

Mortality Monitoring Bulletin

(Life expectancy, all-age-all-cause mortality, and mortality from selected causes, overall and inequalities)

Update to include data for 2009

Published 28 October 2010

Key findings:

Life Expectancy at birth

- Life expectancy in England has continued to increase for both males and females, reaching 78.0 and 82.1 years respectively in 2007-09.
- Life expectancy in the former Spearhead Group (areas which had the worst health and deprivation) has also continued to increase for both males and females, however both the absolute and relative gaps with England have increased.

All-Age-All-Cause Mortality (AAACM) Rates

- AAACM rates in England for both males and females have continued to fall in 2007-09, decreasing to 673.5 deaths and 478.3 deaths per 100,000 population respectively.
- AAACM rates in the former Spearhead Group have also decreased and the absolute gap with England has narrowed for males, but not for females.

Cancer Mortality, ages under 75

- Premature mortality rates from cancer for males and females in England have continued to decline, decreasing to 124.0 deaths and 101.2 deaths per 100,000 population respectively in 2007-09.
- Cancer mortality rates in the former Spearhead Group have also decreased. The absolute gap with England narrowed over the ten years to 2007-09, but the relative gap has widened.

Mortality from Circulatory Diseases, ages under 75

- Premature mortality rates from circulatory diseases for males and females in England have continued to decline, decreasing to 99.4 deaths and 43.2 deaths per 100,000 population respectively in 2007-09.
- Circulatory diseases mortality rates in the former Spearhead Group have also decreased. The absolute gap with England narrowed over the ten years to 2007-09, but the relative gap has widened.

Mortality from Suicide and Injury of Undetermined Intent, all ages

- The mortality rate from suicide and injury of undetermined intent in England decreased over the ten years to 2007-09 for both males and females, although for males the rate increased slightly since 2006-08. In 2007-09 rates were 12.2 and 3.6 deaths per 100,000 population for males and females respectively.

Mortality from Accidents, all ages

- There has been little change in the England mortality rate from accidents over recent years. In 2007-09 the rates were 21.2 and 10.2 deaths per 100,000 population for males and females respectively.

Contact details:

Public Enquiries: 020 7210 4850

Press Office: 020 7210 5221

Responsible Statistician: Sue Graves

Technical query: 020 7972 3753

Acknowledgements:

We would like to thank Nicola Abrams for her assistance in the preparation of this bulletin.

Contents

Section	Page
Introduction	4
Mortality Monitoring:	
Life Expectancy at birth	6
All-Age-All-Cause Mortality	11
Cancer	16
Circulatory Diseases	20
Suicide and injury of undetermined intent	24
Accidents	26
Annex A: Technical Notes	28
Annex B: The Previous Administration's Public Service Agreement Framework	36
References	40

List of Tables and Charts

Table	Title	Page
1	Life expectancy summary table	8
2	All-age-all-cause mortality summary table	13
3	Cancer mortality summary table	18
4	Circulatory diseases mortality summary table	22
5	Mortality from suicide and injury of undetermined intent summary table	25
6	Mortality from accidents summary table	27

Chart	Title	Page
1.1	Life expectancy, England (males)	9
1.2	Life expectancy inequalities (males)	9
1.3	Life expectancy, England (females)	10
1.4	Life expectancy inequalities (females)	10
2.1	All-age-all-cause mortality, England (males)	14
2.2	All-age-all-cause mortality, inequalities (males)	14
2.3	All-age-all-cause mortality, England (females)	15
2.4	All-age-all-cause mortality inequalities (females)	15
3.1	Cancer mortality, England (persons)	19
3.2	Cancer mortality inequalities (persons)	19
4.1	Circulatory diseases mortality, England (persons)	23
4.2	Circulatory diseases mortality inequalities (persons)	23
5.1	Mortality from suicide and injury of undetermined intent, England (persons)	25
6.1	Mortality from accidents, England (persons)	27

Introduction

This statistical release updates previously published figures to include the most recent three year time period (2007-09) for which data are available. Three year averages are shown for life expectancy, and three-year average mortality rates for all causes of death, and selected specific causes of death. The specific causes of death are:

- cancer, ages under 75
- all circulatory diseases, ages under 75
- intentional self-harm (suicide) and injury of undetermined intent, all ages
- accidents, all ages

For each measure, the ten most recent three-year averages are shown (i.e showing a ten year trend) for England, alongside calculations of the progress made since the start of this period. Additionally, for life expectancy, AAACM, cancer and circulatory diseases mortality, figures for England are compared to the former Spearhead Group (i.e. areas which had the worst health and deprivation)*.

This document follows the release by the Office for National Statistics (ONS) of life expectancy at birth figures for 2007-09 at national level and for local authorities¹. The mortality rates included in this publication have been calculated from death registrations and mid-year population estimates released by the Office for National Statistics (ONS), following the publication of figures for 2009^{2,3}. In addition, life expectancy and mortality figures have been updated to reflect population revisions for 2002 to 2008, released by ONS in May 2010².

Changes to this bulletin

This document updates the data reported in 2009, in the two previous bulletins;

1. 'Mortality Target Monitoring, Update to include data for 2008, Progress against mortality targets for England for 2010, in respect of cancer, circulatory diseases, intentional self-harm, and accidents.'⁴
2. 'Mortality Target Monitoring, (Life expectancy and All-Age-All-Cause Mortality, overall and inequalities). Update to include data for 2008.'⁵

The information presented in these bulletins in 2009 related to targets and indicators that were part of the previous administration's Public Service Agreements (PSA) framework for CSR 2007. The new Government abolished the PSA system and will be replacing this with a new Public Services Transparency Framework as part of the 2010 spending review. In the interim, this document updates the information presented in the bulletins in 2009.

Interim changes to this document include:

1. Removal from the main body of the bulletin (tables, charts, commentary) of any references to targets.

* For further information about the former Spearhead Group, please refer to the Technical Notes (Annex A)

2. Change of the baselines that progress has been reported against. We have opted to use a ten year period, rather than refer to 1995-97 baselines as in our previous bulletins.
3. Inclusion of a specific annex (Annex B) that summarises progress against the former PSA targets.

Life Expectancy at birth

The latest ten year trend in life expectancy at birth (based on figures for the ten most recent rolling three-year periods for which data are available) is shown for both males and females for England and the former Spearhead Group*. Two sets of figures are shown for life expectancy in England: (1) figures based on national interim (complete) life tables, which are the definitive estimate of life expectancy at national level; (2) figures based on sub-national (abridged) life tables. The second set of figures are calculated using a slightly different methodology, but this allows comparisons between England and the former Spearhead Group life expectancies to be made on a consistent basis. For further information about life expectancy, please refer to the Technical Notes (Annex A).

Based on data from the national interim life tables published by ONS, life expectancy at birth in England increased in each period since 1998-00 for both males and females. In 2007-09, England life expectancy was 78.0 years for males, an increase of 2.8 years since 1998-00. For females, England life expectancy was 82.1 years in 2007-09, an increase of 2.0 years over the same period. Life expectancy was consistently higher for females than for males over this period, although the improvement was greater for males than females, so the gender difference has narrowed.

Life expectancy was consistently lower for the former Spearhead Group than for England over the ten years to 2007-09. However, former Spearhead Group life expectancy also increased in each period since 1998-00 for both males and females. In 2007-09, former Spearhead group life expectancy was 76.1 years for males, an increase of 2.7 years since 1998-00. For females, former Spearhead Group life expectancy was 80.7 years in 2007-09, an increase of 2.0 years over the same period.

Based on comparison with England data from the sub-national (abridged) life tables, the absolute gap – i.e. difference - in life expectancy between England and the former Spearhead Group widened slightly for both males and females between 1998-00 and 2007-09. For females, the relative gap – i.e. percentage difference – in life expectancy between England and the former Spearhead Group widened over the same period, although the gap was narrower in 2007-09 than in 2006-08. For males, the relative gap fluctuated with no clear trend between 1998-00 and 2004-06, but has increased since then.

Measure

Period life expectancy at birth (years): an estimate of the average number of years a new-born baby would survive if he or she experienced the age-specific mortality rates for a particular time period and area throughout his or her life - no allowance is made for actual or projected future changes in mortality.

* For further information about the former Spearhead Group, please refer to the Technical Notes (Annex A)

Inequality measures

Absolute and relative gaps in life expectancy between England and the former Spearhead Group.

Both the absolute and relative gaps are important measures of inequality, and should be used in combination to understand the extent of the inequalities. Data are presented for both measures in the table, and the absolute gap is illustrated in the chart.

For further details, including the interpretation of absolute and relative gaps, see technical notes in Annex A.

Frequency of Data

Annual. Monitoring data are three-year averages, produced by aggregating deaths and population estimates across each three-year period.

Most Recent Data

For period 2007-09 (calendar years).

Data Source

Office for National Statistics (ONS), life expectancy data based on death registrations and mid-year population estimates.

Table 1: Life expectancy at birth for males and females, England and the former Spearhead Group, 1998-00 to 2007-09

Life expectancy at birth (LE) (years) - Males

Time period	Based on national interim life tables ^a	Based on sub-national (abridged) life tables ^a			
	England LE	England LE	Former Spearhead Group LE	Absolute gap ^b	Relative gap ^c
1998-00	75.3	75.4	73.4	2.0	2.63%
1999-01	75.6	75.7	73.7	2.0	2.62%
2000-02	75.9	76.0	74.1	1.9	2.55%
2001-03	76.1	76.2	74.2	2.0	2.61%
2002-04	76.5	76.5	74.5	2.0	2.60%
2003-05	76.8	76.9	74.9	2.0	2.61%
2004-06	77.2	77.3	75.3	2.0	2.63%
2005-07	77.5	77.7	75.6	2.1	2.68%
2006-08	77.7	77.9	75.8	2.2	2.76%
2007-09	78.0	78.3	76.1	2.2	2.75%
<i>Change since 1998-00</i>	<i>+2.8</i>	<i>+2.9</i>	<i>+2.7</i>	<i>+0.2</i>	<i>+0.12^d</i>
<i>Percentage change since 1998-00</i>	<i>+3.7%</i>	<i>+3.8%</i>	<i>+3.7%</i>	<i>+8.6%</i>	<i>+4.6%</i>

Life expectancy at birth (LE) (years) - Females

Time period	Based on national interim life tables ^a	Based on sub-national (abridged) life tables ^a			
	England LE	England LE	Former Spearhead Group LE	Absolute gap ^b	Relative gap ^c
1998-00	80.1	80.2	78.7	1.5	1.87%
1999-01	80.3	80.4	78.9	1.5	1.85%
2000-02	80.6	80.7	79.2	1.5	1.85%
2001-03	80.7	80.7	79.2	1.5	1.87%
2002-04	80.9	80.9	79.4	1.5	1.90%
2003-05	81.1	81.1	79.6	1.6	1.92%
2004-06	81.5	81.6	79.9	1.6	1.97%
2005-07	81.7	81.8	80.2	1.6	1.98%
2006-08	81.9	82.0	80.4	1.7	2.05%
2007-09	82.1	82.3	80.7	1.6	1.99%
<i>Change since 1998-00</i>	<i>+2.0</i>	<i>+2.1</i>	<i>+2.0</i>	<i>+0.1</i>	<i>+0.12^d</i>
<i>Percentage change since 1998-00</i>	<i>+2.5%</i>	<i>+2.6%</i>	<i>+2.5%</i>	<i>+9.3%</i>	<i>+6.5%</i>

Note: Gap and change figures are calculated based on life expectancy figures rounded to 2dp.

a. National interim life tables provide the definitive life expectancy figures for England. Sub-national life expectancy data are produced using a slightly different methodology, so England figures based on the sub-national life tables are used to enable comparison with former Spearhead Group figures on a consistent basis. The two sets of figures for England may differ very slightly (normally by less than 0.1 years) – further details of the difference in methodology are set out in the Technical Notes (Annex.A)

b. Difference in life expectancy between England and former Spearhead Group.

c. Difference in life expectancy between England and former Spearhead Group as a percentage of the England life expectancy.

d. Percentage point difference.

