
2000–2499	29,161	425	102	147	120	267	14.4	17.8	5	4.1	9.2
2500–2999	101,835	356	112	174	201	375	3.5	4.6	1.7	2	3.7
3000–3499	212,006	358	129	193	196	389	1.7	2.3	0.9	0.9	1.8
3500 and over	235,616	254	120	159	132	291	1.1	1.6	0.7	0.6	1.2
Not stated	673	83	56	60	3	63	109.8	183.9	89.2	4.5	93.6

¹ Stillbirths and perinatal deaths per 1,000 live births and stillbirths.
Neonatal, postneonatal and infant deaths per 1,000 live births.

Table 2 Stillbirths – Gestation by birthweight, 2002

England and Wales

Numbers

Birthweight (grams)	All	Gestation (weeks)					
		24–27	28–31	32–35	36–39	40 and over	Not stated
All	3,377	891	550	648	838	420	30
Under 1000	1,114	784	216	50	46	11	7
1000–1499	428	73	221	110	20	2	2
1500–1999	359	8	84	201	60	5	1
2000–2499	425	4	16	204	180	20	1
2500–2999	356	0	3	51	223	78	1
3000–3499	358	0	1	16	190	150	1
3500 and over	254	0	2	10	94	147	1
Not stated	83	22	7	6	25	7	16

Table 3 Live births, stillbirths and infant deaths by mother's age, 2002

England and Wales

Numbers and rates

Mother's age	Numbers						Rates ¹				
	Births		Deaths				Still-birth	Peri-natal	Neo-natal	Post-neonatal	Infant
	Live births	Still-births	Early neonatal	Neonatal	Post-neonatal	Infant					
All	596,131	3,377	1,603	2,099	979	3,078	5.6	8.3	3.5	1.6	5.2
Under 20	43,456	269	153	204	142	346	6.2	9.7	4.7	3.3	8
20–24	110,940	664	326	426	217	643	5.9	8.9	3.8	2	5.8
25–29	153,374	836	382	500	236	736	5.4	7.9	3.3	1.5	4.8
30–34	180,544	908	439	566	210	776	5	7.4	3.1	1.2	4.3
35–39	90,472	552	242	318	135	453	6.1	8.7	3.5	1.5	5
40 and over	17,345	148	61	85	39	124	8.5	11.9	4.9	2.2	7.1

¹ Stillbirths and perinatal deaths per 1,000 live births and stillbirths.
Neonatal, postneonatal and infant deaths per 1,000 live births.

Table 4 Live births, stillbirths and infant deaths by mother's country of birth, 2002

England and Wales											
											Numbers and rates
Country of birth	Numbers						Rates ¹				
	Births		Deaths				Still-birth	Peri-natal	Neo-natal	Post-neonatal	Infant
	Live births	Still-births	Early neonatal	Neonatal	Post-neonatal	Infant					
All	596,131	3,377	1,603	2,099	979	3,078	5.6	8.3	3.5	1.6	5.2
United Kingdom	490,731	2,618	1,250	1,643	758	2,401	5.3	7.8	3.3	1.5	4.9
England and Wales	480,589	2,550	1,226	1,613	742	2,355	5.3	7.8	3.4	1.5	4.9
Scotland	7,521	53	13	19	12	31	7	8.7	2.5	1.6	4.1
Northern Ireland	2,302	12	9	9	4	13	5.2	9.1	3.9	1.7	5.6
Elsewhere	319	3	2	2	0	2	9.3	15.5	6.3	0	6.3
Outside the United Kingdom	105,400	759	353	456	221	677	7.1	10.5	4.3	2.1	6.4
Irish Republic	3,707	23	10	12	6	18	6.2	8.8	3.2	1.6	4.9
Other European Union	11,451	66	18	25	14	39	5.7	7.3	2.2	1.2	3.4
Rest of Europe	8,133	36	16	23	7	30	4.4	6.4	2.8	0.9	3.7
Commonwealth											
Australia, Canada and New Zealand	3,886	20	13	16	0	16	5.1	8.4	4.1	0	4.1
New Commonwealth	54,037	441	221	290	146	436	8.1	12.2	5.4	2.7	8.1
Asia											
Bangladesh	8,485	60	30	41	21	62	7	10.5	4.8	2.5	7.3
India	7,223	52	25	34	12	46	7.1	10.6	4.7	1.7	6.4
Pakistan	15,356	144	81	105	70	175	9.3	14.5	6.8	4.6	11.4
East Africa	3,724	20	8	13	6	19	5.3	7.5	3.5	1.6	5.1
Southern Africa	2,654	12	2	4	3	7	4.5	5.3	1.5	1.1	2.6
Rest of Africa	8,075	84	43	56	22	78	10.3	15.6	6.9	2.7	9.7
Far East	1,352	8	5	5	1	6	5.9	9.6	3.7	0.7	4.4
Mediterranean	1,066	4	5	5	2	7	3.7	8.4	4.7	1.9	6.6
Caribbean	3,595	37	19	22	6	28	10.2	15.4	6.1	1.7	7.8
Rest of the New Commonwealth	2,507	20	3	5	3	8	7.9	9.1	2	1.2	3.2
Rest of World and not stated	24,186	173	75	90	48	138	7.1	10.2	3.7	2	5.7

