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In this issue

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The Office for National Statistics (ONS) is the Government Agency responsible for compiling, analysing and disseminating many of the United Kingdom's economic, social and demographic statistics, including the retail prices index, trade figures and labour market data, as well as the periodic census of the population and health statistics. It is also the agency that administers the statutory registration of births, marriages and deaths in England and Wales. The Director of ONS is also the National Statistician and the Registrar General for England and Wales.

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Health Statistics Quarterly and *Population Trends* are journals of the Office for National Statistics. Each is published four times a year in February, May, August and November and March, June, September and December, respectively. In addition to bringing together articles on a wide range of population and health topics, *Health Statistics Quarterly* and *Population Trends* contain regular series of tables on a wide range of subjects for which ONS is responsible, including the most recently available statistics.

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Annual subscription, including postage, is £80; single issues are £25.

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Health Statistics Quarterly and *Population Trends* can be viewed or downloaded as Adobe Acrobat PDF files from the National Statistics website www.statistics.gov.uk/products/p6725.asp *(Health Statistics Quarterly)* or www.statistics.gov.uk/products/p6303.asp *(Population Trends)*.

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Contributions

Articles: 5,000 words max.

Dates for submissions

Title \ Issue	Spring	Summer	Autumn	Winter
Health Statistics Quarterly	by 11 Sept	by 11 Dec	by 22 Mar	by 21 June
Population Trends	by 23 Oct	by 2 Feb	by 4 May	by 26 July

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in brief

Final Atkinson Review report published

Sir Tony Atkinson has published the Final Report of his Review of the Measurement of Government Output and Productivity for the National Accounts.

The Final Report builds on and refines the material and provisional conclusions in the Interim Report. It explains what Sir Tony sees as a principled framework for measuring government output in the National Accounts, within international guidelines, and sets out a number of recommendations on how these should be implemented. It reports on plans to improve further measurement of output in four spending areas: health; education; public order and safety, and social protection.

For health, there are eight recommendations, covering: using computerised databases to improve measurement of output in general practice; extending the output measure for secondary care as coverage of the National Schedule of Reference Costs expands and as data sources are made available for Devolved Administrations; exploring ways for taking forward work to measure output on the basis of whole courses of treatment rather than individual components of treatment; developing measures of change in quality; improving measurement of the volume of resources consumed by the NHS; continuing to publish health productivity articles; and developing a framework for health satellite accounts.

The report is concerned with methodological issues; it does not contain any new statistics on government output or productivity.

The review was commissioned by Len Cook, the National Statistician, as announced on 4 December 2003. Sir Tony was asked to produce an interim report in July, published on 19 July 2004, and a final report in January 2005. The Terms of Reference for the Review were:

'To advance methodologies for the measurement of government output, productivity and associated price indices in the context of the National Accounts, recognising:

- the full scope of government outputs;
- differences in the nature and quality of these outputs over time;
- the relationship between government outputs and social outcomes;
- the need for comparability with measures of private sector services outputs and costs;
- the existing work of the ONS; and
- the appropriate measurement of inputs, including quality and the distinction between resource and capital, so that, together with the measurement of output, light can be thrown on developments in government productivity.'

The report is available free on the National Statistics website: http://www.statistics.gov.uk/about/data/methodology/specific/PublicSector/Atkinson/final_report.asp

Publication details are available on page 4.

Focus on Social Inequalities

In December 2004 the first detailed full report in the 'Focus on' series – *Focus on Social Inequalities* – was published.

Focus on Social Inequalities describes the different experiences of social groups in the UK today in six key areas: education, work, income, living standards, health, and participation. It looks at the 'advantaged' as well as the 'disadvantaged' and explores the relative differences between them.

The report highlights that household income and educational attainment have improved overall but the gaps remain large. However, employment rates for most key groups that have been disadvantaged in the labour market have improved recently and at a greater rate than for the population overall. Nevertheless, a significant minority of people are affected by a lack of material resources and the inequality in the health of the population has widened over the last few decades.

The key findings on health are that the difference between manual and non-manual workers remains. For the period 1997–1999, life expectancy at birth in England and Wales for males in the professional group was 7.4 years more than for males in the unskilled manual groups. This was almost two years greater than in 1972–1976. In women, the gap in life expectancy was 5.3 years in 1972–1976 and 5.7 years in 1997–1999. Other health indicators, such as self-reported poor health and limiting long-term illness (LLTI), show similar patterns. The highest levels of poor health and LLTI are found among the long-term unemployed and never worked and the lowest levels being among those in managerial and professional occupations.

Other key results include:

Education, Training & Skills – exam results differ by social status
In 2002, 77 per cent of children in year 11 in England and Wales with parents in higher professional occupations gained five or more A* to C grade GCSEs. This was more than double the proportion for children with parents in routine occupations (32 per cent).

Work – employment grows for the disadvantaged
Between spring 1999 and spring 2003 the overall UK working-age employment rate increased from 74 per cent to 75 per cent. For people aged 50 to 59/64 there was a rise from 65 per cent to 70 per cent and for lone parents a rise from 49 per cent to 53 per cent.

Income – gaps in income and wealth remain large
Between 1994/1995 and 2002/2003 the UK income distribution was broadly stable. Disposable income (adjusted for inflation) grew by over a fifth for both those on incomes at the top 10 per cent of the distribution and those at the bottom 10 per cent.

Living standards – people on low income less likely to have PCs
In 2001/2002, 86 per cent of households in the highest income group (weekly income of £1,000 or more) in Great Britain had access to a home computer. This was almost six times the proportion of 15 per cent for households in the lowest income group (£100 to £200 per week). The gap was even wider for Internet connections (79 per cent and 10 per cent respectively).

Participation – more volunteers from higher income homes
In 2001, 57 per cent of adults in England and Wales with gross annual household incomes of £75,000 or more had volunteered formally (such as raising or handling money for a charity) in the previous 12 months. They were almost twice as likely to have done so than those living in households with an annual income under £5,000 (30 per cent). More than half of each income group provided informal help such as giving advice: 57 per cent of those earning less than £5,000 compared with 80 per cent of those earning between £50,000 and £75,000.

The report is available free on the National Statistics website::www.statistics.gov.uk/focuson/socialinequalities

Publication details are available below.

Dental health

In December 2004 the Office for National Statistics published an analysis of the 2003 Children's Dental Health Survey. This survey commissioned by the four UK Health Departments, is the fourth in a series of national children's dental health surveys that have been carried out every 10 years since 1973 in England and Wales and in the whole of the UK since 1983.

The main report of the 2003 survey was published in July 2004. The new analysis, looked at the relationship between social factors and oral health, orthodontic conditions, impact of oral health and patterns of care and service use.

The survey identified a relationship between socio-economic status and experience of obvious dental decay:

- Among five-year-olds from managerial and professional occupational households, 34 per cent had experienced obvious decay in primary teeth compared with 53 per cent in routine and manual households.
- Among 15-year-olds, children from managerial and professional occupational households had a lower prevalence of obvious decay (47 per cent) compared with those from intermediate (66 per cent) and routine and manual (65 per cent) households.
- Although few children had lost teeth due to decay, more 15-year-olds from routine and manual occupational groups (7 per cent) had teeth extracted because of decay than 15-year-olds from managerial and professional occupational groups (2 per cent).
- Unmet orthodontic treatment need was twice as high (26 per cent) among 15-year-olds from routine and manual family backgrounds compared with those from managerial and professional family backgrounds (13 per cent).

Other key findings include:

The proportion of 5-year-olds making their first visit to the dentist before the age of two has more than doubled each decade from 7 per cent in 1983 to 15 per cent in 1993 and 31 per cent in 2003.

Among 8-, 12- and 15-year-olds, the proportion of children reported to have had teeth extracted has decreased since 1983. The decrease was most pronounced among 12-year-olds: from 66 per cent in 1983, to 51 per cent in 1993 falling to 36 per cent in 2003.

The report is available free on the National Statistics website: www.statistics.gov.uk/CHILDREN/dentalhealth

Recent Publications

Atkinson Review: Final report. Measurement of Government Output and Productivity for the National Accounts (Palgrave Macmillan, £50, January ISBN 1-4039-9646-6.

Birth statistics, England and Wales, 2003. Series FM1 no.32 (December, available at http://www.statistics.gov.uk/statbase/Product.asp?vlnk=5768).

Children's Dental Health (December, available at http://www.statistics.gov.uk/CHILDREN/dentalhealth)

Focus on Social Inequalities (TSO, £40, December, ISBN 0-11-621757-X).

Population Trends 118 (TSO, £21, December, ISBN 0-11-621726-X).

The National Diet and Nutrition Survey: adults aged 19 to 64 years, summary report (TSO, £39.50, December, ISBN 0-11-621570-4.

Mortality statistics: cause, England and Wales, 2003. Series DH2 no.30 (December, available at http://www.statistics.gov.uk/statbase/Product.asp?vlnk=618).

UK 2005: The Official Yearbook of the United Kingdom of Great Britain and Northern Ireland (TSO, £39, November, ISBN 0-11-621738-3).

For details of how to order the above please refer to the Palgrave Macmillan insert at the back of this publication.

Health indicators

England and Wales

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

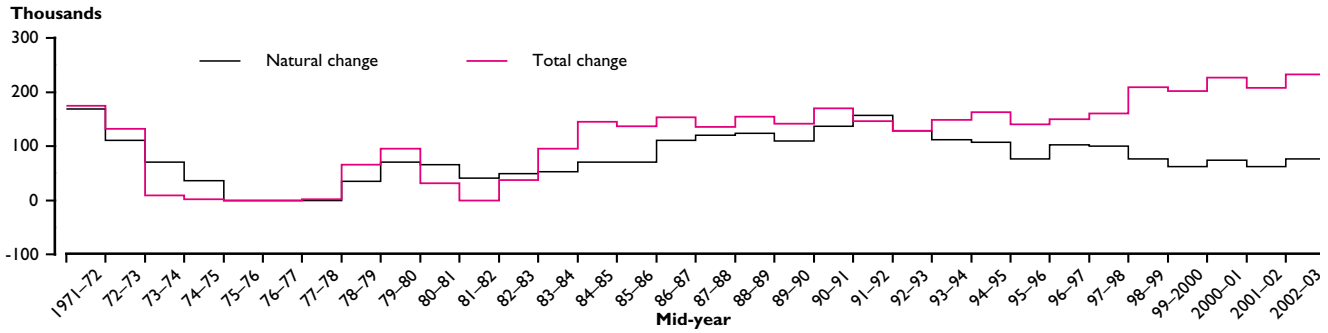


Figure B Age-standardised mortality rate[1]

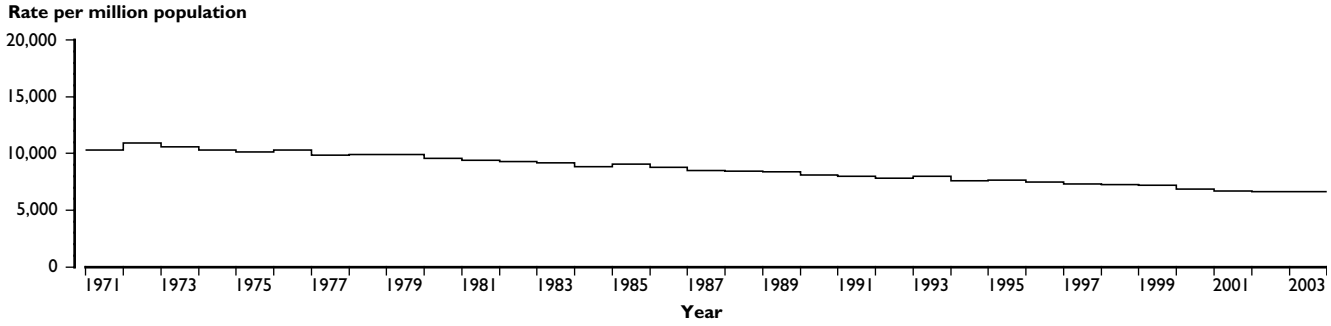


Figure C Infant mortality (under 1 year)

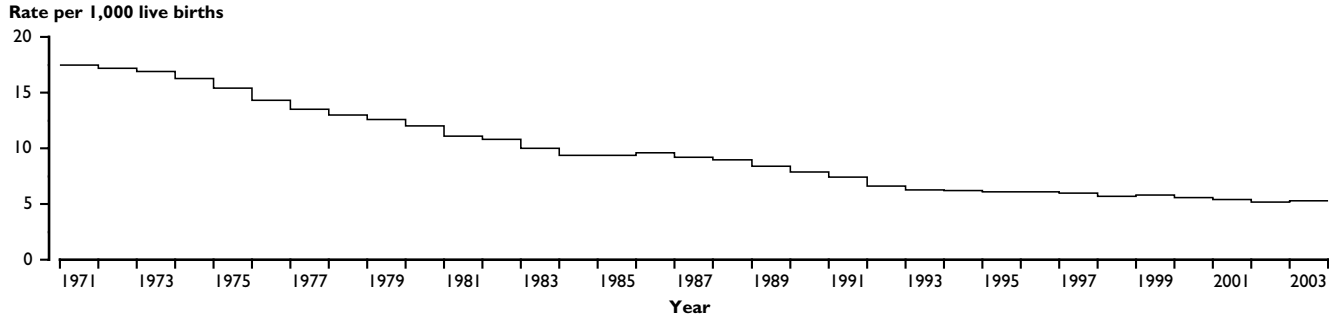
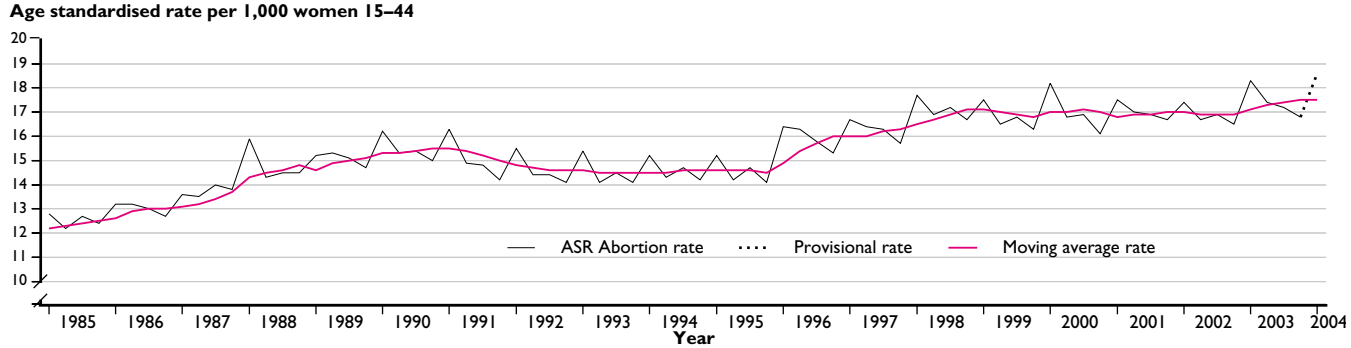


Figure D Age-standardised quarterly abortion rates – residents[1,2]



[1] Figures for 1992–2002 are based on the latest revised population estimates – see 'Notes to tables' for further details.

[2] Rates for 2004 are based on the mid-2003 population estimates.

The impact of the 2003 heat wave on mortality and hospital admissions in England

Helen Johnson, *Office for National Statistics*, **R Sari Kovats,** *London School of Hygiene and Tropical Medicine*, **Glenn McGregor,** *The University of Birmingham*, **John Stedman,** *AEA Technology*, **Mark Gibbs,** *Met Office*, **Heather Walton**, *Department of Health*, **Lois Cook,** *Office for National Statistics*, **Emily Black,** *University of Reading*

This article quantifies the impact of the heat wave, 4 to 13 August 2003, on mortality and emergency hospital admissions in England by region and age group. The August 2003 heat wave was associated with a large short-term increase in mortality, particularly in London.

Overall in England there were 2,091 (17 per cent) excess deaths. Worst affected were those over the age of 75. The greatest increase of any region in England was in London in the over 75 age group with 522 excess deaths (59 per cent). Excess hospital admissions of 16 per cent were recorded in London for the over 75s. Temperatures in England were unusually hot. Ozone and particulate matter concentrations were also elevated during the heat wave. Estimated excess mortality was greater than for other recent heat waves in the UK.

Introduction

Like other countries in Europe, England experienced a heat wave in early August 2003. The summer throughout central Europe was atypically hot.[1] Temperature records were broken in England and Wales. Brogdale, Kent, recorded the UK's highest ever temperature of 38.5°C on 10 August. In the south east of England, maximum temperatures exceeded 32°C on three consecutive days between 4 and 6 August and then on five consecutive days between 8 and 12 August.

The heat wave originated as a persistent ridge of unusually high atmospheric pressure that stretched from the Atlantic Ocean in the west to Italy in the east and northwards to southern Scandinavia. This 'blocking' situation brought clear skies to most of Western Europe which resulted in high day-time heat loads because of high solar radiation inputs. Hot dry continental air was drawn over England and Wales from the Iberian Peninsula. This so-called 'Spanish Plume' added further to the high day time heat loads and managed to sustain night time temperatures at 6–8°C above their normal August value.

Excess mortality during the heat wave has been reported from France, Portugal and Italy. [2, 3] Preliminary estimates for mortality in England and Wales were released by the Office for National Statistics (ONS) in October 2003.[4] In this article, we investigate in more detail the impact of the heat wave in England, by estimating the attributable mortality and emergency hospital admissions by region and by age group.

Method

Mortality data were extracted from databases held by ONS, for all deaths occurring on each day in July and August 2003, and for same months in the five preceding years, by age group (0–64, 65–74, 75 and over) and by Government Office Region (GOR). Mortality in the summer is typically low and stable. There was little year-on-year variation in the summer values used in the calculation of the comparison period. Deaths were assigned to GORs based on place of residence; deaths of non-residents have not been included. Results are for England only as early analysis[4] suggested that it was regions of England that were worst affected by the heat wave. Focusing on England also allowed us to draw on Hospital Episode Statistics (HES), which were only available for England.

Provisional data on emergency hospital admissions were supplied by the Department of Health (HES). Data were obtained for the same age groups, regions and years as the mortality data. These data are provisional and are likely to be incomplete. Emergency hospital admissions were assigned to GORs based on the place of residence of the person treated.

The Met Office supplied temperatures for each GOR during the episode. Daily values were generated for a national 5km grid by interpolation of data from approximately 560 stations. Within each GOR, the maximum and minimum of the daily maxima were then identified. The London region time series, of daily data recorded at the London Weather Centre, were downloaded from the British Atmospheric Data Centre [www.badc.nerc.ac.uk]. Data for the Central England Temperature (CET) series were obtained from the Climatic Research Unit, University of East Anglia and the British Atmospheric Data Centre. Temperature anomalies were calculated by subtracting a long-term mean climatology (1971 to 2000) for the days in question from the observed data for those days.

Measurements of the ambient air concentrations of ground level ozone (daily maximum of a running 8-hour mean) and PM_{10} (particulate matter of diameter less than 10 μm) (24-hour mean) were obtained from the UK National Air Quality Archive. Concentrations were averaged across all sites in the region then population weighted to give a value for England. Excess exposure was calculated as the difference between the daily regional concentrations averaged over the heat wave period and the equivalent values observed during the same period in 2002, when mean concentrations were considered to be typical mean values for August.

Excess mortality and emergency hospital admissions for GORs were calculated for the 10-day heat wave period defined as 4 to 13 August 2003. Baseline values were the average of the 4 to 13 August in the preceding five years. This period was defined as starting when maximum daily CET first exceeded average values (1971 to 2000) by 8°C and ending when temperatures returned to average levels.

Excess mortality was calculated as observed deaths minus the baseline (average of 1998 to 2002) expected mortality. Excess emergency hospital admissions were calculated in the same way. Due to the large day of week variation in hospital admissions the baseline series was adjusted so that the appropriate day of the week in 2003 was compared with the same day of the week in each of the comparison years of 1998 to 2002. A seven-day moving average was then applied to smooth the data.

Confidence intervals (CI) were calculated for the excess values. The number of observed deaths or emergency hospital admissions was treated as a Poisson variable, the 95 per cent confidence limits for this value were then compared with expected values to generate confidence limits for excess mortality and emergency hospital admissions.

Results

In England, there were 2,091 excess deaths (17 per cent increase, CI: 15–19 per cent) during the heat wave. The impact was greatest in the southern half of England, particularly in London, where deaths increased by 42 per cent (CI: 36–48 per cent) (Table 1).

In England, mortality in the over 75s increased by 23 per cent (CI: 21–26 per cent) more than the increase seen for the other age groups (Table 1). All regions had an excess for the over 75 age group, although confidence limits for this group in the North East region did include negative values. The greatest excess in the over 75s was in the London region with a 59 per cent increase (CI:51–67 per cent). For the 0–64 age group, confidence intervals were within positive excess values for the East Midlands, Eastern, London, South East and the South West.

In order to compare the impact of this heat wave with previous heat waves in England, we re-calculated the excess using mortality methods used to derive published estimates for the 1995 heat wave[5] and the 1976 heat wave.[6] Using a baseline of a 31-day moving average of 1999 to 2002 data the excess over the 2003 heat wave period was 16 per cent in England and 41 per cent in London. A baseline of a 31-day moving average of deaths in the same year produced excess values of 11 per cent in England and 27 per cent in London.

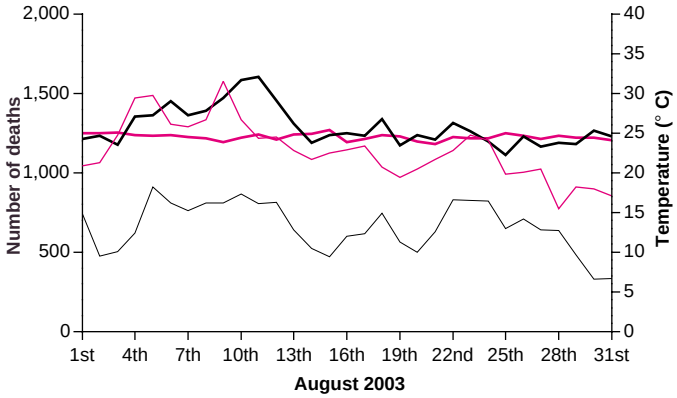
An excess of only 1 per cent (CI: 1–2 per cent) in total emergency hospital admissions was found for England; in most regions the excess was small or a deficit. However in the London region excess admissions were 16 per cent (CI: 12–20 per cent) for the over 75s and 4 per cent (CI: 1–6 per cent) for the 0–64 age group (Table 1).

Table 1 **Number and proportion of excess deaths and hospital admissions by Government Office Region and age group, 4th–13th August 2003**

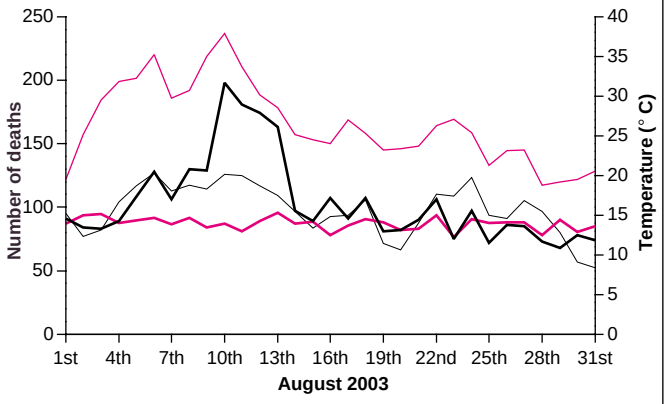
	Number (%) excess deaths				Number (%) excess emergency hospital admissions			
Government Office Region	0–64	65–74	75+	All ages	0–64	65–74	75+	All ages
London	45 (15)	49 (17)	522 (59)	616 (42)	286 (4)	-74 (-5)	464 (16)	676 (6)
South East	46 (15)	56 (17)	345 (26)	447 (23)	-401 (-5)	-167 (-9)	-53 (-1)	-621 (-4)
South West	37 (18)	24 (11)	221 (25)	282 (21)	-84 (-1)	0 (0)	304 (11)	220 (2)
Eastern	54 (27)	-26 (-11)	226 (27)	254 (20)	-263 (-5)	-159 (-11)	94 (3)	-328 (-3)
East Midlands	41 (23)	-5 (-2)	133 (21)	169 (17)	40 (1)	-55 (-4)	322 (14)	307 (3)
West Midlands	6 (2)	10 (4)	114 (14)	130 (10)	203 (3)	-25 (-2)	14 (1)	192 (2)
Yorkshire and the Humber	-2 (-1)	-14 (-6)	122 (15)	106 (8)	106 (1)	-9 (-1)	36 (1)	133 (1)
North West	-1 (0)	-9 (-2)	84 (8)	74 (4)	961 (10)	67 (3)	260 (7)	1,288 (8)
North East	10 (8)	-10 (-6)	13 (3)	13 (2)	-497 (-11)	-107 (-10)	50 (3)	-554 (-8)
England	236 (11)	74 (3)	1,781 (23)	2,091 (17)	352 (1)	-531 (-4)	1,490 (6)	1,311 (1)

Figure 1 **Mortality, emergency hospital admissions, ozone, PM_{10} and temperature, England and London, August 2003**

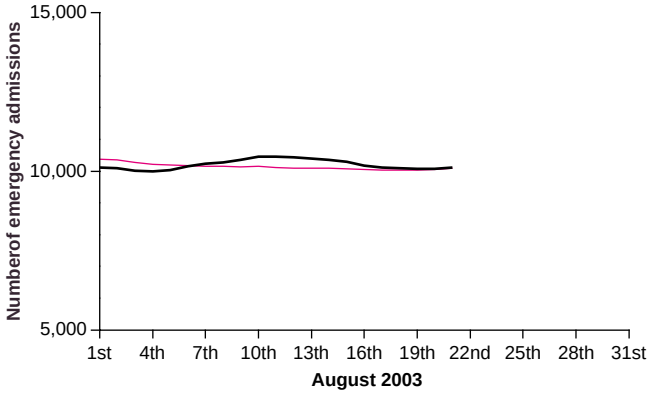
a) Daily mortality and temperature, England, all ages



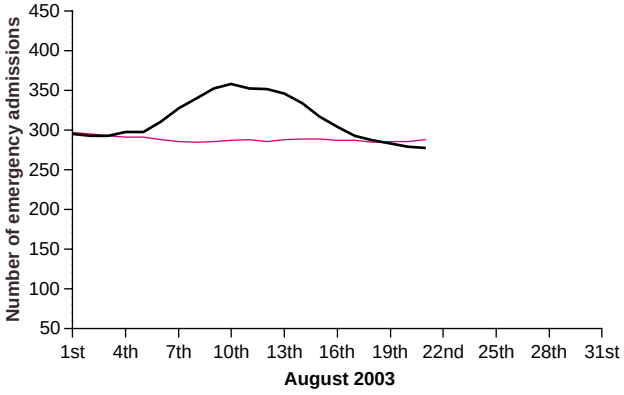
b) Daily mortality, London, 75 years and over

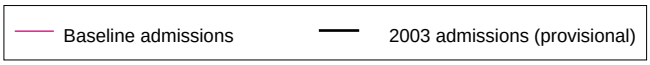


c) Daily emergency hospital admissions (7-day moving average) England, all ages

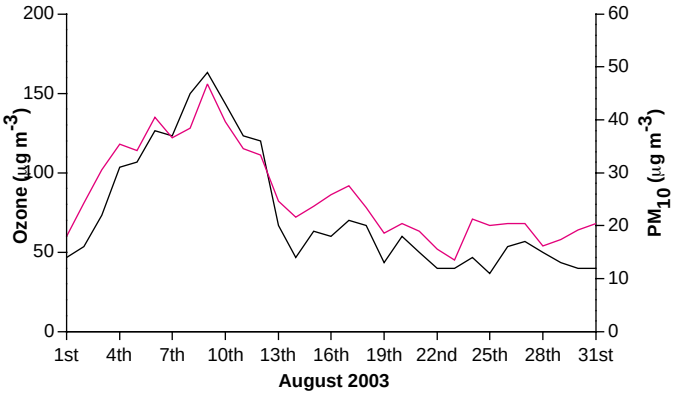


d) Daily emergency hospital admissions (7-day moving average) London, 75 years and over





e) Concentrations of ozone (daily max of running 8-hour mean) and PM_{10} (daily mean) England



f) Concentrations of ozone (daily max of running 8-hour mean) and PM_{10} (daily mean) London

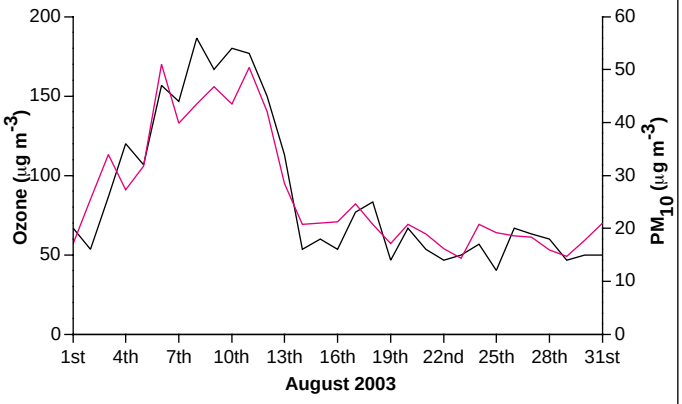
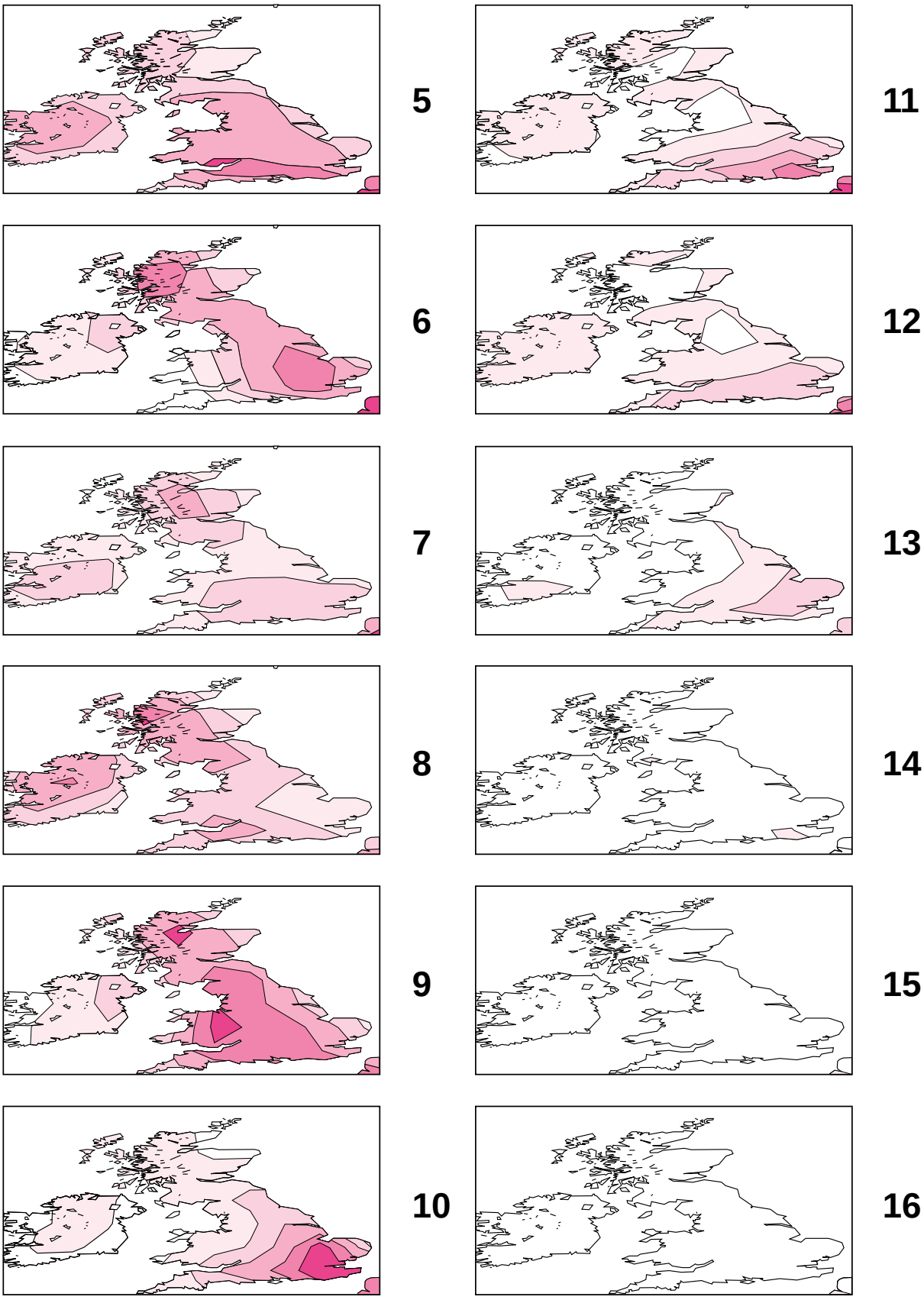


Figure 2 **UK temperature anomolies, degrees celsius difference from the mean climatology (1971–2000), 5th–16th August 2003**



Temperatures in England (CET) peaked at 31.5°C on 9 August (Figure 1). This coincided with peaks in the concentrations of ozone and PM_{10}. The peak in daily deaths in England of 1,604 deaths occurred two days later on 11 August. The peak in emergency hospital admissions appears to have occurred earlier on 10 August.

Figure 2 shows temperature anomalies across the UK from 5 to 16 August. There were unusually high temperatures across much of England on 9 August. By 10 August these temperatures had retreated to the southeast. Unusually high temperatures had the greatest duration over the area where excess mortality was reported as highest.

London experienced night time temperatures of 26–27 °C during the heat wave, and a maximum of 37.9 °C was recorded at the London Weather Centre on 10 August. Concentrations of PM_{10} and ozone peaked in London on 8 and 11 August respectively. Deaths and emergency hospital admissions peaked on 10 August (Figure 1). Excess concentrations of PM_{10} and ozone were highest in the London and South East regions respectively (Table 2).

Table 2 **Temperature (°C) and average excess exposure to ozone and particulate matter ($\mu g\ m^{-3}$) by Government Office Region, 4th–13th August 2003**

Government Office Region	Temperature (°C)		Ozone ($\mu g\ m^{-3}$)	PM_{10} ($\mu g\ m^{-3}$)
	Minimum maximum temperature	Maximum temperature	Excess	Excess
London	34.7	38.1	86	26
South East	27.5	38.5	90	20
South West	22.2	33.9	68	24
Eastern	26.6	38.1	65	20
East Midlands	23.1	35.5	61	22
West Midlands	29.0	35.0	48	17
Yorkshire & the Humber	23.7	32.9	37	21
North West	23.3	32.9	48	14
North East	24.2	30.9	31	12

Night-time temperatures in England (CET) reached 17–18 °C during the heat wave; the same maximum night-time temperatures in England were recorded in the heat waves of 1995 and 1976.

Discussion

The heat wave had a major effect on mortality in England, but not to the extent of that observed in France, Spain or Portugal.[3]

In 2003, emergency hospital admissions did not seem to be affected by the heat wave, except in London where increases were reported in the over 75s and in the 0–64 age group. These findings are consistent with other studies. The 1995 heat wave in London did not significantly increase admissions in London, although high temperatures were associated with increased admissions in children and in respiratory disease in the over 75 age group.[7] Emergency hospital admissions have been reported to increase during heat waves in the US,[8, 9] but the increases were not of a comparable magnitude to that observed in mortality.

Cities are usually more affected by increasing temperatures than surrounding areas where building density is lower.[10] The nocturnal urban heat-island in London is greatest in the summer months, and has increased since the 1960s.[11]

High ozone concentrations are an important co-exposure during heat waves in England. High ozone concentrations were reported during the 1976 heat wave.[12] Ozone has been linked with increased admissions for respiratory diseases.[13] Excess exposure to ozone and PM_{10} were recorded for all regions in England, most notably in London and the South East. Up to 21–38 per cent of the excess deaths (where excess deaths were predictions based on previous time series studies of air pollution and mortality) in the 2003 heat wave could be attributed to ozone and PM_{10}, although this study assumes no interaction between high temperatures and high pollutant exposures.[14] It is very difficult to separate the effects of pollutants and temperature as they may have a synergistic effect.

The elderly (over 75s) are most vulnerable to heat related mortality, as has been shown in other heat wave studies in the UK[6] and in other countries.[2] Where older people live on their own, they may not receive the care they need during a heat wave (for example, adequate hydration) and they are also unlikely to call for medical attention, therefore dying at home without being admitted to hospital.[9]

Smaller increases were seen in many regions in the 0–64 age group, which may reflect an increase in mortality in children and infants who are also at risk from heat-related deaths,[10] or an increase in mortality in sick adults (e.g. those with chronic cardiorespiratory disease). Further work could look at a more detailed age breakdown and presenting the underlying cause of death or hospital admission.

Excess mortality was much greater than that observed with previous heat waves in the UK. In London it was estimated that the 2003 heat wave was associated with a 42 per cent increase in mortality, compared to an excess of 16 per cent in 1995 and 15 per cent in 1976.[5, 6] The 1976 event was of comparable magnitude. Further, excess mortality in those aged 75 and over was approximately 20 per cent in 1976 compared to 59 per cent in 2003, in London. Results from this analysis have fed into the recently published Department of Heath heat wave action plan.[15]

Most of the deaths in heat waves are in the over 75s and it is this age group which makes up an increasing proportion of the UK population.[16] However this does not explain the increased excess deaths of older people living in London as the numbers of older people living in London have been decreasing.[17]

This article has presented an episode analysis, looking at the combined effects of several exposures. Future work could separate out the effects of different exposures. This type of analysis is sensitive to the definition of the heat wave period and the baseline used. Using a more conservative baseline of a 31-day moving average of deaths in the same year still produced estimated excess mortality in 2003 that was higher than estimated excess mortality for previous heat waves in the UK.