Chart 1.1: Life Expectancy (Males)

Three year average Life Expectancy at birth in England 1998-2009, males

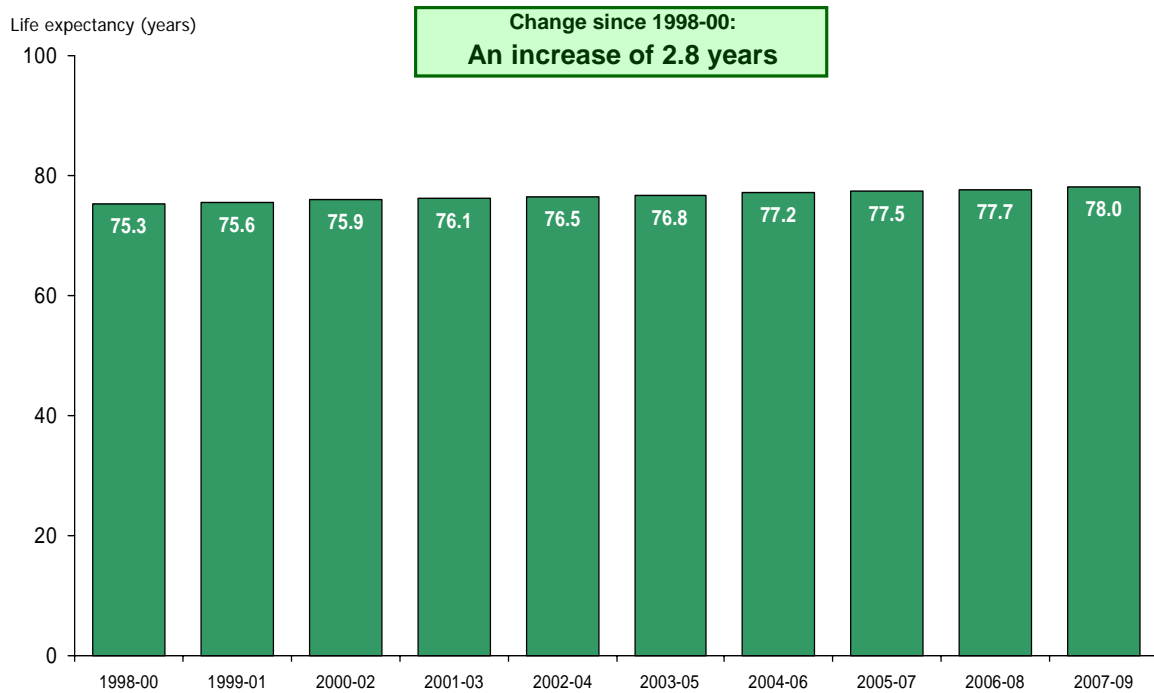
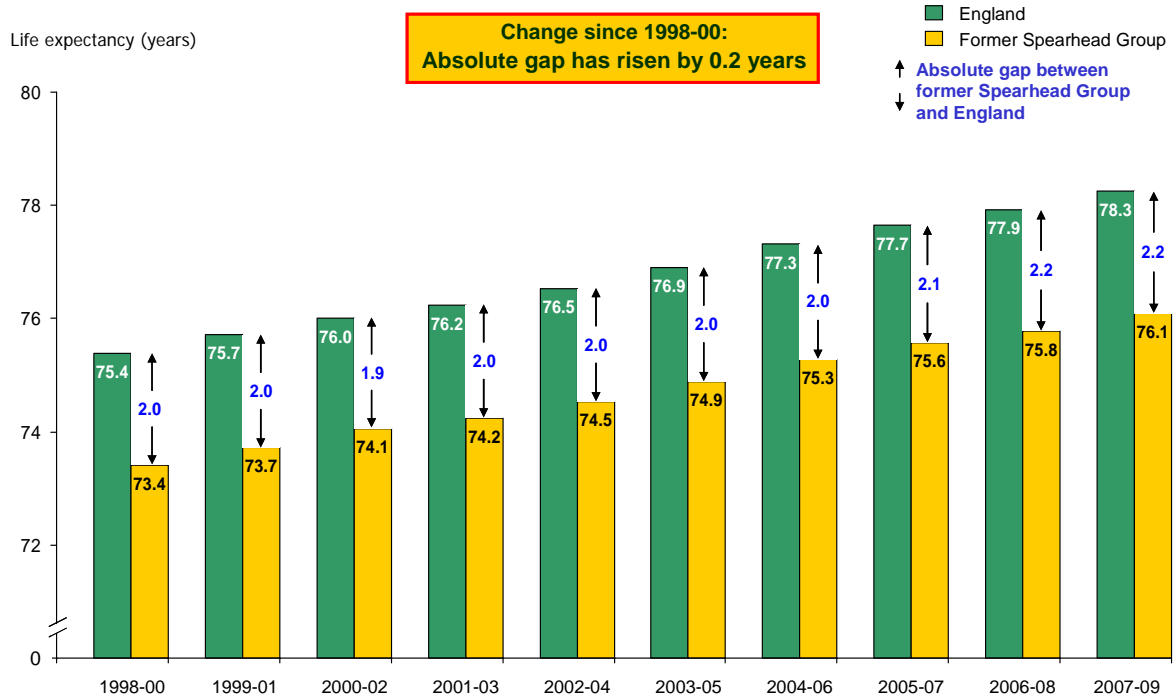


Chart 1.2: Life Expectancy– former Spearhead Group and England (Males)

Three year average Life Expectancy at birth 1998-2009 for males, comparing England and the former Spearhead Group



a. England figures in Chart 1.1 are from National Interim Life Tables; England figures in Chart 1.2 are from sub-national (abridged) life tables.

b. Change since 1998-00 and gap figures are calculated based on life expectancy figures rounded to 2 decimal places.
Source: ONS

Chart 1.3: Life Expectancy (Females)

Three year average Life Expectancy at birth in England 1998-2009, females

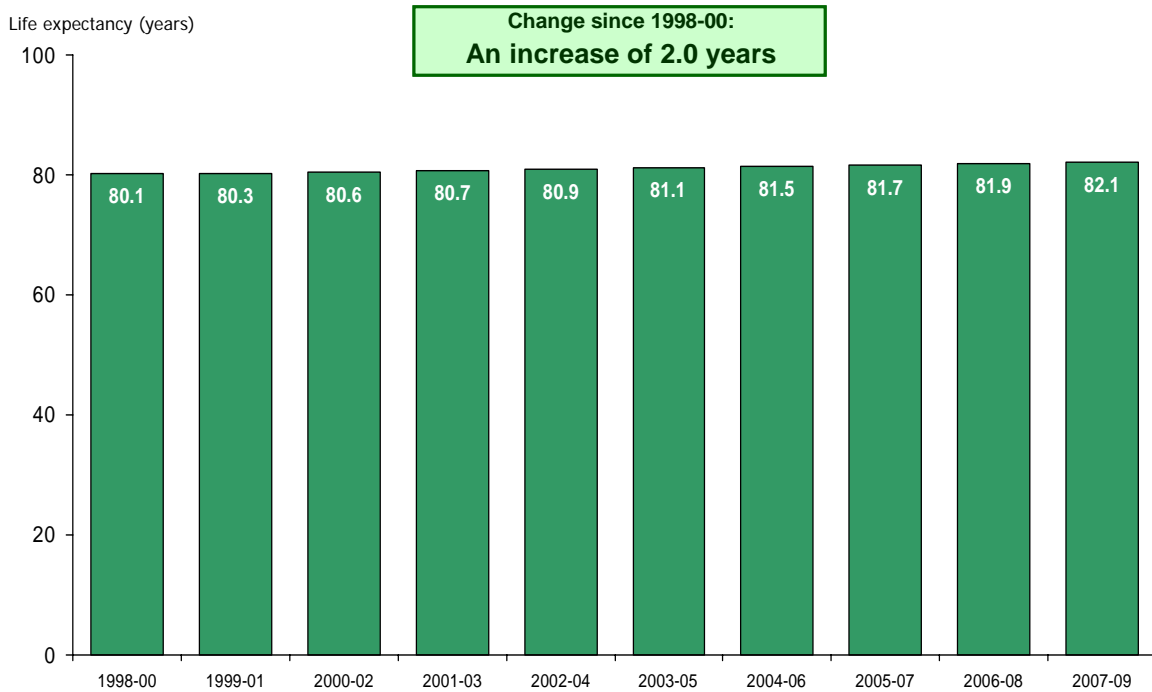
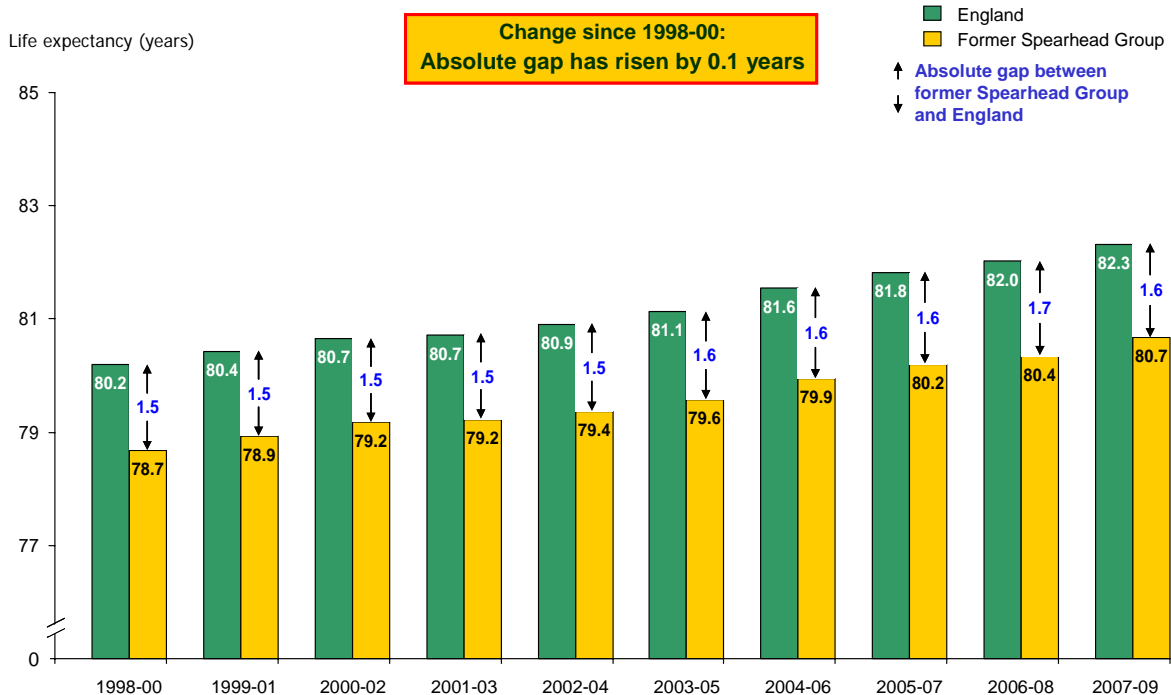