¹ Stillbirths and perinatal deaths per 1,000 live births and stillbirths.
Neonatal, postneonatal and infant deaths per 1,000 live births.

Table 5 Live births, stillbirths and infant deaths by marital status, parity (within marriage) and type of registration, 2002

England and Wales											
											Numbers and rates
Marital status	Numbers						Rates ¹				
	Births		Deaths				Still-birth	Peri-natal	Neo-natal	Post-neonatal	Infant
	Live births	Still-births	Early neonatal	Neonatal	Post-neonatal	Infant					
All	596,131	3,377	1,603	2,099	979	3,078	5.6	8.3	3.5	1.6	5.2
Inside marriage											
All	354,115	1,899	900	1,177	469	1,646	5.3	7.9	3.3	1.3	4.6
0	144,370	636	445	574	172	746	4.4	7.5	4	1.2	5.2
1	130,014	665	250	336	156	492	5.1	7	2.6	1.2	3.8
2	50,760	315	112	149	63	212	6.2	8.4	2.9	1.2	4.2
3 and over	28,971	283	93	118	78	196	9.7	12.9	4.1	2.7	6.8
Outside marriage											
All	242,016	1,478	703	922	510	1,432	6.1	9	3.8	2.1	5.9
Joint registration/ same address	154,083	830	418	562	255	817	5.4	8.1	3.6	1.7	5.3
Joint registration/ different address	44,797	286	163	210	121	331	6.3	10	4.7	2.7	7.4
Sole registration	43,136	362	122	150	134	284	8.3	11.1	3.5	3.1	6.6

¹ Stillbirths and perinatal deaths per 1,000 live births and stillbirths.
Neonatal, postneonatal and infant deaths per 1,000 live births.

Table 6 Live births,¹ stillbirths and infant deaths by NS SEC (based on father's occupation at death registration) 2002²