Mortality and hospital admissions have been analysed by place of residence. Although information is available on type of place of death this does not provide much useful information about those who died as most deaths occur after transfer to a hospital. No information is available on type of place of residence for mortality or hospital admissions data.

There was a small dip in mortality following the heat wave (-4 per cent from 24 to 29 August) indicating possible displacement of deaths by the heat wave. This summer excess will have had little effect on total deaths in 2003 – mortality increases during the winter months will have a much greater effect on annual totals.

The 2003 data used for mortality has been finalised. Emergency hospital admissions are incomplete, results are however consistent with other studies.

ONS and its predecessors have produced weekly national mortality data since the 1850s. The purpose of our weekly deaths system is to provide a quick estimate of any increase in deaths related to events such as an influenza outbreak, or period of exceptional weather. Our current system takes deaths which have been registered in England and Wales in the previous week and uses this to make an estimate of what the final registered numbers will be.[18] The first clear indication of a substantial increase in deaths was published on 21 August 2003. This provided a quick first estimate of the number of deaths attributable to the heat wave.

Conclusion

This study has shown that heat waves have a significant and important burden on health in England, and particularly in London and the South East. As global warming continues, heat waves are very likely to increase in frequency and intensity[19] and are likely to exacerbate London's urban heat island.[11] A heat wave action plan has recently been published by the Department of Health.[15] This plan includes the initiation of a 'Heat-Health watch' system to trigger appropriate responses, identification of those most at risk and the provision of advice and information.

Key findings

- During the heat wave in August 2003, an estimated 2,091 (17 per cent) more deaths occurred in England than the average for the same period over the previous five years.
- The increase in mortality was greatest in London, but most of Central and Southern England was also affected.
- The percentage increase in excess mortality was greater than during the heat waves of 1976 and 1995.
- The elderly were most affected by the heat wave. The percentage increase in mortality and emergency hospital admissions were greatest among the elderly in London.

The opinions expressed are those of the author and should not be taken to represent those of the Department of Health.
Information on Hospital Episode Statistics is available from: www.dh.gov.uk/PublicationsAndStatistics/Statistics/HospitalEpisodeStatistics

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Is the health of the long-term unemployed better or worse in high unemployment areas?

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Data on 25.6 million adults from the UK 2001 Census were analysed to compare the regional pattern of self-rated health of the long-term unemployed to that of people from different social classes and of those who have never worked. The results show that the health of the long-term unemployed was better in high unemployment regions, and conversely, worse where the local labour market was traditionally stronger. This is the reverse of the regional pattern found for different social classes and for those who have never worked.

Introduction

It has been established for many years that people registered as unemployed generally have poorer health and higher mortality than those in work.[1–4] Two main reasons have been postulated to explain this: people who are sick are more likely to lose their jobs and swell the ranks of the unemployed (health selection) or the experience of unemployment itself is damaging to health.[5] These explanations are not mutually exclusive.

It is important to understand more about this relationship, not only to match health services more closely to need, but also for the development of broader public health and social policy to address the social determinants of health.[6]

A key policy-relevant question is whether the relationship between unemployment and health varies with the local economic environment. Are the unemployed who live in high unemployment areas better or worse off in health terms than their counterparts living where unemployment has traditionally been low? By using the new questions on health and class in the 2001 UK Census, we recently showed that the relationship between social class and self-rated health varied not only across, but also within, regions of Great Britain.[7] Each of the seven main occupational classes had higher rates of poor health in Wales, the North East and North West of England than elsewhere. The widest health gaps between classes within regions, however, were to be found in London and Scotland. Does unemployment exhibit the same or a contrasting pattern?

Methods

Data for men and women of working age (25–64) were analysed. We obtained data for England, Wales and Scotland from reports on the 2001 UK Census produced by the Office for National Statistics (ONS)[8] and

the General Register Office for Scotland.[9] Unemployment data for the regions for 1984–2001 were obtained from NOMIS.[10]

Unemployment and social class variables

The social position of respondents to the 2001 UK Census was measured using the new National Statistics Socio-economic Classification (NS-SeC). The NS-SeC allocates people into seven analytic classes based on their main occupation and 'employment status' (i.e. employer, self-employed or employee; supervisory status and size of organisation). An additional eighth class is available for analytic purposes, consisting of people who have been out of the labour market for a long time, either because they have been unemployed for two years or more, or because they have never worked.[11] Full-time students, respondents whose occupations are not stated or are inadequately described on census forms, and those not classifiable for other reasons are categorised as 'not classified'.

The eighth analytic class is problematic from a theoretical perspective: being unemployed or never having worked is not recognised as a 'class' in any sociological sense, as the process of becoming unemployed or workless is likely to be different from that which decides class location. Furthermore, the 'never worked' is an amalgam of those who are rich enough to live off private incomes and those who are permanently sick and unfit for work, some of whom will be amongst the poorest groups in society. Nevertheless, the most recent UK census, which used this latest classification, provides a new opportunity to gain insight into the fate of the long-term unemployed in their own right, by disaggregating class 8 into its constituent parts: 'long-term unemployed' and 'never worked'.

The assignment of NS-SeC analytic class by ONS

Detailed questions on employment were included in the 2001 Census, facilitating allocation of NS-SeC class (Box 1). The order

Box one

Questions on employment from the 2001 census [F]
Note that the numbering was slightly different on the form for Scotland

18 Last week, were you doing any work:
- as an employee, or on a Government sponsored training scheme,
- as self-employed/freelance, or in your own/family business?

✓ 'Yes' if away from work ill, on maternity leave, on holiday or temporarily laid off.
✓ 'Yes' for any paid work, including casual or temporary work, even if only for one hour.
✓ 'Yes' if you worked, paid or unpaid, in your own/family business.

o Yes ➜ Go to 24
o No ➜ Go to 19

19 Were you actively looking for any kind of paid work during the last 4 weeks?
❑ Yes ❑ No

20 If a job had been available last week, could you have started it within 2 weeks?
❑ Yes ❑ No

21 Last week, were you waiting to start a job already obtained?
❑ Yes ❑ No

22 Last week, were you any of the following?
✓ all the boxes that apply
❑ Retired
❑ Student
❑ Looking after home/family
❑ Permanently sick/disabled
❑ None of the above

23 Have you ever worked?
❑ Yes ❑ ❑ ❑ ❑
➜ Go to 24
❑ No, have never worked
➜ Go to 36

24 Answer the remaining questions for the *main* job you were doing last week, or if not working last week, your last *main* job. Your *main* job is the job in which you usually work the most hours

25 Do (did) you work as an employee or are (were) you self-employed?
❑ Employee
❑ Self-employed with employees
❑ Self-employed/freelance without employees

26 How many people work (worked) for your employer at the place where you work (worked)?
If you are (were) *self-employed*, ü to show how many people you employ (employed)
❑ 1–9 ❑ 10–24
❑ 25–499 ❑ 500 or more

27 What is (was) the full title of your *main* job? *(write in answer)*
For example, PRIMARY SCHOOL TEACHER, STATE REGISTERED NURSE, CAR MECHANIC, TELEVISION SERVICE ENGINEER, BENEFITS ASSISTANT
Civil servants, Local Government Officers – give job title not grade or pay band

28 Describe what you do (did) in your *main* job. *(write in answer)*

29 Do (did) you supervise any other employees?
A supervisor or foreman is responsible for overseeing the work of other employees on a day-to-day basis.
❑ Yes ❑ No

30 What is (was) the business of your employer at the place where you work (worked)? *(write in answer)*
For example, MAKING SHOES, REPAIRING CARS, SECONDARY EDUCATION, FOOD WHOLESALE, CLOTHING RETAIL, DOCTOR'S SURGERY
If you are (were) self-employed/freelance or have (had) your own business, what is (was) the nature of your business?
Civil Servants, Local Government Officers – please specify your Department.

31 If you were working last week
➜ Go to 32
If you were not working last week
➜ Go to 36

32 What is the full name of the organisation you work for in your *main* job? *(write in answer)*
If you have your own business, write in its name
❑ Self-employed/freelance
❑ Work for a private individual

33 What is the address of the place where you work in your *main* job? *(write in answer)*
If you report to a dept, write in the depot address.
❑ Mainly work at or from home
❑ Offshore installation
❑ No fixed place

of the questions was carefully planned and a job search criterion was introduced, to enable the international standard definition of unemployment, as used in the UK Labour Force Survey, to be applied. Respondents who were either employed or had been unemployed for less than two years were assigned to class 1–7 on the basis of their last main occupation. Those who had been unemployed for more than two years should have been assigned to the 'long-term unemployed' category of class 8, on the grounds that they had been excluded from employment relations. Those who had never been in paid work were assigned to the 'never worked' category of class 8.

In practice, the allocation of analytic class by ONS deviated from this scheme somewhat, in that individuals who had been unemployed for longer than five years, but had worked at some time in there life (i.e. last worked in 1995 or earlier), were designated as 'not classified'. The long-term unemployed category therefore comprises people who had been out of work for 2–5 years prior to the 2001 Census.

Health variable

The 2001 Census included for the first time a question on self-rated general health. Census respondents were asked to rate their general health in the previous 12 months as 'good', 'fairly good' or 'not good'. This is a question that has been validated and used in national surveys, such as the General Household Survey, for over 15 years.

European age-standardised rates of poor ('not good') self-rated general health were calculated, to the European Standard Population,[12] for class 8 combined and disaggregated, and for the seven main occupational classes, by sex and region.

Results

In relation to absolute rates of poor self-rated health, the pattern is similar for classes 1–7 combined, class 7 (routine occupations) and class 8 as a whole (long-term unemployed and never worked combined). The lowest rates of poor self-rated health tend to be found in the East, South East and South West regions of England, and the highest rates in the North East, North West, Scotland and Wales, for both men and women (Tables 1 and 2, columns 1–3).

The combined category 8, however, masks a contrasting pattern for the long-term unemployed. When this category is disaggregated, it is the Northern regions, Scotland and Wales that had the lowest rates of poor self-rated health among the long-term unemployed, while the highest rates were found in the South West, East and Yorkshire and Humberside for men and South West, London and West Midlands for women.

In relation to the 'never worked' (Tables 1 and 2, column 5), rates of poor self-rated health were very high, as would be expected for a group that includes the permanently sick. Rates generally followed the common pattern of higher rates in the more northerly parts of Great Britain, in contrast to the pattern for the long-term unemployed. The rates of poor self-rated health for the combined class 8 reflect these very high rates for the never worked, particularly in the case of women, for whom the never worked outnumber the long-term unemployed four to one.

For both sexes in the North East, and for women in Scotland, Wales and the North West, the long-term unemployed had lower rates of poor self-rated health than their employed counterparts in class 7 in the same region (Tables 1 and 2, columns 4 and 2). Furthermore, the rate ratios for long-term unemployed compared with class 7 (routine occupations, Tables 3 and 4, column 1) show statistically significant differences between regions in the self-rated health of long-term unemployed people. The rates of poor self-rated health for the long-term unemployed compared with their class 7 counterparts in the East, South East and South West regions of England were between 63 per cent and 69 per cent higher for men, and between 17 per cent and 32 per cent higher for women. Conversely, the rates of poor self-rated health for women who are long-term unemployed in Scotland and the North East were between 14 per cent and 16 per cent lower than for their class 7 counterparts in those regions (Table 4, column 1).

Table 1 **European age-standardised rate* (per 1,000) of self-rated health not good, by social class (NS-SeC) and region, men aged 25–64, 2001**

Great Britain

Social class	1–7	7	8	8	
	Classes 1 to 7 combined	Routine occupations	Long-term unemployed and never worked	Long-term unemployed	Never worked
Great Britain	63.7	93.5	196.7	119.0	286.4
Scotland	68.8	100.4	203.1	110.7	329.8↑
Wales	82.3↑↑	113.4↑↑	230.1↑	114.7	357.6↑↑
England	62.2	91.4	193.8	120.4	277.0
North East	81.2↑↑	108.4↑↑	184.2	103.8↓	299.9
North West	75.7↑	106.6↑	217.8↑	119.0	325.6↑
Yorkshire & Humber	71.1↑	97.9	192.7	127.7	279.5
East Midlands	63.7	86.6	184.0	118.7	261.2
West Midlands	66.9	93.3	193.8	117.9	292.1
East	52.0↓	74.7↓↓	175.4↓	125.9	232.1↓
London	61.8	101.0	200.3	119.4	282.6
South East	48.9↓↓	76.3↓	176.3↓	124.0	226.1↓↓
South West	57.3↓	82.4↓	190.8	138.2↑	244.1↓
No. of people in class	13,348,223	1,815,871	468,264	239,169	229,095

* Standardised to European Standard Population

↑↑ rate is 20% or more higher than the GB rate
↑ rate is 10% or more higher than the GB rate
↓ rate is 10% or more lower than the GB rate
↓↓ rate is 20% or more lower than the GB rate

Table 2 **European age-standardised rate* (per 1,000) of self-rated health not good, by social class (NS-SeC) and region, women aged 25–64, 2001**

Great Britain

Social class	1–7	7	8	8	
	Classes 1 to 7 combined	Routine occupations	Long-term unemployed and never worked	Long-term unemployed	Never worked
Great Britain	65.0	97.5	205.8	102.8	229.3
Scotland	71.1	114.4↑	239.9↑	99.0	285.6↑↑
Wales	81.5↑↑	119.3↑↑	245.7↑	108.5	279.2↑↑
England	63.5	94.2	200.5	102.9	221.9
North East	78.5↑↑	111.9↑	216.0	94.5	252.1
North West	74.4↑	111.0↑	232.7↑	103.6	258.8↑
Yorkshire & Humber	70.8	100.2	215.7	108.0	237.5
East Midlands	65.2	91.2	191.5	101.6	217.6
West Midlands	68.4	97.6	210.3	105.2	231.9
East	54.5↓	76.6↓	165.0↓↓	89.6↓	186.9↓
London	65.3	104.5	201.5	111.0	216.1
South East	51.8↓↓	77.0↓↓	163.4↓↓	99.7	179.7↓↓
South West	57.7↓	80.5↓	180.3↓	106.1	205.1↓
No. of people in class	12,289,316	1,288,303	747,519	144,635	602,884

* Standardised to European Standard Population

↑↑ rate is 20% or more higher than the GB rate
↑ rate is 10% or more higher than the GB rate
↓ rate is 10% or more lower than the GB rate
↓↓ rate is 20% or more lower than the GB rate

Figure 1 shows the longstanding trends in unemployment in the different regions, confirming the established pattern of depressed local labour markets in the more northerly parts of Great Britain. For men, the level of unemployment in the North East region was consistently higher than for the other regions between 1984 and 2001. Scotland, the North West and Wales also had rates higher than the GB average over the whole economic cycle. The South East, the South West and the East had unemployment rates consistently lower than the national figures. The overall unemployment rate for women was lower than for men and the patterns were not so obvious. The North East, Wales, Scotland and the North West nevertheless had consistently high unemployment rates for women. London had high unemployment rates for women after 1991, having had relatively low rates throughout the mid and late 1980s. The East and South East had consistently low rates. For both sexes, the regional differences in unemployment rates were larger at times of relatively high national unemployment.

Table 3 **Rate ratios for age standardised rates of not good self-rated health, comparison with social class 7, men aged 25–64, by region, 2001**

Great Britain

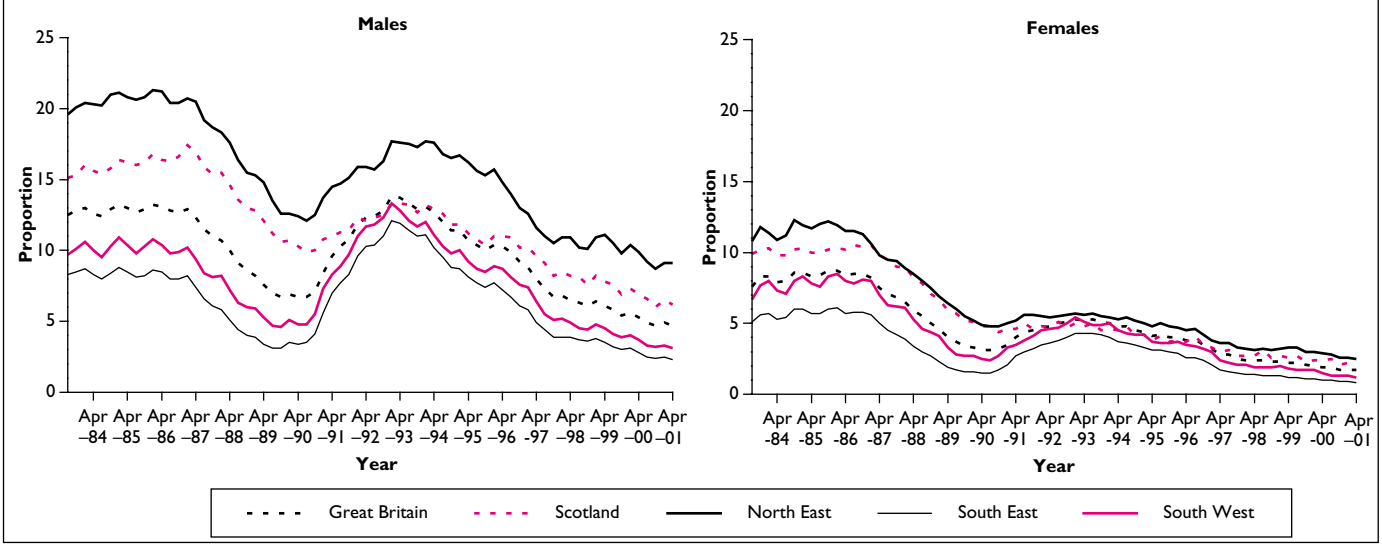
	Rate ratio (95% confidence limit)	
	Long-term unemployed	Never worked
Great Britain	1.27 (1.26, 1.29)	3.06 (3.05, 3.08)
Scotland	1.10 (1.06, 1.14)	3.29 (3.23, 3.34)
Wales	1.01 (0.96, 1.07)	3.15 (3.09, 3.22)
England	1.32 (1.30, 1.33)	3.03 (3.01, 3.05)
North East	0.96 (0.91, 1.01)	2.77 (2.70, 2.83)
North West	1.12 (1.08, 1.15)	3.05 (3.01, 3.10)
Yorkshire & Humber	1.30 (1.26, 1.34)	2.86 (2.81, 2.91)
East Midlands	1.37 (1.32, 1.42)	3.01 (2.95, 3.08)
West Midlands	1.26 (1.22, 1.30)	3.13 (3.08, 3.18)
East	1.69 (1.63, 1.74)	3.11 (3.04, 3.17)
London	1.18 (1.15, 1.22)	2.80 (2.75, 2.85)
South East	1.63 (1.58, 1.67)	2.96 (2.91, 3.02)
South West	1.68 (1.62, 1.73)	2.96 (2.90, 3.03)

Table 4 **Rate ratios for age standardised rates of not good self-rated health, comparison with social class 7, women aged 25–64, by region, 2001**

Great Britain

	Rate ratio (95% confidence limit)	
	Long-term unemployed	Never worked
Great Britain	1.05 (1.03, 1.08)	2.35 (2.34, 2.36)
Scotland	0.86 (0.79, 0.94)	2.50 2.45, 2.54)
Wales	0.91 (0.81, 1.00)	2.34 (2.28, 2.40)
England	1.09 (1.07, 1.11)	2.35 (2.34, 2.37)
North East	0.84 (0.73, 0.96)	2.25 (2.20, 2.31)
North West	0.93 (0.87, 1.00)	2.33 (2.29, 2.37)
Yorkshire & Humber	1.08 (1.00, 1.15)	2.37 (2.33, 2.41)
East Midlands	1.11 (1.03, 1.20)	2.39 (2.34, 2.44)
West Midlands	1.08 (1.01, 1.15)	2.37 (2.33, 2.42)
East	1.17 (1.09, 1.25)	2.44 (2.38, 2.50)
London	1.06 (1.01, 1.11)	2.07 (2.03, 2.11)
South East	1.29 (1.23, 1.36)	2.33 (2.29, 2.38)
South West	1.32 (1.24, 1.39)	2.55 (2.49, 2.61)

Figure 1 **Trends in unemployment by region of Great Britain, 1984–2001 (Claimants of job seekers allowance as a proportion of workplace jobs and self-employment, all working ages)**



Discussion

Our data show that the self-rated general health of the long-term unemployed was better in high unemployment regions, and conversely, worse where the local labour market was traditionally stronger.

Methodological issues

The strengths of our study are that we were able to analyse self-rated general health against the new NS socio-economic classification for the entire population census of Great Britain, including 25.6 million working age adults. This provided statistically robust estimates of the prevalence of self-rated poor health within sub-groups of the population which could not be distinguished in this way in previous census studies. The census includes many more people than even the best sample survey of employment status, the Labour Force Survey.

The self-rated general health question, used in the UK census for the first time in 2001, provides a simple and direct way of capturing the population's perceptions of their own health, using their own criteria. Self-rated health scales have also been demonstrated to be powerful predictors of subsequent mortality across all social groups.[13,14] The new NS social classification, NS-SeC, provides a rigorously validated measure of social position grounded on sociological theory. As both the health question and the social classification are new to the census, however, no direct comparisons can be with previous census studies. In addition, it needs to be remembered that the self-rated health question may elicit a different aspect of health to measures from previous censuses such as self-reported limiting long-term illness, or to other clinically determined measures, such as medically-diagnosed disease or mortality.

Comparison with previous findings

Contrary to expectation, we found that the long-term unemployed did not always perceive themselves to have poorer health than that of their employed counterparts: it depended on where they lived. Long-term unemployed men in the North East and women in the North West, Wales, Scotland and the North East had lower rates of poor self-rated health than their counterparts in routine occupations (class 7). In the case of women in Scotland and the North East the difference was statistically significant. We also found that although the East, South East and South West regions of England in general had the lowest rates of poor self-rated health for each of the seven main occupational classes and for those who had never worked, the long-term unemployed in those regions fared badly in health terms. Among men, for example, these regions had among the highest rates of poor self-rated health for the long-term unemployed in Great Britain.

Haynes and colleagues used 1991 Census data to look at differences in limiting long-term illness and labour market conditions.[15] They found that self-reported morbidity was sensitive to variations in long-term unemployment rates, with higher rates of limiting long-term illness in travel-to-work areas where employment prospects were poor. Moser and colleagues found that mortality rates for the unemployed in the 1971–1981 Longitudinal Study were greater in areas with higher levels of unemployment.[1] Our results contrast with this pattern, as we found that in areas with a history of high unemployment, the rates of poor self-rated health rates for the long-term unemployed were somewhat lower than we would have expected from previous literature. The contrasting results may in part be due to differences in the dimensions of health that are captured by these studies, as well as differences between censuses in the definitions of the 'unemployed' category. Our study was also the only one to investigate the self-reported health of those unemployed for a long time, at least two years, which may be expected to differ from that of the short-term unemployed.

Interpretation

There are two main hypotheses to explain the differences we found in the self-rated health of the long-term unemployed in relation to the economic history of the regions.

First, the *composition* of the long-term unemployed group may be different in different regions. In areas where jobs are easier to come by, it may be largely the more sick people who are left out of the labour market. Conversely, in the high unemployment areas, there may be a higher proportion of long-term unemployed people who are healthy but have difficulty in finding work. This is a health selection effect. Added to this, there was the administrative practice in the 1980s and 1990s of re-classifying the unemployed as incapacitated, thereby reducing the unemployment claimant count. This practice was followed particularly rigorously in some of the areas with the highest unemployment rates.[16] Even before this period, there is evidence that the unemployed were more likely to report themselves as retired or permanently sick when unemployment rates were high,[17] as both an economic and psychological coping strategy.[18] These factors may have resulted in a healthier profile for the 'officially' unemployed in such areas.

Second is the idea that the experience of long-term unemployment may be less stigmatising, and hence less stressful and health-damaging, in areas where unemployment rates have been traditionally high. Where the chances of unemployment are perceived as higher and jobs, once lost, more difficult to re-gain, being unemployed may be seen as more of the norm, rather than a deficiency of the individual. Conversely, in more prosperous areas, with lower unemployment, being unemployed for a long time may be perceived as an aberrant and personally stigmatising situation. In epidemiological terms, our findings may provide a specific example of 'ecological effect modification',[19] in which the local context has an independent effect on health, which modifies the impact that individual characteristics have on health outcome. This phenomenon has been noted in the psychiatric literature. For example, the suicide rate for members of ethnic minority groups is lower in areas where they represent a larger proportion of the population.[20] A similar relationship between ethnicity and schizophrenia has been noted.[21] In relation to health inequalities, Mitchell and colleagues have demonstrated a significant relationship between a person's attitude to their community (i.e. whether they feel part of it) and their health, which is independent of individual and area characteristics.[22]

We cannot differentiate between these hypotheses in a cross-sectional analysis and with the available census data. This would require several different types of investigation. What this study does do, however, is identify a paradox, which challenges common assumptions about the relationship between unemployment and health. It points to the need to take more account of the geographic and socio-economic context in which long-term unemployment is experienced when considering policy implications.

Key points

- Although the East, South East and South West regions of England generally had low rates of poor self-rated health, the long-term unemployed in these regions fared badly in health terms
- Conversely, in the North East and North West regions of England, Scotland and Wales – areas of high unemployment and generally poor health – the long-term unemployed fared relatively well in health terms.
- Long-term unemployed women in Scotland and the North East had statistically significant lower rates of poor self-rated health than women in routine occupations in these regions.
- This points to the need to take more account of the geographic and socio-economic context in which long-term unemployment is experienced.

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Healthy life expectancy by area deprivation: magnitude and trends in England, 1994–1999

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This article examines the magnitude of inequalities in health by area deprivation using two composite indices of health expectancy, one based on a subjective assessment of general health status (healthy life expectancy) and the second on reported limiting longstanding illness (disability-free life expectancy). Trends in healthy life expectancy by deprivation for the period 1994–1999 were also examined.

Results show that males and females living in the most deprived wards spend twice as many years in poor health, both in absolute (years of life) and relative (proportion of life) terms, than those living in the least deprived wards. There was no change in the healthy life expectancy gap between the most and least deprived areas over the study period.

Introduction

The enduring association of inequalities in health with measures of socio-economic status is well established. Since the early 1980s there have been a wealth of studies documenting the substantial relationship between socioeconomic status – whether measured by occupation, educational attainment or income – and a wide range of measures of mortality, morbidity, well-being and health care utilisation. What is less clear, however, is the combined impact of the differences in premature mortality with the lifelong experience of health and illness on social inequalities in health.

Recent shifts in public policy have led to increased interest in whole-life health experience, embracing not only longevity but also health-related quality of life.[1,2] Health expectancies provide summary measures of the lifelong experience of health, illness and death. They combine together into a single index estimates of years lived in states of full health and the average number of years a person may expect to remain alive (life expectancy). By their construction, health expectancies are independent of the age structure of the population and represent the average health expectation of a synthetic birth cohort experiencing current rates of mortality and morbidity over their lifetime. There are as many types of health expectancy indices as there are concepts and measures of health status (e.g. disease-free, disability-free and healthy life expectancy are examples of measures of three conceptual models of health – bio-medical, functional and social). In recent years, international agencies including REVES, Eurostat and the World Health Organisation have made concerted efforts to promote a common understanding of concepts and methods and develop a harmonised measure of healthy life expectancy for cross-country comparisons.[3,4]

The importance of health expectancies as a population health monitoring tool in the UK is reflected in the literature, with most studies either examining trends at the national level or looking at sub-regional comparisons.[5,6,7] Relatively few studies have focused on analyses by socioeconomic group[8,9] or by ethnicity,[10] mainly because such factors are either not recorded at all (e.g. ethnic group) or not reliably recorded (e.g. social position) on mortality databases, making direct comparisons between social groups prone to bias. In the absence of routine mortality-census data linkage, social inequalities in health can be addressed either by using longitudinal data (e.g. the ONS Longitudinal Study); or, as in this study, by using relative deprivation at small area level as a surrogate measure of social inequality.

The use of small area deprivation indices as an indicator of socio-economic conditions has a long history in research in the UK.[11,12,13] Numerous studies since the mid-1980s have demonstrated the universal disadvantage in health of populations in the most deprived areas of the country. MacIntyre *et al* argue that small area analysis may be a more powerful predictor of health than individual socioeconomic status since it captures both the compositional (individual characteristics) and contextual (physical and social environment) effects on health of the area of residence.[14] The evidence of an area effect on health over and above the effect of individual deprivation remains contested, with some studies showing little or no effect[15] and others a significant effect.[16] Because population homogeneity and geographical size of area are inversely correlated, more fine-grained small area analysis is thought to provide a more precise measurement of the underlying distribution of health inequality.

The choice of aggregates of wards as the units for analysis in this study was therefore dictated equally by considerations of data availability and methodological validity. The main aim of the analysis presented here is to estimate the magnitude of inequalities in health expectancy with increasing relative area deprivation. Two measures of health have been used. First, a global measure of self-assessed general health to calculate healthy life expectancy; and second, a global measure of functional limitation to calculate disability-free life expectancy. The latter is a self-reported measure of overall functional limitation with no differentiation by level of severity.

Finally, this study also explores for the first time differences between areas of high and low deprivation in respect of short-term (1994 – 1999) trends in healthy life expectancy.

Methods

Area deprivation

Deprivation scores were calculated for all 8,595 electoral wards in England as at the 1991 Census, using the index of deprivation developed by Carstairs *et al*.[13] The index is an unweighted combination of four indicators of material deprivation – namely, the proportions of people in households headed by a person in a semi-skilled or unskilled manual occupation (Social Class IV or V); economically active men seeking work; persons with no car; and persons living in overcrowded accommodation. The main advantage of using the Carstairs index is that it is a population-based rather than a household-based measure (e.g. Townsend index), and therefore more appropriate for a study of population health inequalities. A deprivation score based on 1991 ward boundaries was used in order to facilitate matching to the available ward-level mortality and population data for the period 1994–1999. Because wards vary enormously in population size (mean: 5,475; minimum: 78; maximum: 31,612), with larger populations in the most deprived wards, they have been grouped by *population* deciles in ascending order of deprivation (Table 1).

Health status measures

The measures of health status used for calculating health expectancies in this study have been derived from the annual Health Survey for England (HSE) series. The HSE is a continuous survey of the general (non-institutional) population of England, with an annual sample size of about 4,000 children (aged 2–15) and 16,000 adults (16 and over). In the 1999 HSE, the sample size of the general population was halved to accommodate a 'boost' sample of minority ethnic groups. In this study, we have used data from the general population sample only. Over the six years 1994–1999, the aggregated sample size was 100,686 of whom 47 per cent were male. The response rate to the HSE varied between 76 per cent and 78 per cent over the period of the study.

The electoral ward of residence of informants in the survey was assigned using a look-up table matching postcode of residence to 1991 Census ward geography (79 cases could not be allocated). As shown in Table 1, the distribution of the sample was evenly spread across the ward deprivation deciles, and there is no evidence of a systematic response bias by deprivation.

Table 1 **Summary statistics by ward deprivation deciles**

England

Deprivation decile	Wards	Population (1991)*		Deaths (1994–1999)†		Survey data (1994–1999)**		Deprivation score††
	Number	Persons (000's)	Population (%)	All deaths	Deaths (%)	Base	Base (%)	Mean score
1 Least deprived	1,257	4,705	10.0	283,966	9.1	9,995	9.9	-3.72
2	1,209	4,699	10.0	294,595	9.4	10,767	10.7	-2.72
3	1,072	4,710	10.0	311,627	10.0	10,903	10.8	-1.98
4	959	4,706	10.0	323,231	10.3	10,309	10.2	-1.26
5	905	4,706	10.0	326,719	10.4	9,527	9.5	-0.43
6	772	4,708	10.0	328,968	10.5	9,685	9.6	0.56
7	707	4,704	10.0	322,689	10.3	10,213	10.1	1.74
8	617	4,702	10.0	326,167	10.4	9,940	9.9	3.15
9	578	4,703	10.0	313,224	10.0	9,308	9.2	5.02
10 Most deprived	519	4,713	10.0	297,048	9.5	10,039	10.0	9.07
England	8,595	47,055	100.0	3,128,234	100.0	100,686	100.0	0.00

* Source: 1991 Census, England
† Source: Author's analysis of ONS mortality data, England, 1994–1999
** Source: Health Survey for England, 1994–1999
†† Carstairs index of deprivation (Carstairs *et al* 1991)

Self-assessed general health was measured in the HSE using a 5-point scale recommended by the World Health Organisation for national health interview surveys which ranges from 'very good', 'good', 'fair', 'bad' and 'very bad' health.[17] The question on activity limitation is a follow-up question which asks respondents who report having a longstanding illness, disability or infirmity whether the condition/s limited their activity in any way. While the general health question was asked in all years of the HSE, the question on limiting longstanding illness was asked from 1996 onwards.

Previous articles in the *Health Statistics Quarterly* have used data from the General Household Survey (GHS) to estimate prevalence rates of good health. In this study, data from the HSE has been used for two reasons: first, geographically referenced individual-level survey records were made available for this study (the author was then an employee of the survey contracting organisation, the *National Centre for Social Research*); and second, the HSE uses the internationally recognised 5-point scale to record self-assessed general heath, whereas the GHS uses a 3-point scale (good/fairly good/not good). Besides improving the international comparability of the results of this study, the 5-point scale has also been found to be a more sensitive measure of the underlying variation in health between areas.[18]

Life expectancy

Data on all-cause mortality by sex and 5-year age bands (0–4, 5–9 ... 80 and over) and corresponding population estimates[19] for each ward in England were obtained for the years 1994–1999 and then aggregated up by deprivation deciles (Table 1). Standard abridged life table methods were used to calculate the life expectancy at birth and for each 5-year age band to age 80 and over, by sex, averaged over the periods 1994–1999 and 1996–1999 (corresponding to periods over which the two health status measures were available in the HSE).

Health expectancies

The response scale on each health status measure was dichotomised into 'good' and 'not-good' (sub-optimal) health. Age-specific prevalences of good health were used to partition out the expected number of years lived in each age interval ($_nL_x$) in the life tables into years with and without good health using Sullivan's method.[20] The cumulative sums of years in good health were used to calculate two measures of health expectancy at birth for each deprivation decile: a) healthy life expectancy (HLE) based on self-assessed 'very good' or 'good' health, and b) disability-free life expectancy (DFLE), defined as life-years with no limiting longstanding illness. Separate figures were calculated for males and females. As children under two years old were not included in the survey, prevalence rates of good health for 2- to 4-year-olds were used for the 0–4 age band. The health status of infants (aged 0–1) reported in the HSE from 2001 onwards were the same as or slightly better than for children aged 2–4.[21] Hence the impact of the approximation used for infant health in this study on health expectancies at birth is likely to be marginally underestimated. All sample estimates were weighted by HSE selection probability weights.

Standard errors and confidence intervals at the 95 per cent level for HLE and DFLE measures were estimated using the method described by Jagger.[22] For health expectancy at birth, the principal source of error (and hence the width of the confidence intervals) is associated with the survey prevalence estimates and driven essentially by the size of the total sample. When the population on which the mortality rates are based is very large compared to the survey sample size, it has been shown that the error associated with the life expectancy component of health expectancies is negligible and can be ignored.[22]

Trend analysis

The trend was analysed for HLE only as data were available for all six years as compared with four years for DFLE. Furthermore, as children were not interviewed in 1994, the trends at age 15 were examined. Because of the problem of small sample sizes in each year to allow analysis by deprivation decile and sex, estimates for each year have been calculated for all persons rather than separately by sex.

Results

Overall, about four in five (79 per cent) respondents reported having good health and a similar proportion (78 per cent) reported not having

Table 2 **Age-standardised rates for all-cause mortality, self-assessed poor health and limiting longstanding illness, by deprivation decile and sex, 1994–1999**

England

	Males			Females			Persons		
Deprivation decile	Mortality rate (per 000)	Poor health* (1994–1999) %	Limiting longstanding illness (1996–99) %	Mortality rate (per 000)	Poor health* (1994–1999) %	Limiting longstanding illness (1996–99) %	Mortality rate (per 000)	Poor health* (1994–1999) %	Limiting longstanding illness (1996–99) %
1 Least deprived	8.8	13	17	10.5	15	19	9.9	14	18
2	9.1	14	17	10.3	17	21	10.0	15	19
3	9.3	15	18	10.3	18	20	10.2	16	19
4	9.6	17	19	10.6	19	22	10.5	18	20
5	9.9	19	19	10.6	22	23	10.6	21	21
6	10.4	21	21	10.9	24	25	11.0	22	23
7	10.7	23	22	11.0	25	25	11.3	24	23
8	11.4	24	24	11.4	26	26	11.8	25	25
9	11.8	27	25	11.5	28	27	12.1	27	26
10 Most deprived	12.7	30	29	11.9	33	29	12.7	32	29
Ratio (10/1)	1.4	2.4	1.7	1.1	2.3	1.5	1.3	2.3	1.6
95% CI of ratio	(1.43–1.45)	(2.2–2.6)	(1.6–1.9)	(1.13–1.14)	(2.1–2.4)	(1.4–1.7)	(1.28–1.29)	(2.2–2.4)	(1.5–1.7)
England	10.4	20	21	10.9	23	24	11.0	21	22

* Poor health is defined as those who rated their health as 'fair', 'bad' or 'very bad'.

a limiting longstanding illness. The prevalence of limiting longstanding illness increased more rapidly with age than reported poor health for both sexes.