Chart 1.4: Life Expectancy – former Spearhead Group and England (Females)

Three year average Life Expectancy at birth 1998-2009 for females, comparing England and the former Spearhead Group



a. England figures in Chart 1.3 are from National Interim Life Tables; England figures in Chart 1.4 are from sub-national (abridged) life tables.

b. Change since 1998-00 and gap figures are calculated based on life expectancy figures rounded to 2 decimal places.
Source: ONS

All-Age-All-Cause Mortality (AAACM)

The latest ten year trend in the AAACM rate (based on figures for the ten most recent rolling three-year periods for which data are available) is shown for both males and females for England and the former Spearhead Group*.

The AAACM rate for England decreased in each period since 1998-00 for both males and females. In 2007-09, the England AAACM rate was 673.5 deaths per 100,000 population for males, a decrease of 22.6% since 1998-00. For females, the England rate was 478.3 deaths per 100,000 in 2007-09, a decrease of 17.6% over the same period. The AAACM rate was consistently lower for females than for males over this period, although the improvement over the period was greater for males than females.

The AAACM rate was consistently higher for the former Spearhead Group than for England over the ten years to 2007-09. However, the rate for the former Spearhead Group also decreased in each period since 1998-00 for both males and females. In 2007-09, the former Spearhead group rate was 797.3 deaths per 100,000 population for males, a decrease of 20.8% since 1998-00. For females, the former Spearhead Group rate was 553.4 deaths per 100,000 population in 2007-09, a decrease of 15.8% over the same period.

The absolute gap – i.e. difference - in AAACM rates between England and the former Spearhead Group narrowed for males between 1998-00 and 2007-09. For females, the absolute gap fluctuated around a broadly constant trend over the ten years to 2007-09. The relative gap – i.e. percentage difference – in AAACM rates between England and the former Spearhead Group widened over the same period for both males and females.

Measure

Directly age-standardised mortality rates from all causes at all ages, per 100,000 population: Mortality rates are based on deaths registered in each calendar year. Figures are three year average rates, age-standardised using the European Standard Population to adjust for differences in the age distribution of the population.

Inequality measures

Absolute and relative gaps in life expectancy between England and the former Spearhead Group.

Both the absolute and relative gaps are important measures of inequality, and should be used in combination to understand the extent of the inequalities. Data are presented for both measures in the table, and the absolute gap is illustrated in the chart.

* For further information about the former Spearhead Group, please refer to the Technical Notes (Annex A)

For further details, including the interpretation of absolute and relative gaps, see technical notes in Annex A.

Frequency of Data

Annual. Monitoring data are three-year averages, produced by taking the average of single year rates across each three-year period.

Most Recent Data

For period 2007-09 (calendar years).

Data Source

Office for National Statistics (ONS), based on death registrations and mid-year population estimates.

Table 2: All-Age-All-Cause Mortality rates for males and females, England and the former Spearhead Group, 1998-00 to 2007-09

All-Age-All-Cause Mortality (AAACM) - Males

Time period	Three-year average mortality rate per 100,000 ^a		Absolute gap ^b	Relative gap ^c
	England	Former Spearhead Group		
1998-00	869.6	1006.5	136.9	15.7%
1999-01	844.8	978.5	133.8	15.8%
2000-02	822.4	951.4	129.1	15.7%
2001-03	807.3	938.1	130.8	16.2%
2002-04	786.4	915.1	128.7	16.4%
2003-05	761.5	888.2	126.7	16.6%
2004-06	732.0	856.5	124.5	17.0%
2005-07	710.0	835.1	125.0	17.6%
2006-08	692.1	819.4	127.3	18.4%
2007-09	673.5	797.3	123.8	18.4%
<hr/>				
<i>Change since 1998-00</i>	<i>-196.1</i>	<i>-209.3</i>	<i>-13.2</i>	<i>+2.6^d</i>
<i>Percentage change since 1998-00</i>	<i>-22.6%</i>	<i>-20.8%</i>	<i>-9.6%</i>	<i>+16.7%</i>

All-Age-All-Cause Mortality (AAACM) - Females

Time period	Three-year average mortality rate per 100,000 ^a		Absolute gap ^b	Relative gap ^c
	England	Former Spearhead Group		
1998-00	580.1	657.0	76.9	13.3%
1999-01	567.9	642.4	74.5	13.1%
2000-02	556.0	629.8	73.8	13.3%
2001-03	552.9	628.7	75.8	13.7%
2002-04	543.5	620.5	77.0	14.2%
2003-05	531.9	609.2	77.3	14.5%
2004-06	512.2	589.8	77.6	15.2%
2005-07	500.2	576.6	76.5	15.3%
2006-08	490.5	568.6	78.1	15.9%
2007-09	478.3	553.4	75.1	15.7%
<hr/>				
<i>Change since 1998-00</i>	<i>-101.8</i>	<i>-103.6</i>	<i>-1.8</i>	<i>+2.4^d</i>
<i>Percentage change since 1998-00</i>	<i>-17.6%</i>	<i>-15.8%</i>	<i>-2.4%</i>	<i>+18.4%</i>

Note: Gap and change figures are calculated based on unrounded mortality rates.

a. Directly age-standardised mortality rate, based on European Standard Population.

b. Difference in rates between England and former Spearhead Group.

c. Difference in rates between England and former Spearhead Group as a percentage of the England rate.

d. Percentage point difference.

Chart 2.1: All-Age-All-Cause Mortality (Males)

Three year average death rates from All Causes in England 1998-2009, males

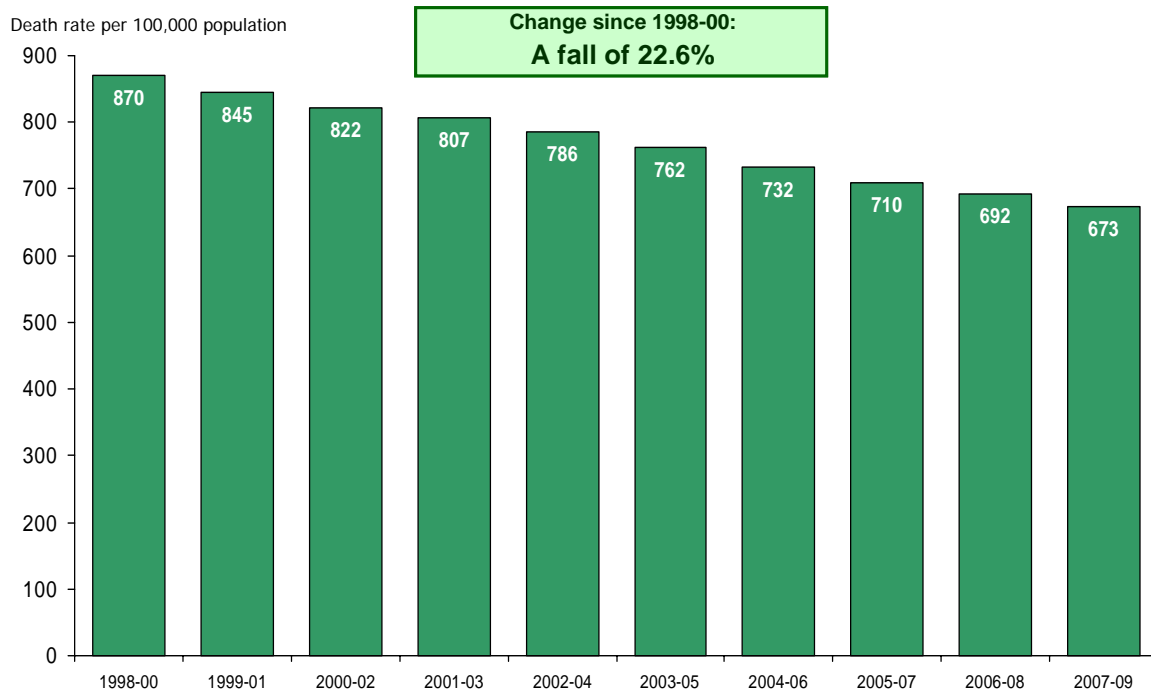
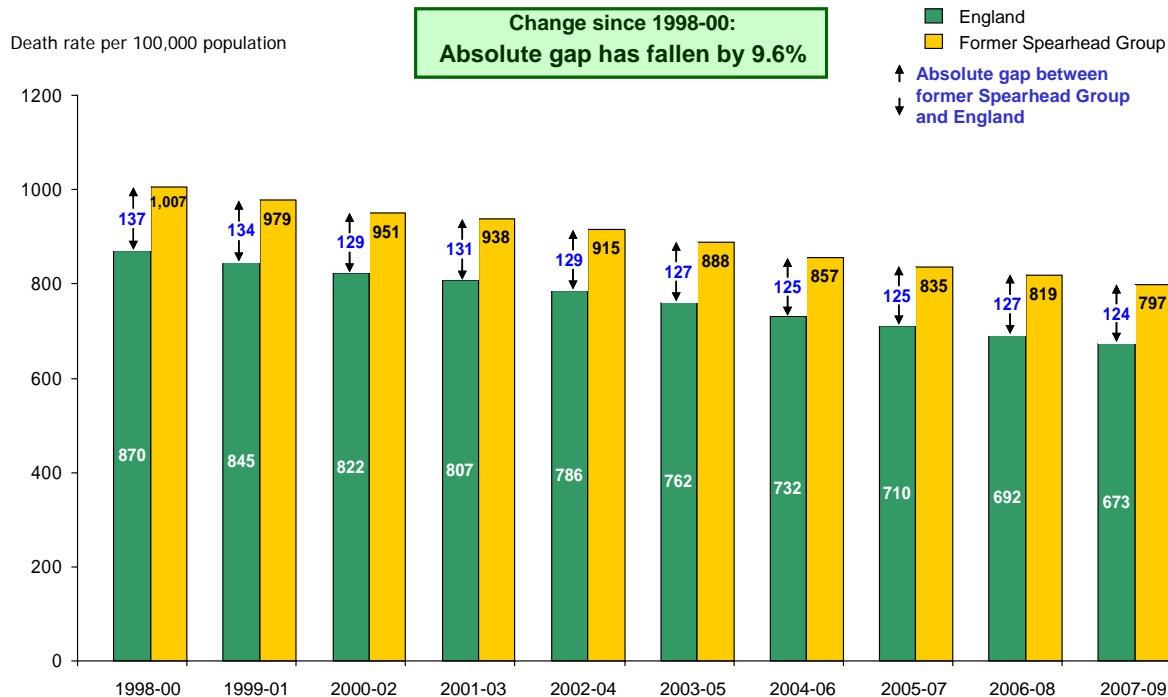