England and Wales

Numbers and rates

NS SEC	Numbers						Rates ³				
	Births		Deaths				Still-birth	Peri-natal	Neo-natal	Post-neonatal	Infant
	Live births	Still-births	Early neonatal	Neonatal	Post-neonatal	Infant					
All ⁴	55,364	3,015	1,481	1,949	845	2,794	5.2	7.7	3.5	1.5	5.0
Inside marriage											
All ⁵	35,429	1,899	900	1,177	469	1,646	5.1	7.5	3.3	1.3	4.6
1.1 Large employers and higher managerial	3,512	114	56	74	22	96	3.1	4.7	2.1	0.6	2.7
1.2 Higher professional	4,777	210	90	117	28	145	4.2	6.0	2.4	0.6	3.0
2 Lower managerial and professional	8,112	356	154	200	73	273	4.2	6.0	2.5	0.9	3.4
3 Intermediate	2,146	137	77	100	38	138	6.0	9.4	4.7	1.8	6.4
4 Small employers and own-account workers	4,385	209	115	147	68	215	4.6	7.1	3.4	1.6	4.9
5 Lower supervisory and technical	4,330	233	97	132	33	165	5.1	7.2	3.0	0.8	3.8
6 Semi-routine	3,400	251	126	169	85	254	6.9	10.3	5.0	2.5	7.5
7 Routine	3,322	233	119	150	74	224	6.6	9.9	4.5	2.2	6.7
Other	1,445	137	65	87	45	132	8.7	12.8	6.0	3.1	9.1
Outside marriage, joint registration											
All ⁵	19,935	1,116	581	772	376	1,148	5.3	8.1	3.9	1.9	5.8
1.1 Large employers and higher managerial	760	25	18	19	11	30	3.2	5.5	2.5	1.4	3.9
1.2 Higher professional	928	44	17	26	15	41	4.5	6.3	2.8	1.6	4.4
2 Lower managerial and professional	3,005	138	76	94	37	131	4.4	6.8	3.1	1.2	4.4
3 Intermediate	962	61	22	26	9	35	6.0	8.1	2.7	0.9	3.6
4 Small employers and own-account workers	2,819	135	67	90	46	136	4.6	6.8	3.2	1.6	4.8
5 Lower supervisory and technical	3,394	158	74	96	49	145	4.5	6.5	2.8	1.4	4.3
6 Semi-routine	2,845	194	110	141	55	196	6.4	10.0	5.0	1.9	6.9
7 Routine	4,031	260	132	181	77	258	6.1	9.1	4.5	1.9	6.4
Other	1,191	97	57	90	70	160	7.5	12.0	7.6	5.9	13.4

1 Figures for live births are a 10 per cent sample coded for father's occupation.

2 Information on father's occupation is not collected for births outside marriage if the father does not attend the registration of the baby's birth.

3 Stillbirths and perinatal deaths are estimates per 1,000 live births and stillbirths.

Neonatal, postneonatal and infant deaths are estimates per 1,000 live births.

4 Inside marriage and outside marriage/joint registration only including cases where father's occupation was not stated.

5 Includes cases where father's occupation was not stated.

Table 7 Live births, stillbirths and infant deaths by ONS cause groups, 2002

England and Wales

Numbers and rates

Cause group	Numbers						Rates ¹				
	Births		Deaths				Still-birth	Peri-natal	Neo-natal	Post-neonatal	Infant
	Live births	Still-births	Early neonatal	Neonatal	Post-neonatal	Infant					
All causes	596,131	3,377	1,603	2,099	979	3,078	5.6	8.3	3.5	1.6	5.2
Congenital anomalies		489	389	538	332	870	0.8	1.5	0.9	0.6	1.5
Antepartum infections		25	32	51	15	66	0	0.1	0.1	0	0.1
Immaturity related conditions		-	968	1,201	186	1,387	-	1.6	2	0.3	2.3
Asphyxia, anoxia or trauma (intrapartum)		111	159	187	9	196	0.2	0.5	0.3	0	0.3
External conditions		7	3	10	54	64	0	0	0	0.1	0.1
Infections		-	8	20	121	141	-	0	0	0.2	0.2
Other specific conditions		210	18	20	23	43	0.4	0.4	0	0	0.1
Asphyxia, anoxia or trauma (antepartum)		933	-	-	-	-	1.6	1.6	-	-	-
Remaining antepartum deaths		1,529	-	-	-	-	2.6	2.6	-	-	-
Sudden infant deaths		-	7	30	134	164	-	0	0.1	0.2	0.3
Other conditions		73	19	42	105	147	4.2	4.3	0.1	0.2	0.2

1 Stillbirths and perinatal deaths per 1,000 live births and stillbirths

Neonatal postneonatal and infant deaths per 1,000 live births

Report:

Investigation into the increase in stillbirth rate in 2002 in England and Wales

INTRODUCTION

There were 3,327 stillbirths registered in England and Wales in 2002, representing a stillbirth rate of 5.6 per 1,000 births, an increase of 6 per cent compared to 2001. This also contributed to an increase in the perinatal mortality rate in England and Wales from 8.0 per 1,000 births in 2001 to 8.3 per 1,000 births in 2002. The increase in 2002 was the first since the change in the stillbirth definition in 1992.