There was a stepped increase in age-standardised rates of mortality, poor health and limiting longstanding illness with increasing deprivation (Table 2). The rate ratio between the most deprived and the least deprived decile was smaller for mortality (persons: 1.3) than for either of the two morbidity measures (2.3 for poor health and 1.6 for limiting longstanding illness). This pattern was similar for males and females. The separate analysis of mortality and morbidity measures tells us the scale of health inequalities for each, but does not tell us whether their combined effect amplifies or reduces health inequalities.

Life expectancy at birth

Life expectancy (LE) at birth declined steadily with increasing deprivation in a similar, but inverse, pattern to that for mortality rates (Table 3). On average, females live 5 years longer than males (80.0 *vs.* 75.0, respectively). LE for females is higher than for males in all deprivation groups and the gender gap increases uniformly with increasing levels of deprivation from 4 years in the least deprived wards to 7 years in the most deprived wards. The deprivation gradient in LE is therefore steeper for males than females (Figures 1 and 2).

Healthy life expectancy at birth

Over their lifetime, on average males in England spend 59.1 years in good health and 15.9 years in poor health and females 61.4 and 18.6 years (Table 3). Hence, although women live longer than men, they also spend more years in sub-optimal health. This has two consequences: first, the absolute difference between males and females in LE (5.0 birth years) at birth is more than halved for HLE (2.3 years); and second, the proportion of life spent in poor health for both sexes is similar: males 21 per cent, females 23 per cent (Table 5). In other words, although females can expect to live longer, they spend approximately the same proportion of their lives in poor health as males.

Figures 1 and 2 show LE at birth for each deprivation group, subdivided into the number of years in good health ('healthy') and years in poor health ('not healthy') for males and females separately. Males living in the most deprived wards spend 22.0 years in poor health compared to 11.2 years in the least deprived wards. This differential translates into approximately 2 in 7 years of life being spent in poor health in the most deprived wards and 1 in 7 years in the least deprived wards. The equivalent figures for females are 26.3 years and 12.7 years, or 2 in 6 years and 1 in 6 years, respectively. Hence, males and females living in the most deprived wards not only have a shorter life-span on average, they also spend about twice the number of years and twice the *proportion* of life in sub-optimal health (Table 5) compared with residents in the least deprived wards.

Disability-free life expectancy at birth

At birth, national estimates for DFLE were 58.4 years for males and 60.4 years for females, or about one year less than for HLE for both males and females (Table 3). For both sexes, the overarching deprivation-related gradient in DFLE was markedly similar to that for HLE (Figures 3 and 4), but the gap between wards at the extreme ends of the deprivation distribution is narrower (Table 5). This is because males and females in the most deprived wards spend a similar number of years in poor health (males: 22 years, females: 26 years) and with a disability (21 and 24 years). In the least deprived wards, however, males and females have more years of life with a disability (14 and 17 years) than in poor health (11 and 13 years).

Table 3 **Life expectancy (LE), healthy life expectancy (HLE), disability-free life expectancy (DFLE) at birth, by deprivation decile and sex, 1994–1999**

England

	LE (1994–1999)	HLE (1994–1999)		DFLE (1996–1999)	
At birth Deprivation decile	Years	Years	95% confidence interval	Years	95% confidence interval
Males					
1 Least deprived	77.4	66.2	(65.4 – 67.0)	63.1	(62.0 – 64.2)
2	76.9	65.0	(64.3 – 65.8)	62.4	(61.3 – 63.4)
3	76.6	63.9	(63.1 – 64.7)	61.4	(60.4 – 62.4)
4	76.0	62.2	(61.4 – 63.1)	60.9	(59.8 – 62.0)
5	75.6	59.7	(58.9 – 60.6)	59.9	(58.8 – 61.0)
6	75.0	58.4	(57.5 – 59.3)	58.1	(57.0 – 59.2)
7	74.4	56.3	(55.4 – 57.2)	57.0	(56.0 – 58.1)
8	73.4	55.3	(54.4 – 56.2)	55.4	(54.2 – 56.5)
9	72.8	52.4	(51.5 – 53.4)	54.0	(52.9 – 55.2)
10 Most deprived	71.4	49.4	(48.4 – 50.3)	50.7	(49.5 – 51.8)
Difference (Least – Most)	5.9	16.9	(15.7 – 18.1)	12.4	(10.9 – 14.0)
England	75.0	59.1	(58.8 – 59.3)	58.4	(58.1 – 58.8)
Females					
1 Least deprived	81.2	68.5	(67.7 – 69.2)	64.6	(63.5 – 65.7)
2	81.1	66.9	(66.1 – 67.7)	63.3	(62.2 – 64.4)
3	81.0	65.7	(64.9 – 66.5)	64.2	(63.1 – 65.2)
4	80.7	64.7	(63.9 – 65.5)	62.1	(61.0 – 63.2)
5	80.5	62.3	(61.4 – 63.2)	61.3	(60.2 – 62.4)
6	80.1	59.9	(59.0 – 60.8)	58.8	(57.6 – 60.0)
7	79.7	58.7	(57.8 – 59.6)	59.2	(58.1 – 60.3)
8	79.1	58.0	(57.1 – 58.9)	57.8	(56.6 – 58.9)
9	78.9	56.0	(55.1 – 57.0)	56.6	(55.4 – 57.8)
10 Most deprived	78.0	51.7	(50.7 – 52.6)	54.6	(53.4 – 55.8)
Difference (Least – Most)	3.2	16.8	(15.5 – 18.0)	9.9	(8.3 – 11.6)
England	80.0	61.4	(61.1 – 61.7)	60.4	(60 – 60.7)

Figure 1 Males: LE and HLE at birth by deprivation deciles, 1994–1999

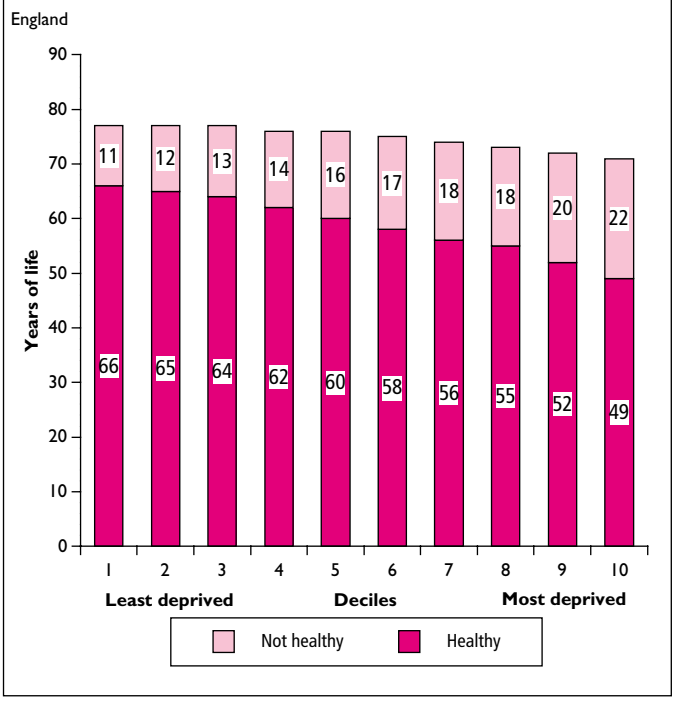


Figure 2 Females: LE and HLE at birth by deprivation deciles, 1994–1999

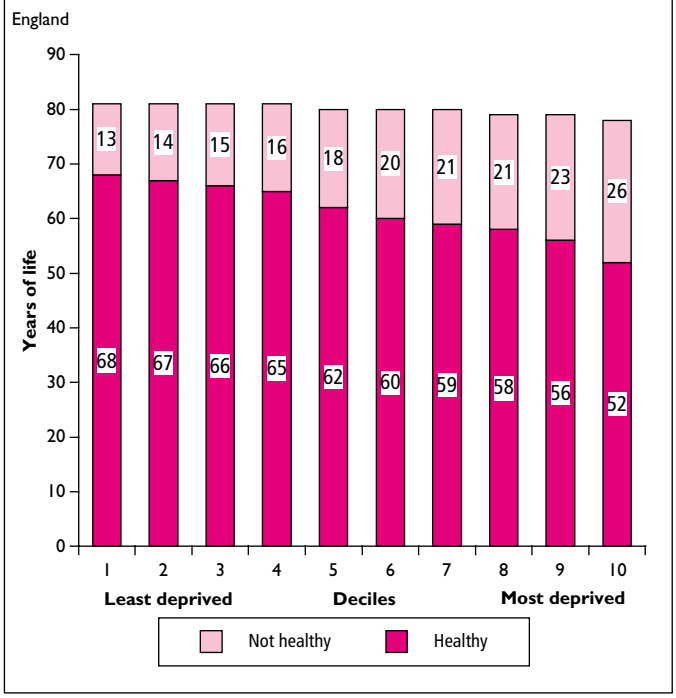


Table 4 Life expectancy (LE), healthy life expectancy (HLE), disability-free life expectancy (DFLE) at age 65, by deprivation decile and sex, 1994–1999

England

At age 65 Deprivation decile	LE (1994–1999)	HLE (1994–1999)		DFLE (1996–1999)	
	Years	Years	95% confidence interval	Years	95% confidence interval
Males					
1 Least deprived	16.2	11.0	(10.5 – 11.6)	9.5	(8.8 – 10.3)
2	16.0	10.7	(10.2 – 11.2)	10.0	(9.3 – 10.7)
3	15.9	10.4	(9.9 – 10.9)	9.7	(9.0 – 10.4)
4	15.6	9.6	(9.0 – 10.1)	9.4	(8.7 – 10.1)
5	15.5	8.7	(8.1 – 9.3)	8.7	(8.0 – 9.5)
6	15.2	8.4	(7.8 – 8.9)	8.0	(7.2 – 8.8)
7	15.0	7.8	(7.2 – 8.4)	7.9	(7.2 – 8.6)
8	14.5	7.8	(7.2 – 8.3)	7.6	(6.9 – 8.3)
9	14.4	6.9	(6.3 – 7.4)	6.6	(5.8 – 7.3)
10 Most deprived	13.9	6.3	(5.7 – 6.9)	6.8	(6.1 – 7.6)
Difference (Least – Most)	2.3	4.7	(3.9 – 5.5)	2.7	(1.7 – 3.8)
England	15.2	8.8	(8.6 – 9.0)	8.5	(8.3 – 8.7)
Females					
1 Least deprived	19.1	12.5	(11.9 – 13.1)	11.0	(10.2 – 11.8)
2	19.3	12.5	(11.9 – 13.0)	10.7	(9.9 – 11.4)
3	19.3	11.2	(10.6 – 11.7)	10.7	(10.0 – 11.5)
4	19.1	11.6	(11.0 – 12.2)	10.5	(9.7 – 11.3)
5	19.1	10.7	(10.1 – 11.3)	10.2	(9.5 – 11.0)
6	18.8	9.8	(9.2 – 10.4)	9.0	(8.2 – 9.8)
7	18.7	9.7	(9.1 – 10.3)	9.3	(8.5 – 10)
8	18.4	9.5	(8.9 – 10.1)	9.1	(8.3 – 9.8)
9	18.3	8.7	(8.1 – 9.3)	7.9	(7.2 – 8.7)
10 Most deprived	18.0	7.8	(7.1 – 8.4)	8.0	(7.2 – 8.8)
Difference (Least – Most)	1.0	4.8	(3.9 – 5.6)	3.0	(1.8 – 4.1)
England	18.8	10.4	(10.3 – 10.6)	9.7	(9.4 – 9.9)

Table 5 **Proportion of life in poor health and with a disability in the least deprived and most deprived ward deciles, by sex, 1994–1999**

England

	At birth			At age 65		
	LE (years)	% LE in poor health	% LE with disability	LE (years)	% LE in poor health	% LE with disability
Males						
Least Deprived (1)	77.4	14	18	16.2	32	41
Most Deprived (10)	71.4	31	29	13.9	55	51
Ratio (10/1)		2.1	1.6		1.7	1.2
England	75.0	21	22	15.2	42	44
Females						
Least Deprived (1)	81.2	16	20	19.1	34	42
Most Deprived (10)	78.0	34	30	18.0	57	56
Ratio (10/1)		2.2	1.5		1.7	1.3
England	80.0	23	25	18.8	44	48

Health expectancies at age 65

By age 65, differences by deprivation levels greatly reduce, but persist. The gap in LE between the most and least deprived wards narrows to 1.0 years for women and 2.3 years for men (Table 4). The relative ratios of life spent in poor health (1.7) or with a disability (1.3) between the most and the least deprived wards are smaller than comparative ratios at birth (approximately 2.1 and 1.6, respectively) (Table 5). Again, because residents in the least deprived wards spend more years on average with disability than in poor health, the inequality gradient in DFLE is less steep than for HLE.

Difference between sexes

Life expectancy at birth for females was higher than for males in all deprivation deciles. In the most deprived wards the sex difference in LE was 6.6 years (i.e. 78.0 *vs.* 71.4) and gradually fell to 3.8 years (81.2 *vs.* 77.4) for the least deprived wards (Table 3). In contrast, the corresponding sex differences in HLE were 2.3 years for both the most and least deprived wards and, 3.9 years and 1.5 years for DFLE, respectively. Health expectancies therefore tend to reduce the inequalities in health between males and females.

Trends in LE and HLE at age 15

There is an upward trend in LE at age 15 over the six years of this study for all deprivation deciles (Table 6, Figure 5). However, the increase in LE for the most deprived decile is greater than for the other deciles. For the least deprived wards the difference between LE at age 15 over the period was 0.36 years (*95 per cent confidence interval 0.22, 0.50*) and 0.68 years (*0.52,0.85*) for the most deprived wards. Thus, between 1994 and 1999, LE at age 15 in the most deprived wards increased more than in the least deprived wards, a finding that was significant at the 95 per cent level. This has the effect of narrowing the gap in LE between the extreme deciles of deprivation (Figure 5).

With respect to HLE, there was no consistent pattern in trends across deciles. As Figure 5 shows, there were no significant changes in the national HLE estimates or the estimates for either the least or most deprived deciles over the study period.

Figure 3 **Males: LE and DFLE at birth by deprivation deciles, 1996–1999**

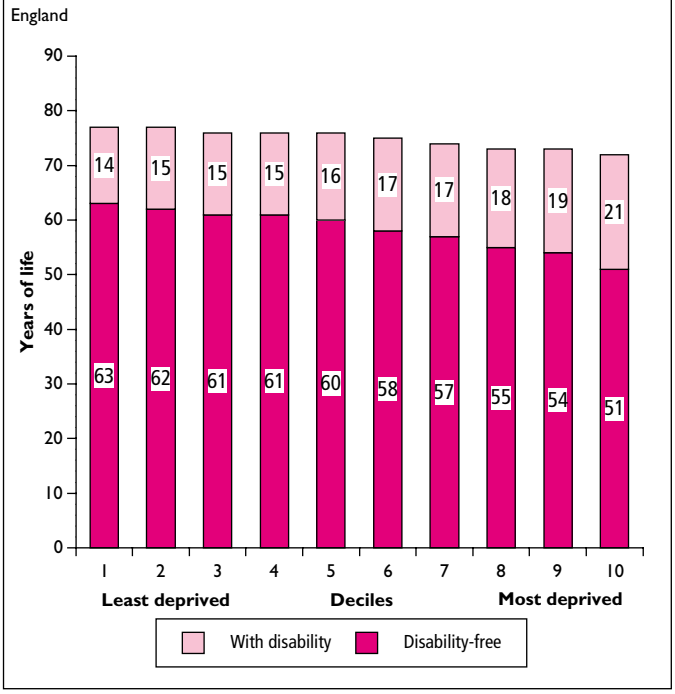


Figure 4 **Females: LE and DFLE at birth by deprivation deciles, 1996–1999**

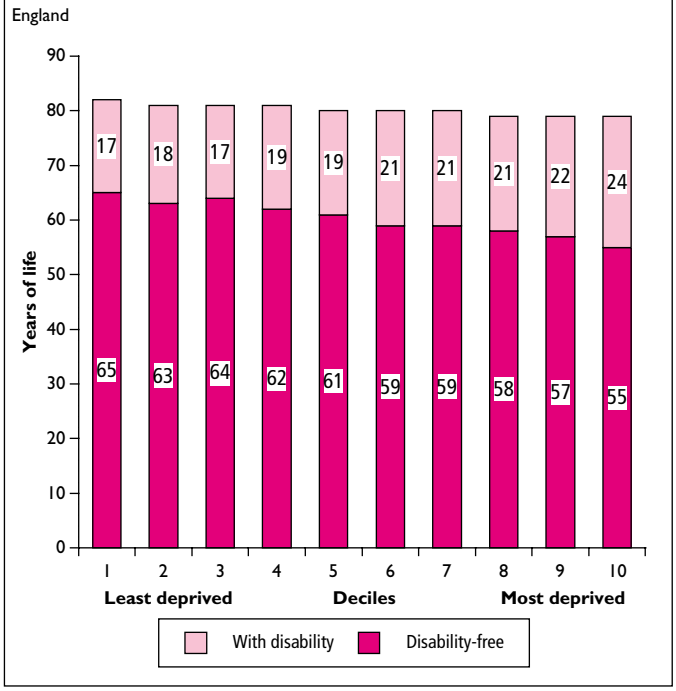


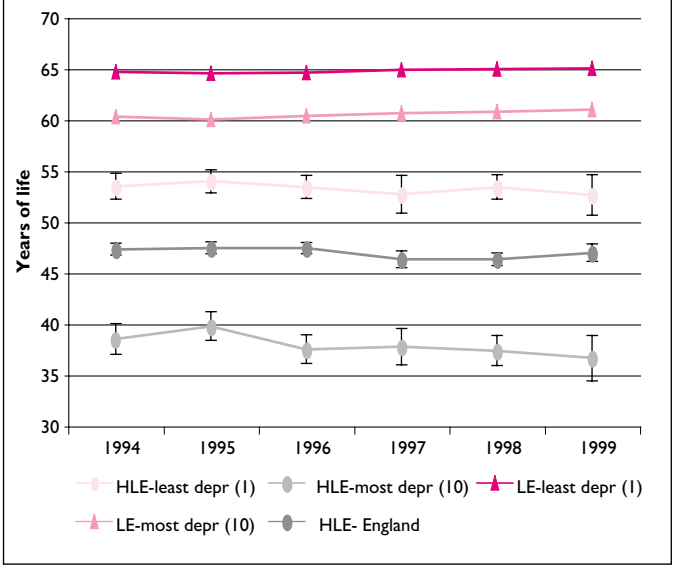
Table 6 **Trends in life expectancy (LE), healthy life expectancy (HLE) at age 15 for all persons, by deprivation decile, 1994–1999**

England

At age 15, all persons Deprivation decile	Year						Difference
	1994	1995	1996	1997	1998	1999	1999–1994
LE							
1 Least deprived	64.6	64.5	64.6	64.9	64.9	65.0	0.4
2	64.4	64.3	64.3	64.7	64.8	64.9	0.5
3	64.2	64.2	64.3	64.3	64.5	64.6	0.4
4	63.9	63.6	63.8	64.0	64.2	64.2	0.3
5	63.6	63.5	63.5	63.8	63.8	63.9	0.4
6	63.2	62.8	63.1	63.2	63.4	63.6	0.4
7	62.6	62.5	62.6	62.8	62.9	63.0	0.4
8	61.8	61.8	61.9	62.1	62.1	62.3	0.4
9	61.3	61.3	61.4	61.7	61.7	62.0	0.7
10 Most deprived	60.3	60.0	60.4	60.6	60.8	60.9	0.7
Difference (Least – Most)	4.4	4.5	4.2	4.3	4.2	4.0	
England	63.0	62.9	63.0	63.2	63.4	63.5	0.5
HLE							
1 Least deprived	53.4	54.0	53.4	52.7	53.4	52.6	-0.8
2	52.4	52.5	52.7	52.8	51.1	51.9	-0.5
3	51.4	52.1	51.6	50.7	49.4	52.5	1.0
4	50.6	49.4	51.9	47.7	49.1	49.7	-0.8
5	46.8	47.3	47.6	46.5	48.4	48.9	2.1
6	46.3	46.4	45.5	45.0	46.1	46.0	-0.2
7	44.8	43.8	46.1	44.0	44.1	43.7	-1.2
8	44.4	43.3	44.3	43.7	41.9	43.8	-0.6
9	42.1	42.0	42.2	40.2	40.4	41.4	-0.7
10 Most deprived	38.5	39.8	37.5	37.8	37.3	36.6	-1.9
Difference (Least – Most)	14.9	14.2	15.9	14.9	16.0	16.0	
England	47.1	47.1	47.3	46.1	46.1	46.7	-0.4
95% CIs (HLE)							
Least deprived (1)	(52.2 – 54.7)	(52.8 – 55.1)	(52.3 – 54.5)	(50.9 – 54.5)	(52.2 – 54.6)	(50.6 – 54.6)	
2	(51.1 – 53.7)	(51.3 – 53.8)	(51.6 – 53.8)	(51.1 – 54.4)	(49.8 – 52.3)	(50.2 – 53.6)	
3	(50.2 – 52.6)	(51.0 – 53.3)	(50.3 – 52.8)	(49.0 – 52.5)	(48.2 – 50.6)	(50.9 – 54.1)	
4	(49.3 – 51.8)	(48.2 – 50.6)	(50.6 – 53.1)	(46.1 – 49.4)	(47.8 – 50.4)	(47.9 – 51.5)	
5	(45.4 – 48.2)	(45.9 – 48.7)	(46.3 – 48.9)	(44.7 – 48.3)	(47.1 – 49.8)	(47.0 – 50.8)	
6	(45.0 – 47.6)	(45.1 – 47.7)	(44.2 – 46.9)	(43.0 – 47.0)	(44.6 – 47.5)	(44.1 – 48.0)	
7	(43.5 – 46.2)	(42.5 – 45.1)	(44.7 – 47.5)	(42.2 – 45.9)	(42.7 – 45.4)	(41.7 – 45.6)	
8	(43.0 – 45.7)	(41.9 – 44.7)	(43.0 – 45.7)	(41.7 – 45.8)	(40.7 – 43.2)	(41.7 – 45.8)	
9	(40.6 – 43.6)	(40.6 – 43.5)	(40.9 – 43.5)	(38.3 – 42.2)	(38.8 – 42.1)	(39.6 – 43.3)	
Most deprived (10)	(37.0 – 40.0)	(38.3 – 41.2)	(36.1 – 38.9)	(36.0 – 39.6)	(35.9 – 38.8)	(34.4 – 38.9)	

Figure 5 **Trends in LE and HLE at age 15 in England, all persons: most deprived (10) *vs* least deprived (1) deciles, 1994–1999**

England



Discussion

The study has shown a large difference in life expectancy between the most and least deprived tenths of the population of 5.9 years for males and 3.2 years for females. These differences are considerably wider than those reported by Raleigh *et al*. of 4.0 years for males and 2.4 for females between the most and least deprived health authorities in England (1992–1994).[23] This discrepancy is mainly because of the averaging effect on estimates calculated for more heterogeneous populations such as health authorities with populations ten times larger than wards. Deprivation groups defined at small area level pick out pockets of relative deprivation and affluence more precisely, and thereby provide a better discriminator of the underlying distribution of health expectancy by relative deprivation. Hence, differences by ward deprivation categories, even when aggregated up to include a large percentage of the population as in this study, are likely to be larger than for groups of health authorities.

Both the absolute (number of years) and relative (proportion of life) HLE measures show that residents in the most deprived areas spend on average about twice as many years in poor health as those in the least deprived areas. The rate ratio between the two extremes of the deprivation scale in HLE (males 2.1, females, 2.2, Table 5) is closer to the age-adjusted poor health prevalence rate ratio (2.3 for persons, Table 2) than to the smaller mortality rate ratio (1.3, Table 2). HLE therefore amplifies the inequalities gap in conventional mortality-only measures to a level similar to that observed for morbidity prevalence measures.

A previous study, using the identical question on limiting longstanding illness to estimate DFLE but a different survey source, reported national levels of DFLE at birth for males (58.9 years) and females (61.2) in Great Britain similar to those found in this study.[7] Our estimates for DFLE show that the gap between the least deprived and most deprived groups is narrower than for HLE, but remains higher than for LE. This is because expected years with a disability at birth are higher than expected years in poor health in the least deprived decile (by 3 years for males and 4 years for females), and lower than expected years in poor health in the most deprived decile (by 1 year for males and 3 years for females).

The expansion in years with disability for the least deprived areas, relative to years in self-assessed poor health, and the converse in deprived areas, suggests differences in reporting behaviour between the two groups. Self-reported health is influenced by illness-behaviour, norms and expectations of health[24] which vary between population groups - with age, gender and socioeconomic status – as well as over time.[25,26] More cognitive testing of instruments and research on survey measurement error is needed to explore issues of differential response bias. However, such differences would explain some, but not all of the observed gradient in health expectancies.

Our results are broadly consistent with findings from similar area-based analyses in Canada.[27,28,29] Wilkins and colleagues found that neighbourhoods in the poorest income quintile in Canada had lower LE and more years of life with activity limitation. Similarly, studies reporting on gender differences in health expectancies also show a sizeable reduction in the health gap between men and women after taking into account differences in sub-optimal health.[5]

Our finding of a narrowing in the gap in life expectancy between the most and least deprived ward deciles over the period merits further discussion. Conventional estimates of premature mortality rates, such as standardised mortality ratios (SMRs) for ages to 65 and 75, have shown a widening of the health inequalities gap between the most and least deprived areas until the early 1990s.[30] However, SMRs calculated using indirect standardisation techniques do not differentiate between deaths occurring at older and younger ages. On the other hand, deaths in the first year of life have the largest impact on average life expectancy with successively smaller weights attached to deaths at older ages. Hence, although the number of infant deaths is small, reductions in childhood mortality will have a larger effect on life expectancy than on SMRs. Whitehead and Drever present evidence to show that there has been a narrowing in the differential in infant mortality between lone mothers and couple parents in the early 1990s.[31] Evidence from the Longitudinal Study shows that while LE at birth for males in the lowest Social Class V increased by 2.9 years between 1992–1996 and 1997–1999, it increased by only 0.8 years for males in Social Class I (highest).[32] The equivalent figures for females show a smaller increase in Social Class V (0.1) and a *decline* in LE in Social Class I (-0.6) over the same period. While the reduction in the inequality gap in life expectancy is a new finding for England, similar trends have been observed for urban areas in Canada over the period 1971–1986.[27]

The possibility that our finding is an artefact of the data was also explored. Population estimates at ward level used in this study are likely to have become increasingly out-of-date in successive years after the census, introducing error in the estimation of the probabilities of death for deprivation groups. But as each decile group in this study includes at least 500 wards spread out across the country, it is likely that such errors would cancel each other out with a negligible overall effect on the LE estimates.

An important limitation of the study is that we have not adjusted for the health of the population in institutions. Residents in all types of communal establishments (including hostels, hotels, boarding schools, care homes etc.) constituted 1.35 per cent of the population in the 1991 Census with just under one per cent resident in healthcare institutions. The latter were mainly people aged 65 and over, constituting about five per cent of the total elderly population in 1991 and about four per cent in 2000.[33] Bebbington and Darton have estimated that the overall effect of institutional population adjustment for DFLE at birth was small, ranging between 0.1 and 0.4 years lower than the unadjusted estimates.[34]

Slightly more institutional places were located in the least deprived wards (11 per cent) than in most deprived areas (7 per cent) (author's calculation based on location of care homes in 1999), although poorer elderly people are more likely to enter care than more affluent older people.[35] The impact of the exclusion of the care home population on the difference in health expectancies between types of areas would depend upon the area of residence coding applied to residents. For example, if the care home is treated as the area of residence, relatively higher numbers of places in affluent areas would tend to lower HLE estimates for affluent areas and push up estimates for the more deprived areas thereby narrowing the health inequality gap. However, given the relatively small size of the institutional population, the slight skew in the distribution of places towards less deprived areas is unlikely to alter the main findings of this study.

It is important to note that the health expectancy for an area at a particular point in time reflects the mortality and ill-health experience of those living in the area at the time, rather than those born in the area. Hence, the selective migration of relatively healthy people from more to less deprived places (or vice versa for unhealthy people) over any time in the lifecourse, but particularly at older ages, would have the effect of overestimating the health inequality gradient. However, the available evidence suggests that migration does not have a substantial effect on the pattern of health differentials between localities.[34,18]

Lastly, wards have been classified into decile groups based on their deprivation score in 1991. We have assumed that the deprivation group membership of wards has remained unchanged over the period of our study.[36]

Conclusion

Compared with measures based on mortality alone, health expectancies amplified the inequality gap between residents in the most and least deprived areas, and the gradient was steeper for males than for females. The inequality in life expectancy between the sexes was reduced when years spent in sub-optimal health were taken into account. The gap between the extremes of the deprivation deciles narrowed between 1994–1999 for life expectancy, but not for healthy life expectancy.

As with all ecological studies, it should be borne in mind that the relationships observed at the group level do not necessarily apply at the individual level. Having said that, the strength of area level analysis is that it provides a convenient measure of the combined effect of individual characteristics and environmental conditions on health status. From a health policy perspective, healthy life expectancies at area level offer a way of monitoring inequalities in the total health experience of population groups; and potentially a mechanism to guide area-based allocation of health resources. However, to gain wider acceptability as a policy tool, more research is needed to assess the validity and sensitivity of self-reported health status measures across person, place and time.

Key findings

- Males and females living in the most deprived wards had lower life expectancy at birth and spend twice the number of years in poor health compared with those in the least deprived wards.
- Male healthy life expectancy at birth in the most deprived wards was 49.4 years and 66.2 years in the least deprived wards, a difference of 16.9 years. For females the figures were 51.7 and 68.5 years, respectively, a difference of 16.8 years.
- For both sexes, the gap in disability-free life expectancy between the most deprived and least deprived wards was slightly smaller than that for healthy life expectancy.
- There were no significant changes in trends in healthy life expectancy by deprivation over the period 1994–1999.

Acknowledgements

I am grateful to National Centre for Social Research for access to the geographically referenced Health Survey for England datasets and to Susan Purdon for statistical advice; to Nicky Best at the Small Area Health Statistics Unit, Imperial College London for providing ward-level population estimates; and to Bill Hageman and Paul Faulkner at the Department of Health (DH) for providing mortality data and the postcode to ward link files. Thanks specially to colleagues who commented on earlier drafts of the paper, and in particular Carol Jagger, John Fox, and David Blane. The analyses reported here were partly funded by DH. The views expressed are those of the author and not of the Department.

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Tables

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Symbols

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- nil or less than half the final digit shown
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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-1992 to mid-2000 (released 7 October 2004) and mid-2001 to mid-2002 (released 9 September 2004) have been revised in light of the local authority population studies. The results of the LA population studies were published on 9 September 2004 and a summary report titled *2001 Census: Local Authority Population Studies – Full Report* is available at http://www.statistics.gov.uk/downloads/theme_population/lastudy_fullreport.pdf

Where rates are shown, footnotes to each table specify which population estimates have been used. 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's Department.

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 or may be subject to change: the grey shading signifies that the underlying population estimates relate to those originally published; the coloured shading indicates estimates that have already been revised from the original, but will or may be subject to further revision.

Table 1.1 Population and vital rates: international

Selected countries — Numbers (thousands)/Rates per thousand

Year	United Kingdom	Austria	Belgium	Cyprus[1]	Czech Republic	Denmark	Estonia	Finland	France	Germany[2]	Greece	Hungary	Irish Republic
Population (thousands)													
1971	55,928	7,501	9,673	..	9,810	4,963	1,369	4,612	51,251	78,313	8,831	10,370	2,992
1976	56,216	7,566	9,818	498	10,094	5,073	1,435	4,726	52,909	78,337	9,167	10,590	3,238
1981	56,357	7,569	9,859	515	10,293	5,121	1,482	4,800	54,182	78,408	9,729	10,712	3,443
1986	56,684	7,588	9,862	545	10,340	5,120	1,534	4,918	55,547	77,720	9,967	10,631	3,543
1991	57,439	7,813	9,979	587	10,309	5,154	1,566	5,014	57,055	79,984	10,247	10,346	3,526
1996	58,164[10]	8,059	10,157	656	10,315	5,262	1,469	5,125	58,376	81,896	10,476	10,193	3,626
1997	58,314[10]	8,072	10,181	666	10,304	5,284	1,458	5,140	58,809	82,052	10,499	10,155	3,661
1998	58,475[10]	8,092	10,214	675	10,295	5,301	1,450	5,153	58,853	82,029	10,520	10,114	3,705
1999	58,684[10]	8,093	10,226	683	10,283	5,330	1,442	5,165	59,099	82,057	10,534	10,068	3,745
2000	58,886[10]	8,103	10,239	690	10,273	5,330	1,370	5,176	58,749	82,164	10,554	10,024	3,777
2001	59,113[10]	8,121	10,263	698	10,220	5,349	1,360 p	5,190	59,037 p	82,260	10,565 p	10,190	3,826 p
2002	59,322[10]	8,140 p	10,307 p	710 p	10,200 p	5,368	..	5,210	59,344 p	82,431 p	10,598 p	10,160 p	3,884 p
2003	59,554	..	..	..	..	..	..	..	..	..	..	..	..
Population changes (per 1,000 per annum)													
1971–76	1.0	1.7	3.0	..	5.8	4.4	9.6	4.9	6.5	0.1	7.6	4.2	16.4
1976–81	0.5	0.1	0.8	6.8	3.9	1.9	6.6	3.1	4.8	0.2	12.3	2.3	12.7
1981–86	1.2	0.5	0.1	11.7	0.9	0.0	7.0	4.9	5.0	–1.8	4.9	–1.5	5.8
1986–91	2.6	5.9	2.4	15.4	–0.6	1.3	4.2	3.9	5.4	5.8	5.6	–5.4	–1.0
1991–96	2.5[10]	6.3	3.6	23.5	0.1	4.2	–12.4	3.8	4.6	4.8	4.5	–3.0	4.3
1997–98	2.8[10]	2.5	3.2	13.5	–0.9	3.2	–5.5	2.5	0.7	–0.3	2.0	–4.0	12.0
1998–99	3.6[10]	0.1	1.2	11.9	–1.2	5.5	–5.5	2.3	4.2	0.3	1.3	–4.5	10.8
1999–2000	3.4[10]	1.2	1.3	10.2	–1.0	0.0	–49.9	2.1	–5.9	1.3	1.9	–4.4	8.5
2000–01	3.9[10]	2.2	2.3	11.6	–5.2	3.6	–7.3 p	2.7	4.9 p	1.2	1.0 p	16.6	13.0 p
2001–02	3.5[10]	2.3 p	4.3 p	17.2 p	–2.0 p	3.6 p	..	3.9	5.2 p	2.1 p	3.1 p	–2.9 p	15.2 p
2002–03	3.9[10]	..	..	..	..	..	..	..	..	..	..	..	..
Live birth rate (per 1,000 per annum)													
1971–75	14.1	13.3	13.4	17.7	17.8	14.6	15.4	13.1	16.0	10.5	15.8	16.1	22.2
1976–80	12.5	11.5	12.5	19.0	17.1	12.0	15.0	13.6	14.1	10.5	15.6	15.8	21.3
1981–85	12.9	12.0	12.0	20.2	13.5	10.2	15.6	13.4	14.2	10.7	13.3	12.3	19.2
1986–90	13.7	11.6	12.1	18.8	12.7	11.5	15.5	12.7	13.8	9.8	10.6	11.8	15.8
1991–95	13.2	11.8	12.0	16.9	11.1	13.1	10.7	12.9	12.7	10.9	9.9	11.7	14.0
1996	12.6	11.0	11.5	14.5	8.8	12.9	9.0	11.8	12.6	9.7	9.6	10.3	13.9
1997	12.5	10.4	11.4	13.9	8.8	12.8	8.7	11.5	12.4	9.9	9.7	9.9	14.4
1998	12.3	10.1	11.2	13.1	8.8	12.5	8.4	11.1	12.6	9.7	9.6	9.6	14.5
1999	11.9	9.7	11.1	12.4	8.7	12.4	8.7	11.1	12.6	9.4	11.0	9.4	14.2
2000	11.5	9.7	11.2	12.2	..	12.6	9.5	11.0	13.2	9.3	11.7	9.7	14.3
2001	11.3	9.3	11.1	11.6	..	12.2	..	10.8	13.1	9.0	10.2	..	15.1
2002	11.3	..	..	11.1	..	..	..	10.7	..	..	..	..	15.5
2003	11.7	..	..	..	..	..	..	10.9	..	..	..	..	..
Death rate (per 1,000 per annum)													
1971–75	11.8	12.6	12.1	9.9	12.4	10.1	11.1	9.5	10.7	12.3	8.6	11.9	11.0
1976–80	11.9	12.3	11.6	10.4	12.5	10.5	12.1	9.3	10.2	12.2	8.8	12.9	10.2
1981–85	11.7	12.0	11.4	10.0	12.8	11.1	12.3	9.3	10.1	12.0	9.0	13.7	9.4
1986–90	11.4	11.1	10.8	10.2	12.4	11.5	11.9	9.8	9.5	11.6	9.3	13.5	9.1
1991–95	11.1	10.4	10.4	9.0	11.6	11.9	13.9	9.8	9.1	10.8	9.5	14.3	8.8
1996	10.9	10.0	10.3	8.5	10.9	11.6	12.9	9.6	9.2	10.8	9.6	14.0	8.7
1997	10.8	9.8	10.2	8.8	10.9	11.3	12.7	9.6	9.0	10.5	9.5	13.7	8.6
1998	10.8	9.7	10.3	8.0	10.6	11.0	13.4	9.6	9.2	10.4	9.8	13.9	8.5
1999	10.8	9.7	10.3	7.4	10.7	11.1	12.8	9.5	9.2	10.4	9.9	14.2	8.5
2000	10.3	9.5	10.2	7.7	..	10.9	13.4	9.5	9.1	10.2	10.5	13.5	8.2
2001	10.2	9.2	10.1	6.9	..	10.9	..	9.3	8.9	10.0	10.2	..	7.8
2002	10.2	..	..	7.3	..	..	..	9.4	..	..	..	..	7.5
2003	10.3	..	..	..	..	..	..	9.4	..	..	..	..	..