Chart 2.2: All-Age-All-Cause Mortality – former Spearhead Group and England (Males)

Three year average death rates from All-Causes 1998-2009 for males, comparing England and the former Spearhead Group



a. Rates are calculated using the European Standard Population to take account of differences in age structure.
 b. Percentage change since 1998-00 is calculated based on unrounded rates.
 c. Figures in charts are rounded to the nearest integer.
 Source: ONS

Chart 2.3: All-Age-All-Cause Mortality (Females)
Three year average death rates from All Causes in England 1998-2009, females

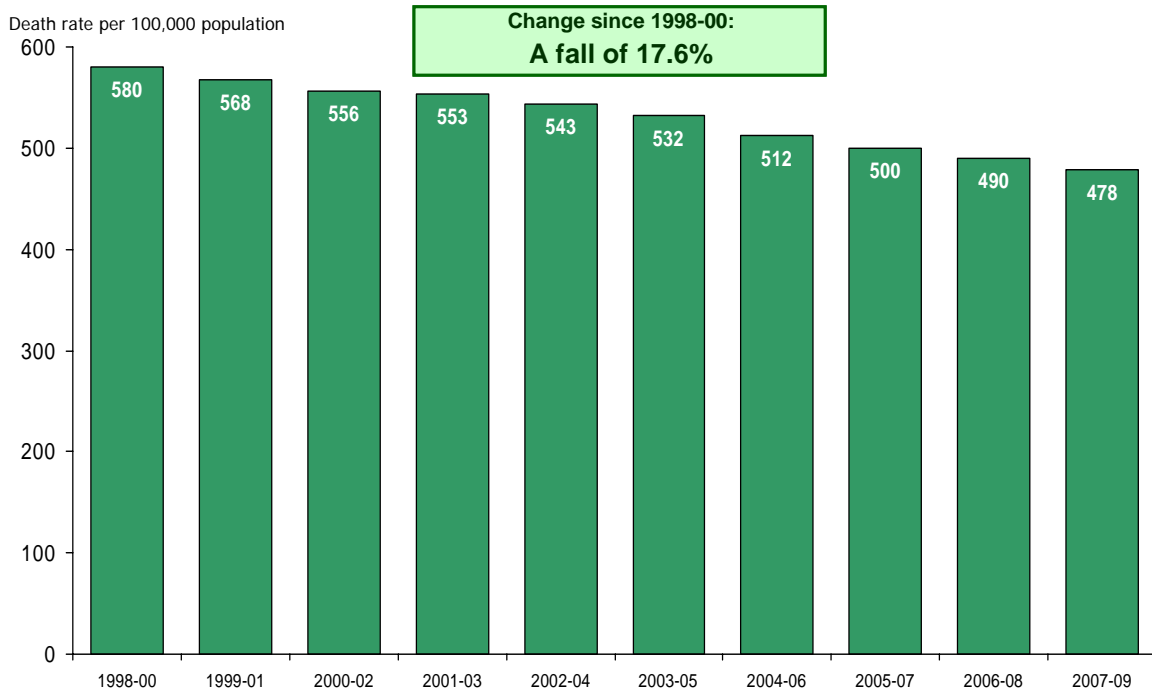
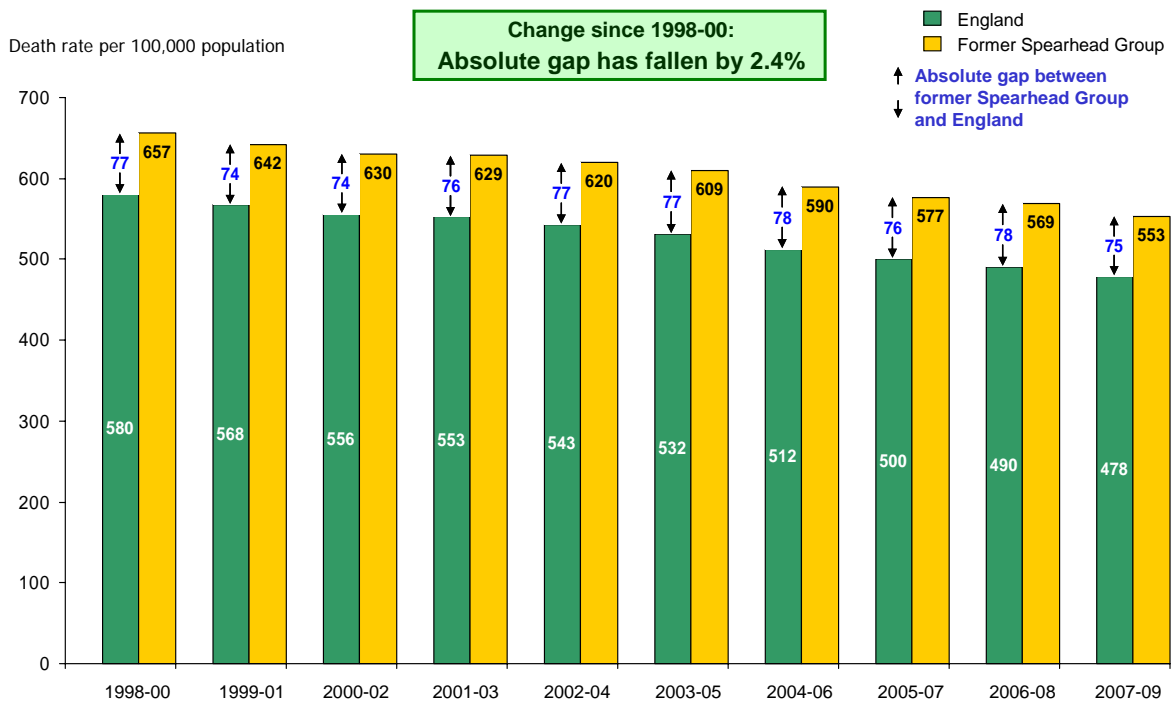


Chart 2.4: All-Age-All-Cause Mortality – former Spearhead Group and England (Females)
Three year average death rates from All-Causes 1998-2009 for females, comparing England and the former Spearhead Group



a. Rates are calculated using the European Standard Population to take account of differences in age structure.
 b. Percentage change since 1998-00 is calculated based on unrounded rates.
 c. Figures in charts are rounded to the nearest integer.
 Source: ONS

Cancer

The latest ten year trend in the mortality rate from cancer at ages under 75 (based on figures for the ten most recent rolling three-year periods for which data are available) is shown for males, females and persons for England. For consistency with the presentation in previous bulletins, the comparison between England and former Spearhead Group* mortality rates is presented for persons, rather than for males and females separately.

The cancer mortality rate (ages under 75) for England decreased in each period since 1998-00 for both males and females. In 2007-09, the England rate was 124.0 deaths per 100,000 population for males, a decrease of 16.9% since 1998-00. For females, the England rate was 101.2 deaths per 100,000 in 2007-09, a decrease of 13.5% over the same period. The cancer mortality rate was consistently lower for females than for males over this period, although the improvement over the period was greater for males than females.

The cancer mortality rate was consistently higher for the former Spearhead Group than for England over the ten years to 2007-09. However, the mortality rate for the former Spearhead Group also decreased in each period since 1998-00. In 2007-09, the former Spearhead group rate for all persons was 130.4 deaths per 100,000 population, a decrease of 14.4% since 1998-00.

The absolute gap – i.e. difference - in cancer mortality rates between England and the former Spearhead Group narrowed between 1998-00 and 2007-09, although since 2003-05 the gap has fluctuated with no clear trend. The relative gap – i.e. percentage difference – in cancer mortality rates between England and the former Spearhead Group was broadly constant between 1998-00 and 2003-05 but has widened since then.

Measure

Directly age-standardised mortality rates from cancer at ages under 75, per 100,000 population. Mortality rates are based on deaths registered in each calendar year where cancer was the 'original' underlying cause of death, as defined by the International Classification of Diseases, Ninth Revision (ICD9) codes 140-208 for 1998 and 2000, and Tenth Revision (ICD10) codes C00-C97 for 1999 and 2001 onwards. Data for 1998 and 2000 have been adjusted for comparability with ICD10 using ratios published by ONS. Figures are three year average rates, age-standardised using the European Standard Population to adjust for differences in the age distribution of the population.

Inequality measures

Absolute and relative gaps in life expectancy between England and the former Spearhead Group.

* For further information about the former Spearhead Group, please refer to the Technical Notes (Annex A)

Both the absolute and relative gaps are important measures of inequality, and should be used in combination to understand the extent of the inequalities. Data are presented for both measures in the table, and the absolute gap is illustrated in the chart.

For further details, including the interpretation of absolute and relative gaps, see technical notes in Annex A.

Frequency of Data

Annual. Monitoring data are three-year averages, produced by taking the average of single year rates across each three-year period.

Most Recent Data

For period 2007-09 (calendar years).

Data Source

Office for National Statistics (ONS), death registrations and mid-year population estimates.