Over the latter half of the 20th century, there was a dramatic decrease in the stillbirth rate in England and Wales, declining from 23.2 per 1,000 live and stillbirths in 1950 to 4.3 per 1,000 births by 1992. In October 1992 there was a change in stillbirth definition, from a baby born dead after 28 completed weeks of gestation to a baby born dead after 24 completed weeks of gestation. Allowing for this definitional change, the stillbirth rate continued to decline steadily, achieving relative stability from 1997 at 5.3 per 1,000 births.

METHODS

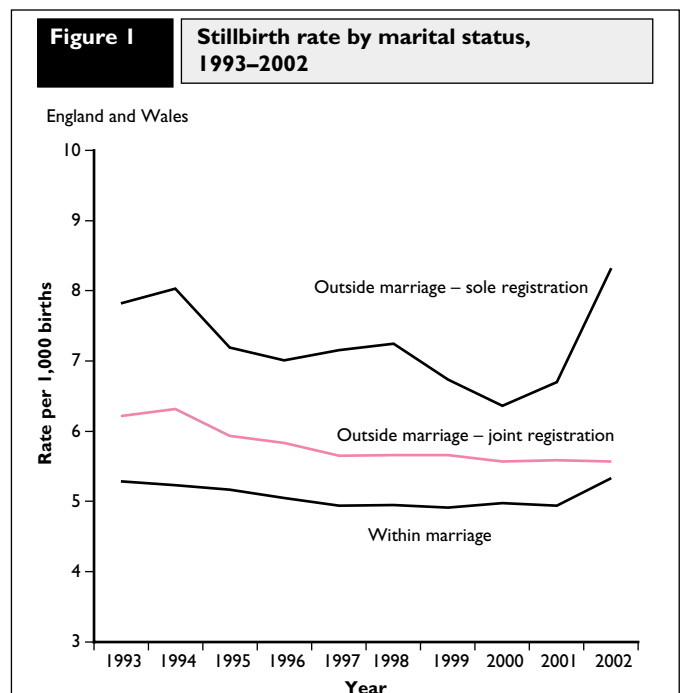
Trends in the stillbirth rate between 1993 and 2002 were examined by known risk factors to explore the increase in 2002. The risk factors considered were birthweight, marital status of parents, age of mother, multiplicity, mother's country of birth, gestation, sex, region of residence, cause of stillbirth and season of birth. This report presents a summary of the main findings. A detailed report is available on National Statistics website www.statistics.gov.uk

MAIN FINDINGS:

The increase in stillbirth rate between 2001 and 2002 showed no clear relationship with birthweight, age of mother, gestation, sex, mother's country of birth and cause of stillbirth. The rise was however associated with the following risk factors:

Marital Status

In 2002 the stillbirth rate among sole registration increased by 24 per cent compared to the previous year, reaching a level of 8.3 per 1,000 births, higher than at any time since 1993, as shown in figure 1. In contrast, there was no increase in the stillbirth rate in 2002 among births outside marriage where both parents registered the birth. For stillbirths within marriage, there was an increase of 8 per cent compared to 2001, to 5.3 per 1,000 births.



Looking at past trends, stillbirth rates among sole registration were much more variable, owing to smaller numbers, but followed a generally downward trend until 2001. Stillbirth rates within marriage fell gently but steadily between 1993 to 1997, when it stabilised at 4.9 per 1,000 births. Between 1997 and 2001, the rate fluctuated around 4.9 and 5.0 per 1,000. Stillbirths outside marriage jointly registered by both parents had followed a fairly similar pattern to stillbirths within marriage until 2001.

Season of birth

The seasonal pattern in 2002 differed from previous years. Over the period 1993–2001, there was a 4 per cent decrease in the stillbirth rates between the winter and spring quarters. In contrast, there was no change in the stillbirth rates in 2002 between these quarters.

In 2002, the stillbirth rate in the spring and summer was 6 per cent above the 1993–2001 average (5.7 and 5.6 per 1,000 births compared to an average of 5.4 and 5.3 per 1,000 respectively, for the previous 9 years), as shown in table 1.