Note:
Estimated population, live birth and death rates up to the latest available date, as given in the *United Nations Monthly Bulletin of Statistics* (April 2004), the *United Nations Demographic Yearbook (2000 Edn), Eurostat Yearbook 2003* and the *New Cronos database (Eurostat)*.

1 Government-controlled area only.
2 Including former GDR throughout.
3 The European Union consists of 25 member countries (EU25). The live birth and death rates have been estimated by Eurostat, the statistical office of the EU.
4 Including the Indian held part of Jammu and Kashmir, the final status of which has not yet been determined.
5 Rates are based on births to or deaths of Japanese nationals only.
6 Excludes Hong Kong.
7 Estimate prepared by the Population Division of the United Nations.
8 Includes Hong Kong.
9 Rate is for 1990–1995.
10 These revised population estimates were published on 9 September 2004 (for mid-2001 and mid-2002) and 7 October 2004 (for mid-1992 to mid-2000), following the local authority population studies, and replace all earlier versions. All figures shown on this table are now therefore on a consistent basis.

p Provisional

Table 1.1 continued **Population and vital rates: international**

Selected countries — Numbers (thousands)/Rates per thousand

Year	United Kingdom	Italy	Latvia	Lithuania	Luxem–bourg	Malta	Nether–lands	Poland	Portugal	Slovakia	Slovenia	Spain	Sweden	EU–25[3]
Population (thousands)														
1971	55,928	54,073	2,366	3,160	342	330	13,194	32,800	8,644	4,540	1,732	34,216	8,098	..
1976	56,216	55,718	2,465	3,315	361	330	13,774	34,360	9,356	4,764	1,809	36,118	8,222	420,258
1981	56,357	56,502	2,515	3,422	365	322	14,247	35,902	9,851	4,996	1,910	37,741	8,320	428,563
1986	56,684	56,596	2,588	3,560	368	344	14,572	37,456	10,011	5,179	1,975	38,536	8,370	433,555
1991	57,439	56,751	2,662	3,742	387	358	15,070	38,245	9,871	5,283	2,002	38,920	8,617	440,927
1996	58,164 [10]	57,380	2,491	3,710	416	373	15,531	38,618	9,927	5,374	1,991	39,280	8,841	447,706
1997	58,314 [10]	57,523	2,469	3,706	421	376	15,611	38,650	9,946	5,383	1,987	39,350	8,846	448,863
1998	58,475 [10]	57,588	2,449	3,702	426	377	15,707	38,666	9,968	5,391	1,983	39,450	8,851	449,434
1999	58,684 [10]	57,646	2,432	3,700	432	379	15,812	38,654	9,990	5,395	1,986	39,630	8,861	450,326
2000	58,886 [10]	57,680	2,370	3,500	436	390	15,864	38,646	10,198	5,400	1,988	39,733	8,861	450,401
2001	59,113 [10]	57,844	2,360	3,480	441	390	15,987	38,640	10,263	5,380	1,990	40,122	8,883	451,972
2002	59,322 [10]	58,018 [P]	2,340 [P]	3,470 [P]	446 [P]	..	16,100 [P]	38,620 [P]	10,336 [P]	5,380 [P]	2,000 [P]	40,409 [P]	8,909	..
2003	59,554	..	..	..	..	..	..	..	..	..	..	..	..	..
Population changes (per 1,000 per annum)														
1971–76	1.0	6.1	8.4	9.8	10.7	0.0	8.8	9.5	16.5	9.9	8.9	11.1	3.1	..
1976–81	0.5	2.8	4.1	6.5	2.5	–4.8	6.9	9.0	10.6	9.7	11.2	9.0	2.4	4.0
1981–86	1.2	0.3	5.8	8.1	1.8	13.7	4.6	8.7	3.2	7.3	6.8	4.2	1.2	2.3
1986–91	2.6	0.5	5.7	10.2	10.2	8.1	6.8	4.2	–2.8	4.0	2.7	2.0	5.9	3.4
1991–96	2.5 [10]	2.2	–12.8	–1.7	14.9	8.4	6.1	2.0	1.1	3.4	–1.1	1.8	5.2	3.1
1997–98	2.8 [10]	1.1	–8.1	–1.1	11.9	2.7	6.1	0.4	2.2	1.5	–2.0	2.5	0.6	1.3
1998–99	3.6 [10]	1.0	–6.9	–0.5	14.1	5.3	6.7	–0.3	2.2	0.7	1.5	4.6	1.1	2.0
1999–2000	3.4 [10]	0.6	–25.5	–54.1	9.3	29.0	3.3	–0.2	20.8	0.9	1.0	2.6	0.0	0.1
2000–01	3.9 [10]	2.8	–4.2	–5.7	11.5	0.0	7.8	–0.2	6.4	–3.7	1.0	9.8	2.5	3.5
2001–02	3.5 [10]	3.0 [P]	–8.5 [P]	–2.9 [P]	11.3 [P]	..	7.1 [P]	–0.5 [P]	7.1 [P]	0.0 [P]	5.0 [P]	7.2 [P]	2.9	..
2002–03	3.9 [10]	..	..	..	..	..	..	..	..	..	..	..	..	..
Live birth rate (per 1,000 per annum)														
1971–75	14.1	16.0	14.4	16.4	11.6	17.5	14.9	17.9	20.3	19.7	16.4	19.2	13.5	..
1976–80	12.5	12.6	13.9	15.4	11.2	17.0	12.6	19.3	17.9	20.3	16.3	17.1	11.6	..
1981–85	12.9	10.6	15.2	16.0	11.6	15.3	12.2	19.0	14.5	18.0	14.2	12.8	11.3	..
1986–90	13.7	9.8	15.3	15.8	12.2	16.0	12.8	15.5	11.9	15.8	12.3	10.8	13.2	..
1991–95	13.2	9.6	10.8	13.1	13.3	14.0	12.8	12.9	11.4	13.3	10.0	9.8	13.3	..
1996	12.6	9.2	7.9	10.5	13.7	13.5	12.2	11.1	11.1	11.2	9.4	9.2	10.8	10.8
1997	12.5	9.4	7.6	10.2	13.1	13.1	12.3	10.7	11.4	11.0	9.1	9.4	10.2	10.7
1998	12.3	9.3	7.5	10.0	12.6	12.2	12.7	10.2	11.4	10.7	9.0	9.3	10.1	10.5
1999	11.9	9.3	8.0	9.8	13.0	11.4	12.7	9.9	11.6	10.4	8.8	9.6	10.0	10.5
2000	11.5	9.4	..	9.3	13.1	10.8	13.0	9.8	11.8	10.2	..	9.8	10.2	10.6
2001	11.3	9.3	..	..	12.4	..	12.6	..	10.8	..	..	..	10.3	10.4
2002	11.3	9.3	..	..	12.1	..	12.6	..	..	..	..	..	..	10.3
2003	11.7	..	..	..	..	..	12.4	..	..	..	..	..	..	..
Death rate (per 1,000 per annum)														
1971–75	11.8	9.8	11.6	9.0	12.2	9.0	8.3	8.4	11.0	9.4	10.0	8.5	10.5	..
1976–80	11.9	9.7	12.6	10.1	11.5	9.0	8.1	9.2	10.1	9.8	9.8	8.0	10.9	..
1981–85	11.7	9.5	12.8	10.6	11.2	8.2	8.3	9.6	9.6	10.1	10.3	7.7	11.0	..
1986–90	11.4	9.4	12.4	10.3	10.5	7.4	8.5	10.0	9.6	10.1	9.6	8.2	11.1	..
1991–95	11.1	9.7	14.8	12.0	9.8	7.6	8.8	10.2	10.4	9.9	9.7	8.7	10.9	..
1996	10.9	9.6	13.8	11.6	9.4	7.4	8.9	10.0	10.8	9.8	9.4	8.9	10.6	10.1
1997	10.8	9.8	13.6	11.1	9.4	7.7	8.7	9.8	10.6	9.5	9.5	8.9	10.5	10.0
1998	10.8	10.0	14.0	11.0	9.1	8.1	8.8	9.7	10.7	9.7	9.6	9.2	10.5	10.0
1999	10.8	9.9	13.5	10.8	8.8	8.2	8.9	9.9	10.8	9.9	9.5	9.1	10.7	10.0
2000	10.3	9.7	..	10.5	8.6	7.6	8.8	9.5	10.6	9.7	..	9.1	10.5	9.8
2001	10.2	9.6	..	..	7.2	..	8.8	..	10.4	9.8	..	8.9	10.5	9.7
2002	10.2	..	..	..	8.5	..	8.9	..	..	..	..	..	..	9.8
2003	10.3	..	..	..	..	..	8.7	..	..	..	..	..	..	..

See notes on first page of table.

Table 1.1 continued **Population and vital rates: international**

Selected countries — Numbers (thousands)/Rates per thousand

Year	United Kingdom	EU–25[3]	Russian Federation	Australia	Canada	New Zealand	China	India[4]	Japan[5]	USA
Population (thousands)										
1971	55,928	..	130,934	13,067	22,026	2,899	852,290 [6]	551,311	105,145	207,661
1976	56,216	420,258	135,027	14,033	23,517	3,163	937,170 [6]	617,248	113,094	218,035
1981	56,357	428,563	139,225	14,923	24,900	3,195	1,008,460 [6]	675,185	117,902	229,958
1986	56,684	433,555	144,154	16,018	26,204	3,317	1,086,733 [6]	767,199	121,672	240,680
1991	57,439	440,927	148,245	17,284	28,031	3,477	1,170,100 [6]	851,897	123,964	252,639
1996	58,164 [10]	447,706	147,739	18,311	29,610	3,714	1,223,890 [6]	939,540	125,761	265,463
1997	58,314 [10]	448,863	147,105	18,524	29,910	3,761	1,236,260 [6]	955,220	126,065	268,008
1998	58,475 [10]	449,434	146,540	18,730	30,160	3,792	1,248,100 [6]	970,933	126,400	270,300
1999	58,684 [10]	450,326	145,940	18,940	30,400	3,811	1,259,090 [6]	986,611	126,630	272,691
2000	58,886 [10]	450,401	145,560	19,160	30,690	3,831	1,275,130 [7,8,P]	1,002,142	126,840	275,260
2001	59,113 [10]	451,972	143,950	19,390	31,020	3,850 [P]	1,285,230 [7,8,P]	1,017,540 [P]	127,130 [P]	284,800
2002	59,322 [10]	..	144,080 [7P]	19,710 [P]	31,360	3,940 [P]	1,294,870 [7,8,P]	1,033,000 [P]	127,400 [P]	291,040 [7P]
2003	59,554	..	..	..	..	..	..	..	..	..
Population changes (per 1,000 per annum)										
1971–76	1.0	..	6.3	14.8	13.5	18.2	19.9 [6]	23.9	15.1	10.0
1976–81	0.5	4.0	6.2	12.7	11.8	2.0	15.2 [6]	18.8	8.5	10.9
1981–86	1.2	2.3	7.1	14.7	10.5	7.6	15.5 [6]	27.3	6.4	9.3
1986–91	2.6	3.4	5.7	15.8	13.9	9.6	15.3 [6]	22.1	3.8	9.9
1991–96	2.5 [10]	3.1	–0.7	11.9	11.3	13.6	9.2 [6]	20.6	2.9	10.2
1997–98	2.8 [10]	1.3	–3.8	11.1	8.4	8.2	9.6 [6]	16.4	2.7	8.6
1998–99	3.6 [10]	2.0	–4.1	11.2	8.0	5.0	8.8 [6]	16.1	1.8	8.8
1999–2000	3.4 [10]	0.1	–2.6	11.6	9.5	5.2	12.7 [8P]	15.7	1.7	9.4
2000–01	3.9 [10]	3.5	–11.1	12.0	10.8	5.0 [P]	7.9 [8P]	15.4 [P]	2.3 [P]	34.7
2001–02	3.5 [10]	..	0.9 [P]	16.5 [P]	11.0	23.4 [P]	7.5 [8P]	15.2 [P]	2.1 [P]	21.9 [P]
2002–03	3.9 [10]	..	..	..	..	..	..	..	..	..
Live birth rate (per 1,000 per annum)										
1971–75	14.1	..	..	18.8	15.9	20.4	27.2 [6]	35.6	18.6	15.3
1976–80	12.5	..	..	15.7	15.5	16.8	18.6 [6]	33.4	14.9	15.2
1981–85	12.9	..	..	15.6	15.1	15.8	19.2 [6]	..	12.6	15.7
1986–90	13.7	..	..	15.1	14.8	17.1	..	..	10.6	16.0
1991–95	13.2	..	10.2	..	..	..	18.5 [6,9]	..	..	..
1996	12.6	10.8	8.8	13.9	12.3	15.4	9.8 [6]	27.3	9.6	14.7
1997	12.5	10.7	8.6	13.6	11.6	15.4	9.1 [8]	..	9.5	14.5
1998	12.3	10.5	8.8	13.3	11.3	14.6	8.1 [8]	26.2	9.5	14.6
1999	11.9	–10.5	8.3	13.1	11.0	15.0	7.8 [8]	..	9.3	14.5
2000	11.5	10.6	6.7	13.0	10.8	14.8	8.1 [8]	..	9.4	14.7
2001	11.3	10.4	9.1	12.7	..	..	7.2 [8]	..	9.4	14.1
2002	11.3	10.3	..	12.7	..	..	7.1 [8]	..	..	..
2003	11.7	..	..	..	..	..	..	..	..	..
Death rate (per 1,000 per annum)										
1971–75	11.8	..	..	8.2	7.4	8.4	7.3 [6]	15.5	6.4	9.1
1976–80	11.9	..	..	7.6	7.2	8.2	6.6 [6]	13.8	6.1	8.7
1981–85	11.7	..	..	7.3	7.0	8.1	6.7 [6]	..	6.1	8.6
1986–90	11.4	..	..	7.2	7.3	8.2	..	..	6.4	8.7
1991–95	11.1	..	13.7	..	..	..	..	..	..	..
1996	10.9	10.1	14.1	7.0	7.2	7.6	5.0 [6]	8.9	7.1	8.7
1997	10.8	10.0	13.7	7.0	7.2	7.3	4.9 [8]	..	7.2	8.6
1998	10.8	10.0	13.6	6.8	7.2	6.9	5.0 [8]	9.0	7.4	8.6
1999	10.8	10.0	14.7	6.8	7.4	7.4	5.0 [8]	..	7.8	8.8
2000	10.3	9.8	15.3	6.7	7.5	7.0	5.1 [8]	..	7.6.	8.7
2001	10.2	9.7	15.6	6.6	..	..	5.0 [8]	..	7.6	8.5
2002	10.2	9.8	..	6.8	..	..	5.0 [8]	..	..	..
2003	10.3	..	..	..	..	..	..	..	..	..

See notes on first page of table.

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]	57,714	56,078	50,986	48,102	2,884	5,092	1,636
1994[3]	57,862	56,218	51,116	48,229	2,887	5,102	1,644
1995[3]	58,025	56,376	51,272	48,383	2,889	5,104	1,649
1996[3]	58,164	56,503	51,410	48,519	2,891	5,092	1,662
1997[3]	58,314	56,643	51,560	48,665	2,895	5,083	1,671
1998[3]	58,475	56,797	51,720	48,821	2,900	5,077	1,678
1999[3]	58,684	57,005	51,933	49,033	2,901	5,072	1,679
2000[3]	58,886	57,203	52,140	49,233	2,907	5,063	1,683
2001[3]	59,113	57,424	52,360	49,450	2,910	5,064	1,689
2002[3]	59,322	57,625	52,570	49,647	2,923	5,055	1,697
2003	59,554	57,851	52,794	49,856	2,938	5,057	1,703
of which (percentages)							
0–4	*5.7*	*5.7*	*5.7*	*5.7*	*5.4*	*5.2*	*6.5*
5–15	*14.0*	*13.9*	*14.0*	*14.0*	*14.2*	*13.4*	*16.3*
16–44	*40.2*	*40.2*	*40.2*	*40.4*	*37.5*	*40.0*	*41.4*
45–64M/59F	*21.6*	*21.6*	*21.6*	*21.5*	*22.5*	*22.4*	*19.9*
65M/60F–74	*10.9*	*11.0*	*10.9*	*10.8*	*11.9*	*11.7*	*9.8*
75 and over	*7.6*	*7.6*	*7.6*	*7.6*	*8.4*	*7.3*	*6.1*
Projections[1]							
2006	60,254	58,531	53,463	50,483	2,980	5,068	1,723
2011	61,401	59,649	54,615	51,595	3,020	5,034	1,753
2016	62,618	60,835	55,834	52,770	3,064	5,000	1,783
2021	63,835	62,023	57,060	53,954	3,106	4,963	1,811
of which (percentages)							
0–4	*5.5*	*5.5*	*5.6*	*5.6*	*5.3*	*4.9*	*6.0*
5–15	*11.9*	*11.9*	*12.0*	*12.0*	*11.9*	*10.9*	*13.1*
16–44	*36.3*	*36.3*	*36.4*	*36.5*	*34.5*	*34.5*	*37.1*
45–64[2]	*26.4*	*26.4*	*26.2*	*26.2*	*26.0*	*28.0*	*25.9*
65–74[2]	*10.4*	*10.4*	*10.3*	*10.2*	*11.6*	*11.5*	*9.6*
75 and over	*9.5*	*9.5*	*9.5*	*9.4*	*10.6*	*10.1*	*8.5*

Note: Figures may not add exactly due to rounding.

1 National projections based on mid-2003 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 These revised population estimates were published on 9 September 2004 (for mid-2001 and mid-2002) and 7 October 2004 (for mid-1992 to mid-2000), following the local authority population studies, and replace all earlier versions. All figures shown on this table are now therefore on a consistent basis.

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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[4]	2,594	6,847	4,954	4,056	5,246	5,154	6,844	7,673	4,734
1994[4]	2,589	6,839	4,960	4,072	5,249	5,178	6,874	7,712	4,757
1995[4]	2,583	6,828	4,961	4,092	5,257	5,206	6,913	7,763	4,782
1996[4]	2,576	6,810	4,961	4,108	5,263	5,233	6,974	7,800	4,793
1997[4]	2,568	6,794	4,958	4,120	5,262	5,267	7,015	7,853	4,827
1998[4]	2,561	6,792	4,958	4,133	5,271	5,302	7,065	7,889	4,849
1999[4]	2,550	6,773	4,956	4,152	5,272	5,339	7,154	7,955	4,881
2000[4]	2,543	6,774	4,959	4,168	5,270	5,375	7,237	7,991	4,917
2001[4]	2,540	6,773	4,977	4,190	5,281	5,400	7,322	8,023	4,943
2002[4]	2,538	6,783	4,993	4,223	5,304	5,422	7,371	8,044	4,968
2003	2,539	6,805	5,009	4,252	5,320	5,463	7,388	8,080	4,999
of which (percentages)									
0–4	*5.3*	*5.6*	*5.6*	*5.5*	*5.8*	*5.7*	*6.4*	*5.7*	*5.2*
5–15	*13.9*	*14.4*	*14.3*	*14.1*	*14.5*	*14.0*	*13.1*	*14.0*	*13.5*
16–44	*39.1*	*39.4*	*39.6*	*39.3*	*39.3*	*38.7*	*48.5*	*39.3*	*36.9*
45–64M/59F	*22.4*	*21.8*	*21.8*	*22.4*	*21.7*	*22.3*	*17.9*	*22.1*	*22.9*
65M/60F–74	*11.8*	*11.2*	*11.1*	*11.1*	*11.2*	*11.3*	*8.3*	*10.9*	*12.2*
75 and over	*7.6*	*7.5*	*7.6*	*7.6*	*7.5*	*8.0*	*5.8*	*8.1*	*9.3*
Projections[2]									
2004	2,535	6,811	5,022	4,275	5,330	5,499	7,431	8,122	5,031
2008	2,525	6,852	5,079	4,366	5,380	5,646	7,614	8,300	5,163
2013	2,516	6,914	5,154	4,479	5,451	5,833	7,858	8,527	5,328
2018	2,510	6,987	5,234	4,594	5,531	6,025	8,105	8,765	5,498
2023	2,502	7,057	5,313	4,706	5,609	6,212	8,331	9,005	5,668
2028	2,489	7,107	5,379	4,804	5,672	6,380	8,523	9,222	5,823
of which (percentage)									
0–4	*4.7*	*5.3*	*5.4*	*5.1*	*5.6*	*5.4*	*6.3*	*5.4*	*4.8*
5–15	*11.2*	*12.1*	*12.1*	*11.9*	*12.5*	*12.3*	*11.7*	*12.1*	*11.3*
16–44	*33.7*	*35.4*	*35.7*	*33.9*	*34.7*	*34.0*	*43.8*	*35.0*	*32.8*
45–64[3]	*25.3*	*24.9*	*24.6*	*25.6*	*25.1*	*25.0*	*24.2*	*25.1*	*25.3*
65–74[3]	*12.7*	*11.1*	*11.0*	*11.5*	*10.7*	*11.2*	*7.4*	*10.8*	*12.1*
75 and over	*12.3*	*11.2*	*11.3*	*12.1*	*11.4*	*12.2*	*6.6*	*11.7*	*13.7*

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* 15 for further details of changes to Health Areas.

2 These projections are based on the mid-2003 population estimates and are consistent with the 2003-based national projections produced by the Government Actuary's Department and presented in Table 1.2.

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 These revised population estimates were published on 9 September 2004 (for mid-2001 and mid-2002) and 7 October 2004 (for mid-1992 to mid-2000), following the local authority population studies, and replace all earlier versions. All figures shown on this table are now therefore on a consistent basis.

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]	58,164	719	3,019	7,544	7,231	9,131	7,958	10,553	2,785	5,066	3,129	711	317	12,018	35,498	10,649
1998[1]	58,475	713	2,930	7,649	7,079	8,948	8,285	10,767	2,835	4,979	3,211	736	344	12,013	35,746	10,717
1999[1]	58,684	704	2,896	7,684	7,090	8,795	8,474	10,887	2,877	4,948	3,230	746	354	12,011	35,928	10,745
2000[1]	58,886	682	2,869	7,652	7,139	8,646	8,678	11,011	2,900	4,940	3,249	755	364	11,959	36,138	10,788
2001[1]	59,113	663	2,819	7,624	7,261	8,475	8,846	11,168	2,884	4,947	3,296	753	377	11,863	36,406	10,845
2002[1]	59,322	661	2,753	7,601	7,403	8,256	9,002	11,316	2,890	4,969	3,345	739	388	11,783	36,622	10,916
2003	59,554	679	2,703	7,542	7,575	8,070	9,108	11,424	2,943	5,005	3,401	706	399	11,712	36,828	11,014
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	3,630
1996[1]	28,287	369	1,547	3,857	3,652	4,540	3,954	5,244	1,360	2,311	1,187	201	65	6,148	18,375	3,764
1998[1]	28,458	365	1,503	3,916	3,570	4,444	4,109	5,342	1,388	2,293	1,240	215	73	6,151	18,486	3,821
1999[1]	28,578	361	1,485	3,934	3,577	4,367	4,200	5,400	1,409	2,289	1,259	221	77	6,152	18,582	3,845
2000[1]	28,690	350	1,469	3,920	3,606	4,292	4,298	5,457	1,420	2,294	1,278	225	81	6,128	18,685	3,878
2001[1]	28,832	338	1,445	3,906	3,672	4,215	4,382	5,534	1,412	2,308	1,308	227	85	6,077	18,827	3,928
2002[1]	28,963	339	1,409	3,895	3,754	4,107	4,460	5,604	1,414	2,327	1,339	226	89	6,037	18,945	3,982
2003	29,108	349	1,384	3,864	3,850	4,018	4,514	5,653	1,439	2,354	1,371	219	94	6,002	19,068	4,038
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]	29,877	350	1,472	3,687	3,579	4,591	4,005	5,309	1,426	2,755	1,942	509	252	5,870	17,123	6,885
1998[1]	30,017	348	1,427	3,733	3,509	4,504	4,176	5,425	1,447	2,686	1,971	521	271	5,861	17,260	6,895
1999[1]	30,106	343	1,412	3,750	3,513	4,428	4,273	5,487	1,468	2,659	1,971	525	277	5,859	17,346	6,900
2000[1]	30,196	333	1,399	3,732	3,533	4,353	4,380	5,554	1,481	2,646	1,971	530	283	5,832	17,453	6,911
2001[1]	30,281	324	1,375	3,718	3,589	4,260	4,465	5,634	1,473	2,640	1,987	526	292	5,786	17,579	6,917
2002[1]	30,359	323	1,344	3,706	3,649	4,149	4,542	5,712	1,476	2,641	2,006	512	299	5,747	17,677	6,934
2003	30,446	331	1,319	3,677	3,725	4,052	4,594	5,771	1,504	2,651	2,030	486	305	5,710	17,760	6,976
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	31,100	9,400
1996[1]	51,410	637	2,668	6,636	6,336	8,076	7,017	9,363	2,457	4,496	2,801	639	285	10,584	31,353	9,474
1998[1]	51,720	631	2,594	6,740	6,212	7,925	7,304	9,552	2,503	4,411	2,875	661	311	10,599	31,591	9,530
1999[1]	51,933	625	2,566	6,779	6,228	7,800	7,475	9,656	2,542	4,381	2,891	671	319	10,608	31,771	9,554
2000[1]	52,140	607	2,544	6,757	6,275	7,682	7,661	9,764	2,564	4,372	2,907	680	328	10,572	31,977	9,591
2001[1]	52,360	589	2,502	6,740	6,387	7,536	7,816	9,898	2,549	4,377	2,947	677	340	10,495	32,226	9,639
2002[1]	52,570	589	2,445	6,726	6,520	7,349	7,962	10,027	2,553	4,395	2,990	664	351	10,435	32,435	9,700
2003	52,794	606	2,402	6,677	6,681	7,190	8,062	10,116	2,599	4,427	3,039	634	360	10,381	32,627	9,786
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]	25,030	327	1,368	3,393	3,202	4,020	3,489	4,659	1,205	2,059	1,067	182	59	5,416	16,247	3,367
1998[1]	25,201	323	1,331	3,451	3,135	3,942	3,627	4,744	1,230	2,041	1,115	194	66	5,428	16,355	3,417
1999[1]	25,323	321	1,315	3,471	3,144	3,880	3,711	4,793	1,250	2,036	1,132	200	70	5,434	16,452	3,437
2000[1]	25,438	311	1,303	3,462	3,172	3,823	3,802	4,842	1,259	2,040	1,148	204	73	5,416	16,556	3,466
2001[1]	25,574	301	1,281	3,453	3,231	3,758	3,881	4,907	1,252	2,052	1,175	206	77	5,376	16,688	3,510
2002[1]	25,702	302	1,251	3,446	3,307	3,664	3,955	4,967	1,253	2,069	1,203	205	81	5,346	16,799	3,557
2003	25,841	311	1,230	3,422	3,394	3,588	4,006	5,008	1,274	2,092	1,231	199	85	5,320	16,914	3,607
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]	26,381	310	1,300	3,243	3,134	4,056	3,528	4,704	1,252	2,437	1,734	457	227	5,168	15,106	6,107
1998[1]	26,519	308	1,264	3,289	3,077	3,983	3,677	4,808	1,272	2,370	1,760	467	244	5,171	15,235	6,113
1999[1]	26,610	305	1,251	3,308	3,083	3,920	3,763	4,863	1,292	2,345	1,759	472	249	5,175	15,318	6,117
2000[1]	26,702	296	1,241	3,296	3,103	3,859	3,859	4,923	1,304	2,332	1,758	476	255	5,155	15,421	6,126
2001[1]	26,786	288	1,220	3,287	3,156	3,778	3,935	4,992	1,297	2,326	1,771	471	263	5,119	15,538	6,129
2002[1]	26,868	287	1,194	3,280	3,214	3,684	4,007	5,059	1,300	2,326	1,787	460	270	5,090	15,635	6,143
2003	26,953	295	1,172	3,256	3,287	3,602	4,056	5,108	1,325	2,335	1,808	436	275	5,061	15,714	6,179

Note: Figures may not add exactly due to rounding.
1 These revised population estimates were published on 9 September 2004 (for mid-2001 and mid-2002) and 7 October 2004 (for mid-1992 to mid-2000), following the local authority population studies, and replace all earlier versions. All figures shown on this table are now therefore on a consistent basis.

Tel no. for all enquiries relating to population estimates:- 01329 813318

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
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]	48,519	603	2,523	6,255	5,985	7,667	6,638	8,822	2,310	4,217	2,631	602	269	9,985	29,639	8,895
1998[1]	48,821	598	2,453	6,356	5,869	7,524	6,915	8,999	2,353	4,140	2,698	623	293	10,003	29,868	8,950
1999[1]	49,033	592	2,427	6,394	5,881	7,412	7,079	9,097	2,391	4,114	2,713	632	301	10,014	30,044	8,975
2000[1]	49,233	575	2,406	6,375	5,923	7,304	7,257	9,199	2,411	4,107	2,727	641	309	9,980	30,243	9,010
2001[1]	49,450	558	2,366	6,359	6,032	7,171	7,407	9,327	2,395	4,113	2,764	638	321	9,908	30,487	9,055
2002[1]	49,647	558	2,312	6,345	6,155	6,993	7,548	9,448	2,397	4,130	2,804	625	331	9,853	30,683	9,111
2003	49,856	575	2,273	6,300	6,304	6,843	7,643	9,533	2,438	4,159	2,852	596	340	9,804	30,862	9,190
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]	23,629	309	1,294	3,198	3,023	3,818	3,302	4,390	1,133	1,932	1,003	172	55	5,110	15,358	3,161
1998[1]	23,794	306	1,258	3,254	2,960	3,743	3,436	4,470	1,157	1,916	1,047	183	62	5,123	15,462	3,209
1999[1]	23,916	304	1,243	3,274	2,969	3,689	3,517	4,516	1,176	1,913	1,063	188	66	5,129	15,558	3,229
2000[1]	24,030	294	1,232	3,266	2,995	3,638	3,604	4,562	1,184	1,917	1,078	192	69	5,113	15,661	3,256
2001[1]	24,166	285	1,212	3,257	3,053	3,580	3,681	4,624	1,176	1,928	1,103	194	73	5,075	15,793	3,298
2002[1]	24,288	286	1,183	3,251	3,123	3,492	3,753	4,682	1,176	1,944	1,128	193	77	5,047	15,899	3,342
2003	24,415	295	1,164	3,228	3,204	3,418	3,802	4,721	1,195	1,965	1,156	187	80	5,024	16,003	3,388
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]	24,890	293	1,229	3,056	2,961	3,849	3,336	4,432	1,177	2,286	1,628	430	214	4,876	14,281	5,734
1998[1]	25,027	292	1,195	3,102	2,908	3,781	3,479	4,529	1,196	2,224	1,651	440	230	4,880	14,406	5,741
1999[1]	25,117	288	1,183	3,121	2,912	3,724	3,562	4,581	1,215	2,201	1,650	444	235	4,885	14,486	5,746
2000[1]	25,203	281	1,174	3,109	2,928	3,667	3,653	4,637	1,227	2,190	1,649	448	240	4,867	14,582	5,755
2001[1]	25,284	273	1,154	3,102	2,979	3,591	3,726	4,702	1,219	2,185	1,661	444	248	4,834	14,694	5,757
2002[1]	25,358	272	1,129	3,095	3,031	3,501	3,795	4,766	1,220	2,186	1,676	433	254	4,806	14,783	5,769
2003	25,441	280	1,109	3,072	3,100	3,424	3,841	4,812	1,243	2,194	1,696	409	260	4,780	14,859	5,802
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]	2,891	34	146	381	352	409	379	541	147	279	170	37	17	598	1,714	578
1998[1]	2,900	34	141	384	343	401	390	553	150	271	177	38	18	596	1,723	581
1999[1]	2,901	33	139	385	347	388	395	559	151	267	178	39	18	594	1,727	580
2000[1]	2,907	32	138	383	352	378	403	565	152	265	180	39	19	591	1,734	581
2001[1]	2,910	32	136	382	356	365	409	572	154	264	183	39	20	587	1,739	584
2002[1]	2,923	30	132	380	366	356	415	579	156	265	185	39	20	582	1,752	589
2003	2,938	31	129	377	377	347	418	583	161	268	187	38	20	577	1,765	596
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]	1,401	17	74	195	179	203	187	269	72	128	64	10	3	306	890	206
1998[1]	1,407	17	72	197	174	199	192	274	73	125	68	11	4	305	894	208
1999[1]	1,408	17	72	198	176	192	194	277	74	124	69	11	4	305	895	208
2000[1]	1,408	16	71	196	177	185	198	280	75	124	71	12	4	303	895	210
2001[1]	1,409	16	69	196	179	178	200	283	75	124	73	12	4	301	895	212
2002[1]	1,414	16	68	195	183	172	202	286	77	125	74	12	5	299	900	215
2003	1,426	16	66	194	191	170	204	287	79	127	75	12	5	297	911	219
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	173	206	192	272	75	151	106	27	13	293	825	373
1998[1]	1,492	16	69	187	169	202	198	278	76	146	109	27	14	290	829	373
1999[1]	1,493	16	68	187	171	196	201	282	77	144	109	27	15	289	832	371
2000[1]	1,499	15	67	186	175	192	206	285	77	142	109	28	15	288	840	371
2001[1]	1,502	15	66	186	177	187	209	289	78	141	110	27	15	286	844	372
2002[1]	1,509	15	65	185	182	183	212	293	80	140	111	27	16	283	852	374
2003	1,512	15	63	184	186	178	214	296	82	141	112	26	16	281	855	377

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
2003	5,057	52	212	614	648	648	793	1,008	265	452	281	55	31	943	3,156	958
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
2003	2,435	26	108	314	329	315	383	496	126	204	108	16	7	483	1,616	336
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
2003	2,623	25	104	300	318	332	410	512	139	248	173	39	24	460	1,540	622
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	121	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
2003	1,703	21	89	251	246	233	254	301	78	126	81	16	8	388	1,044	271
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
2003	833	11	46	129	126	115	124	149	38	58	31	5	2	199	538	95
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
2003	870	10	43	122	120	118	129	152	40	68	49	11	6	189	506	175

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	40,501	5,891	11,636	1,187	727	19,441	4,817	11,833	1,459	2,951	21,060
1996	40,827	6,225	11,310	1,346	733	19,614	5,168	11,433	1,730	2,881	21,212
1997	40,966	6,337	11,240	1,379	734	19,690	5,288	11,353	1,781	2,855	21,276
1998	41,121	6,450	11,183	1,405	735	19,773	5,406	11,284	1,827	2,832	21,349
1999	41,325	6,582	11,143	1,433	732	19,890	5,526	11,235	1,875	2,800	21,435
2000	41,569	6,721	11,113	1,456	731	20,022	5,650	11,199	1,927	2,772	21,547
2001	41,865	6,894	11,090	1,482	733	20,198	5,798	11,150	1,975	2,745	21,667
2002	42,135	7,076	11,015	1,535	731	20,357	5,961	11,073	2,035	2,709	21,778
2003	42,413	7,261	10,940	1,590	728	20,520	6,128	11,000	2,096	2,668	21,892
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	2,665	1,358	8	0	0	1,366	1,267	32	0	0	1,300
1996	2,402	1,209	6	0	0	1,216	1,164	21	0	0	1,186
1997	2,478	1,246	6	0	0	1,253	1,203	20	1	1	1,225
1998	2,532	1,274	6	1	0	1,281	1,230	20	1	1	1,251
1999	2,543	1,280	6	1	1	1,288	1,234	20	1	1	1,255
2000	2,523	1,276	6	1	1	1,283	1,221	18	1	1	1,240
2001	2,567	1,304	5	1	1	1,312	1,237	16	1	1	1,255
2002	2,633	1,347	4	1	1	1,353	1,266	13	1	1	1,280
2003	2,702	1,386	4	1	1	1,391	1,299	12	0	1	1,311
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	3,911	1,717	242	12	0	1,971	1,421	490	29	1	1,941
1996	3,291	1,538	117	3	0	1,658	1,361	260	11	1	1,633
1997	3,141	1,479	99	3	0	1,580	1,325	225	9	1	1,561
1998	3,047	1,442	86	2	0	1,530	1,306	201	8	1	1,517
1999	3,047	1,449	78	2	0	1,530	1,320	188	8	1	1,517
2000	3,088	1,470	74	3	0	1,548	1,352	180	8	1	1,540
2001	3,157	1,501	74	3	1	1,579	1,390	178	8	1	1,578
2002	3,211	1,534	69	3	1	1,607	1,428	166	8	1	1,604
2003	3,283	1,573	69	3	1	1,646	1,466	161	8	1	1,637
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	4,154	1,132	856	82	1	2,071	800	1,158	123	2	2,083
1996	3,950	1,273	650	46	1	1,970	977	906	93	3	1,980
1997	3,877	1,294	595	42	1	1,932	1,012	844	85	3	1,945
1998	3,789	1,304	544	38	1	1,887	1,039	783	77	3	1,902
1999	3,687	1,304	497	34	1	1,836	1,051	725	72	3	1,851
2000	3,605	1,305	459	31	1	1,796	1,065	677	65	3	1,810
2001	3,487	1,293	420	28	1	1,742	1,059	625	58	3	1,745
2002	3,348	1,276	371	26	1	1,674	1,052	567	52	3	1,674
2003	3,262	1,271	337	25	1	1,634	1,053	524	49	2	1,628

Note: Figures may not add exactly due to rounding.