Table 3: Cancer mortality, ages under 75, for males, females and persons, England and the former Spearhead Group, 1998-00 to 2007-09

Cancer Mortality, ages under 75 – Males, Females, Persons

Time period	Three-year average mortality rate per 100,000 ^a		
	Males	Females	Persons
1998-00	149.3	117.0	132.0
1999-01	144.7	114.7	128.7
2000-02	142.1	112.7	126.5
2001-03	139.5	110.3	124.1
2002-04	136.5	108.3	121.6
2003-05	132.9	106.5	119.0
2004-06	130.4	105.1	117.1
2005-07	128.2	103.9	115.5
2006-08	126.3	102.7	113.9
2007-09	124.0	101.2	112.1
<hr/>			
<i>Change since 1998-00</i>	-25.3	-15.8	-20.0
<i>Percentage change since 1998-00</i>	-16.9%	-13.5%	-15.1%

Cancer Mortality, ages under 75, Persons – England vs former Spearhead Group

Time period	Three-year average mortality rate per 100,000 ^a			
	England	Former Spearhead Group	Absolute gap ^b	Relative gap ^c
1998-00	132.0	152.3	20.3	15.4%
1999-01	128.7	148.6	19.9	15.4%
2000-02	126.5	146.1	19.6	15.5%
2001-03	124.1	143.2	19.1	15.4%
2002-04	121.6	140.5	18.9	15.5%
2003-05	119.0	137.2	18.2	15.3%
2004-06	117.1	135.6	18.6	15.9%
2005-07	115.5	133.7	18.2	15.8%
2006-08	113.9	132.7	18.8	16.5%
2007-09	112.1	130.4	18.3	16.4%
<hr/>				
<i>Change since 1998-00</i>	-20.0	-21.9	-2.0	+1.0 ^d
<i>Percentage change since 1998-00</i>	-15.1%	-14.4%	-9.6%	+6.5%

Note: Gap and change figures are calculated based on unrounded mortality rates.

a. Directly age-standardised mortality rate, based on European Standard Population.

b. Difference in rates between England and former Spearhead Group.

c. Difference in rates between England and former Spearhead Group as a percentage of the England rate.

d. Percentage point difference.

Source: ONS (ICD9 140-208; ICD10 C00-C97)

Chart 3.1: Cancer Mortality (ages under 75)
Three year average death rates from Cancer in England 1998-2009 for persons under 75

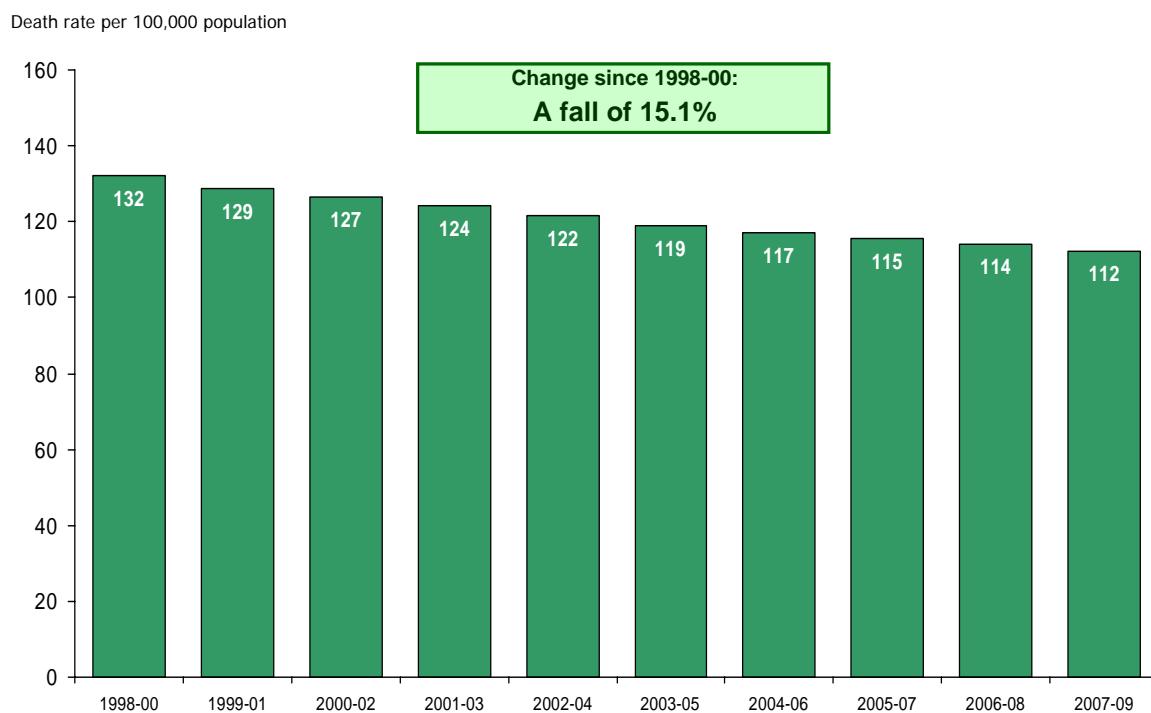
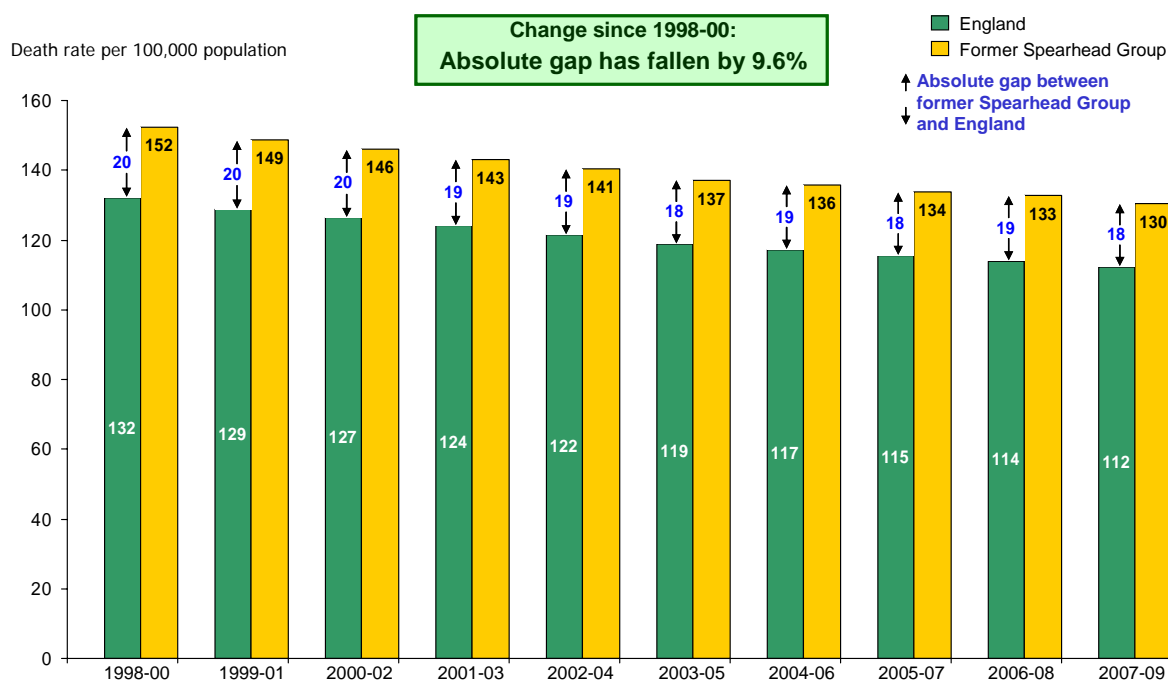


Chart 3.2: Cancer Mortality (ages under 75) – former Spearhead Group and England
Three year average death rates from Cancer 1998-2009 for persons under 75, comparing England and the former Spearhead Group



a. Rates are calculated using the European Standard Population to take account of differences in age structure.
 b. ICD9 data for 1998 and 2000 have been adjusted to be comparable with ICD10 data for 1999 and 2001 onwards.
 c. Percentage change since 1998-00 is calculated based on unrounded rates.
 d. Figures in the chart are rounded to the nearest integer.
 Source: ONS (ICD9 140-208; ICD10 C00-C97)

Circulatory Diseases

The latest ten year trend in the mortality rate from circulatory diseases at ages under 75 (based on figures for the ten most recent rolling three-year periods for which data are available) is shown for males, females and persons for England. For consistency with the presentation in previous bulletins, the comparison between England and former Spearhead Group* mortality rates is presented for persons, rather than for males and females separately.

The circulatory diseases mortality rate (ages under 75) for England has nearly halved over the ten year period to 2007-09 for both males and females. In 2007-09, the England rate was 99.4 deaths per 100,000 population for males, a decrease of 41.5% since 1998-00. For females, the England rate was 43.2 deaths per 100,000 in 2007-09, a decrease of 44.2% over the same period. The circulatory diseases mortality rate is much lower for females than for males (the females rate was consistently less than half the rate for males over this period).

The circulatory diseases mortality rate was consistently higher for the former Spearhead Group than for England over the ten years to 2007-09. However, the mortality rate for the former Spearhead Group also decreased in each period since 1998-00. In 2007-09, the former Spearhead Group rate for all persons was 92.1 deaths per 100,000 population, a decrease of 40.4% since 1998-00.

The absolute gap – i.e. difference - in circulatory diseases mortality rates between England and the former Spearhead Group narrowed by 34.0% between 1998-00 and 2007-09. The relative gap – i.e. percentage difference – in circulatory diseases mortality rates between England and the former Spearhead Group increased over the same period.

Measure

Directly age-standardised mortality rates from all circulatory diseases at ages under 75, per 100,000 population. Mortality rates are based on deaths registered in each calendar year where circulatory diseases were the 'original' underlying cause of death, as defined by ICD9 codes 390-459 for 1998 and 2000, and ICD10 codes I00-I99 for 1999 and 2001 onwards. Data for 1998 and 2000 have been adjusted for comparability with ICD10 using ratios published by ONS. Figures are three year average rates, age-standardised using the European Standard Population to adjust for differences in the age distribution of the population.

Inequality measures

Absolute and relative gaps in life expectancy between England and the former Spearhead Group.

* For further information about the former Spearhead Group, please refer to the Technical Notes (Annex A)

Both the absolute and relative gaps are important measures of inequality, and should be used in combination to understand the extent of the inequalities. Data are presented for both measures in the table, and the absolute gap is illustrated in the chart.

For further details, including the interpretation of absolute and relative gaps, see technical notes in Annex A.

Frequency of Data

Annual. Monitoring data are three-year averages, produced by taking the average of single year rates across each three-year period.