Table 1 Stillbirth rate by season, 1993–2002

England and Wales				
	Winter	Spring	Summer	Autumn
Rate per 1,000 births				
2002	5.7	5.7	5.6	5.6
1993–2001 average	5.6	5.4	5.3	5.4
Percentage				
Difference between 2002 and 1993–2001 average	2	6	6	4

Multiplicity

Between 2001 and 2002, the stillbirth rate among singletons increased by 6 per cent to 5.3 per 1,000 births. The increase for multiple births was 4 per cent (to 16.6 per 1,000 births). As there were 9 times more singleton stillbirths than multiples, singletons accounted for most of the increase in 2002.

Between 1993 to 1997 the stillbirth rate among singletons declined steadily, becoming relatively stable at around 5 per 1,000 births from 1997 until 2001. A fairly similar trend was also observed for all stillbirths, as shown in figure 2. The risk of stillbirth is around three times higher among multiple births than among singletons. Annual variation in rate is much greater for multiple than singleton due to smaller numbers. Overall there was a downward trend in the stillbirth rate among multiple births since 1998, from 17.6 per 1,000 births in 1998 to 15.4 per 1,000 births in 2001.

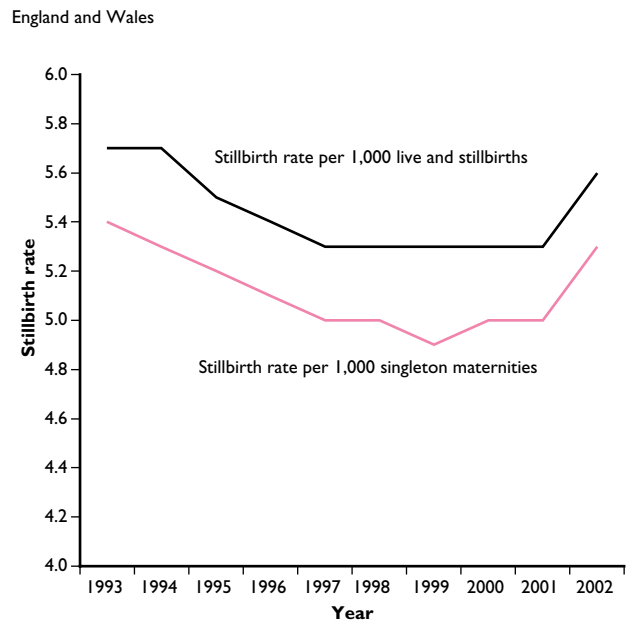
CONCLUSION

The factors associated with the increase in the stillbirth rate in 2002 were:

- Being a single mother (but no increase at all among births outside marriage registered by both parents).
- Singleton births. There were 9 times more singleton stillbirths than multiples.
- Higher rates in spring and summer 2002.

The other factors examined were birthweight, age of mother, gestation, sex, mother’s country of birth, region of residence and cause of stillbirth. These provided no evidence of any other sub-group that might be associated with the increase in the stillbirth rate in 2002.

Figure 2 Stillbirth rate by multiplicity, 1993–2002



Other population and health articles, publications and data

Population Trends 114

Publication 11 December 2003

- Planned articles:**
- Fertility assumptions for the 2002-based national population projections
 - Changes in the distribution of marital age differences in England and Wales, 1963 to 1999
 - Unmarried parenthood: new insights from the millennium cohort study
- Report:**
- Mid-2002 population estimates, England and Wales

Health Statistics Quarterly 21

Publication 24 February 2004

- Planned articles:**
- Trends in MRSA in England and Wales: analysis of morbidity and mortality data for 1993 to 2002
 - Uncertified deaths
 - Ethnic differences in adult mortality in England and Wales, 1991 to 1999
 - Trends in mortality and hospital admissions associated with epilepsy in England and Wales
- Report:**
- Deaths related to drug poisoning, England and Wales, 2002
- Annual Updates:**
- Mortality statistics: cause, England and Wales, 2002
 - Congenital anomalies statistics: notifications, England and Wales, 2002

Forthcoming Annual Reference Volumes

Title	Planned publication
Congenital anomaly statistics, England and Wales, 2002, MB3 no.17*	November/December 2003
Birth statistics, England and Wales, 2002, FM1 no.31*	December 2003
Cancer statistics, registrations, England and Wales, 2000, MB1 no.31*	December 2003
Mortality statistics, cause, England and Wales, 2000, DH2 no.29*	December 2003

* Available through the National Statistics website only www.statistics.gov.uk