1 Following evidence from the 2001 Census, estimates of under-enumeration were revised for 1991 estimates and a revised population estimate back series by age and sex issued for 1982–1990. These revisions have yet to be taken account of in the marital status estimates for 1986.

See 'Notes to tables'.

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	3,708	520	1,172	155	2	1,849	335	1,330	189	5	1,859
1996	4,126	776	1,135	138	2	2,050	551	1,316	201	7	2,076
1997	4,151	817	1,111	133	2	2,064	589	1,293	198	7	2,088
1998	4,136	848	1,078	127	3	2,056	621	1,259	193	7	2,081
1999	4,113	877	1,043	121	3	2,044	651	1,223	188	7	2,069
2000	4,076	904	1,007	114	2	2,027	679	1,182	181	7	2,049
2001	4,050	934	971	108	2	2,016	711	1,142	174	7	2,033
2002	4,000	961	921	105	2	1,990	743	1,094	167	6	2,010
2003	3,928	981	868	102	2	1,954	767	1,043	159	6	1,974
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	7,022	477	2,632	384	11	3,504	280	2,760	444	34	3,517
1996	7,017	653	2,426	398	12	3,489	427	2,568	497	36	3,528
1997	7,155	708	2,433	403	12	3,556	472	2,580	511	36	3,599
1998	7,304	768	2,442	405	13	3,627	522	2,596	523	36	3,677
1999	7,475	832	2,459	408	13	3,711	577	2,617	533	37	3,763
2000	7,661	899	2,481	410	12	3,802	635	2,640	547	37	3,859
2001	7,816	963	2,494	411	12	3,881	692	2,649	558	36	3,935
2002	7,962	1,031	2,489	424	12	3,955	751	2,650	571	35	4,007
2003	8,062	1,089	2,471	435	12	4,006	805	2,634	583	34	4,056
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	10,960	456	4,394	456	127	5,433	292	4,211	521	503	5,527
1996	11,820	528	4,587	628	121	5,864	318	4,466	732	440	5,956
1997	11,927	545	4,593	656	120	5,914	328	4,486	770	430	6,014
1998	12,055	565	4,608	681	121	5,974	340	4,512	807	422	6,080
1999	12,198	589	4,627	706	121	6,043	355	4,541	844	415	6,155
2000	12,328	615	4,638	727	121	6,101	372	4,564	881	410	6,227
2001	12,447	644	4,647	747	121	6,159	391	4,578	918	401	6,289
2002	12,580	671	4,649	780	120	6,220	413	4,596	960	391	6,359
2003	12,715	702	4,647	815	118	6,283	437	4,613	1,002	380	6,433
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	8,080	231	2,332	99	586	3,248	422	1,853	152	2,405	4,832
1996	8,221	247	2,390	134	597	3,367	369	1,897	196	2,393	4,854
1997	8,237	248	2,404	143	597	3,391	358	1,904	207	2,377	4,845
1998	8,258	250	2,418	152	597	3,417	348	1,913	218	2,362	4,841
1999	8,262	251	2,431	161	594	3,437	338	1,922	230	2,336	4,825
2000	8,287	252	2,449	171	593	3,466	327	1,938	243	2,313	4,821
2001	8,342	254	2,478	183	595	3,510	318	1,960	259	2,295	4,832
2002	8,400	256	2,511	197	595	3,557	308	1,987	276	2,272	4,843
2003	8,461	258	2,544	211	594	3,607	301	2,015	294	2,244	4,854

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	12.25	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	10.9	4.50	6.1	3.00	4.1	6.41	8.7
1999	700.0	11.9	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	11.5	268.1	395	305.9	..	154.6	..	608.4	10.3	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	11.3	271.7	406	293.0[P]	..	160.5[P]	..	606.2	10.2	3.50	5.2	2.36	3.5	5.57	8.3
2003	695.6	11.7	288.5	415	306.0[P]	..	166.7[P]	..	612.0	10.3	3.69	5.3	2.53	3.6	5.94	8.5
2002 Sept	173.8	11.7	71.0	409	120.6[P]	..	41.1[P]	..	139.8	9.3	0.83	4.8	0.56	3.2	1.37	7.8
Dec	168.9	11.4	69.9	414	54.4[P]	..	39.8[P]	..	157.0	10.5	0.92	5.4	0.62	3.7	1.41	8.3
2003 March	165.6	11.3	68.7	415	38.0[P]	..	42.6[P]	..	162.5	11.1	0.96	5.8	0.65	3.9	1.45	8.7
June	173.4	11.7	70.3	405	85.0[P]	..	42.0[P]	..	145.8	9.8	0.88	5.0	0.60	3.4	1.49	8.5
Sept	182.2	12.2	75.7	415	127.0[P]	..	41.3[P]	..	140.7	9.4	0.89	4.9	0.62	3.4	1.52	8.3
Dec	174.3	11.6	73.6	423	56.0[P]	..	40.8[P]	..	162.2	10.8	0.96	5.5	0.66	3.8	1.49	8.5
2004 March	174.3[P]	11.7[P]	73.6[P]	422[P]	..	..	..	..	161.1[P]	10.9[P]	0.96[P]	5.5[P]	0.64[P]	3.7[P]	1.46[P]	8.3[P]
June	175.6[P]	11.8[P]	73.1[P]	415[P]	..	..	..	..	139.7[P]	9.4[P]	0.88[P]	5.0[P]	0.60[P]	3.4[P]	1.40[P]	7.9[P]
Sept	184.3[P]	12.4[P]	78.2[P]	424[P]	..	..	..	..	135.5[P]	9.1[P]	0.92[P]	5.0[P]	0.64[P]	3.5[P]	1.45[P]	7.8[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	10.45	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	12.6	232.7	358	279.0	30.9	157.1	13.8	560.1	10.9	3.99	6.1	2.68	4.1	5.62	8.6
1999	621.9	12.0	241.9	389	263.5	27.8	144.6	12.9	556.1	10.7	3.62	5.8	2.44	3.9	5.14	8.2
2000	604.4	11.6	238.6	395	268.0	27.8	141.1	12.7	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	25.4	143.8	12.9	530.4	10.1	3.24	5.4	2.14	3.6	4.76	8.0
2002	596.1	11.3	242.0	406	255.5[P]	25.6[P]	147.7[P]	13.4[P]	533.5	10.1	3.13	5.2	2.13	3.6	4.99	8.3
2003	621.5	11.8	257.2	414	268.0[P]	26.1[P]	153.5[P]	14.0[P]	538.3	10.2	3.31	5.3	2.26	3.6	5.34	8.5[P]
2002 Sept	155.0	11.7	63.5	409	105.7[P]	42.0[P]	38.0[P]	13.6[P]	122.7	9.3	0.82	4.7	0.50	3.2	1.23	7.9
Dec	150.6	11.4	62.3	414	46.9[P]	18.6[P]	36.6[P]	13.1[P]	138.2	10.4	0.83	5.5	0.55	3.7	1.26	8.3
2003 March	147.4	11.3	61.0	414	34.0[P]	13.4[P]	39.4	14.6	143.0	11.0	0.86	5.9	0.60	3.9	1.32	8.9
June	155.1	11.8	62.8	405	75.0[P]	29.2[P]	38.6	14.1	128.3	9.7	0.80	5.1	0.55	3.5	1.34	8.6
Set	162.9	12.2	67.6	415	111.0[P]	43.0[P]	37.9	13.7	123.9	9.3	0.79	4.8	0.55	3.4	1.36	8.3
Dec	156.0	11.7	65.8	422	48.0[P]	18.7[P]	37.6	13.6	143.1	10.8	0.86	5.5	0.59	3.7	1.32	8.4
2004 March	155.2[P]	11.8[P]	65.2[P]	420[P]	..	..	39.4[P]	14.5[P]	142.0[P]	10.8[P]	0.86[P]	5.6[P]	0.59[P]	3.8[P]	1.29[P]	8.3[P]
June	157.4[P]	11.9[P]	65.2[P]	414[P]	..	..	38.0[P]	13.9[P]	122.5[P]	9.3[P]	0.78[P]	5.0[P]	0.53[P]	3.4[P]	1.24[P]	7.9[P]
Sept	164.7[P]	12.5[P]	69.8[P]	424[P]	..	..			119.0[P]	9.0[P]	0.81[P]	4.9[P]	0.57[P]	3.5[P]	1.30[P]	7.8[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	12.7	218.2	355	264.2	..	148.7	..	524.0	10.8	3.74	6.1	2.53	4.1	5.36	8.7
1999	589.5	12.0	226.7	385	249.5	..	137.0	..	519.6	10.8	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	..	136.4	..	496.1	10.0	3.04	5.4	2.02	3.6	4.51	8.0
2002	565.7	11.4	227.0	401	242.1[P]	..	140.2[P]	..	499.1	10.1	2.97	5.2	2.02	3.6	4.75	8.3
2003	589.9	11.8	241.4	409	253.0[P]	..	145.8	..	503.4	10.1	3.14	5.3	2.15	3.7	5.01	8.5
2002 Sept	147.1	11.8	59.5	404	99.9[P]	..	36.1[P]	..	114.6	8.6	0.69	4.7	0.47	3.2	1.15	7.8
Dec	142.9	11.4	58.4	409	44.5[P]	..	34.7[P]	..	129.3	9.8	0.79	5.5	0.53	3.7	1.19	8.3
2003 March	139.9	11.4	57.2	409	32.0[P]	..	37.5[P]	..	133.8	10.9	0.83	5.9	0.55	3.9	1.25	8.9
June	147.3	11.8	58.9	400	71.0[P]	..	36.6[P]	..	119.6	9.1	0.76	5.1	0.52	3.6	1.28	8.6
Sept	154.5	12.3	63.4	411	105.0[P]	..	36.0[P]	..	116.0	8.7	0.74	4.8	0.52	3.3	1.28	8.3
Dec	148.2	11.8	61.8	417	46.0[P]	..	35.7[P]	..	134.0	10.1	0.82	5.5	0.56	3.8	1.26	8.4
2004 March	147.3[P]	11.8[P]	61.2[P]	416[P]	..	..	37.4[P]	..	132.8[P]	10.7[P]	0.82[P]	5.6[P]	0.55[P]	3.8[P]	1.22[P]	8.2[P]
June	149.5[P]	12.0[P]	61.3[P]	410[P]	..	..	36.0[P]	..	114.6[P]	9.2[P]	0.73[P]	4.9[P]	0.51[P]	3.4[P]	1.17[P]	7.9[P]
Sept	156.2[P]	11.8[P]	65.5[P]	419[P]	..	..			111.1[P]	8.9[P]	0.76[P]	4.8[P]	0.54[P]	3.4[P]	1.23[P]	7.8[P]

Notes: 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 to 2003. Provisional figures for 2004 relate to registrations. Death rates for 2004 are based on the mid-2003 population estimates.

Birth and death figures for England and also 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.

Birth rates for 2004 are based on the 2003-based population projections for 2004.

Marriage and divorce rates in England and Wales for 1986 have been calculated using the interim revised marital status estimates (based on the original mid-2001 estimates) and are subject to further revision. Marriage and divorce rates for 2004 in Scotland are based on 2003 marital status estimates. Figures for 2003 may not add precisely due to rounding.

See 'Notes to tables'.

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	12.1	14.4	412	14.8	..	8.4	..	34.6	12.0	0.20	5.6	0.13	3.6	0.26	7.5
1999	32.1	11.1	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	10.3	15.0	497	13.5[p]	..	7.6[p]	..	33.2	11.3	0.14	4.5	0.10	3.2	0.24	7.7
2003	31.4	10.7	15.8	503	..	..	7.7[p]	..	33.7	11.5	0.13	4.3	0.10	3.1	0.24	7.5
2002 Sept	7.9	10.7	4.0	505	5.8[p]	..	1.9[p]	..	7.7	10.5	0.04	4.6	0.03	3.7	0.07	8.7
Dec	7.7	10.4	3.9	513	2.4[p]	..	1.9[p]	..	8.5	11.6	0.03	4.0	0.02	3.1	0.06	8.0
2003 March	7.5	10.3	3.8	505	..	..	2.0[p]	..	8.9	12.3	0.04	4.7	0.03	3.8	0.06	7.7
June	7.8	10.7	3.9	494	..	..	2.0[p]	..	8.3	11.4	0.03	4.0	0.02	2.7	0.06	7.3
Sept	8.3	11.2	4.2	503	..	..	1.9[p]	..	7.6	10.2	0.04	4.6	0.03	3.5	0.07	8.2
Dec	7.8	10.5	4.0	511	..	..	1.9[p]	..	8.8	11.9	0.03	3.8	0.02	2.3	0.05	6.9
2004 March	7.8[p]	10.6[p]	4.0[p]	514[p]	..	..	2.0[p]	..	8.9[p]	12.2[p]	0.05[p]	5.8[p]	0.03[p]	4.1[p]	0.07[p]	9.2[p]
June	7.8[p]	10.6[p]	3.9[p]	500[p]	..	..	2.0[p]	..	7.7[p]	10.5[p]	0.04[p]	4.6[p]	0.03[p]	3.0[p]	0.06[p]	7.3[p]
Sept	8.4[p]	11.5[p]	4.3[p]	512[p]	..	..	..	..	7.5[p]	10.2[p]	0.05[p]	6.2[p]	0.03[p]	4.0[p]	0.06[p]	7.6[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
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	31.0	10.6	9.7	57.4	11.3	0.29	5.5	0.20	3.8	0.45	8.5
2002	51.3	10.1	22.5	440	29.8	31.0	10.8	10.0	58.1	11.5	0.27	5.3	0.16	3.2	0.39	7.6
2003	52.4	10.4	23.9	455	20.7[p]	32.2[p]	10.1[p]	10.0[p]	58.5	11.6	0.27	5.1	0.18	3.4	0.42	8.0
2002 Sept	13.2	10.4	5.7	431	11.9	48.9	2.6	9.6	13.6	10.7	0.07	5.2	0.05	3.7	0.10	7.3
Dec	13.1	10.2	5.9	450	6.2	25.3	2.7	10.0	15.2	11.9	0.07	5.1	0.04	3.4	0.10	7.9
2003 March	12.8	10.3	5.9	462	3.9[p]	15.2[p]	2.5[p]	9.4[p]	15.7	12.6	0.07	5.5	0.05	3.8	0.09	6.9
June	12.9	10.3	5.8	447	8.4[p]	34.2[p]	3.0[p]	11.1[p]	14.1	11.2	0.06	4.3	0.03	2.5	0.11	8.2
Sept	13.8	10.8	6.2	448	12.3[p]	49.7[p]	2.6[p]	9.7[p]	13.3	10.4	0.07	4.9	0.05	3.4	0.11	8.1
Dec	13.0	10.2	6.0	464	6.3[p]	25.5[p]	2.7[p]	10.1[p]	15.4	12.1	0.07	5.6	0.05	3.8	0.12	8.9
2004 March	13.4[p]	10.7[p]	6.3[p]	472[p]	3.9[p]	15.8[p]	2.7[p]	10.0[p]	15.3[p]	12.2[p]	0.06[p]	4.6[p]	0.04[p]	2.8[p]	0.12[p]	9.2[p]
June	13.3[p]	10.6[p]	6.1[p]	459[p]	8.7[p]	35.7[p]	2.7[p]	10.2[p]	13.6[p]	10.8[p]	0.07[p]	5.1[p]	0.05[p]	3.6[p]	0.11[p]	8.3[p]
Sept	13.8[p]	11.0[p]	6.4[p]	462[p]	12.7[p]	51.5[p]	2.7[p]	9.9[p]	13.1[p]	10.3[p]	0.07[p]	5.3[p]	0.05[p]	3.5[p]	0.11[p]	7.7[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
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	12.6	7.2	335	7.6[p]	..	2.2	..	14.6	8.6	0.10	4.7	0.74	3.5	0.19	8.9
2003	21.6	12.7	7.4	344	7.8[p]	..	2.3[p]	..	14.5	8.5	0.12	5.3	0.87	4.0	0.18	8.1
2002 Sept	5.5	13.0	1.9	335	3.3[p]	..	4.9	..	3.5	8.2	0.02	4.2	0.02	2.9	0.05	8.6
Dec	5.2	12.2	1.7	336	1.3[p]	..	4.9	..	3.7	8.6	0.03	5.2	0.02	3.8	0.05	10.1
2003 March	5.4	12.7	1.8	344	0.8[p]	..	6.6[p]	..	3.9	9.2	0.03	5.0	0.02	3.7	0.04	7.8
June	5.4	12.7	1.8	331	2.2[p]	..	5.4[p]	..	3.4	8.1	0.02	4.3	0.02	3.0	0.04	7.2
Sept	5.6	13.0	1.9	341	3.3[p]	..	5.6[p]	..	3.5	8.1	0.04	6.3	0.03	4.5	0.04	7.8
Dec	5.3	12.4	1.9	359	1.4[p]	..	5.6[p]	..	3.7	8.6	0.03	5.6	0.03	4.9	0.05	9.7
2004 March	5.7[p]	13.4[p]	2.0[p]	352[p]	..	..	..	..	3.9[p]	9.2[p]	0.03[p]	5.5[p]	0.02[p]	3.5[p]	0.05[p]	7.9[p]
June	5.4[p]	12.8[p]	1.8[p]	337[p]	..	..	..	..	3.6[p]	8.4[p]	0.03[p]	5.9[p]	0.02[p]	4.4[p]	0.05[p]	9.5[p]
Sept	5.8[p]	13.4[p]	2.0[p]	339[p]	..	..	..	..	3.4[p]	8.1[p]	0.04[p]	6.0[p]	0.02[p]	4.1[p]	0.05[p]	8.3[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.
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.
p Provisional.

See 'Notes to tables'.

Table 2.2 Key demographic and health indicators

Constituent countries of the United Kingdom

Numbers (thousands), rates, percentages, mean age

				Dependency ratio		Live births					Expectation of life (in years) at birth		
	Population	Live births	Deaths	Children[1]	Elderly[2]	TFR[3]	Standardised mean age of mother at birth (years)[4]	Unstandardised mean age of mother at birth (years)[5]	Outside marriage as percentage of total live births	Age-standardised mortality rate[6]	Males	Females	Infant mortality rate[7]
United Kingdom													
1976	56,216.1	675.5	680.8	42.1	29.5	1.74	..	26.4	*9.0*	10,486	..	..	14.5
1981	56,357.5	730.7	658.0	37.1	29.7	1.82	27.0	26.8	*12.5*	9,506	70.8	76.8	11.2
1986	56,683.8	754.8	660.7	33.5	29.7	1.78	27.4	27.0	*21.4*	8,914	71.9	77.7	9.5
1991	57,438.7	792.3	646.2	33.2	30.0	1.82	27.7	27.7	*29.8*	8,168	73.2	78.7	7.4
1996	58,164.4[8]	733.2	636.0	33.9	30.0	1.73	28.2	28.6	*35.5*	7,584	74.3	79.4	6.1
1999	58,684.4[8]	700.0	632.1	33.4	29.9	1.69	28.4	28.9	*38.8*	7,318	75.0	79.9	5.8
2000	58,886.1[8]	679.0	608.4	33.1	29.9	1.64	28.5	29.1	*39.5*	6,974	75.4	80.2	5.6
2001	59,113.5[8]	669.1	602.3	32.6	29.8	1.63	28.6	29.2	*40.1*	6,807	75.7	80.4	5.5
2002	59,321.7[8]	668.8	606.2	32.2	29.8	1.64	28.7	29.3	*40.6*	6,765	75.9	80.5	5.2
2003	59,553.8	695.6	612.0	31.8	29.9	1.71	28.8	29.4	*41.5*	6,757	..	..	5.3
England													
1976	46,659.9	550.4	560.3	41.4	29.7	1.70	..	26.4	*9.2*	10,271	..	..	14.2
1981	46,820.8	598.2	541.0	36.4	29.9	1.79	..	26.8	*12.9*	9,298	71.1	77.0	10.9
1986	47,187.6	623.6	544.5	33.1	29.8	1.76	27.4	27.0	*21.4*	8,725	72.2	77.9	9.5
1991	47,875.0	660.8	534.0	32.9	30.0	1.81	27.7	27.7	*30.1*	8,017	73.4	78.9	7.3
1996	48,519.1[8]	614.2	524.0	33.7	30.0	1.73	28.2	28.7	*35.5*	7,414	74.5	79.6	6.1
1999	49,032.9[8]	589.5	519.6	33.3	29.9	1.69	28.4	29.0	*38.5*	7,138	75.3	80.1	5.7
2000	49,233.3[8]	572.8	501.0	33.0	29.8	1.65	28.5	29.2	*39.1*	6,821	75.7	80.4	5.6
2001	49,449.7[8]	563.7	496.1	32.5	29.7	1.63	28.6	29.3	*39.6*	6,650	76.0	80.6	5.4
2002	49,646.9[8]	565.7	499.1	32.1	29.7	1.65	28.7	29.4	*40.1*	6,603	76.2	80.7	5.2
2003	49,855.7	589.9	503.4	31.8	29.8	1.73	28.9	29.4	*40.9*	6,602	..	..	5.3
Wales													
1976	2,799.3	33.4	36.3	42.0	30.9	1.78	..	26.0	*8.7*	10,858	..	..	13.7
1981	2,813.5	35.8	35.0	37.6	31.6	1.86	..	26.6	*11.2*	9,846	70.4	76.4	12.6
1986	2,810.9	37.0	34.7	34.3	32.5	1.86	26.9	26.5	*21.1*	9,043	71.6	77.5	9.5
1991	2,873.0	38.1	34.1	34.4	33.5	1.88	27.1	27.0	*32.3*	8,149	73.1	78.8	6.6
1996	2,891.3[8]	34.9	34.6	34.9	33.7	1.81	27.5	27.8	*41.2*	7,758	73.9	79.1	5.6
1999	2,900.6[8]	32.1	35.0	34.4	33.6	1.72	27.6	28.1	*46.1*	7,637	74.7	79.6	6.1
2000	2,906.9[8]	31.3	33.3	34.1	33.5	1.68	27.7	28.2	*47.2*	7,180	74.9	79.8	5.3
2001	2,910.2[8]	30.6	33.0	33.7	33.6	1.66	27.8	28.3	*48.3*	7,017	75.4	80.1	5.4
2002	2,923.4[8]	30.2	33.2	33.2	33.6	1.63	28.0	28.4	*49.7*	6,951	75.7	80.2	4.5
2003	2,938.0	31.4	33.7	32.7	33.7	1.71	28.1	28.5	*50.3*	6,980	..	..	4.3
Scotland													
1976	5,233.4	64.9	65.3	44.7	28.4	1.80	..	26.0	*9.3*	11,675	..	..	14.8
1981	5,180.2	69.1	63.8	38.2	28.4	1.84	..	26.3	*12.2*	10,849	69.1	75.3	11.3
1986	5,111.8	65.8	63.5	33.6	28.1	1.67	27.1	26.6	*20.6*	10,120	70.2	76.2	8.8
1991	5,083.3	67.0	61.0	32.4	28.9	1.69	27.5	27.4	*29.1*	9,216	71.4	77.1	7.1
1996	5,092.2	59.3	60.7	32.3	29.2	1.56	28.0	28.5	*36.0*	8,791	72.2	77.9	6.2
1999	5,072.0	55.1	60.3	31.7	29.7	1.51	28.3	28.9	*41.2*	8,493	72.8	78.4	5.0
2000	5,062.9	53.1	57.8	31.4	29.8	1.48	28.4	29.0	*42.6*	8,082	73.1	78.6	5.7
2001	5,064.2	52.5	57.4	30.8	30.0	1.49	28.5	29.2	*43.3*	7,930	73.3	78.8	5.5
2002	5,054.8	51.3	58.1	30.3	30.2	1.48	28.6	29.2	*44.0*	7,955	73.5	78.9	5.3
2003	5,057.4	52.4	58.5	29.9	30.3	1.54	28.8	29.3	*45.5*	7,922	..	..	5.1
Northern Ireland													
1976	1,523.5	26.4	17.0	56.1	25.3	2.70	..	27.4	*5.0*	11,746	..	..	18.3
1981	1,543.0	27.2	16.3	50.6	25.3	2.59	28.1	27.5	*7.0*	10,567	69.2	75.5	13.2
1986	1,573.5	28.0	16.1	46.1	25.5	2.45	28.1	27.5	*12.8*	10,071	70.9	77.1	10.2
1991	1,607.3	26.0	15.1	44.1	26.1	2.16	28.3	28.0	*20.3*	8,303	72.6	78.4	7.4
1996	1,661.8	24.4	15.2	41.8	25.5	1.96	28.7	28.8	*26.0*	7,742	73.8	79.2	5.8
1999	1,679.0	23.0	15.7	40.2	25.5	1.86	28.8	29.0	*30.3*	7,699	74.5	79.6	6.4
2000	1,682.9	21.5	14.9	39.5	25.4	1.75	29.0	29.2	*31.8*	7,279	74.8	79.8	5.1
2001	1,689.3	22.0	14.5	38.6	25.5	1.80	29.1	29.4	*32.5*	6,976	75.2	80.1	6.1
2002	1,696.6	21.4	14.6	37.9	25.7	1.77	29.2	29.5	*33.5*	6,930	75.6	80.4	4.7
2003	1,702.6	21.6	14.5	37.2	25.9	1.81	29.3	29.5	*34.4*	6,744	..	..	5.3

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 to 2003. Births and death figures for England and also for Wales exclude events for persons usually resident outside England and Wales. These events are, however, included in 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 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 TPFR (total period fertility rate).
4 Standardised to take account of the age structure of the population.
5 Unstandardised and therefore takes no account of the age structure of the population.
6 Per million population. The age-standardised mortality rate makes allowances for changes in the age structure of the population. See Notes to tables.
7 Deaths under one year per 1,000 live births.
8 These revised population estimates were published on 9 September 2004 (for mid-2001 and mid-2002) and 7 October 2004 (for mid-1992 to mid-2000), following the local authority population studies, and replace all earlier versions. All figures shown on this table are now therefore on a consistent basis.
p Provisional.

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: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Mean[1] age (years)	Age of mother at birth[3,4]: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Mean[2] age (years)	TFR[5]
	Total live births (numbers)								Age-specific fertility rates[3,4]								
1961	811.3	59.8	249.8	248.5	152.3	77.5	23.3	27.6	89.2	37.3	172.6	176.9	103.1	48.1	15.0	27.4	2.77
1964(max)[5]	876.0	76.7	276.1	270.7	153.5	75.4	23.6	27.2	92.9	42.5	181.6	187.3	107.7	49.8	13.7	27.3	2.93
1966	849.8	86.7	285.8	253.7	136.4	67.0	20.1	26.8	90.5	47.7	176.0	174.0	97.3	45.3	12.5	27.1	2.75
1971	783.2	82.6	285.7	247.2	109.6	45.2	12.7	26.2	83.5	50.6	152.9	153.2	77.1	32.8	8.7	26.6	2.37
1976	584.3	57.9	182.2	220.7	90.8	26.1	6.5	26.4	60.4	32.2	109.3	118.7	57.2	18.6	4.8	26.5	1.71
1977(min)[5]	569.3	54.5	174.5	207.9	100.8	25.5	6.0	26.5	58.1	29.4	103.7	117.5	58.6	18.2	4.4	26.6	1.66
1981	634.5	56.6	194.5	215.8	126.6	34.2	6.9	26.8	61.3	28.1	105.3	129.1	68.6	21.7	4.9	27.0	1.80
1986	661.0	57.4	192.1	229.0	129.5	45.5	7.6	27.0	60.6	30.1	92.7	123.8	78.0	24.6	4.8	27.4	1.77
1991	699.2	52.4	173.4	248.7	161.3	53.6	9.8	27.7	63.6	33.0	89.3	119.4	86.7	32.1	5.3	27.7	1.82
1992	689.7	47.9	163.3	244.8	166.8	56.7	10.2	27.9	63.6	31.7	86.1	117.6	87.4	33.4	5.8	27.8	1.80
1993	673.5	45.1	152.0	236.0	171.1	58.8	10.5	28.0	62.7	30.9	82.5	114.4	87.4	34.1	6.2	27.9	1.76
1994	664.7	42.0	140.2	229.1	179.6	63.1	10.7	28.4	62.0	28.9	79.0	112.2	89.4	35.8	6.4	28.1	1.75
1995	648.1	41.9	130.7	217.4	181.2	65.5	11.3	28.5	60.5	28.5	76.4	108.4	88.3	36.3	6.8	28.2	1.72
1996	649.5	44.7	125.7	211.1	186.4	69.5	12.1	28.6	60.6	29.7	77.0	106.6	89.8	37.5	7.2	28.2	1.74
1997	643.1	46.4	118.6	202.8	187.5	74.9	12.9	28.8	60.0	30.2	76.0	104.3	89.8	39.4	7.6	28.3	1.73
1998	635.9	48.3	113.5	193.1	188.5	78.9	13.6	28.9	59.2	30.9	74.9	101.5	90.6	40.4	7.9	28.3	1.72
1999	621.9	48.4	110.7	181.9	185.3	81.3	14.3	29.0	57.8	30.9	73.0	98.3	89.6	40.6	8.1	28.4	1.70
2000	604.4	45.8	107.7	170.7	180.1	85.0	15.1	29.1	55.9	29.3	70.0	94.3	87.9	41.4	8.3	28.5	1.65
2001	594.6	44.2	108.8	159.9	178.9	86.5	16.3	29.2	54.7	28.0	69.0	91.7	88.0	41.5	8.8	28.6	1.63
2002	596.1	43.5	110.9	153.4	180.5	90.5	17.3	29.3	54.7	27.0	69.2	91.6	89.8	43.0	9.1	28.7	1.65
2003	621.5	44.2	116.6	156.9	187.2	97.4	19.1	29.4	56.8	26.8	71.2	96.4	94.8	46.4	9.8	28.8	1.73
2000 March	148.7	11.4	26.4	42.5	44.1	20.6	3.6	29.1	55.3	29	69	95	87	40	8	28.5	1.64
June	150.7	11.1	26.0	42.8	45.7	21.4	3.7	29.2	56.0	29	68	95	90	42	8	28.6	1.66
Sept	155.0	11.8	27.8	43.6	46.2	21.7	3.9	29.1	57.0	30	72	96	90	42	9	28.5	1.69
Dec	150.1	11.5	27.5	41.8	44.1	21.4	3.9	29.1	55.2	29	71	92	86	41	9	28.5	1.64
2001 March	145.5	11.0	26.5	39.8	43.3	21.0	4.0	29.2	54.3	28	68	93	86	41	9	28.6	1.62
June	148.8	10.8	26.4	40.3	45.5	21.7	4.0	29.3	54.9	27	67	93	90	42	9	28.7	1.64
Sept	153.0	11.4	28.1	41.0	46.4	22.0	4.1	29.2	55.8	29	71	93	91	42	9	28.6	1.67
Dec	147.4	11.1	27.8	38.9	43.7	21.8	4.2	29.2	53.8	28	70	88	85	42	9	28.6	1.61
2002 March	143.3	10.5	26.5	37.4	43.2	21.6	4.1	29.3	53.3	26	67	91	87	42	9	28.7	1.61
June	147.2	10.4	26.7	37.9	45.5	22.4	4.3	29.4	54.1	26	67	91	91	43	9	28.8	1.63
Sept	155.0	11.4	28.9	39.9	46.9	23.4	4.5	29.3	56.4	28	72	95	93	44	9	28.7	1.70
Dec	150.6	11.2	28.8	38.2	45.0	23.0	4.5	29.3	54.8	28	71	91	89	44	9	28.7	1.65
2003 March	147.4	10.9	27.9	37.5	44.0	22.6	4.6	29.3	54.6	27	69	93	90	44	10	28.8	1.66
June	155.1	10.7	28.5	39.3	47.4	24.5	4.7	29.5	56.9	26	70	97	96	47	10	28.9	1.73
Sept	162.8	11.5	30.5	41.0	49.3	25.6	5.0	29.4	59.0	28	74	100	99	48	10	28.9	1.79
Dec	156.0	11.2	29.7	39.1	46.5	24.6	4.8	29.4	56.6	27	72	95	94	47	10	28.8	1.72
2004 March[P]	155.2	11.0	29.3	38.7	46.5	24.7	4.9	29.4	56.9	26	71	95	100	48	10	28.9	1.75
June[P]	157.4	10.7	29.3	39.3	47.7	25.3	5.0	29.5	57.7	26	71	96	103	49	10	29.0	1.77
Sept[P]	164.7	11.7	31.2	41.4	489	26.2	5.4	294	59.7	28	75	101	102	50	11	28.9	1.83

Notes: 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 Unstandardised and therefore takes no account of the age structure of the population.

2 Standardised to take account of the age structure of the population. This measure is more appropriate for use when analysing trends or making comparisons between different geographies.

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.

4 Birth rates for 2004 are based on the 2003-based population projections for 2004.

5 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 TPFR (total period fertility rate). During the post Second World War period the TFR reached a maximum in 1964 and a minimum in 1977.

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: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Mean[1] age (years)	Age of mother at birth: All ages	Under 20	20–24	25–29	30–34	35–39	40 and over	Registration[2]: Joint: Same[3] address	Joint: Different[3] address	Sole
	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	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
2003	257.2	39.9	75.7	58.2	49.2	27.8	6.4	26.9	41.4	90.2	64.9	37.1	26.3	28.5	33.3	63.5	19.0	17.4
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	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	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	63.4	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	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	61.0	9.8	18.0	13.9	11.6	6.3	1.5	26.8	41.4	90.1	64.5	37.0	26.9	29.1	33.3	63.0	18.9	18.1
June	62.8	9.6	18.3	14.2	12.2	6.9	1.6	27.0	40.5	90.0	64.0	36.2	25.7	28.3	33.7	64.0	18.5	17.4
Sept	67.6	10.3	20.0	15.3	13.0	7.3	1.7	26.9	41.5	90.2	65.6	38.3	26.4	28.6	33.3	63.7	19.3	18.0
Dec	65.8	10.2	19.5	14.9	12.5	7.3	1.6	26.9	42.2	90.4	65.6	38.0	27.7	29.5	32.9	63.3	19.4	17.4
2004 March[p]	65.2	10.1	19.3	14.8	12.5	7.0	1.7	26.9	42.0	91.3	65.8	38.1	26.9	28.3	34.1	63.2	19.4	17.4
June[p]	65.2	9.8	19.1	14.8	12.6	7.3	1.7	27.0	41.4	91.2	65.1	37.6	26.3	28.8	34.1	63.9	19.5	16.6
Sept[p]	67.6	10.6	20.7	15.3	12.9	7.8	1.8	26.9	42.4	91.3	66.2	38.7	26.4	29.9	33.2	63.8	19.7	16.5

1 The mean ages in this table are unstandardised and therefore take no account of the structure of the population by age or marital status.
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
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	763.7	7.9	41.0	96.0	161.6	199.3	196.7	92.2	17.8
2002[P]	787.0	7.9	42.0	97.1	167.8	199.4	204.3	98.9	19.6
2003[P]	-	-	42.2	-	-	-	-	-	-
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	189.2	1.9	10.2	24.3	40.4	50.0	47.8	22.3	4.4
June	187.4	2.1	10.2	24.0	39.8	48.8	47.7	22.8	4.4
Sept	189.3	1.9	10.0	23.1	39.2	49.5	49.9	23.2	4.4
Dec	197.9	2.0	10.6	24.6	42.3	51.1	51.3	23.9	4.7
2002 March[P]	191.6	1.9	10.3	24.1	41.3	48.8	49.0	23.7	4.6
June[P]	190.4	2.0	10.5	24.2	40.7	48.2	48.8	23.8	4.8
Sept[P]	197.4	2.0	10.2	23.4	41.4	50.2	52.4	25.2	4.9
Dec[P]	207.6	2.0	11.0	25.4	44.4	52.3	54.2	26.2	5.2
(b) rates (conceptions per thousand women in age group)[1]									
1991	77.7	8.9	44.6	64.1	120.2	135.1	90.1	34.4	6.6
1996	76.2	9.5	46.3	63.2	110.1	127.6	96.3	40.7	8.4
1998	74.2	9.0	47.1	65.1	107.7	122.2	96.8	42.4	8.9
1999	71.9	8.3	45.1	63.1	103.9	118.0	95.3	42.9	9.1
2000	70.9	8.3	43.9	62.5	103.2	115.7	95.3	43.2	9.4
2001	70.3	8.0	42.7	60.8	102.5	114.2	96.7	44.3	9.6
2002[P]	72.2	7.9	42.8	60.3	104.6	119.1	101.6	47.0	10.3
2003[P]	-	-	42.3	-	-	-	-	-	-
2000 March	71.9	8.5	45.2	64.6	106.0	117.1	94.5	43.4	9.4
June	70.2	8.5	44.5	62.5	102.9	114.0	93.1	42.9	9.6
Sept	69.8	8.4	42.0	59.9	98.8	114.9	96.5	42.9	9.3
Dec	71.6	8.0	43.6	62.6	104.8	117.4	97.0	43.8	9.4
2001 March	70.7	7.8	43.3	62.7	104.8	114.5	95.0	43.7	9.7
June	69.2	8.4	42.8	61.0	101.4	111.6	94.0	44.0	9.5
Sept	69.1	7.7	41.1	57.8	98.4	113.1	97.6	44.2	9.3
Dec	72.1	8.1	43.5	61.4	105.6	118.0	100.5	45.4	10.0
2002 March[P]	71.3	7.7	42.9	61.3	105.1	116.4	98.4	45.8	9.9
June[P]	70.1	8.1	42.9	60.4	101.9	114.8	97.1	45.5	10.2
Sept[P]	71.8	7.7	41.2	57.5	102.1	119.4	103.5	47.6	10.2
Dec[P]	75.4	8.0	44.1	62.1	108.9	125.1	107.6	49.4	10.7
(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*
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	*23.2*	*55.8*	*45.7*	*40.4*	*29.7*	*18.4*	*14.6*	*20.4*	*34.6*
2002[P]	*22.5*	*55.6*	*45.3*	*39.9*	*28.8*	*17.9*	*13.9*	*19.5*	*34.6*
2003[P]	-	-	*45.6*	-	-	-	-	-	-
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	*23.4*	*54.4*	*44.9*	*40.2*	*29.8*	*18.6*	*14.8*	*20.7*	*34.9*
June	*23.8*	*58.8*	*47.0*	*41.1*	*30.3*	*18.6*	*15.3*	*21.0*	*36.0*
Sept	*22.5*	*55.0*	*45.7*	*40.1*	*29.2*	*18.1*	*13.8*	*19.9*	*33.5*
Dec	*22.9*	*54.9*	*45.2*	*40.0*	*29.5*	*18.1*	*14.4*	*20.2*	*34.1*
2002 March[P]	*22.9*	*54.3*	*44.9*	*40.2*	*29.4*	*18.1*	*14.1*	*19.8*	*35.1*
June[P]	*22.9*	*55.5*	*45.0*	*39.4*	*28.9*	*18.4*	*14.5*	*20.1*	*34.8*
Sept[P]	*21.6*	*56.1*	*45.0*	*39.4*	*27.8*	*17.3*	*13.2*	*18.7*	*34.2*
Dec[P]	*22.6*	*56.4*	*46.3*	*40.7*	*29.0*	*17.8*	*13.9*	*19.4*	*34.5*

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.