Most Recent Data

For period 2007-09 (calendar years).

Data Source

Office for National Statistics (ONS), death registrations and mid-year population estimates.

Table 4: Mortality from Circulatory Diseases, ages under 75, for males, females and persons, England and the former Spearhead Group, 1998-00 to 2007-09

Mortality from Circulatory Diseases, ages under 75 – Males, Females, Persons

Time period	Three-year average mortality rate per 100,000 ^a		
	Males	Females	Persons
1998-00	170.0	77.5	121.8
1999-01	160.1	72.5	114.5
2000-02	151.4	68.3	108.2
2001-03	143.7	64.8	102.8
2002-04	135.6	60.6	96.7
2003-05	127.1	56.4	90.5
2004-06	118.4	52.2	84.2
2005-07	111.2	49.0	79.1
2006-08	105.1	46.3	74.8
2007-09	99.4	43.2	70.5
<hr/>			
<i>Change since 1998-00</i>	-70.5	-34.2	-51.3
<i>Percentage change since 1998-00</i>	-41.5%	-44.2%	-42.1%

Mortality from Circulatory Diseases, ages under 75, Persons – England vs former Spearhead Group

Time period	Three-year average mortality rate per 100,000 ^a			
	England	Former Spearhead Group	Absolute gap ^b	Relative gap ^c
1998-00	121.8	154.5	32.7	26.8%
1999-01	114.5	145.3	30.8	26.9%
2000-02	108.2	137.3	29.1	26.8%
2001-03	102.8	131.5	28.7	27.9%
2002-04	96.7	124.4	27.7	28.6%
2003-05	90.5	117.0	26.6	29.3%
2004-06	84.2	109.2	25.0	29.7%
2005-07	79.1	102.8	23.7	29.9%
2006-08	74.8	97.5	22.7	30.4%
2007-09	70.5	92.1	21.6	30.6%
<hr/>				
<i>Change since 1998-00</i>	-51.3	-62.4	-11.1	+3.8 ^d
<i>Percentage change since 1998-00</i>	-42.1%	-40.4%	-34.0%	+14.1%

Note: Gap and change figures are calculated based on unrounded mortality rates.

a. Directly age-standardised mortality rate, based on European Standard Population.

b. Difference in rates between England and former Spearhead Group.

c. Difference in rates between England and former Spearhead Group as a percentage of the England rate.

d. Percentage point difference.

Source: ONS (ICD9 390-459; ICD10 I00-I99)

Chart 4.1: Circulatory Diseases Mortality (ages under 75)

Three year average death rates from Circulatory Diseases in England 1998-2009 for persons under 75

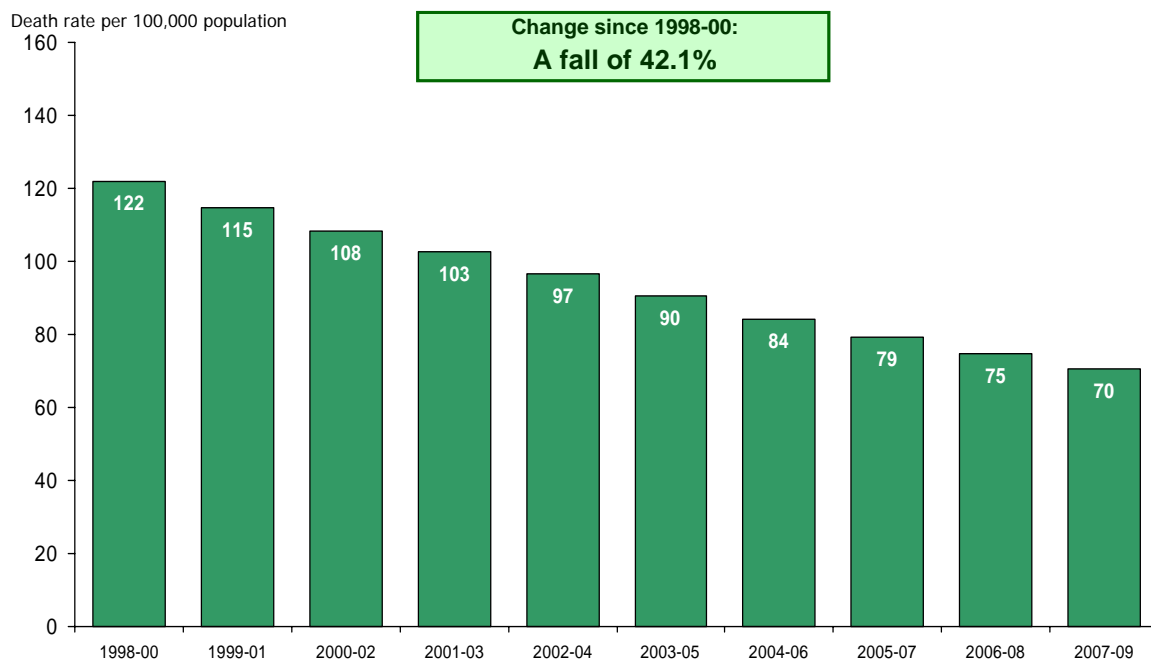
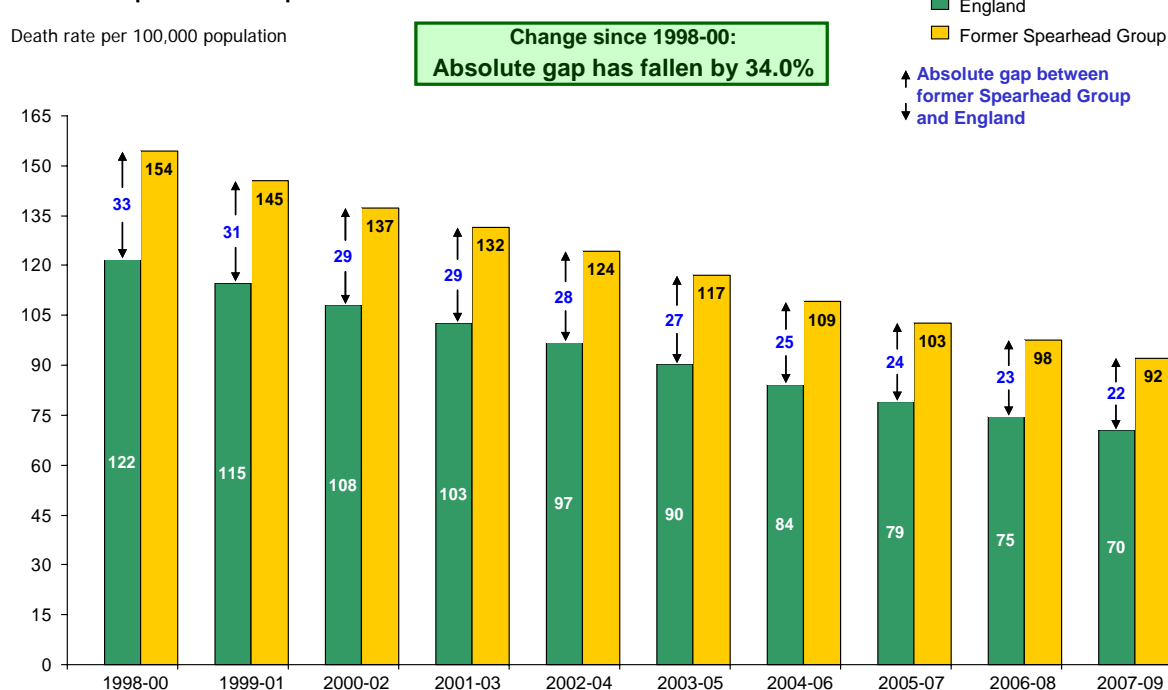


Chart 4.2: Mortality from Circulatory Diseases (ages under 75) – former Spearhead Group and England

Three year average death rates from Circulatory Diseases 1998-2009 for persons under 75, comparing England and the former Spearhead Group



a. Rates are calculated using the European Standard Population to take account of differences in age structure.
 b. ICD9 data for 1998 and 2000 have been adjusted to be comparable with ICD10 data for 1999 and 2001 onwards.
 c. Percentage change since 1998-00 is calculated based on unrounded rates.
 d. Figures in the chart are rounded to the nearest integer.
 Source: ONS (ICD9 390-459; ICD10 I00-I99)

Suicide and Injury of Undetermined Intent

The latest ten year trend in the mortality rate from suicide (intentional self-harm) and injury of undetermined intent (based on figures for the ten most recent rolling three-year periods for which data are available) is shown for males, females and persons for England.

The suicide and undetermined injury mortality rate for England is much lower for females than for males (the males rate was consistently at least three times the rate for females over the ten years to 2007-09). However, the rate decreased for both males and females between 1998-00 and 2007-09. In 2007-09, the England suicide and undetermined injury mortality rate was 12.2 deaths per 100,000 population for males. This was a slight increase on the rate in 2006-08 (12.0 deaths per 100,000), but a decrease of 18.6% since 1998-00. For females, the England rate was 3.6 deaths per 100,000 in 2007-09, a decrease of 20.4% over the same period.

Measure

Directly age-standardised mortality rates from suicide and injury of undetermined intent at all ages, per 100,000 population. Mortality rates are based on deaths registered in each calendar year where suicide and injury of undetermined intent (excluding verdict pending cases) was the 'original' underlying cause of death, as defined by ICD9 codes E950-E959 and E980-E989 excluding E988.8 for 1998 and 2000, and ICD10 codes X60-X84 and Y10-Y34 (excluding Y33.9 until 2006) for 1999 and 2001 onwards. Figures are three year average rates, age-standardised using the European Standard Population to adjust for differences in the age distribution of the population.

For further details see technical notes in Annex A.

Frequency of Data

Annual. Monitoring data are three-year averages, produced by taking the average of single year rates across each three-year period.

Most Recent Data

For period 2007-09 (calendar years).

Data Source

Office for National Statistics (ONS), death registrations and mid-year population estimates.