1 Rates for 1992 to 2000 are based on the revised mid-year population estimates released on 7 October 2004. Rates for 2001 and 2002 are based on the revised mid-year estimates released on 9 September 2004.

[P] Provisional

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[1] women	All ages: Residents[1]	All ages: Non-[1] residents	All women (residents): Age group: Under 16	16–19	20–24	25–29	30–34	35–44	45 and over	Gestation weeks (percentages): Under 9	9–12	13–19	20 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	176.4	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	185.4	175.9	9.5	3.7	33.0	48.4	35.8	28.5	26.0	0.5	*42.2*	*45.2*	*11.0*	*1.6*
2003	190.7	181.6	9.1	4.0	34.2	51.1	36.0	28.7	26.9	0.5	*43.6*	*43.7*	*11.1*	*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	47.6	45.2	2.5	0.9	8.6	12.6	9.2	7.3	6.5	0.1	*38.9*	*47.4*	*12.0*	*1.6*
June	45.9	43.5	2.5	0.9	8.2	12.0	8.9	7.0	6.4	0.1	*40.0*	*46.4*	*11.8*	*1.8*
Sept	46.5	44.1	2.4	1.0	8.2	11.9	8.9	7.3	6.6	0.1	*42.9*	*45.1*	*10.4*	*1.6*
Dec	45.3	43.2	2.1	0.9	8.0	11.9	8.8	6.9	6.5	0.1	*47.0*	*41.8*	*9.7*	*1.5*
2003 March	50.0	47.6	2.4	1.0	9.1	13.4	9.4	7.5	7.0	0.1	*40.9*	*45.3*	*12.2*	*1.6*
June	47.7	45.4	2.3	1.0	8.5	12.7	9.1	7.2	6.7	0.1	*42.5*	*44.4*	*11.4*	*1.6*
Sept	47.7	44.8	2.3	1.0	8.3	12.5	8.9	7.2	6.7	0.1	*43.3*	*43.9*	*11.2*	*1.5*
Dec	46.0	43.9	2.1	0.9	8.3	12.5	8.6	6.9	6.5	0.1	*47.7*	*41.0*	*9.6*	*1.7*
2004 March[p]	50.9	48.4	2.4	1.0	9.3	13.8	9.8	7.5	7.0	0.1	*41.6*	*44.5*	*12.1*	*1.7*
Rates (per thousand women residents)														
	ASR[3] (women 15–44)	Crude rate[2] (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	24.2	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	17.1	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	:	3.9	26.9	30.7	20.9	14.1	6.3	0.3				
2001[4]	17.0	16.2	:	3.7	26.6	30.6	20.9	14.2	6.4	0.3				
2002[4]	17.0	16.1	:	3.7	25.8	30.1	21.4	14.2	6.5	0.3				
2003	17.5	16.6	:	3.9	26.1	31.2	22.1	14.6	6.6	0.3				
2000 March	18.2	17.4	:	4.2	29.3	32.8	22.4	14.7	6.7	0.3				
June	16.8	16.1	:	3.7	26.4	30.7	20.4	13.9	6.3	0.3				
Sept	16.9	16.1	:	4.0	26.3	29.9	21.1	14.2	6.3	0.3				
Dec	16.1	15.4	:	3.6	25.2	29.0	20.0	13.4	6.0	0.2				
2001 March	17.5	16.7	:	3.6	27.9	31.8	21.2	14.3	6.6	0.3				
June	17.0	16.2	:	3.8	26.6	30.8	20.9	14.1	6.4	0.3				
Sept	16.9	16.1	:	3.9	25.9	29.9	20.9	14.4	6.4	0.3				
Dec	16.7	15.9	:	3.6	26.0	30.0	20.8	13.8	6.3	0.2				
2002 March	17.4	16.6	:	3.7	26.9	31.6	21.7	14.4	6.6	0.2				
June	16.7	15.9	:	3.7	25.6	29.9	21.1	13.9	6.4	0.3				
Sept	16.9	16.1	:	3.8	25.1	29.2	21.9	14.8	6.5	0.2				
Dec	16.5	15.7	:	3.7	24.7	29.2	21.4	13.9	6.4	0.3				
2003 March	18.3	17.4	:	4.0	28.0	33.0	22.9	15.1	6.9	0.3				
June	17.4	16.6	:	4.0	26.1	31.1	22.3	14.5	6.6	0.3				
Sept	17.2	16.4	:	4.0	25.3	30.6	21.8	14.6	6.6	0.3				
Dec	16.8	16.0	:	3.7	25.2	30.4	21.1	14.2	6.4	0.3				
2004[4] March[p]	18.6	17.7	:	3.9	28.1	33.6	24.0	15.4	6.8	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.

4 Based on the mid-2003 population estimates published on 9 September 2004

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See 'Notes to tables'.

Table 5.1 Expectation of life at birth and selected age

Constituent countries of the United Kingdom — Years

Year	Males: At birth	Males: At age 5	20	30	50	60	70	80	Year	Females: At birth	Females: At age 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	74.3	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	18.8	11.7	6.7	1997	79.6	75.1	60.2	50.4	31.3	22.5	14.6	8.4
1998	74.8	70.3	55.6	46.1	27.4	18.9	11.9	6.7	1998	79.7	75.2	60.4	50.5	31.4	22.6	14.7	8.4
1999	75.0	70.6	55.9	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	75.4	70.9	56.2	46.6	28.0	19.5	12.3	7.0	2000	80.2	75.6	60.8	51.0	31.9	23.0	15.0	8.6
2001	75.7	71.2	56.5	46.9	28.3	19.8	12.5	7.1	2001	80.4	75.9	61.0	51.2	32.1	23.2	15.2	8.7
2002	75.9	71.5	56.7	47.2	28.5	20.0	12.6	7.2	2002	80.5	76.0	61.1	51.3	32.2	23.3	15.2	8.7
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	55.4	45.8	27.1	18.7	11.6	6.6	1996	79.6	75.1	60.2	50.4	31.3	22.5	14.6	8.4
1997	74.8	70.3	55.6	46.1	27.4	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	70.6	55.8	46.3	27.6	19.1	11.9	6.8	1998	79.9	75.4	60.5	50.7	31.6	22.7	14.8	8.4
1999	75.3	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	75.6	71.2	56.4	46.9	28.1	19.6	12.3	7.0	2000	80.3	75.8	61.0	51.1	32.0	23.1	15.1	8.6
2001	76.0	71.5	56.7	47.2	28.5	19.9	12.6	7.1	2001	80.6	76.0	61.2	51.4	32.2	23.3	15.2	8.7
2002	76.2	71.7	57.0	47.4	28.7	20.1	12.7	7.2	2002	80.7	76.1	61.3	51.5	32.3	23.4	15.3	8.7
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	45.9	27.1	18.7	11.7	6.6	1996	79.6	75.1	60.3	50.5	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	55.9	46.3	27.6	19.1	12.0	6.8	1998	79.9	75.4	60.6	50.7	31.6	22.7	14.8	8.5
1999	75.3	70.9	56.1	46.6	27.9	19.4	12.1	6.9	1999	80.1	75.6	60.8	50.9	31.8	22.9	14.9	8.5
2000	75.7	71.2	56.5	46.9	28.2	19.6	12.4	7.0	2000	80.4	75.8	61.0	51.2	32.0	23.1	15.1	8.6
2001	76.0	71.5	56.8	47.2	28.5	19.9	12.6	7.1	2001	80.6	76.1	61.2	51.4	32.3	23.4	15.3	8.7
2002	76.2	71.8	57.0	47.4	28.7	20.1	12.8	7.2	2002	80.7	76.2	61.3	51.5	32.4	23.4	15.3	8.7
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	74.3	69.8	55.1	45.6	26.9	18.5	11.6	6.6	1997	79.3	74.8	60.0	50.2	31.1	22.3	14.5	8.4
1998	74.4	70.0	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	46.1	27.4	18.9	11.9	6.8	1999	79.6	75.1	60.2	50.4	31.3	22.5	14.6	8.4
2000	74.9	70.5	55.8	46.3	27.6	19.1	12.0	6.8	2000	79.8	75.3	60.4	50.6	31.5	22.6	14.7	8.4
2001	75.4	70.9	56.2	46.7	28.0	19.5	12.3	7.1	2001	80.1	75.5	60.6	50.8	31.8	22.9	14.9	8.5
2002	75.7	71.1	56.3	46.9	28.2	19.7	12.4	7.1	2002	80.2	75.6	60.7	50.9	31.8	22.9	15.0	8.6
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
2001	73.3	68.8	54.2	44.8	26.6	18.4	11.7	6.8	2001	78.8	74.2	59.4	49.6	30.7	22.0	14.3	8.2
2002	73.5	69.0	54.3	45.0	26.7	18.6	11.8	6.8	2002	78.9	74.3	59.5	49.7	30.8	22.1	14.4	8.2
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
2001	75.2	70.7	56.1	46.6	27.9	19.4	12.3	6.9	2001	80.1	75.6	60.7	50.9	31.8	22.9	14.9	8.4
2002	75.6	71.1	56.4	46.9	28.2	19.7	12.4	7.0	2002	80.4	75.9	61.0	51.2	32.0	23.1	15.1	8.5

Note: Figures from 1981 are calculated from the population estimates revised in the light of the 2001 Census. All figures are based on a three-year period.

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
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	253.1	1.81	0.32	0.20	0.28	0.83	1.24	3.47	6.20	12.9	27.7	56.3	88.3	53.6
2003	253.9	1.81	0.31	0.19	0.24	0.81	1.23	3.26	6.32	12.7	28.2	55.1	89.6	54.0
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
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	1.31	0.24	0.16	0.19	0.38	0.43	1.61	3.77	8.7	17.7	39.6	90.0	116.3
2003	284.4	1.50	0.28	0.15	0.19	0.35	0.46	1.57	3.86	8.5	18.0	39.0	92.7	117.9
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	10.7	6.8	0.32	0.14	0.18	0.60	0.85	1.01	1.67	4.06	11.9	34.5	85.0	198.8
1999	10.4	6.5	0.31	0.12	0.16	0.56	0.83	0.99	1.60	3.99	10.9	31.6	79.9	194.4
2000	10.0	6.1	0.26	0.13	0.16	0.54	0.79	0.98	1.59	3.92	10.4	29.7	75.9	187.5
2001	9.9	5.9	0.25	0.11	0.16	0.53	0.80	0.97	1.56	3.89	10.0	28.0	74.0	186.4
2002	9.8	5.9	0.25	0.12	0.16	0.49	0.77	0.95	1.57	3.85	9.7	27.2	73.4	187.5
2003	9.8	5.7	0.25	0.11	0.14	0.46	0.95	0.91	1.58	3.81	9.6	26.3	72.8	190.4
2002 March	10.8	6.7	0.35	0.14	0.19	0.52	0.77	0.94	1.59	4.04	10.1	29.5	80.9	216.3
June	9.5	5.7	0.22	0.13	0.14	0.50	0.78	0.96	1.51	3.77	9.4	26.7	70.2	177.7
Sept	9.0	5.3	0.22	0.10	0.15	0.49	0.80	1.00	1.60	3.72	9.2	25.1	66.7	163.4
Dec	10.1	6.0	0.22	0.10	0.15	0.46	0.74	0.88	1.56	3.86	10.0	27.6	75.9	193.2
2003 March	10.5	6.4	0.27	0.12	0.16	0.48	0.77	0.94	1.62	3.94	10.0	27.8	72.8	214.3
June	9.4	5.5	0.24	0.09	0.12	0.45	0.74	0.92	1.60	3.78	9.2	25.4	70.2	179.1
Sept	9.0	5.2	0.19	0.11	0.14	0.52	0.79	0.93	1.57	3.63	9.1	24.6	66.1	165.9
Dec	10.3	5.8	0.29	0.13	0.13	0.39	0.69	0.84	1.52	3.91	10.0	27.7	77.0	202.8
2004[2] March[P]	10.5	5.7	0.29	0.11	0.15	0.52	0.78	1.03	1.65	3.92	9.7	27.4	79.3	210.1
June[P]	9.1	5.4	0.24	0.13	0.13	0.41	0.71	0.99	1.60	3.70	9.0	24.7	68.0	168.4
Sept[P]	8.8	5.3	0.20	0.10	0.15	0.42	0.75	0.94	1.46	3.65	8.8	23.5	65.6	160.3
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	11.0	5.3	0.25	0.10	0.12	0.29	0.31	0.46	1.04	2.63	7.1	20.6	55.8	158.9
1999	11.0	5.1	0.24	0.10	0.13	0.25	0.31	0.43	1.01	2.61	6.7	19.2	53.4	162.6
2000	10.5	5.1	0.20	0.10	0.11	0.25	0.30	0.44	1.00	2.62	6.4	18.1	50.8	155.2
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	50.1	155.0
2002	10.4	4.5	0.20	0.10	0.11	0.24	0.27	0.44	0.94	2.54	6.0	17.0	50.4	159.4
2003	10.6	4.9	0.24	0.10	0.12	0.21	0.28	0.44	0.95	2.51	5.9	16.7	51.3	165.8
2002 March	11.7	4.7	0.21	0.11	0.12	0.29	0.26	0.44	1.01	2.59	6.2	18.4	55.8	185.2
June	9.9	4.4	0.18	0.07	0.14	0.20	0.31	0.44	0.91	2.54	5.9	16.6	47.9	147.1
Sept	9.5	4.1	0.19	0.10	0.12	0.22	0.23	0.47	0.91	2.41	5.8	15.9	45.6	140.3
Dec	10.8	4.9	0.21	0.12	0.08	0.24	0.27	0.40	0.94	2.62	6.2	17.0	52.4	165.6
2003 March	11.4	5.3	0.26	0.09	0.09	0.19	0.33	0.48	1.00	2.59	6.1	17.6	54.8	184.6
June	10.0	4.8	0.24	0.09	0.17	0.22	0.25	0.43	0.90	2.58	5.8	16.1	49.3	153.6
Sept	9.6	4.5	0.20	0.12	0.10	0.21	0.30	0.43	0.97	2.38	5.6	15.3	46.8	147.6
Dec	11.2	5.2	0.26	0.09	0.10	0.24	0.25	0.40	0.94	2.49	6.2	17.8	54.3	177.5
2004[2] March[P]	11.3	5.4	0.24	0.10	0.09	0.28	0.33	0.42	0.96	2.49	6.2	17.6	55.1	180.1
June[P]	9.5	4.5	0.19	0.10	0.11	0.20	0.28	0.43	0.96	2.42	5.6	15.0	46.8	142.2
Sept[P]	9.1	4.5	0.20	0.07	0.11	0.26	0.28	0.42	0.92	2.33	5.5	14.9	44.7	136.7

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 to 2003. Provisional figures for 2004 relate to registrations.

1 Rates per 1,000 live births.

2 Based on the mid-2003 population estimates published on 9 September 2004.

P Provisional

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)									
1996	11.7	11.7	11.2	10.7	10.7	10.3	9.4	10.7	11.7
1997	11.6	11.6	11.1	10.5	10.6	10.2	9.0	10.6	11.7
1998	11.9	11.7	11.2	10.8	10.6	10.2	8.8	10.4	11.4
1999	11.6	11.5	10.9	10.7	10.7	10.3	8.7	10.5	11.6
2000	10.8	10.7	10.3	10.0	10.3	9.9	8.2	9.8	11.3
2001	11.1	11.0	10.4	10.1	10.2	9.9	7.9	9.9	11.0
2002	11.2	11.0	10.5	10.2	10.2	10.0	7.8	9.9	11.1
2003	11.3	11.0	10.5	10.3	10.4	9.9	7.8	9.9	11.2
2002 March	12.6	12.3	11.6	11.2	11.2	11.1	8.6	11.1	12.2
June	10.7	10.6	10.0	9.7	9.8	9.5	7.4	9.4	10.6
Sept	9.9	9.8	9.7	9.2	9.4	9.1	7.2	9.1	10.2
Dec	11.5	11.3	10.8	10.6	10.6	10.1	8.0	10.2	11.3
2003 March	12.1	11.8	11.2	11.2	11.3	10.7	8.5	10.7	11.9
June	10.6	10.6	9.9	9.9	10.0	9.4	7.4	9.5	10.8
Sept	10.2	9.9	9.5	9.4	9.4	9.1	7.3	9.2	10.2
Dec	12.1	11.7	11.3	10.9	11.1	10.5	8.0	10.3	11.9
2004[2] March[P]	12.2	11.8	11.4	11.0	11.0	10.7	8.2	10.7	11.9
June[P]	10.7	10.0	9.7	9.3	9.6	9.2	7.0	9.1	10.0
Sept[P]	9.9	9.8	9.3	9.0	9.1	8.9	6.6	8.8	9.5
Infant mortality (deaths under 1 year per 1,000 live births)									
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
2003	4.9	5.9	5.7	5.9	7.4	4.5	5.4	4.2	4.1
2002 March	3.9	6.7	7.0	7.0	6.7	4.4	5.7	4.9	4.6
June	5.4	5.2	5.2	5.7	5.8	4.5	5.4	4.6	4.1
Sept	5.2	4.3	5.5	4.8	6.7	4.1	4.9	3.8	3.7
Dec	4.5	5.5	6.9	5.0	7.2	4.2	6.1	4.6	4.7
2003 March	6.2	5.9	6.9	5.9	8.3	5.0	6.0	4.3	5.3
June	4.2	6.1	5.4	6.7	6.7	4.0	5.6	3.9	3.4
Sept	4.3	5.2	4.1	4.9	7.8	3.7	4.8	4.3	3.7
Dec	5.0	6.3	6.6	6.4	6.9	5.2	5.0	4.3	4.2
2004 March[P]	6.6	5.6	5.7	5.4	7.4	4.7	5.4	4.4	5.1
June[P]	4.1	5.1	6.2	5.1	6.4	4.6	4.7	3.3	5.4
Sept[P]	3.2	5.7	4.9	4.1	6.7	4.1	5.3	3.5	4.0
Neonatal mortality (deaths under 4 weeks per 1,000 live births)									
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
2003	3.2	4.1	4.0	4.2	5.1	3.0	3.7	2.8	2.9
2002 March	2.8	4.3	4.6	5.1	5.0	3.2	3.8	3.2	3.2
June	4.1	3.8	3.1	4.1	4.4	3.3	3.6	2.9	3.2
Sept	2.6	2.7	3.7	3.5	4.9	2.4	3.5	2.5	2.5
Dec	3.4	3.8	4.6	3.2	5.0	2.6	3.7	3.1	3.6
2003 March	3.5	4.1	4.5	4.1	5.8	3.3	4.1	2.9	3.1
June	3.1	4.1	3.6	4.2	4.6	2.8	4.1	2.5	2.8
Sept	2.3	3.5	2.9	3.9	5.5	2.5	3.4	3.0	2.5
Dec	4.0	4.5	4.9	4.7	4.6	3.3	3.2	2.9	3.1
2004 March[P]	4.1	3.5	3.7	3.8	5.6	3.2	3.9	2.8	3.5
June[P]	2.9	3.5	4.0	3.9	4.4	3.4	3.3	2.5	3.0
Sept[P]	1.5	3.8	3.3	3.2	5.2	2.9	3.5	2.8	3.1
Perinatal mortality (stillbirths and deaths under 1 week per 1,000 total births)[3]									
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
2003	7.8	9.0	9.0	9.5	10.2	7.3	9.5	7.0	7.0
2002 March	7.1	8.8	10.6	9.5	11.1	7.3	9.3	7.7	6.8
June	8.1	8.6	9.4	8.8	9.7	7.4	10.0	6.9	7.2
Sept	7.8	8.3	7.6	7.7	9.5	7.4	8.7	6.3	6.5
Dec	9.6	8.4	8.5	8.0	9.8	7.9	9.1	6.6	6.9
2003 March	9.3	8.5	10.9	10.1	9.8	7.7	10.1	6.9	6.9
June	7.9	8.9	7.6	10.5	11.6	6.6	10.0	6.5	7.8
Sept	6.9	9.0	7.6	8.2	10.9	7.2	9.1	7.4	6.3
Dec	7.5	9.5	9.8	9.5	8.4	7.8	8.8	7.1	6.9
2004 March[P]	9.9	7.9	8.4	8.6	10.2	7.8	8.6	7.0	6.3
June[P]	8.5	7.7	8.6	8.7	8.9	7.5	8.1	6.5	7.0
Sept[P]	6.2	7.7	9.1	7.9	9.7	7.2	8.6	6.9	7.6

Note: Figures represent the numbers of deaths occurring in each year with the exception of provisional figures 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* 15 for details.

2 Crude death rates for 2004 are based on the mid-2003 population estimates published on 9 September 2004.

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.

Table 6.3 Deaths: selected causes (International Classification)[1,2] and sex

England and Wales

Number(thousands) and rate for all deaths[2] and age-standardised rates[2,3] per million population for selected causes

Year and quarter	All deaths		All causes (age - standardised per million population[2,3])	Malignant neoplasms									
	Number (thousands)	Crude rate per 100,000 population[2]		Oesophagus	Stomach	Colon	Rectosigmoid junction, rectum, and anus	Trachea, bronchus and lung	Melanoma of skin	Other malignant neoplasms of skin	Breast	Cervix uteri	Ovary
			A00–R99 V01–Y89	(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	117	185	194	117	842	23	10	3	:	:
1993	279.6	1,127	10,101	123	163	189	106	769	26	8	3	:	:
1994	267.6	1,077	9,577	129	163	183	101	746	24	9	3	:	:
1995	274.4	1,100	9,659	126	149	182	100	714	26	9	3	:	:
1996	268.7	1,074	9,353	126	146	174	99	683	25	8	2	:	:
1997	264.9	1,055	9,106	126	137	175	93	651	25	7	2	:	:
1998	264.7	1,064	8,981	129	132	169	95	643	26	8	3	:	:
1999	264.3	1,044	8,862	127	127	161	90	611	27	7	2	:	:
2000	255.5	1,005	8,437	128	118	158	89	592	28	7	2	:	:
2001	252.4	987	8,188	129	111	155	89	570	26	7	3	:	:
2002	253.1	985	8,074	131	109	150	90	559	27	8	3	:	:
2003	254.4	992	7,985	134	101	145	90	538	28	8	2	:	:
2002 March	68.4	1,082	8,853	126	115	151	89	573	27	7	3	:	:
June	60.9	952	7,816	126	108	147	89	560	27	9	2	:	:
Sept	58.6	906	7,444	126	108	147	90	545	25	9	3	:	:
Dec	65.3	1,010	8,265	144	108	158	95	561	28	8	3	:	:
2003 March	67.1	1,061	8,671	142	107	145	88	546	24	8	3	:	:
June	61.3	959	7,843	134	99	145	93	527	32	9	2	:	:
Sept	58.9	910	7,462	131	103	155	93	541	26	8	2	:	:
Dec	67.1	1,038	8,481	139	103	144	92	568	32	8	2	:	:
2004 March[p]	66.9	1,048	8,538	134	99	150	87	535	28	10	3	:	:
June[p]	58.8	922	7,530	125	100	145	93	525	31	8	2	:	:
Sept[p]	57.1	876	7,125	128	94	144	99	519	30	8	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	6,410	50	74	146	61	300	18	4	401	54	118
1993	299.2	1,142	6,427	52	66	138	53	296	22	3	378	47	115
1994	285.6	1,088	6,115	51	67	136	52	296	22	4	371	42	114
1995	295.2	1,121	6,206	52	62	131	49	294	20	4	361	42	116
1996	291.5	1,105	6,068	52	55	126	49	293	20	3	344	41	121
1997	290.4	1,098	6,001	51	57	122	48	285	20	3	337	37	115
1998	290.3	1,108	5,945	49	54	117	47	291	21	3	328	35	116
1999	291.8	1,097	5,929	52	51	115	46	289	20	3	319	33	111
2000	280.1	1,049	5,655	51	48	107	45	285	21	3	311	33	109
2001	277.9	1,038	5,543	48	46	103	45	283	20	3	308	31	112
2002	280.4	1,043	5,526	51	44	104	44	284	19	3	302	29	112
2003	284.7	1,061	5,578	50	42	98	46	285	20	3	293	27	108
2002 March	77.2	1,168	6,088	54	45	101	44	291	20	3	309	31	111
June	66.2	990	5,298	51	44	105	42	278	19	3	302	26	114
Sept	64.1	948	5,091	49	45	106	47	279	20	4	287	28	116
Dec	72.9	1,078	5,677	51	44	103	43	291	18	4	313	29	109
2003 March	76.0	1,149	5,991	52	40	101	50	292	22	4	291	29	109
June	67.8	1,014	5,387	49	41	98	47	286	19	3	291	26	109
Sept	65.4	966	5,140	48	43	97	45	278	20	3	302	27	107
Dec	75.5	1,117	5,868	50	45	99	42	294	19	4	299	27	110
2004 March[p]	75.1	1,126	5,879	51	39	99	47	296	21	3	292	28	108
June[p]	63.7	955	5,081	47	42	95	49	270	19	4	288	25	99
Sept[p]	61.9	910	4,889	50	43	95	45	283	18	3	278	28	103

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 to 2003. Provisional figures for 2004 relate to registrations.
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 thrombembolic 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.

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. For changes to this table see 'In Brief', *Heath Statistics Quarterly* 14.
2 Rates for 2003 are based on the mid-2003 population estimates published on 9 September 2004.
3 Directly age-standardised to the European Standard Population. See Notes to Tables.
p Provisional

Table 6.3 continued **Deaths: selected causes (International Classification)[1,2] and sex**

England and Wales

Age-standardised rates[2,3] per million population for selected causes

Malignant neoplasms													
Prostate	Bladder	Leukaemia	Diabetes mellitus	Ischaemic heart disease	Cerebro vascular 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)	(120–125)	(160–169)	(J12–J18)	(J40–J44)	(J45–J46)	(K25–K27)	(K70–K76)	(V01–V89)	(X60–X84, Y10–Y34)	
													Males
198	124	74	82	3,801	1,541	920	944	21	107	41	209	124	1971
214	121	74	82	3,664	1,141	1,053	683	28	90	58	119	151	1981
304	121	77	131	2,984	940	391	606	31	73	76	125	160	1991
298	114	70	101	2,844	801	769	570	25	67	77	96	153	1993
297	109	69	98	2,609	762	689	498	23	67	84	93	152	1994
298	112	71	101	2,549	761	765	528	20	64	92	89	150	1995
289	105	66	97	2,427	751	738	484	19	64	97	94	141	1996
279	101	67	95	2,276	722	753	478	20	61	103	94	144	1997
277	99	67	94	2,215	706	720	463	18	60	115	86	152	1998
272	93	67	94	2,095	673	770	474	18	64	119	86	151	1999
260	92	67	88	1,959	622	735	416	17	59	119	86	141	2000
274	93	70	94	1,872	690	388	403	16	55	139	86	134	2001
271	90	68	91	1,782	690	387	396	15	56	144	83	131	2002
272	87	71	91	1,700	661	407	411	14	53	157	84	129	2003
278	90	72	99	1,969	784	499	509	18	57	153	85	136	2002 March
263	86	65	89	1,740	664	354	373	13	57	128	87	136	June
272	92	65	83	1,615	599	297	319	14	53	145	88	135	Sept
273	93	70	95	1,823	721	405	388	15	56	152	76	118	Dec
279	92	70	97	1,905	741	480	473	15	60	165	88	127	2003 March
268	85	73	87	1,688	643	376	391	12	55	148	86	134	June
267	85	72	87	1,541	599	327	330	13	46	147	90	129	Sept
289	93	75	98	1,759	696	457	465	16	55	169	104	151	Dec
287	89	70	95	1,792	717	494	494	16	57	158	90	127	2004 March[P]
268	85	64	82	1,585	591	344	349	13	50	145	85	137	June[P]
265	88	70	77	1,451	529	284	300	18	45	147	75	134	Sept[P]
													Females
:	32	47	89	1,668	1,352	624	193	25	44	31	82	84	1971
:	35	47	66	1,601	1,012	740	155	30	57	43	41	81	1981
:	34	44	95	1,407	812	325	211	30	46	49	45	51	1991
:	34	43	74	1,347	724	585	224	27	46	49	35	48	1993
:	35	42	69	1,237	689	512	204	24	44	50	34	44	1994
:	33	41	73	1,194	690	568	229	24	42	55	30	47	1995
:	32	41	67	1,140	680	548	222	21	43	57	30	45	1996
:	31	43	66	1,074	651	574	227	23	42	61	29	45	1997
:	32	41	65	1,055	645	546	226	22	41	64	28	43	1998
:	30	45	65	986	629	591	241	22	39	67	28	45	1999
:	31	39	62	907	577	546	216	20	41	68	24	45	2000
:	29	41	62	878	620	307	220	19	39	77	23	40	2001
:	30	43	65	844	617	316	224	20	37	79	24	41	2002
:	30	39	66	811	606	337	244	20	36	81	24	41	2003
:	30	47	72	920	684	439	308	23	42	80	25	43	2002 March
:	32	40	68	832	590	274	191	20	35	73	23	43	June
:	28	43	59	771	551	231	167	17	33	79	26	41	Sept
:	30	44	61	860	648	327	233	19	38	83	25	39	Dec
:	32	39	74	896	655	406	276	19	40	87	26	40	2003 March
:	30	38	63	789	585	296	225	18	36	76	34	42	June
:	29	41	62	732	546	253	187	17	31	73	23	42	Sept
:	30	39	65	840	634	382	289	24	38	88	28	46	Dec
:	27	43	69	819	632	407	294	24	38	88	25	40	2004 March[P]
:	30	41	56	722	530	256	186	15	34	82	25	48	June[P]
:	28	39	55	678	497	227	167	14	32	80	23	45	Sept[P]

See notes opposite.

Report:

Deaths related to drug poisoning: England and Wales, 1999–2003

Introduction

This report presents the latest figures from the Office for National Statistics (ONS) database of deaths from drug-related poisoning and covers the five-year period from 1999 to 2003. The database contains information on deaths from 1993. Results for earlier years were published in previous editions of *Health Statistics Quarterly*.[1,2,3,4,5,6] This report presents new data for 2003. Data for 1999 to 2002 are provided for comparison purposes.

Background

In 1999 ONS developed a database to facilitate research into deaths related to drug poisoning and to aid the identification of specific substances involved in these deaths. The database currently contains data on all deaths on the annual occurrence data files for England and Wales between 1993 and 2003 where the underlying cause of death is regarded as resulting from drug-related poisoning, according to the current National Statistics definition.[7] These are deaths coded according to the International Classification of Diseases Ninth Revision (ICD-9) for 1993 to 2000 and ICD-10 for 2001 onwards. The codes used are listed in Box 1.

The database covers accidents and suicides involving drug poisoning, as well as poisonings due to drug abuse and drug dependence, but not other adverse effects of drugs. The range of substances it contains is wide, including legal and illegal drugs, prescription drugs and over-the-counter medications. It does not include poisoning with non-medicinal substances such as household, agricultural or industrial chemicals. For each death the database includes every mention of a substance recorded on the death certificate or mentioned by the coroner. Almost all deaths on the database had a coroner's inquest. The underlying cause of death is recorded in addition to other information about the deceased, as described in Box 2.

A fuller description of the database is given in *Health Statistics Quarterly* 05.[1]

Results

Number of deaths from drug-related poisoning by underlying cause

Table 1 gives the total number of deaths on the database for each year from 1999 to 2003, presented by their underlying cause. Each death is

Box one

ICD-10 Underlying cause code	ICD-9 Underlying cause code	Description
F11–F16, F18–F19	292, 304, 305.2–305.9	Mental and behavioural disorders due to drug use (excluding alcohol and tobacco).
X40–X44	E850–E858	Accidental poisoning by drugs, medicaments and biological substances.
X60–X64	E950.0–E950.5	Intentional self-poisoning by drugs, medicaments and biological substances.
Y10–Y14	E980.0–E980.5	Poisoning by drugs, medicaments and biological substances, undetermined intent.
X85	E962.0	Assault by drugs, medicaments and biological substances.

Box two

For each death the database of drug-related poisonings includes:

The underlying cause of death.
Every mention of a substance recorded by the coroner in the cause of death section or elsewhere on the Coroner's certificate after inquest (Form 99(REV)).
An indicator to show if alcohol is mentioned.
Other information recorded at death registration such as age, sex, marital status, occupation and place of usual residence.

assigned an underlying cause of death which reflects the verdict of the coroner and the wording on the coroner's certificate.

Table 1 shows that the number of deaths related to drug poisoning fell again in 2003, particularly amongst males, although numbers were still much higher for males than females. The majority of deaths among females were intentional self-poisonings and poisonings of undetermined intent (62 per cent of deaths related to drug poisoning in 1999–2003 combined). Among males, broadly similar numbers of deaths were due to drug abuse/dependence (35 per cent), accidental poisoning (28 per cent) and intentional self-poisoning/poisoning of undetermined intent (36 per cent).

Number of deaths from drug-related poisoning where selected substances were mentioned on the death certificate

Table 2 gives numbers of deaths where specific substances were mentioned on the death certificate for 1999–2003.

These figures need to be interpreted with some caution for the following reasons:

1. In around 10 per cent of deaths on the database only a general description, such as 'drug overdose', is recorded on the coroner's certificate of death. These deaths do not contribute to the count of specific substances.

2. Where more than one drug is mentioned on the death certificate, it is not always possible to tell which of them was primarily responsible for the death.

3. Some deaths may be counted in more than one category in these tables. For example, if heroin and cannabis are recorded on the death certificate, the death will be recorded once under heroin and once under cannabis. Therefore the numbers in each column cannot be added together to give a total number of deaths.

As heroin (diamorphine) breaks down in the body into morphine, the latter may be detected at post mortem and recorded on the death certificate. Therefore a combined figure for deaths where heroin or morphine was mentioned on the death certificate is included in Table 2. The figure for cocaine in Table 2 includes deaths where cocaine was taken in the form of crack cocaine. It is not possible to separately identify crack cocaine from other forms of cocaine at post mortem. Other evidence to distinguish the form of cocaine taken is rarely provided on death certificates.

In 2003, 35 per cent of deaths mentioned more than one drug, or a "multiple drug overdose" for example, and around 26 per cent of deaths contained a mention of alcohol in addition to a drug.

The number of deaths involving heroin or morphine fell again in 2003, to 591 deaths. This is the lowest figure since 1997. The number of deaths involving methadone also fell to 175 deaths – the lowest figure since the database was set up. Deaths involving cocaine also fell after having reached their highest level in 2002, but there were still over 100 deaths mentioning cocaine in 2003.

The number of deaths involving amphetamines fell in 2003, to 66 deaths, which was mostly accounted for by the fall in deaths mentioning ecstasy. A small number of deaths mentioned cannabis or Gamma-hydroxybutyrate (GHB).

The number of death certificates which mentioned benzodiazepines decreased in 2003. This reflects a decrease in mentions of all three of

Table 1 **Numbers of deaths from drug-related poisoning by underlying cause, 1999–2003**

England and Wales

Cause (ICD-10; ICD-9)*		Year						
		1999	2000†	2001	2002	2003	Total Number	Percentage of total
Total	Males	2,043	2,057	2,019	1,818	1,589	9,526	100.0
	Females	900	910	879	867	856	4,412	100.0
Mental and behavioural disorders due to drug use (excluding alcohol and tobacco) (F11–F16, F18–F19; 292, 304, 305.2–305.9)	Males	681	714	685	744	545	3,369	35.4
	Females	85	124	113	138	110	570	12.9
Accidental poisoning by drugs, medicaments and biological substances (X40–X44; E850–E858)	Males	595	608	610	458	410	2,681	28.1
	Females	217	227	222	210	216	1,092	24.8
Intentional self-poisoning by drugs, medicaments and biological substances and poisoning by drugs, medicaments and biological substances, undetermined intent (X60–X64, Y10–Y14; E950.0–E950.5, E980.0–E980.5)	Males	755	723	712	611	631	3,432	36.0
	Females	597	555	536	518	528	2,734	62.0
Assault by drugs, medicaments and biological substances (X85; E962.0)	Males	12	12	12	5	3	44	0.5
	Females	1	4	8	1	2	16	0.4

* From 2001, cause of death is coded to ICD-10.
† 1 death has been removed from 2000 as its cause of death had incorrectly been coded as drug-related poisoning.

Table 2 **Numbers of deaths where selected substances were mentioned on the death certificate, 1999–2003**

England and Wales

	1999	2000	2001	2002	2003
a) Total mentions					
All deaths	2,943	2,967	2,898	2,685	2,445
Heroin and Morphine	754	926	889	790	591
Methadone	298	238	207	216	175
Cocaine	88	80	96	139	113
All amphetamines	80	59	83	93	66
MDMA/Ecstasy	26	36	55	55	33
Cannabis	8	11	15	15	11
Gamma-hydroxybutyrate (GHB)	1	2	4	4	3
All benzodiazepines	240	207	222	242	211
Temazepam	82	73	57	75	68
Diazepam	112	83	119	124	105
Nitrazepam	7	6	5	11	8
Zopiclone/Zolpidem	27	34	38	42	48
Barbiturates	26	17	29	17	18
All antidepressants	493	449	416	392	424
Tricyclic antidepressants (BNF* 4.3.1)	425	381	323	295	296
Dothiepin	219	201	170	159	142
Amitriptyline	162	142	118	111	127
Monoamine-oxidase inhibitors (BNF* 4.3.2)	4	2	1	4	3
Selective serotonin re-uptake inhibitors (BNF* 4.3.3)	38	55	60	49	81
Other antidepressants (BNF* 4.3.4)	20	18	35	51	52
Paracetamol (includes dextropropoxpoxyphene mentioned without paracetamol)†	559	551	545	463	466
Paracetamol	473	455	446	408	396
Paracetamol & dextropropoxyphene compound formulation (includes dextropropoxpoxyphene mentioned without paracetamol)†	366	361	346	287	262
Paracetamol & codeine compound formulation	31	25	22	32	41
Paracetamol & dihydrocodeine compound formulation	13	22	13	19	11
Paracetamol not from compound formulation	155	155	175	126	159
Codeine not from compound formulation	26	27	32	30	33
Dihydrocodeine not from compound formulation	121	108	118	107	94
Aspirin	28	24	27	22	22
Tramadol	23	32	25	30	41
b) Mentions without other drugs					
All deaths mentioning only one drug	2,032	2,080	1,993	1,782	1,589
Heroin and Morphine	575	716	652	555	407
Methadone	168	133	97	90	68
Cocaine	31	35	31	49	32
All amphetamines	31	27	37	48	39
MDMA/Ecstasy	8	16	25	30	18
Cannabis	0	0	0	0	2
Gamma-hydroxybutyrate (GHB)	0	1	2	1	1
All benzodiazepines	48	38	36	33	33
Temazepam	30	20	15	15	21
Diazepam	6	7	4	6	3
Nitrazepam	3	4	4	2	3
Zopiclone/Zolpidem	5	9	8	18	9
Barbiturates	19	16	18	14	16
All antidepressants	329	284	244	227	235
Tricyclic antidepressants (BNF* 4.3.1)	294	261	210	195	187
Dothiepin	161	142	120	115	99
Amitriptyline	105	90	70	62	72
Monoamine-oxidase inhibitors (BNF* 4.3.2)	2	0	1	1	1
Selective serotonin re-uptake inhibitors (BNF* 4.3.3)	10	11	19	6	21
Other antidepressants (BNF* 4.3.4)	12	6	10	23	21
Paracetamol	126	125	134	112	120
Codeine	8	8	14	10	11
Dihydrocodeine	64	54	58	44	45
Aspirin	16	8	11	12	9
Tramadol	13	20	10	16	23

* British National Formulary.

† Dextropropoxyphene is very rarely ingested except in combination with paracetamol in England and Wales.

Table 2 **Numbers of deaths where selected substances were mentioned on the death certificate, 1999–2003**

England and Wales

	1999	2000	2001	2002	2003
c) Mentions with alcohol					
All deaths mentioning one or more drugs and alcohol	670	755	723	620	639
Heroin and Morphine	210	244	249	207	194
Methadone	79	79	62	65	59
Cocaine	12	17	18	35	26
All amphetamines	7	13	14	13	13
MDMA/Ecstasy	3	9	10	8	7
Cannabis	3	5	7	5	3
Gamma-hydroxybutyrate (GHB)	0	1	2	2	2
All benzodiazepines	84	84	82	96	89
Temazepam	24	29	15	17	26
Diazepam	37	39	46	59	45
Nitrazepam	3	2	2	2	2
Zopiclone/Zolpidem	12	13	10	15	18
Barbiturates	3	7	6	4	1
All antidepressants	92	96	91	97	111
Tricyclic antidepressants (BNF* 4.3.1)	74	71	67	69	71
Dothiepin	39	39	38	40	36
Amitriptyline	25	29	24	24	28
Monoamine-oxidase inhibitors (BNF* 4.3.2)	0	1	0	0	1
Selective serotonin re-uptake inhibitors (BNF* 4.3.3)	11	25	15	14	28
Other antidepressants (BNF* 4.3.4)	1	4	5	16	15
Paracetamol (includes dextropropoxpoxyphene mentioned without paracetamol)†	131	140	156	120	112
Paracetamol	107	114	127	99	91
Paracetamol & dextropropoxyphene compound formulation (includes dextropropoxpoxyphene mentioned without paracetamol)†	94	104	120	93	70
Paracetamol & codeine compound formulation	11	7	7	7	9
Paracetamol & dihydrocodeine compound formulation	3	8	5	5	5
Paracetamol not from compound formulation	25	22	28	19	29
Codeine not from compound formulation	7	10	12	8	13
Dihydrocodeine not from compound formulation	24	22	23	20	25
Aspirin	2	2	4	4	1
Tramadol	2	8	5	5	12

* British National Formulary.

† Dextropropoxyphene is very rarely ingested except in combination with paracetamol in England and Wales.

the main benzodiazepines mentioned on death certificates – diazepam, temazepam and nitrazepam. Deaths involving Zopiclone and Zolpidem increased again, with 48 deaths involving either of these substances.

In 2003, the number of deaths involving antidepressants increased, in contrast to the decrease in these deaths seen in years since 1996. Although the number of deaths mentioning dothiepin fell, the number of deaths mentioning amitriptyline rose. The largest increase was seen in the number of deaths mentioning selective serotonin re-uptake inhibitors (SSRIs) such as fluoxetine, paroxetine and citalopram, which were involved in 81 deaths. Previous research[8] found that deaths where SSRIs were mentioned on the death certificate rose steadily from 1993 to 2002. We have therefore presented these drugs separately from other antidepressants in this report so that trends can easily be monitored. The number of deaths involving other antidepressants, such as venlafaxine, remained at around 50 in 2003.

Deaths involving paracetamol and its compounds stopped declining in 2003, and rose slightly to 466 deaths. The overall figure for paracetamol includes those deaths where dextropropoxyphene was mentioned alone on the death certificate, as this substance is very rarely ingested except in combination with paracetamol in England and Wales. However, the overall increase was due to a rise in the number of deaths involving paracetamol not from compound formulation, and from co-codamol. The number involving co-proxamol and co-dydramol declined.

The number of deaths involving tramadol rose again in 2003 to 41 deaths.

European age-standardised death rates from selected substances

Figure 1 shows the trend in mortality rates from drug-related poisoning for both sexes for selected major substances from 1999 to 2003. The population estimates used are those which take account of the results of the 2001 Census, and were published in September and October 2004.

The figure shows that, among males, death rates for heroin and morphine have declined steeply since 2001. However, the rate for heroin was still substantially higher than rates for other substances in 2003. Rates for amphetamines and benzodiazepines have remained fairly steady over the period whereas rates for antidepressants and paracetamol in compound increased slightly in 2003.

For females, the highest rates were for paracetamol and antidepressants, the most commonly used substances in suicides (which make up the majority of drug-related poisoning deaths among women). Rates for heroin and morphine decreased for women in 2003.

Deaths related to drug misuse

In 2000 the Advisory Council on the Misuse of Drugs published a report, *Reducing Drug Related Deaths*.[9] In response to this report's recommendations on improving the present system for collecting data on drug-related deaths, a technical working group was set up. This group, consisting of experts across government, the devolved administrations, coroners, toxicologists and drugs agencies, proposed a headline indicator for drug-misuse-related deaths as part of the Government's Action Plan[10] to reduce the number of these deaths. This indicator also takes into account the information needs of the European Monitoring Centre for Drugs and Drug Addiction. The definition of the indicator is *deaths where the underlying cause is poisoning, drug abuse or drug dependence and where any of the substances controlled under the Misuse of Drugs Act (1971) are involved*. This definition has been adopted across the United Kingdom.

We have analysed the database of drug poisonings to identify those deaths which are included in this indicator, that is they are considered to involve drug misuse. The definition of the headline indicator using ICD-10 is shown in Box 3. The definition using ICD-9 was published in a previous annual report.[4]

Table 3 shows numbers of deaths related to drug misuse, using this definition, for 1999 to 2003. Because the indicator is based on the current list of drugs controlled under the Misuse of Drugs Act, earlier years' data were updated last year to reflect additional substances, particularly Zolpidem and GHB, becoming controlled[6]. This means that the data are comparable across the time period, despite the fact that these drugs were not actually controlled in the earlier years.

Figure 1 European age-standardised mortality rates for selected substances, males and females, 1999–2003

England and Wales

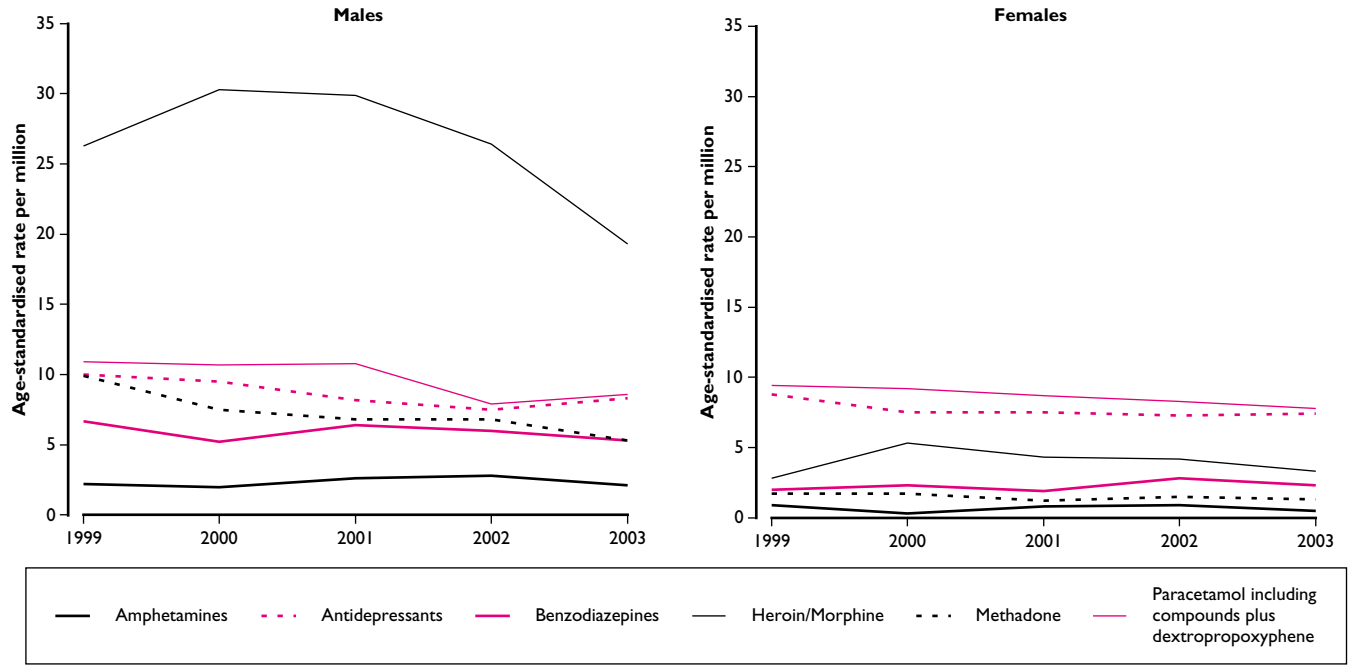


Table 3 Numbers of deaths related to drug misuse* by sex and country, 1999–2003†

England and Wales

	1999	2000	2001	2002	2003
England and Wales**	1,571	1,666	1,628	1,565	1,388
Males	1,312	1,345	1,320	1,227	1,042
Females	259	321	308	338	346
England	1,484	1,565	1,528	1,456	1,300
Males	1,242	1,262	1,237	1,137	974
Females	242	303	291	319	326
Wales	76	83	81	89	83
Males	59	70	69	74	63
Females	17	13	12	15	20
Percentage of all deaths on the database	53	56	56	58	57
Males	45	45	46	46	43
Females	9	11	11	13	14

* As defined by the current headline indicator on drug misuse (see Box 3).
† The table includes amended figures from those featured in Table 3 in *Health Statistics Quarterly* 17, due to additional substances becoming controlled under the Misuse of Drugs Act 1971.
** Includes non-residents.

Box three

CAUSE OF DEATH CATEGORIES INCLUDED IN THE HEADLINE INDICATOR OF DRUG MISUSE DEATHS

(the relevant codes from ICD-10 are given in brackets):

a) deaths where the underlying cause of death has been coded to the following categories of mental and behavioural disorders due to psychoactive substance use (excluding alcohol, tobacco and volatile solvents):

(i) opioids (F11);
(ii) cannabinoids (F12);
(iii) sedatives or hypnotics (F13);
(iv) cocaine (F14);
(v) other stimulants, including caffeine (F15);
(vi) hallucinogens (F16); and
(vii) multiple drug use and use of other psychoactive substances (F19).

b) deaths coded to the following categories and where a drug controlled under the Misuse of Drugs Act 1971 was mentioned on the death record:

(i) Accidental poisoning by drugs, medicaments and biological substances (X40–X44);
(ii) Intentional self-poisoning by drugs, medicaments and biological substances (X60–X64);
(iii) Poisoning by drugs, medicaments and biological substances, undetermined intent (Y10–Y14);
(iv) Assault by drugs, medicaments and biological substances (X85); and
(v) Mental and behavioural disorders due to use of volatile solvents (F18).

Notes:

1. Deaths coded to opiate abuse which resulted from the injection of contaminated heroin have been *included* in the indicator. This differs from the approach taken in Scotland, where these deaths have been *excluded*. This is because the General Register Office for Scotland (GROS) is able to identify deaths which occurred as a result of the use of contaminated heroin, whereas in England and Wales, these deaths cannot be readily identified. In practice, in England and Wales, they will only be included where the drug was mentioned on the death record and the death was coded to one of the ICD codes on the ONS database of drug-related poisonings and not to an infection code.

2. Specific rules were adopted for dealing with compound analgesics which contain relatively small quantities of drugs listed under the Misuse of Drugs Act, the major ones being dextropropoxyphene, dihydrocodeine and codeine. Where these drugs are present on a death record, they have been excluded if they are part of a compound analgesic (such as *co-proxamol, co-dydramol or co-codamol)* or cold remedy.

   Dextropropoxyphene has been excluded on all occasions, whether or not paracetamol or a compound analgesic was mentioned. This is because dextropropoxyphene is rarely, if ever, available other than as part of a paracetamol compound. However, codeine or dihydrocodeine mentioned **alone** were included in the indicator. This is because they are routinely available and known to be abused in this form. This approach is the same as that taken by GROS.

3. Drugs controlled under the Misuse of Drugs Act 1971 include class A, B and C drugs.

4. Information on the cause of death categories used to define the indicator in ICD-9 can be found in the report in *Health Statistics Quarterly* 13.[4]

The total number of deaths related to drug misuse fell to 1,388 in 2003, the lowest since 1997. This fall occurred among males. Among females, the number of deaths related to drug misuse increased to its highest level. The fall in drug misuse deaths for males was seen in both England and Wales and the numbers rose in both these countries for females. The percentage of all deaths related to drug poisoning that are due to drug misuse increased, from 53 per cent in 1999 to 58 per cent in 2002, although it has stabilised at 57 per cent in 2003.

Table 4a shows deaths involving controlled drugs by underlying cause of death. In 2003, 'mental and behavioural disorders due to drug use' formed the largest proportion of deaths related to misuse in men but more deaths were given a suicide or open verdict in women. For poisoning with any drug, suicide formed the largest proportion of deaths for both males and females in 2003. The number of drug misuse deaths given a suicide or open verdict in women has been increasing and has reached its highest level in 2003.

Examining the headline indicator by the type of substance reported, Table 4b, shows that an overwhelming majority of drug misuse deaths mentioned a controlled substance. A decrease was seen for both sexes in 2003 in the number of deaths that mentioned only non-controlled substances, that is they involved abuse of or dependence on a substance not controlled under the Misuse of Drugs Act.

Table 4c shows the headline data disaggregated by broad age group. This shows that in both males and females numbers were highest in the 30–39 and 20–29 age groups. Male deaths related to drug misuse were more concentrated in this age range than female deaths, with females having higher proportions in the older age groups than men. In 2003, there was a fall in the number of drug misuse deaths seen in the younger age groups in both sexes but an increase was seen in men and women aged 50 and over.

Figure 2 shows the trend in mortality rates by age group for deaths related to drug misuse. This shows that, among males, rates have remained low in the under 20, 50–69 and 70 and over age groups, although rates in the 50–69 and 70 and over age groups increased in 2003. The 20–29 age group had the highest rates throughout 1999 to 2002, but the rates declined in 2003 so that the 30–39 age group had the highest rate for this year although these rates were also declining. In the 40–49 age group, rates peaked in 2000 and had fallen back to levels similar to those in 1998 by 2003. Among females, rates were much lower than for males in most age groups, with no clear trend being apparent. Rates were highest among those aged 20–29 and 30–39.

Table 4 **Number of deaths related to drug misuse* by sex, underlying cause of death, substance involved and age, 1999–2003†**

England and Wales

		1999	2000	2001	2002	2003
a) by sex and underlying cause of death (ICD-10; ICD-9)**						
Mental and behavioural disorders due to drug use (excluding alcohol and tobacco) (F11–F16, F18–F19; 292, 304, 305.2–305.9)	Males	653	696	661	721	534
	Females	81	118	104	127	102
Accidental poisoning by drugs, medicaments and biological substances (X40–X44; E850–E858)	Males	440	441	432	331	299
	Females	85	99	92	96	91
Intentional self-poisoning by drugs, medicaments and biological substances and poisoning by drugs, medicaments and biological substances, undetermined intent (X60–X64, Y10–Y14; E950.0–E950.5, E980.0–E980.5)	Males	211	198	217	171	206
	Females	92	103	104	114	152
Assault by drugs, medicaments and biological substances (X85; E962.0)	Males	8	10	10	4	3
	Females	1	1	8	1	1
b) by sex and substance reported						
Controlled substance only	Males	1,180	1,206	1,097	1,015	853
	Females	214	266	223	224	243
Non-controlled substance only	Males	84	76	74	104	65
	Females	16	19	19	31	29
Both controlled and non-controlled substances	Males	48	63	149	108	124
	Females	29	36	66	83	74
c) by sex and broad age band						
Under 20	Males	72	49	46	49	32
	Females	13	21	23	14	11
20–29	Males	472	435	482	433	297
	Females	67	78	79	76	68
30–39	Males	486	513	492	478	419
	Females	58	88	74	90	85
40–49	Males	192	252	202	183	180
	Females	35	61	56	59	64
50–69	Males	70	68	72	65	92
	Females	42	36	42	65	67
70 and over	Males	20	28	26	19	22
	Females	44	37	34	34	51

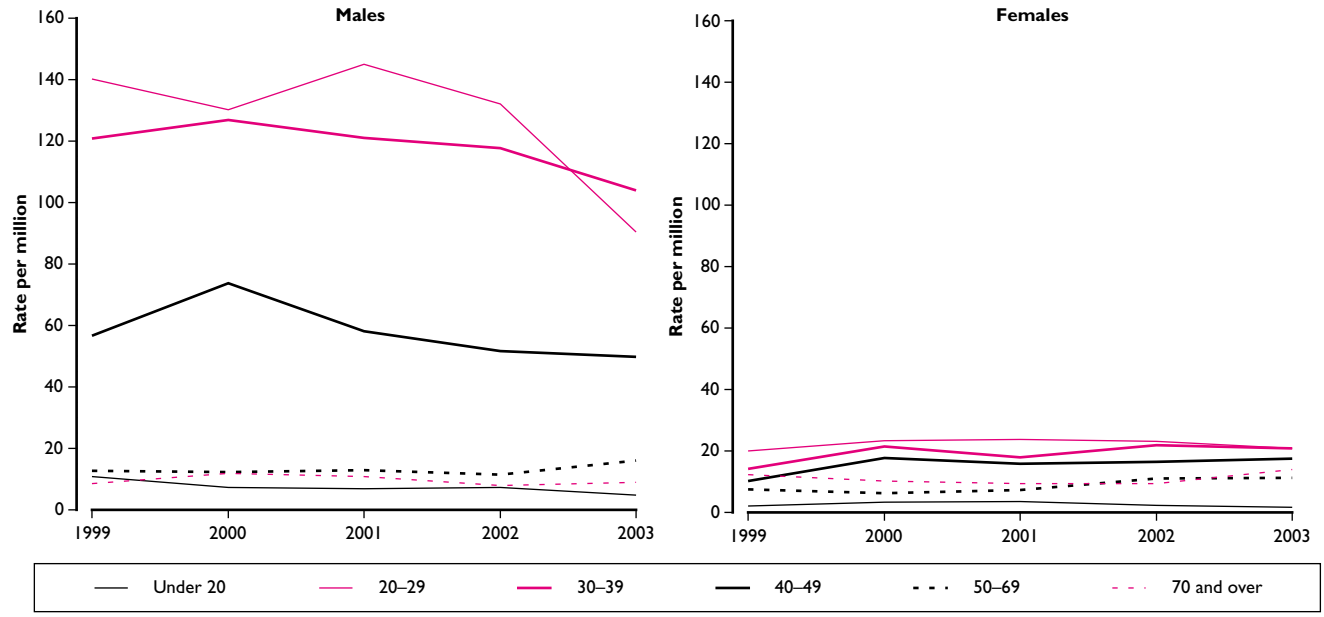
* As defined by the headline indicator on drug misuse (see Box 3).

† The table includes amended figures from those featured in Table 3 in *Health Statistics Quarterly* 17, due to additional substances becoming controlled under the Misuse of Drugs Act 1971.

** From 2001, cause of death is coded to ICD-10.

Figure 2 **Age-specific mortality rates for deaths related to drug misuse, males and females, 1999–2003**

England and Wales



Further information

For further information on the ONS database of drug-related poisoning deaths email mortality@ons.gov.uk.

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Report:

Deaths involving MRSA: England and Wales, 1999–2003

Introduction

This is the first annual report on those deaths in England and Wales where methicillin-resistant *Staphylococcus aureus* (MRSA) was reported as a contributory factor. This report includes data for the period 1999 to 2003. Data for 2003 is published for the first time in this report.

Background

This report examines trends in those deaths that involved methicillin-resistant *Staphylococcus aureus* (MRSA) as a contributory factor from 1999 to 2003. Staphylococcus aureus is a type of common germ that is resistant to methicillin and other antibiotics usually used to treat *S. aureus*. Box 1 explains the terms used in this report.

MRSA was first isolated in 1961, the same year that the antibiotic methicillin was first used. MRSA remained at low levels in the UK until 1992.[1] Since then both the number of infections caused by MRSA and the proportion of all *S. aureus* infections that are methicillin resistant has been increasing.[2] Previous analysis of death certificates has found that MRSA is increasingly mentioned on death certificates in England and Wales.[3,4] Mortality rates for deaths involving MRSA increased over 15-fold during the period 1993 to 2002; this increase was thought unlikely to be due to an improvement in reporting.[4] Those who die with MRSA are often already very ill and vulnerable to infection. A recent Department of Health report addresses actions that should be taken to reduce levels of hospital-acquired infections.[5]

The number of deaths due to MRSA is difficult to estimate. Trends in mortality are normally monitored using the underlying cause of death (the disease which initiated the train of events leading directly to death). However MRSA, and other hospital-acquired infections, are rarely the underlying cause of death. Those who die with MRSA are usually patients who were already very ill and it is instead their existing illness, rather than MRSA, which is often designated as the underlying cause of death. There is therefore an interest in the number of deaths where MRSA contributed to the death – only conditions which contribute directly to the death should be recorded on the death certificate. Results presented in this report identify deaths where the underlying cause was MRSA and also where MRSA was not the underlying cause but was a contributory factor in the death.

Method

All deaths are coded by the Office for National Statistics (ONS) according to the International Classification of Diseases (ICD) supplied by the World Heath Organization. There are currently no codes in ICD for antibiotic resistance. However, since 1993 ONS has stored the text of death certificates on a database, along with all the ICD coding relating to causes identified on the death certificate. This means that it is possible to identify diseases which do not have their own specific ICD codes, such as MRSA, by manually searching the text of the death certificate.

Identification of *Staphylococcus aureus* and MRSA

The codes used to select deaths to search manually were as used in previous analysis.[3,4] The codes used in this analysis for both ICD-9 and ICD-10 are identified in Tables 1 and 2. ICD-9 codes were used in years 1999 and 2000; ICD-10 codes were used from 2001 onwards.

Initially all deaths which had a code which specifically related to *Staphylococcus aureus* mentioned on the death certificate were extracted from the database. The text of their death certificates was then manually searched to identify MRSA. The codes used to identify these deaths are given in Table 1.

In addition, all deaths which have non-specific codes, i.e. one which could include an *S. aureus* infection but could also include other infections, mentioned anywhere on the death certificate were extracted. They were then manually searched to identify both *S. aureus* and MRSA. The codes used to identify these deaths are given in Table 2.

Since 1986 ONS has used the internationally recommended death certificate for neonatal deaths. This means that these deaths cannot be assigned an underlying cause of death.[6] However, as the data was based on all mentions of *S. aureus* and MRSA, neonates have been included. Neonatal deaths were extracted in the same way as described above for post-neonatal deaths.

Table 1 **Codes specifically relating to *S.aureus* infection, ICD-9 and ICD-10 equivalents***

ICD-9	ICD-10
005.0 (staphylococcal food poisoning) 038.1 (staphylococcal septicaemia)	A05.0 (foodborne staphylococcal intoxication) A41.0–A41.2 (septicaemia due to *staphylococcus aureus* / other specified staphylococcus / unspecified staphylococcus)
041.1 (staphylococcus)	A49.0 (staphylococcal infection, unspecified) B95.6-B95.8 *(staphylococcus aureus* /other staphylococcus / unspecified staphylococcus as the cause of diseases classified to other chapters)
320.3 (staphylococcal meningitis)	G00.3 (staphylococcal meningitis)
482.4 (pneumonia due to staphylococcus)	J15.2 (pneumonia due to staphylococcus) L00 (staphylococcal scalded skin syndrome) M00.0 (staphylococcal arthritis and polyarthritis) P23.2 (congenital pneumonia due to staphylococcus) P36.2 (sepsis of newborn due to staphylococcus aureus)

* Blank = No equivalent code.

Table 2 **Codes specifically relating infection, but not specifically *S.aureus*, ICD-9 and ICD-10 equivalents***

ICD-9	ICD-10
008.4 (other specified bacteria)	A04.8 (other specified bacterial intestinal infections) A38 (scarlet fever) A48.3 (toxic shock syndrome) G06.1 (intraspinal abscess and granuloma) G04.2 (bacterial meningoencephalitis and meningomyelitis, not elsewhere classified) I30.1 (infective pericarditis) I38 (endocarditis, valve unspecified) J03.8 (acute tonsillitis due to other specified organisms) J86 (pyothorax) K12.2 (cellulitis and abscess of mouth) K14.0 (glossitis) L03 (cellulitis) L08.9 (local infection of skin and subcutaneous tissue, unspecified) M60.0 (infective myositis) M86 (osteomyelitis) M46.2 (osteomyelitis of vertebra) M71.1 (other infective bursitis) N39.0 (urinary tract infection, site not specified) T80.2 (infections following infusion, transfusion and therapeutic injection) T81.4 (infection following a procedure, not elsewhere classified) T82.6 (infection and inflammatory reaction due to cardiac valve prosthesis) T82.7 (infection and inflammatory reaction due to other cardiac and vascular devices, implants and grafts) T83.5 (infection and inflammatory reaction due to prosthetic device, implant and graft in urinary system) T83.6 (infection and inflammatory reaction due to prosthetic device, implant and graft in genital tract) T84.5 (infection and inflammatory reaction due to internal joint prosthesis) T84.6 (infection and inflammatory reaction due to internal fixation device [any site]) T84.7 (infection and inflammatory reaction due to other internal orthopaedic prosthetic devices, implants and grafts) T85.7 (infection and inflammatory reaction due to other internal prosthetic devices, implants and grafts) T87.4 (infection of amputation stump) T88.0 (infection following immunization)

* Blank = No equivalent code.

Deaths with an underlying cause of death of *S. aureus* were identified by selecting those deaths with a mention of *S.aureus* that also had one of the underlying causes of death listed in Table 1 or Table 2. The same procedure was followed for the identification of those deaths with MRSA as the underlying cause. In a refinement to the method used to select the underlying cause of death in previous analysis,[4] the code A41.9 (septicaemia, unspecified) has also been used to select the underlying cause of death. This is because this code is sometimes selected as the underlying cause of death when MRSA septicaemia is mentioned on the death certificate.

Derivation of place of death categories

The place of death categories used in this analysis have been derived from three items of information recorded by ONS (Table 3). First, the communal establishment code distinguishes between deaths in communal establishments (which are given a code specific to the particular institution) and those at home or occurring elsewhere. Second, the establishment type code classifies communal establishments into different types (e.g. hospital, hospice, local authority residential home). Lastly, the NHS Indicator code shows whether the establishment was NHS or non-NHS funded.

Table 3 **Derivation of Place of Death Classification**

Place of death classification	Communal Establishment	Establishment type	NHS Indicator
Own home	Home	N/A	N/A
NHS general hospital	Communal Establishment Code	General hospital or Multi-function site	NHS
Non-NHS general hospital		General hospital or Multi-function site	Non-NHS
Hospice		Hospice	
NHS nursing home		Homes for the chronic sick or Medical nursing home	NHS
Non-NHS nursing home		Homes for the chronic sick, Medical nursing home, Private nursing home or Private nursing home (aged)	Non-NHS
Private residential home		Residential home (private)	Non-NHS
Local Authority residential home		Residential home (local authority)	NHS
Other places	Elsewhere	All other codes	N/A

Results

Number of deaths where *Staphylococcus aureus* or MRSA contributed to the death or was the underlying cause of death

The number of death certificates mentioning *Staphylococcus aureus* infection increased each year from 1999 to 2003 in England and Wales (Table 4). Each year there was an increase in the percentage of these deaths where MRSA was specified. In 1999, 51 per cent of deaths in England and Wales mentioning *S. aureus* specified methicillin resistance. By 2003 this had risen to 68 per cent. Figure 1 shows that it was the increase in the number of death certificates specifying MRSA that accounted for most of the increase in deaths where *S. aureus* was mentioned.

Between 2002 and 2003 mentions of MRSA on death certificates increased by 19 per cent (Table 4) but laboratory reports of MRSA only increased by 7 per cent over the same period.[7] This indicates that some of the increase in mentions of MRSA on death certificates may be due to improved levels of reporting, possibly brought about by the increased public profile of the disease.

The percentage of mentions of *S. aureus* or MRSA that were also selected as the underlying cause of death has remained at similar levels

Figure 1 **Number of death certificates mentioning *Staphylococcus aureus* by methicillin resistance, 1999–2003**

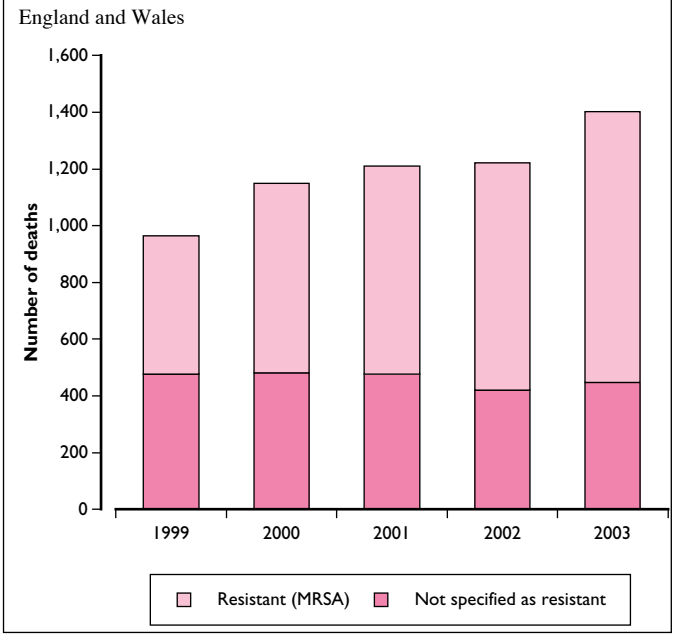

Table 4 **Number of death certificates with *Staphlyococcus aureus* and MRSA mentioned and as the underlying cause, England and Wales 1999–2003**

	1999	2000	2001	2002	2003
England and Wales					
Mentions					
All *Staphylococcus aureus*	964	1,150	1,211	1,221	1,403
MRSA	487	669	734	800	955
Percentage of S. aureus mentions that were MRSA	51	58	61	66	68
Underlying cause*					
All *Staphylococcus aureus*†	268	344	436	410	493
MRSA†	126	195	254	248	321
Percentage of mentions selected as underlying cause†					
All *Staphylococcus aureus*	28	30	36	34	35
MRSA	26	29	35	31	34
England					
Mentions					
All *Staphylococcus aureus*	887	1,067	1,137	1,145	1,310
MRSA	431	616	681	742	890
Percentage of S. aureus mentions that were MRSA	49	58	60	65	68
Underlying cause					
All *Staphylococcus aureus*†	247	322	414	388	462
MRSA†	110	184	240	230	300
Percentage of mentions selected as underlying cause†					
All *Staphylococcus aureus*	28	30	36	34	35
MRSA	26	30	35	31	34
Wales					
Mentions					
All *Staphylococcus aureus*	76	79	72	75	91
MRSA	55	51	53	58	64
Percentage of S. aureus mentions that were MRSA	72	65	74	77	70
Underlying cause					
All *Staphylococcus aureus*†	21	21	22	22	30
MRSA†	16	11	14	18	21
Percentage of mentions selected as underlying cause†					
All *Staphylococcus aureus*	28	27	31	29	33
MRSA	29	22	26	31	33

Notes:

* The inclusion of ICD-10 code A41.9 in selecting the underlying cause has resulted in small differences to data for 2001 and 2002 previously published for England and Wales in *Health Statistics Quarterly* 21. In addition, for 1999 and 2000, figures previously published in *Health Statistics Quarterly* 21 incorrectly excluded deaths coded to ICD-9 code 008.4. (In 1999 and 2000, 3 and 7 deaths respectively where *Staphlococcus aureus* was the underlying cause were excluded; in 1999 and 2000, 3 and 5 deaths respectively where MRSA was the underlying cause were excluded).

† Excludes neonatal deaths.

since 2001 (Table 4). Increases in the numbers of deaths where *S. aureus* or MRSA had been selected as the underlying cause reflected the increase in deaths where *S. aureus* or MRSA was mentioned as a contributing factor in the death.

Mortality rates for all deaths mentioning Staphylococcus aureus or MRSA

Age-standardised rates for deaths involving *S. aureus* and MRSA were highest in males (Figure 2). In 2003 in England and Wales there were 24.1 deaths involving *S. aureus* per million population in males compared to 13.5 per million population in females (Table 5). The rates for both males and females increased over the period 1999 to 2003. Age-standardised rates for deaths involving MRSA in males increased from 14.8 per million population in 2002 to 16.3 in 2003. In females rates for deaths involving MRSA increased from 7.0 to 8.5 per million population over the same period. Rates for deaths involving *S. aureus* in males increased from 22.7 per million population in 2002 to 24.1 in 2003. For females the increase was from 11.1 per million population in 2002 to 13.5 in 2003.

Most of the deaths involving *S. aureus* or MRSA were in the older age groups. Mortality rates in specific age groups for England and Wales over the period 1999 to 2003 show that for deaths involving MRSA, in the over 85 age group, there were 329 and 147.8 deaths per million population for males and females respectively. In the under 45 age group there were 0.6 and 0.5 deaths per million population for males and females respectively (Table 6).