Table 5: Mortality from suicide and injury of undetermined intent for males, females and persons, 1998-00 to 2007-09

Mortality from suicide and injury from undetermined intent – Males, Females, Persons

Time period	Three-year average mortality rate per 100,000 ^a		
	Males	Females	Persons
1998-00	15.0	4.6	9.7
1999-01	14.4	4.5	9.3
2000-02	13.7	4.3	8.9
2001-03	13.3	4.2	8.6
2002-04	13.0	4.3	8.6
2003-05	12.9	4.3	8.5
2004-06	12.5	4.2	8.3
2005-07	12.1	3.8	7.9
2006-08	12.0	3.7	7.8
2007-09	12.2	3.6	7.9
<i>Change since 1998-00</i>	<i>-2.8</i>	<i>-0.9</i>	<i>-1.8</i>
<i>Percentage change since 1998-00</i>	<i>-18.6%</i>	<i>-20.4%</i>	<i>-18.7%</i>

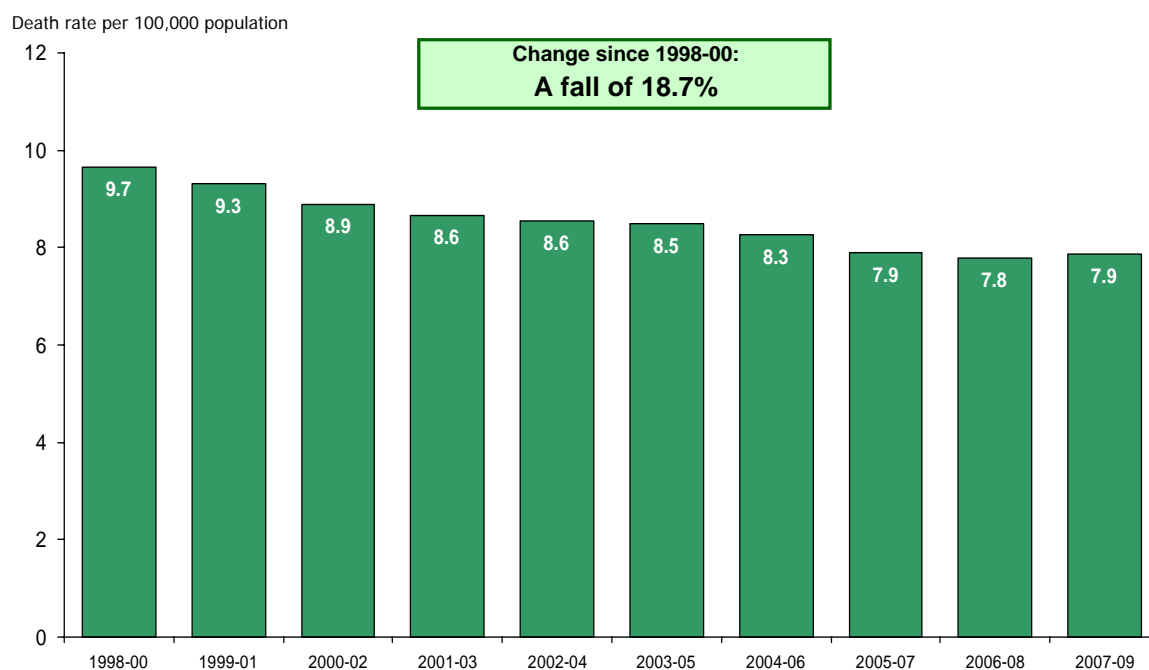
Note: Change figures are calculated based on unrounded mortality rates.

a. Directly age-standardised mortality rate, based on European Standard Population.

Source: ONS (ICD9 E950-E959, plus E980-E989, excluding E988.8 ; ICD10 X60-X84, Y10-Y34 (Y33.9 is excluded until 2006))

Chart 5.1: Mortality from Suicide and injury of undetermined intent

Three year average death rates from Suicide and injury of undetermined intent excluding 'verdict pending' in England 1998-2009, persons of all ages



a. Rates are calculated using the European Standard Population to take account of differences in age structure.

b. Percentage change since 1998-00 is calculated based on unrounded rates.

Source: ONS (ICD9 E950-E959, plus E980-E989, excluding E988.8 ; ICD10 X60-X84, Y10-Y34 (Y33.9 is excluded until 2006))

Accidents

The latest ten year trend in the mortality rate from accidental injury (based on figures for the ten most recent rolling three-year periods for which data are available) is shown for males, females and persons for England.

The accident mortality rate for England is lower for females than for males (the females rate was consistently less than half the rate for males over the ten years to 2007-09). There has been little change in the rate for England for either males or females since 1998-00. In 2007-09, the England rate was 21.2 deaths per 100,000 population for males, slightly lower than the rate of 22.0 deaths per 100,000 population in 1998-00. For females, the England rate was 10.2 deaths per 100,000 in 2007-09, slightly higher than the rate of 10.0 deaths per 100,000 population in 1998-00.

Measure

Directly age-standardised mortality rates from accidental injury at all ages, per 100,000 population. Mortality rates are based on deaths registered in each calendar year where accidental injury was the 'original' underlying cause of death, as defined by ICD9 codes E800-E949 excluding E870-E879 for 1998 and 2000, and ICD10 codes V01-X59 for 1999 and 2001 onwards. Figures are three year average rates, age-standardised using the European Standard Population to adjust for differences in the age distribution of the population.

For further details see technical notes in Annex A.

Frequency of Data

Annual. Monitoring data are three-year averages, produced by taking the average of single year rates across each three-year period.

Most Recent Data

For period 2007-09 (calendar years).

Data Source

Office for National Statistics (ONS), death registrations and mid-year population estimates.

Table 6: Mortality from accidents for males, females and persons, 1998-00 to 2007-09

Accident Mortality – Males, Females, Persons

Three-year average mortality rate per 100,000^a

Time period	Males	Females	Persons
1998-00	22.0	10.0	15.9
1999-01	21.9	10.1	15.9
2000-02	21.9	10.1	15.9
2001-03	21.7	10.3	15.9
2002-04	21.5	10.4	15.9
2003-05	21.5	10.6	16.0
2004-06	21.4	10.5	15.9
2005-07	21.4	10.3	15.8
2006-08	21.4	10.4	15.9
2007-09	21.2	10.2	15.7
<i>Change since 1998-00</i>	-0.8	+0.2	-0.2
<i>Percentage change since 1998-00</i>	-3.4%	+1.9%	-1.3%

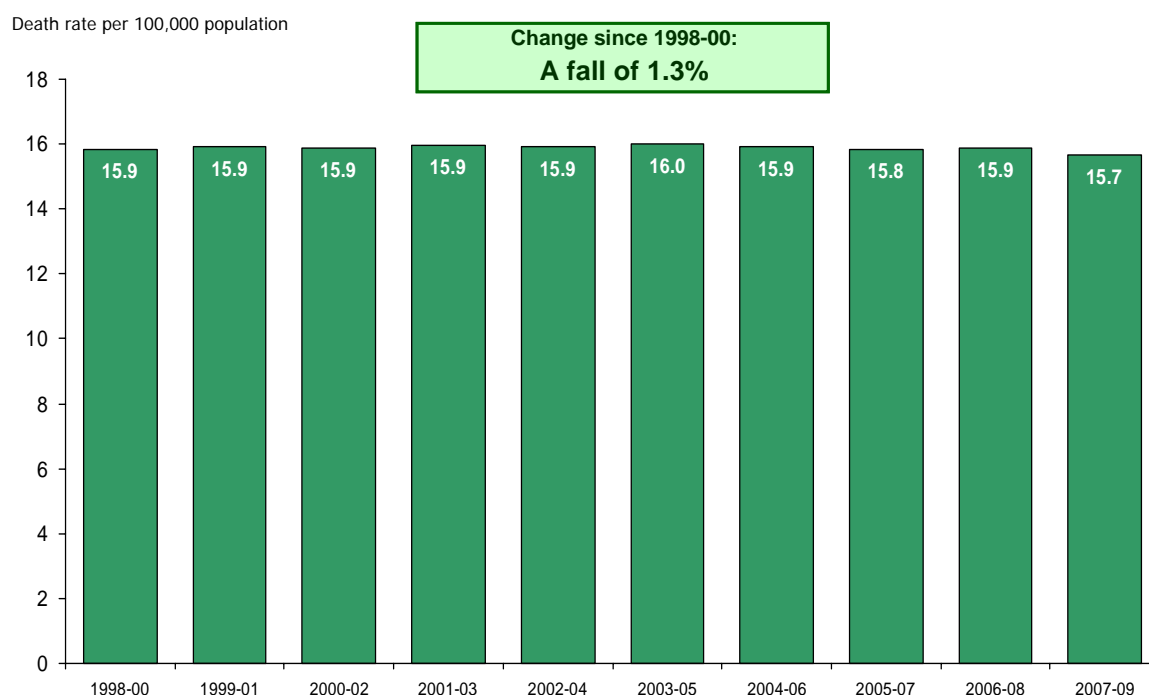
Note: Change figures are calculated based on unrounded mortality rates.

a. Directly age-standardised mortality rate, based on European Standard Population.

Source: ONS (ICD9 E800-E949 excluding E870-E879; ICD10 V01-X59)

Chart 6.1: Accident Mortality

Three year average death rate from Accidents in England 1998-2009, for persons of all ages



a. Rates are calculated using the European Standard Population to take account of differences in age structure.

b. Percentage change since 1998-00 is calculated based on unrounded rates.

Source: ONS (ICD9 E800-E949 excluding E870-E879; ICD10 V01-X59)

Annex A: Technical Notes

These technical notes cover the following topics:

- Monitoring methodology
- Explanation of absolute and relative inequality gaps
- National life expectancy at birth data
- Interpretation of life expectancy at birth
- Coding of cause of death
 - the effect of the change from the 9th revision of the International Classification of Diseases (ICD9) to the 10th revision (ICD10)
 - the definition of suicide and injury of undetermined intent
 - 'original' and 'final' cause of death
- Identification of the former 'Spearhead Group'
- The effect of revisions to population estimates

Monitoring methodology

This statistical bulletin shows time-series for life expectancy and selected mortality data, for the population as a whole (the England average) and the former Spearhead Group. The information presented in this statistical bulletin has been derived from statistical products produced outside the Department of Health - these products and subsequent analyses are described below.

Mortality monitoring data:

- Life expectancy figures are calculated by the Office for National Statistics (ONS)¹.
- For mortality rates from all and selected causes of death, the NHS Information Centre (NHS IC) extract a subset of mortality data for England and for sub-national areas (sourced from ONS), which is passed to the Health Improvement Analytical Team (Monitoring Unit) in the Department of Health, who calculate mortality rates for England and for the former Spearhead Group.

Indicator	Source and subsequent analysis
Life expectancy	Life expectancy figures are calculated and published by the ONS - this includes figures from the National Interim Life Tables, and the Sub-National life expectancy estimates (i.e. based on abridged life tables). These figures are presented as three year averages in a time series in this bulletin. For more information about life expectancy data please see the section below on 'national life expectancy at birth data' and 'interpretation of life expectancy at birth'.
All-Age-All-Cause Mortality (AAACM), Cancer mortality, Circulatory diseases mortality	Numbers of deaths are provided by the NHS IC (sourced from ONS), and directly age standardised rates are calculated for the England average and the former Spearhead Group. These analyses are presented as three year averages in a time series in this bulletin.
Mortality from suicide and injury of undetermined intent, Accident mortality	Numbers of deaths are provided by the NHS IC (sourced from ONS), and directly age standardised rates are calculated for the England average. These analyses are presented as three year averages in a time series in this bulletin.