Figure 2 **Age-standardised mortality rates for *Staphylococcus aureus* and MRSA, 1999–2003**

England and Wales

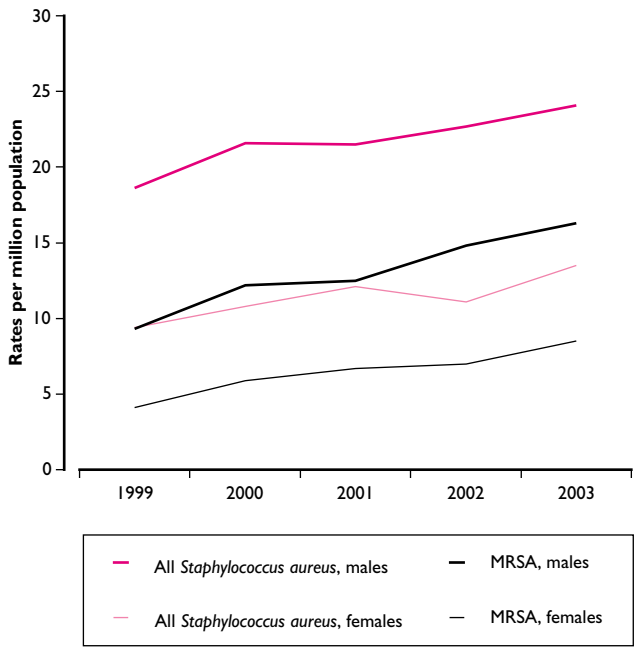

Table 5 **Age-standardised mortality rates for *Staphylococcus aureus* and MRSA by sex, England and Wales, 1999–2003**

Rates per million population

	1999	2000	2001	2002	2003
England and Wales					
All *Staphylococcus aureus*, males	18.6	21.6	21.5	22.7	24.1
All *Staphylococcus aureus*, females	9.4	10.8	12.1	11.1	13.5
MRSA, males	9.3	12.2	12.5	14.8	16.3
MRSA, females	4.1	5.9	6.7	7.0	8.5
England					
All *Staphylococcus aureus*, males	18.2	21.2	21.4	22.8	24.0
All *Staphylococcus aureus*, females	9.2	10.6	12.1	11.0	13.3
MRSA, males	8.6	11.9	12.3	14.6	16.3
MRSA, females	3.9	5.7	6.7	6.9	8.4
Wales					
All *Staphylococcus aureus*, males	24.6	26.4	21.7	21.6	24.1
All *Staphylococcus aureus*, females	12.0	13.7	11.4	12.0	15.4
MRSA, males	18.6	16.8	15.7	17.8	16.5
MRSA, females	7.0	9.1	7.5	8.6	10.8

Table 6 **Age-specific mortality rates for *Staphylococcus aureus* and MRSA by sex, England and Wales, 1999–2003**

Rates per million population

	Males		Females	
Age group	All *S. aureus*	MRSA	All *S. aureus*	MRSA
England and Wales				
Under 45	2.2	0.6	1.7	0.5
45–54	9.6	4.0	6.4	3.3
55–64	26.5	13.3	13.4	6.6
65–74	76.8	46.7	41.3	23.7
75–84	206.9	141.3	99.2	63.5
85 and over	462.6	329.0	216.4	147.8
England				
Under 45	2.2	0.5	1.6	0.5
45–54	9.6	3.8	6.5	3.3
55–64	26.3	12.6	13.2	6.3
65–74	75.8	45.9	40.6	23.3
75–84	204.8	138.8	97.6	61.6
85 and over	459.9	324.4	218.5	148.2
Wales				
Under 45	1.9	0.7	2.9	1.7
45–54	9.3	7.2	4.1	3.0
55–64	26.5	20.4	16.2	10.4
65–74	88.2	57.7	50.9	29.7
75–84	239.7	179.1	123.0	92.2
85 and over	494.4	405.7	183.8	141.4

Place of death

Death certificates rarely specify the place where an infection was acquired. However, the place of death is recorded. Deaths involving *S.aureus* and MRSA made up 0.2 per cent and 0.1 per cent of all deaths in England and Wales respectively. Among deaths that occurred in NHS general hospitals and NHS nursing homes deaths involving *S.aureus* made up 0.4 per cent and 0.5 per cent of the total in these institutions respectively. Deaths involving MRSA made up 0.2 per cent of all deaths in NHS general hospitals and 0.3 per cent of all deaths in NHS nursing homes.

Most deaths occur in hospital (55 per cent of all deaths between 1999 and 2003 occurred in NHS general hospitals). This means that the majority of *S. aureus* and MRSA deaths also occurred in hospital. Many of these deaths in hospital will have been to patients who were admitted because they were already seriously ill with another condition. In England and Wales over the period 1999 to 2003, 90.7 per cent of deaths that mentioned *S. aureus* and 88.6 per cent of deaths that mentioned MRSA occurred in hospital.

Table 7 **Number of deaths mentioning *Staphylococcus aureus* and MRSA by place of death, compared to all causes of death, England and Wales 1999–2003**

		S. aureus			MRSA		
	All causes number of deaths	Number of deaths	Percentage of all *S. aureus* deaths	*S. aureus* as a percentage of all deaths in the establishment	Number of deaths	Percentage of all MRSA deaths	MRSA as a percentage of all deaths in the establishment
England and Wales							
Own home	503,670	78	1.3	0.0	44	1.2	0.0
NHS general hospital	1,468,710	5,397	90.7	0.4	3,229	88.6	0.2
Non-NHS general hospital	16,014	22	0.4	0.1	10	0.3	0.1
Hospice	114,566	19	0.3	0.0	13	0.4	0.0
NHS nursing home	14,454	70	1.2	0.5	43	1.2	0.3
Non-NHS nursing home	259,489	171	2.9	0.1	158	4.3	0.1
Private residential home	158,056	57	1.0	0.0	52	1.4	0.0
Local Authority residential home	43,031	13	0.2	0.0	12	0.3	0.0
Other places	115,946	122	2.1	0.1	84	2.3	0.1
Total	2,693,936	5,949	100.0	0.2	3,645	100.0	0.1
England							
Own home	470,676	72	1.3	0.0	42	1.3	0.0
NHS general hospital	1,366,881	5,034	90.8	0.4	2,975	88.5	0.2
Non-NHS general hospital	15,133	21	0.4	0.1	10	0.3	0.1
Hospice	111,481	18	0.3	0.0	12	0.4	0.0
NHS nursing home	14,146	68	1.2	0.5	41	1.2	0.3
Non-NHS nursing home	244,961	158	2.8	0.1	145	4.3	0.1
Private residential home	150,199	55	1.0	0.0	50	1.5	0.0
Local Authority residential home	40,484	12	0.2	0.0	12	0.4	0.0
Other places	105,186	108	1.9	0.1	73	2.2	0.1
Total	2,519,147	5,546	100.0	0.2	3,360	100.0	0.1
Wales							
Own home	32,960	6	1.5	0.0	2	0.7	0.0
NHS general hospital	97,604	354	90.1	0.4	250	89.0	0.3
Non-NHS general hospital	358	0	0.0	0.0	0	0.0	0.0
Hospice	2,947	1	0.3	0.0	1	0.4	0.0
NHS nursing home	295	2	0.5	0.7	2	0.7	0.7
Non-NHS nursing home	14,339	13	3.3	0.1	13	4.6	0.1
Private residential home	7,820	2	0.5	0.0	2	0.7	0.0
Local Authority residential home	2,538	1	0.3	0.0	0	0.0	0.0
Other places	9,318	14	3.6	0.2	11	3.9	0.1
Total	168,179	393	100.0	0.2	281	100.0	0.2

Box one

Glossary of Terms

Staphylococcus aureus (*S. aureus*): This is a common germ that lives completely harmlessly on the skin and in the nose of about one third of people. It is more common on skin that is broken, e.g. by a cut or sore. People who have *S. aureus* on or in their bodies but who are unharmed by it are described as colonised. *S. aureus* can cause problems when it gets the opportunity to enter the body. This is more likely to happen in people who are already unwell.

Methicillin-resistant *Staphylococcus aureus* (MRSA): This is a variety of *S. aureus* that is resistant to methicillin, and some of the other antibiotics that are usually used to treat *S. aureus*. This sometimes makes it more difficult to treat MRSA infections.

Age-standardised rate: Directly age-standardised rates make allowances for differences in the age structure of the population, over time and between sexes. The age-standardised rate for a particular disease is that which would have occurred if the observed age-specific rates for the disease had applied in a given standard population. In this article we have used 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.

Source: CDSC/ONS

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Annual Update:

Congenital anomaly statistics: notifications, 2003, England and Wales

Background

The National Congenital Anomaly System (NCAS) was set up in 1964 to monitor congenital anomalies in England and Wales. Reporting to the system is voluntary and it includes only live and stillbirths. The main purpose of NCAS is surveillance, but NCAS also provides the best national data on prevalence.

In most Strategic Health Authorities, the child health systems within NHS Trusts notify the Office for National Statistics (ONS) by means of a paper form (the SD56 form). This form contains a written description of the anomaly and details of the birth, along with some demographic information about the parents. Cases can be added to NCAS at any time and this is reflected in the data shown in Tables 1–3.

It has long been recognised, however, that there is under reporting in NCAS. Therefore NCAS has embarked on an on-going programme of improving the level of reporting to the system. In 2003 two new local registers, the Northern Congenital Abnormality Survey and the South West Congenital Anomaly Register, started to provide congenital anomaly data in electronic format to NCAS. These registers joined the six registers (Wales, East Midlands & South Yorkshire – formerly known as Trent, Merseyside & Cheshire, North Thames West, Wessex, and Oxfordshire) currently already providing data electronically to NCAS.[1] This means that since 1998, a total of eight local congenital anomaly registers have begun to provide data to NCAS. These registers ascertain cases of congenital anomalies from multiple sources and this has resulted in a marked increase in notification rates for areas that are covered by these registers. Congenital anomaly notifications are now received for all births in Wales and 42 per cent of births in England (45 per cent in England and Wales).

Comparisons of the statistics in this annual update are based on data held on NCAS as at 4 November 2004 unless otherwise stated.

Notifications in 2003

There were 6,983 children born in 2003 notified to NCAS.[2] Compared to the previously published data for 2002 this was a decrease of 175 babies (2 per cent). The notification rate for England and Wales was 111.8 per 10,000 live and stillbirths. Notification rates for the local congenital anomaly registers were: Wales 286.4 per 10,000, East Midlands & South Yorkshire 186.9 per 10,000, Merseyside 147.2 per 10,000, North Thames (West) 98.7 per 10,000, Wessex 114.3 per 10,000, Oxfordshire 99.2 per 10,000, Northern 185.3 per 10,000 and South West 137.2 per 10,000.

In October 2002, the NHS Numbers for Babies (NN4B) project was implemented and this provided a tick box for babies born with congenital anomalies, but it did not allow recording of the type of anomaly. It is, however, difficult to establish whether this had any impact on the 2003 notification rates, as NCAS is a voluntary system.

In 2003, the notification rate for East Midlands & South Yorkshire register decreased by 36 per cent compared to 2002. This is partly due to babies notified with minor anomalies only, such as skin tags, being excluded by the register and hence not being reported to NCAS.

Table 1 shows the number of babies notified to NCAS as at 4 November 2004 compared with previously published figures in the 2002 Congenital Anomaly annual update[1] and shows increases for 1995 to 2002 of between 0.1 to 3.5 per cent. This is due to babies being notified to NCAS once a congenital anomaly is identified and these notifications are added to the database by year of birth.

Table 2 shows the England and Wales notification rates for all babies and for selected anomalies from 1993 to 2003. The rates began to improve in 1995 when restrictions were removed on reporting to NCAS. Up to 1994 babies had to be notified within 10 days of birth to be included on NCAS. Now babies can be notified at any stage once a congenital anomaly is identified. The real improvement of notification rates can be seen from 1998. These increases coincide with the beginning of the electronic data exchange programme between local congenital anomaly registers and NCAS.

With the removal of the reporting time restrictions and through the use of multi-source ascertainment by the local congenital anomaly registers, one group of anomalies where improved notification can be really seen is cardiovascular anomalies. There were 1,322 babies notified in 2003 with cardiovascular anomalies. The reported rate for England and Wales was 21.2 per 10,000 and this is double that reported in 1997. Eighty-five per cent of the reported cases for cardiovascular anomalies were received from the eight local registers.

Table 1 **Number of babies notified to the National Congenital Anomaly System (NCAS) at 4 November 2004 compared to the numbers published in 2002 Congenital anomaly annual update (*Health Statistics Quarterly* 22)**

England and Wales

Year of birth	Data previously published in *Health Statistics Quarterly* 22	NCAS as at 4 November 2004	Percentage increase between published data for 2002 and data on NCAS as at 4 November 2004
1995	5,847	5,861	0.2
1996	5,990	5,998	0.1
1997	5,956	5,966	0.2
1998	6,331	6,555	3.5
1999	7,597	7,750	2.0
2000	8,075	8,152	1.0
2001	7,518	7,715	2.6
2002	7,158	7,347	2.6
2003	6,983	6,983	

Source: National Congenital Anomaly System and *Health Statistics Quarterly* 22

Table 2 **Number of babies born with selected conditions and rates per 10,000 total births**

England and Wales

	1993		1994		1995		1996		1997		1998		1999		2000		2001		2002		2003	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
All babies notified	**5,750**	**84.9**	**5,617**	**84.1**	**5,861**	**90.0**	**5,998**	**91.9**	**5,966**	**92.3**	**6,555**	**102.6**	**7,750**	**124.0**	**8,152**	**134.2**	**7,715**	**129.1**	**7,347**	**122.6**	**6,983**	**111.8**
Babies with a mention of:																						
Central nervous system	273	4.0	264	4.0	257	3.9	256	3.9	224	3.5	305	4.8	314	5.0	401	6.6	367	6.1	396	6.6	356	5.7
Anencephalus	14	0.2	26	0.4	35	0.5	27	0.4	30	0.5	22	0.3	25	0.4	27	0.4	27	0.5	32	0.5	33	0.5
Spina bifida	80	1.2	47	0.7	75	1.2	61	0.9	49	0.8	63	1.0	60	1.0	85	1.4	59	1.0	74	1.2	81	1.3
Hydrocephalus	71	1.0	79	1.2	69	1.1	76	1.2	65	1.0	80	1.3	63	1.0	104	1.7	87	1.5	80	1.3	73	1.2
Cleft lip with or without cleft palate	438	6.5	445	6.7	395	6.1	421	6.5	379	5.9	388	6.1	404	6.5	394	6.5	371	6.2	364	6.1	350	5.6
Cleft palate	220	3.3	186	2.8	197	3.0	168	2.6	202	3.1	208	3.3	195	3.1	218	3.6	202	3.4	205	3.4	176	2.8
Cardiovascular anomalies	432	6.4	449	6.7	609	9.4	684	10.5	658	10.2	930	14.6	1,071	17.1	1,416	23.3	1,271	21.3	1,220	20.4	1,322	21.2
Hypospadias and epispadias	551	8.1	533	8.0	501	7.7	540	8.3	485	7.5	543	8.5	586	9.4	625	10.3	617	10.3	512	8.5	470	7.5
Limb reductions	214	3.2	196	2.9	193	3.0	201	3.1	137	2.1	200	3.1	211	3.4	210	3.5	195	3.3	186	3.1	191	3.1
Deformities of feet	642	9.5	717	10.7	719	11.0	630	9.7	652	10.1	653	10.2	815	13.0	790	13.0	731	12.2	693	11.6	622	10.0
Down syndrome	311	4.6	317	4.7	320	4.9	359	5.5	417	6.5	460	7.2	427	6.8	416	6.8	383	6.4	358	6.0	374	6.0

Source: National Congenital Anomaly System as at 4 November 2004

Table 3 shows a comparison, from 1995 to 2003, between the data supplied by Wales and the seven local congenital anomaly registers in England providing direct electronic notification to NCAS and that of the rest of England where the data are supplied solely on the SD56 notification form. In 2003, 65 per cent of all notifications to NCAS were supplied from Wales and the seven English registers. These local registers provided complete notification of cases of congenital anomalies for 45 per cent of all births in England and Wales. The notification rate for Wales and the seven registers in England was 161.2 per 10,000 live and stillbirths compared to 71.2 per 10,000 for the rest of England.

When comparing selected groups of anomalies there were marked differences in notification rates between regions covered by local registers and those without a register. For example, in 2003 the rate for central nervous system anomalies for Wales was 8.9 per 10,000 live and stillbirths. The rate for the seven congenital anomaly registers in England was 8.2 and the rate for the rest of England was 3.7. Similarly, for cardiovascular anomalies the rate for Wales was 101.4 per 10,000, the rate for the seven congenital anomaly registers in England was 32.3, while for the rest of England the rate was 5.7.

Analysis of data from the individual local congenital anomaly registers by type of anomaly shows that, for example, the notification rate for central nervous system anomalies was 5.7 per 10,000 live and stillbirths for England and Wales, 9.6 for Wessex and again 9.6 for North Thames (West). The notification rate of cardiovascular anomalies for England and Wales was 21.2 per 10,000, for Wales was 101.4, and for the Northern register was 89.0. In summary, notification rates by anomaly for the local registers were higher than for England and Wales.

Seventy-eight per cent of children were notified with a single congenital anomaly. Seven per cent of children had more than two anomalies. Of the children notified to NCAS, 225 (3.2 per cent) were reported to have been part of a multiple birth. This compared with 2.9 per cent of all registered births, which were from a multiple pregnancy.

Mothers aged between 40–44 had the highest rate of congenital anomaly notifications, 155.9 per 10,000 live and stillbirths. Mothers aged 30–34 had the lowest rate 98.8 per 10,000. Teenage mothers continue to have high rates of musculoskeletal anomalies, in particular gastroschisis where teenage mothers had a high rate of 12.3 per 10,000, compared with a rate of 2.1 per 10,000 for all mothers. This finding has been reported previously in England and Wales[3] and by other countries.[4] The notification rate of gastroschisis for teenage mothers in Wales was 23.6 per 10,000. Mothers aged 40 and over continue to have the highest rates of children born with chromosomal anomalies and also cardiovascular anomalies.

Table 3 **Congenital anomaly notification rates from registers participating in electronic data transfer, 1995–2003**

Number of babies notified to the National Congenital Anomaly System (NCAS)	1995	1996	1997	1998	1999	2000	2001	2002	2003
England and Wales	5,861	5,998	5,966	6,555	7,750	8,152	7,715	7,347	6,983
Wales	545	616	537	**1,314**	**1,159**	**1,109**	**1,156**	**915**	**904**
East Midlands & South Yorkshire*	714	714	824	708	**1,658**	**1,586**	**1,688**	**1,603**	**1,202**
North Thames (West)	321	282	282	319	334	**527**	**551**	**454**	**504**
Merseyside	279	240	218	209	230	**656**	**490**	**373**	**380**
Oxford	39	40	31	38	43	75	29	**72**	**74**
Wessex	228	220	228	190	223	188	230	**342**	**308**
Northern	304	336	294	270	297	253	210	265	**562**
South West	430	457	445	440	667	565	454	390	**605**
Rest of England	3,001	3,093	3,107	3,067	3,139	3,193	2,907	2,933	2,444
Rates per 10,000 live and stillbirths									
England and Wales	90.0	91.9	92.3	102.6	124.0	134.2	129.1	122.6	111.8
Wales	157.3	175.7	154.8	**390.8**	**359.2**	**352.6**	**375.7**	**301.3**	**286.4**
East Midlands & South Yorkshire*	114.2	116.5	137.7	119.0	**288.7**	**285.6**	**310.9**	**293.6**	**186.9**
North Thames (West)†	65.0	56.4	56.6	64.0	67.4	**107.3**	**113.1**	**92.1**	**98.7**
Merseyside	96.9	82.7	77.9	76.0	86.6	**253.5**	**195.2**	**150.8**	**147.2**
Oxford†	53.4	54.6	41.2	50.8	58.2	103.6	41.1	**103.8**	**99.2**
Wessex†	77.7	75.1	79.2	66.0	80.4	70.2	88.5	**131.6**	**114.3**
Northern	88.5	99.2	88.8	83.8	95.5	84.9	72.3	90.2	**185.3**
South West	92.5	97.7	95.8	95.9	149.3	132.1	109.0	92.3	**137.2**
Rest of England	83.7	85.9	86.8	86.6	90.2	94.3	86.8	87.4	71.2

Source: National Congenital Anomaly System at 4 November 2004
Note: Data in bold indicate the years that the registers have been exchanging data with NCAS

* In 2003 East Midlands & South Yorkshire now includes Northamptonshire.

† These registers are hospital based. Denominators use area boundaries which are not necessarily exact matches to the areas covered by the registers. North Thames (West): Bedfordshire, Hertfordshire, Hillingdon, Barnet, Ealing, Hammersmith and Hounslow, Kensington, Chelsea and Westminster, Brent and Harrow.
Oxford: Oxfordshire.
Wessex: Hampshire, Isle of Wight, Dorset, Salisbury LA (1995-2001)/South Wiltshire PCT (2002–2003).

Key Findings

- 6,983 children born in 2003 were notified to the National Congenital Anomaly System.
- There are marked differences in notification rates between areas covered by local registers and those without a local register. The notification rate for Wales and the seven registers in England was 161.2 per 10,000 live and stillbirths compared to 71.2 per 10,000 for the rest of England.
- Eighty-five per cent of the reported cases for cardiovascular anomalies were received from the eight local registers providing direct electronic notification. These registers provide complete notification of cases of congenital anomaly for 45 per cent of all births in England and Wales.

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Annual Update:

2003 Mortality statistics: cause (England and Wales)

Introduction

This Update summarises some of the findings from the annual reference volume *Mortality statistics: cause 2003* (series DH2 no. 30),[1] which was published in December 2004. It presents data and analysis on deaths by age, sex and cause. More detailed information on the causes of deaths occurring in England and Wales in 2003 is available in the annual reference volume, analysed by age and sex. Mortality trends for selected causes using age-standardised rates are also presented.

Deaths are classified according to the Tenth Revision of the *International Statistical Classification of Diseases and Related Health Problems* (ICD-10). ICD-10 was introduced for coding cause of death in England and Wales in January 2001. It replaced the Ninth Revision of the International Classification of Diseases (ICD-9), which was used between 1979 and 2000. Consequently, the mortality data presented in DH2 from 2001 onwards are not immediately comparable with those prior to that year without first understanding the impact of ICD-10. Further guidance on how to compare ICD-10 outputs with those published previously and the broader implications of the move to ICD-10 can be found at the ICD-10 homepage[2] and in a report in *Health Statistics Quarterly* 14.[3] Some analysis in this update looks at trends in data going back to 1971. It is, therefore, important to be aware of two other changes in the ICD, and their impacts on cause of death data. These are the introduction of ICD-9 in 1979,[4] when it replaced ICD-8, and changes in the interpretation of Rule 3[5] in 1984[6] and 1992.[7]

Cause of death

There were 538,254 deaths in England and Wales in 2003, an increase of 0.9 per cent from 533,527 in 2002 (Table 1). Deaths in 2003 comprised 253,852 male deaths and 284,402 female deaths. The main causes of death were circulatory diseases (38 per cent), which include coronary heart disease and strokes, cancers (26 per cent) and respiratory diseases (14 per cent), which include pneumonia.

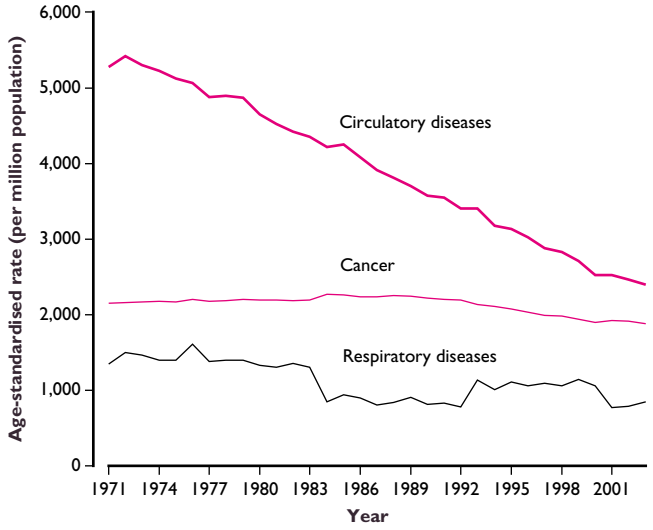
Table 1 **Deaths and death rates in England and Wales, 1971–2003**

Year	Persons		Males		Females	
	Deaths	Age-standardised rate*	Deaths	Age-standardised rate*	Deaths	Age-standardised rate*
1971	567,262	10,326	288,359	13,466	278,903	8,189
1981	577,890	9,374	289,022	12,189	288,868	7,425
1991	570,044	8,001	277,582	10,251	292,462	6,410
1992	558,313	7,800	271,732	9,935	286,581	6,273
1993	578,799	7,962	279,561	10,101	299,238	6,427
1994	553,194	7,567	267,555	9,577	285,639	6,115
1995	569,683	7,660	274,449	9,659	295,234	6,206
1996	560,135	7,459	268,682	9,353	291,453	6,068
1997	555,281	7,322	264,865	9,106	290,416	6,001
1998	555,015	7,246	264,707	8,981	290,308	5,945
1999	556,118	7,193	264,299	8,862	291,819	5,929
2000	535,664	6,857	255,547	8,437	280,117	5,655
2001	530,373	6,692	252,426	8,188	277,947	5,543
2002	533,527	6,643	253,144	8,074	280,383	5,526
2003	538,254	6,642	253,852	7,985	284,402	5,578

* These rates are standardised to the European Standard Population, expressed per million population; they allow comparisons between populations with different age structures, including between males and females and over time.

Allowing for changes in the age structure of the population, there has been a long-term trend of decreasing mortality rates: between 1971 and 2003 age-standardised rates fell by 41 per cent for males and 32 per cent for females (Table 1). Figure 1 shows how the three cause of death groups with the highest mortality rates changed over this period. Circulatory diseases had the highest death rate throughout the period, despite a fall of 55 per cent since 1971. Male death rates from circulatory diseases are higher than those for females: 2,995 per million males compared with 1,902 per million females in 2003. Death rates from cancer and respiratory diseases were 13 and 37 per cent respectively lower in 2003 than in 1971. It is important to note, however, that some of the variation in rate for respiratory diseases can be attributed to the impact of changes to the interpretation of Rule 3[5] and changes in the ICD over this period.

Figure 1 **Age-standardised rates* for the three major causes of death (per million population), 1971–2003**



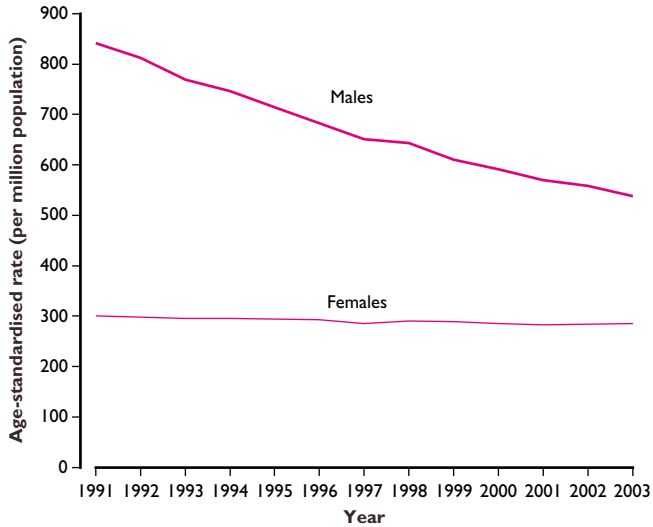
* These rates are standardised to the European Standard Population; they allow comparisons between populations with different age structures.

Notes: The Ninth Revision of the *International Classification of Diseases* (ICD-9) came into operation in England and Wales in 1979, and the Tenth Revision of the *International Classification of Diseases and Related Health Problems* (ICD-10) came into operation in 2001. There were also further changes in the way ONS interpreted Rule 3 in 1984 and 1992, which affected the coding of underlying cause of death. The impacts of all these changes are discussed in references 2,3,4,5 and 6 of this Update.

Table 5 in the annual reference volume[1] shows how age-standardised mortality rates for selected cancers and other causes of death have changed each year since 1991, allowing for changes in the age structure of the population. The rates for most of the cancers shown decreased over the period to 2003. The exceptions were melanoma of the skin, where the rate increased by 22 per cent for males and 11 per cent for females, and cancer of the oesophagus, which increased by 15 per cent in males and remained the same for females. Figure 2 shows the rates for cancer of the trachea, bronchus and lung between 1991 and 2003. The rate for males is higher than for females throughout this period. There is a pronounced decrease of 36 per cent among males, while the rate among females was relatively constant over the period, falling by just 5 per cent.

Figure 3 shows how the mortality rates of two sex-specific cancers varied between 1991 and 2003. Breast cancer rates in women fell year on year over this period, resulting in an overall decrease of 27 per cent. The death rate for cancer of the prostate in men showed a decrease of 10 per cent overall. This decrease was not constant, however, with small increases in some years interrupting the overall trend of a decreasing rate. The biggest such increase was in 2001, when the rate increased by 5 per cent, largely due to the change to ICD-10 cause coding.

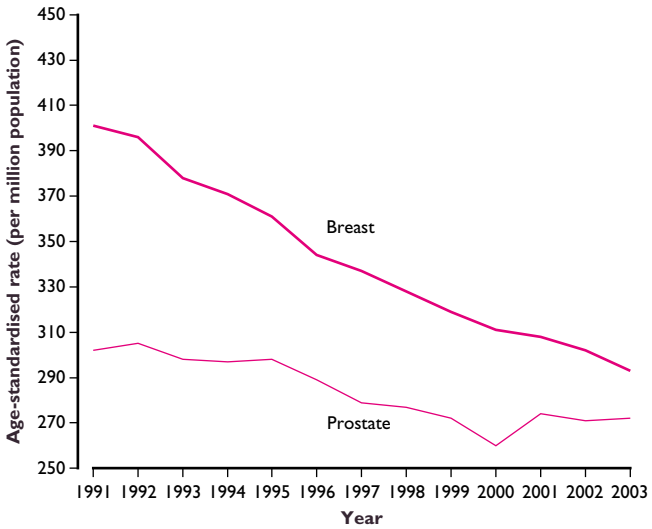
Figure 2 **Age-standardised rates* for cancer of the trachea, bronchus and lung (per million population), 1991–2003**



* These rates are standardised to the European Standard Population; they allow comparisons between populations with different age structures.

Notes: The Tenth Revision of the *International Classification of Diseases and Related Health Problems* (ICD-10) came into operation in 2001. There were also further changes in the way ONS interpreted Rule 3 in 1984 and 1992, which affected the coding of underlying cause of death. The impacts of all these changes are discussed in references 2,3,5 and 6 of this Update.

Figure 3 **Age-standardised rates* for cancer of the breast (female) and prostate (per million population), 1991–2003**

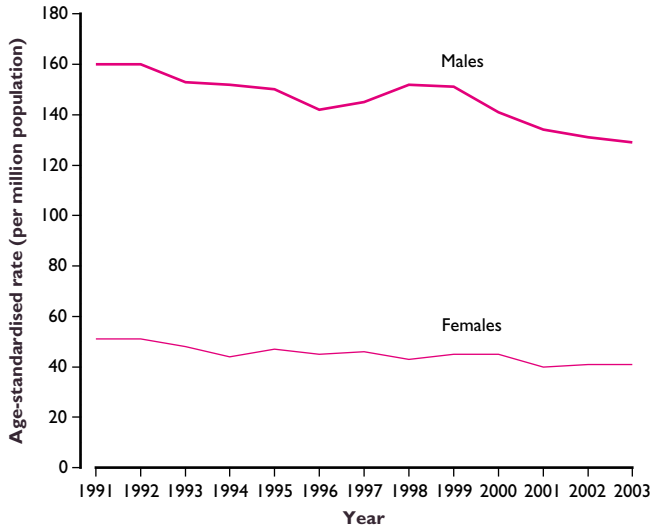


* These rates are standardised to the European Standard Population; they allow comparisons between populations with different age structures.

Notes: The Tenth Revision of the *International Classification of Diseases and Related Health Problems* (ICD-10) came into operation in 2001. There were also further changes in the way ONS interpreted Rule 3 in 1984 and 1992, which affected the coding of underlying cause of death. The impacts of all these changes are discussed in references 2,3,5 and 6 of this Update.

Mortality rates from suicide fluctuated over the period 1991 to 2003 (Figure 4). Male rates were around three times those for females throughout this period. The rate for males fell from 160 per million population in 1991 to 142 per million in 1996. It then rose to 152 per million in 1998, before decreasing by 15 per cent to 129 per million in 2003. The rate for females changed relatively little over the period compared with the male rate. The overall change in the female rate between 1991 and 2003 was a decrease from 51 per million population to 41 per million (20 per cent), although there were some small increases in the rate during this time.

Figure 4 **Age-standardised rates* for suicide† (per million population), 1991–2003**



* These rates are standardised to the European Standard Population; they allow comparisons between populations with different age structures.

† Includes events of undetermined intent.

Notes: The Tenth Revision of the *International Classification of Diseases and Related Health Problems* (ICD-10) came into operation in 2001. The impact of this change is discussed in references 2 and 3 of this Update.

Mortality by age for selected causes

Mortality rates by cause of death vary with age (Table 2). In 2003, mortality rates for people aged 15 to 29 were highest for injury and poisoning (40 per 100,000 population for men and 10 per 100,000 for women). For those aged 30 to 44, the main cause of death was different for men and women. Injury and poisoning remained the leading cause of death for men (43 per 100,000 population), while cancers were the leading cause of death for women (30 per 100,000 population).

Cancers were the leading cause of death among both men and women aged 45 to 64, with mortality rates of 240 per 100,000 for men and 213 per 100,000 for women. Injury and poisoning mortality rates among men aged 45 to 64 were lower than for those aged 15 to 29 and 30 to 44. For older people aged 65 to 84, circulatory diseases were the leading cause of death for both men and women, although rates for all the causes shown in the table were higher than those at younger ages. The all causes mortality rates for people aged 85 and over were around four to five times those for people aged 65-84. Circulatory diseases had the highest rates in this oldest age group, followed by respiratory diseases and cancers.

Background notes

The population estimates used in this Update were the latest available at the time of publication. Population estimates for mid-2003, and revised estimates for mid-2001 and mid-2002, were published on 9 September 2004. Revised estimates for 1992 to 2000 were published on 7 October 2004. All these estimates incorporate the findings of the local authority population studies, the results of which were published in July 2004. Further information on population estimates can be found on the National Statistics website.[8]

The age-standardised rates referred to in the 'Cause of death' section of this update are based on the European Standard Population, which is a hypothetical population. These rates allow for changes in the age structure of the population, and so comparisons can be made between sexes, causes and over time. The figures represent the rate that would have occurred if the observed age-specific rates had applied in this standard population.

References

1. Office for National Statistics (2003) *Mortality statistics: cause 2003*, series DH2 no. 30. Available on the National Statistics website at http://www.statistics.gov.uk/statbase/product.asp?vlnk=618.
2. National Statistics website: http://www.statistics.gov.uk/icd10mortality.
3. Office for National Statistics (2002) Report: Results of the ICD-10 bridge coding study, England and Wales, 1999. *Health Statistics Quarterly* **14**, 75–83. Available on the National Statistics website at http://www.statistics.gov.uk/downloads/theme_health/HSQ14_v4.pdf.
4. Office of Population Censuses and Surveys (1983) *Mortality statistics: comparison of 8th and 9th Revisions of the International Classification of Diseases, 1978 (sample)*, series DH1 no. 10. HMSO: London.
5. Between 1 January 1984 and 31 December 1992, ONS applied its own interpretation of the ICD Rule 3 in the coding of deaths where terminal events and other 'modes of dying' such as cardiac arrest, cardiac failure, certain thrombembolic 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.
6. Office of Population Censuses and Surveys (1985) *Mortality statistics: cause*, series DH2 no.11. HMSO: London.
7. Rooney C and Devis T (1996) Mortality trends by cause of death in England and Wales, 1980–94: the impact of introducing automated cause coding and related changes in 1993. *Population Trends* **86**, 29–35.
8. National Statistics website: http://www.statistics.gov.uk/popest.

Table 2 **Age-specific rates for selected causes of death (per 100,000 population), 2003**

	0–14*	15–29	30–44	45–64	65–84	85 and over
Males						
Cancers	3	6	23	240	1,382	3,394
Circulatory diseases	1	4	27	225	1,784	7,812
Respiratory diseases	2	1	5	45	587	3,881
Injury and poisoning	4	40	43	37	62	330
All causes	27	67	139	651	4,356	19,042
Females						
Cancers	3	6	30	213	914	1,837
Circulatory diseases	1	2	12	83	1,238	7,097
Respiratory diseases	2	1	4	33	437	2,922
Injury and poisoning	3	10	12	15	48	328
All causes	23	28	80	412	3,178	16,576

* The rates for the 0-14 age group do not include deaths at ages under 28 days (neonatal deaths).

Other population and health articles, publications and data

Health Statistics Quarterly 26

Publication 26 May 2005

Planned articles
- Healthy Life Expectancy; a review of sources and method
- Sex differences in mortality, a comparison of the United Kingdom and other developed countries
- Death certification: issues from a pilot of the Shipman Inquiry's interim proposals

Report:
- Death registration in England and Wales, 2004: cause

Population Trends 119

Publication 31 March 2005

Planned articles:
- Replacement fertility, what has it been and what does it mean?
- the demographic situation in the European Union
- The creation of 'Consistent areas Through Time' (CATTs) in Scotland, 1981–2001

Report:
- Marriages in England and Wales, 2003

Update:
- Marriages and divorces during 2002, and adoptions in 2003: England and Wales

Forthcoming Annual Reference Volumes

Title	Planned publication
Marriage, divorce and adoption statistics, 2002 FM2 no.30	March 2005
Mortality statistics: childhood, infant and perinatal, 2003 DH3 no.36	March 2005
International migration, 2003 MN no.30	April 2005

* Available through the National Statistics website only; http://www.statistics.gov.uk