General points about treatment of the data:

- Mortality rates are directly age-standardised to allow for changes in the age structure of the population (using the European Standard Population as defined by the World Health Organization).
- Three-year rolling averages are generally used for monitoring purposes in preference to single year figures. This is in order to produce a smoothed trend from the data and to ensure the underlying trend is captured rather than year-on-year fluctuations.

Explanation of absolute and relative inequality gaps

For monitoring of inequalities, both the *absolute* gap and the *relative* gap between the former Spearhead Group and England are shown. Taking the life expectancy measure as an example, the absolute gap is the numerical *difference* between the life expectancy at birth for the former Spearhead Group and England. The relative gap is the *percentage difference* between the life expectancy at birth for the former Spearhead Group and England (i.e. the difference in life expectancy as a percentage of the England life expectancy).

Both the absolute and relative gaps are important measures of inequality, and should be used in combination to understand the extent of the inequalities. The absolute gap measures the impact of unequal health experience in absolute terms, eg how many more cancer deaths (per 100,000 population) occur in a disadvantaged group than the national average. The relative gap measures how unequal the health experience between groups is, i.e. how much more likely someone from a disadvantaged group is to experience poor health (eg death from cancer) than the national average.

It is important to consider both absolute and relative measures and to interpret these carefully when assessing the extent of inequality. For example, a large social class gradient in a rare cause of death may be less important in public health terms than a smaller social class gradient in a common cause of death (for which absolute differences between social classes, and so the overall impact of the inequalities, are higher).

It is also important to assess trends in both absolute and relative measures of inequality when interpreting changes over time. For example, where indicator values are decreasing for England (as in the case for mortality rates), it is possible for a narrowing in the absolute gap with the former Spearhead Group to be accompanied by a static or increasing relative gap. Similarly, where indicator values are increasing for England (as is the case for life expectancy), it is possible for a narrowing in the relative gap to be accompanied by a static or increasing absolute gap.

Where this bulletin monitors the inequalities in life expectancy and mortality, both the absolute and relative gaps have been calculated and presented in statistical tables. The absolute gap is additionally shown in the charts which show the trends over time.

National life expectancy at birth data

The ONS publish two sets of national life expectancy figures for the UK and constituent countries, including England: (1) figures published in the national interim life tables and (2) figures published as part of the sub-national life expectancy data release¹.

The national interim life tables are the definitive life expectancy figures for the entire UK and constituent countries. However, to provide comparisons for local areas and regional figures (including the former Spearhead group), the ONS also calculate national life expectancy results produced using the same methods as the sub-national results. England figures based on the sub-national life tables are used to enable comparison with former Spearhead Group figures on a consistent basis. The two sets of figures for England may differ very slightly (normally by less than 0.1 years), due to the slight differences in methodology set out below.

The national interim life tables are calculated using *complete* life tables (based on single years of age). The sub-national life expectancy results and accompanying national figures are calculated using *abridged* life tables in which deaths and populations are aggregated into age groups (this to provide more robust estimates at local level). Figures for England will also differ slightly because of a difference in the handling of deaths of non-residents. Deaths of non-residents of England and Wales are included in the England mortality data in the interim life tables method. These deaths are excluded at the constituent country level in the figures accompanying the sub-national results.

Interpretation of life expectancy at birth

All the life expectancies presented in this document are *period* life expectancies.

Period life expectancy at birth for an area in a given time period is an estimate of the average number of years a new-born baby would survive if he or she experienced the particular area's *contemporary* age-specific mortality rates throughout his or her life (i.e. it makes no allowance for actual or projected future changes in mortality). The life expectancy figure reflects mortality among those living in the area in each time period, rather than mortality among those born in each area. It is not, therefore, the number of years a baby born in the area in each time period could actually expect to live, both because the death rates of the area are likely to change in the future and because many of those in the area will live elsewhere for at least some part of their lives.

Coding of cause of death: (i) the effect of the change from the 9th revision of the International Classification of Diseases (ICD9) to the 10th revision (ICD10)

The Office for National Statistics (ONS) uses the World Health Organisation's International Classification of Diseases to code death registrations for cause of death. In 2001 the ninth revision of the International Classification of Diseases (ICD9) was superseded by the tenth revision (ICD10) for coding of

death registrations by ONS, and data for 1999 were re-coded using ICD10 to provide a “bridge” for comparisons between ICD-9 and ICD-10.

Further guidance on how to compare ICD-10 outputs with those published previously and the broader implications of the move from ICD-9 to ICD-10 can be accessed through the ICD-10 homepage at: <http://www.ons.gov.uk/about-statistics/classifications/international/icd-10/index.html>.

For the underlying data used to produce the figures in this document, death registrations for single years 1999 and 2001 onwards are coded using ICD10. Deaths registrations for other years are coded using ICD9, with an adjustment factor applied where necessary for comparability with ICD10. The change from ICD-9 to ICD-10 impacted on each cause of death as follows:

- **Cancer** - ICD10 codes used for monitoring the cancer indicator are C00-C97, ‘All malignant neoplasms’ (the ICD9 equivalent is 140-208). For all malignant neoplasms there was a small but statistically significant increase from ICD9 to ICD10. The original ICD9 coded deaths (for ages under 75) have been adjusted by a factor of 1.013 for males and 1.009 for females in order to produce a trend comparable with ICD10 data.
- **All Circulatory Diseases** - ICD10 codes used for monitoring the circulatory diseases indicator are I00-I99 ‘All circulatory diseases’ (the ICD9 equivalent is 390-459). For all circulatory diseases there was a small, but statistically significant, increase from ICD-9 to ICD-10. The original ICD9 coded deaths (for ages under 75) have been adjusted by a factor of 1.012 for males and 1.015 for females in order to produce a trend comparable with ICD10 data.
- **Intentional Self-harm (Suicide) and Injury of Undetermined Intent** - ICD10 Codes used for monitoring the suicide and undetermined injury indicator are X60-X84, Y10-Y34 (excluding Y33.9 up to 2006) ‘Intentional self-harm and injury of undetermined intent excluding verdict pending’ (the ICD9 equivalent is E950-E959, plus E980-E989 excluding E988.8). For suicide and injury of undetermined intent the change from ICD9 to ICD10 was not statistically significant and no adjustment factor has been applied to ICD9 data.
- **Accidents** - ICD10 Codes used for monitoring the accidents indicator are V01-X59 ‘Accidents’ (the ICD9 equivalent is E800-E949 excluding E870-E879). For accidents the change from ICD9 to ICD10 was not statistically significant and no adjustment factor has been applied to ICD9 data.

Coding of cause of death: (ii) the definition of suicide and injury of undetermined intent

Official suicides are those in which the coroner or official recorder has decided there is clear evidence that the injury was self-inflicted and the deceased intended to kill him or herself. Unofficial suicides or open verdicts are those where there may be doubt about the deceased’s intentions. Research studies show that most open verdicts are in fact suicides. For the purposes of comparisons with other countries, the figures quoted are for official suicides

only, but for the purpose of measuring overall suicides in England, official suicides and open verdicts are combined – these are the figures shown in this statistical bulletin.

A coroner's inquest may be adjourned because of further investigations or criminal proceedings connected with the death. The death may be registered at this stage as an "accelerated registration", with the result of proceedings notified at a later date. When the results of proceedings are known, the death is re-assigned to the correct code. The majority of "accelerated registrations" (or "verdict pending cases") are eventually reassigned as homicides, and are excluded from the suicide figures included in this bulletin.

Up to 2006 (single year data) "accelerated registrations" were initially assigned to Y33.9, so all deaths from this code were excluded from suicide mortality rates. From 2007, "accelerated registrations" are initially assigned code U50.9. The remaining small number of deaths coded to Y33.9 are therefore included in suicide mortality rates from 2007, as these do not relate to "verdict pending cases". This has a minimal effect on the mortality rates included in this bulletin.

Coding of cause of death: (iii) "original" and "final" cause of death

The data presented in this document are based on the "original" cause of death. ONS code the underlying cause of death based on the conditions mentioned on the death certificate. This is the "original" cause of death. In some cases, however, more information on causes of death may become available at a later stage, such that the underlying cause may be subsequently amended. This is the "final" cause of death.

Due to the introduction of new guidelines on data protection and confidentiality, from 2004 ONS have provided only the original causes of death as recorded on the death certificate (rather than the final causes as previously). The reason for this change is that whilst the original causes of death are part of the public record, the final amended causes are not. In order to maintain a consistent monitoring trend, rates were revised to original cause mortality coding. The effect of this change was minor (not more than 0.1 death per 100,000), but rates presented in this document may differ slightly from mortality monitoring data published elsewhere prior to 2005.

Identification of the former 'Spearhead Group'

The former Spearhead Group was defined in 2004 for use with associated former Public Service Agreement (PSA) targets included in the 2004 Spending Review under the previous administration. The new government abolished the PSA system and will be replacing this with a new Public Services Transparency Framework as part of the 2010 Spending Review. In the interim, this document updates inequality monitoring data published in previous years based on the former Spearhead Group local authorities.

The former Spearhead Group consisted of the 70 Local Authority (single-tier and district council) areas (based on boundaries prior to the 1 April 2009 local government reorganisation), which overlap with 62 Primary Care Trusts, that were in the bottom fifth nationally for 3 or more of the following 5 factors:

- Male life expectancy at birth;
- Female life expectancy at birth;
- Cancer mortality rate in under 75s;
- Cardiovascular disease mortality rate in under 75s; and
- Index of Multiple Deprivation 2004 (Local Authority Summary), average score.

(For life expectancy, the 'bottom' fifth means those with the lowest figures; for mortality rates and deprivation scores, it means those with the highest figures).

Life expectancy and mortality rates were assessed against their positions in 1995-97 (the baseline period for the former Public Service Agreement inequalities targets that are based on the former Spearhead Group), while the 2004 version of the Index of Deprivation was used.

The former Spearhead Group Local Authority areas are listed at the end of this Annex.

The effect of revisions to population estimates

The life expectancy figures and mortality rates presented in this document are based on the most up to date series of population estimates released by the ONS, and incorporate the following recent revisions made to population estimates.

(a) Following the 2001 Population Census, estimates of the structure of the population of the United Kingdom and its component areas were revised. The revision affected population estimates from 1982 until 2000. Although the revision affected age groups and areas differently, overall the estimate of the population was smaller following the revision.

(b) In 2004 ONS concluded the Local Authority Population Studies (LAPS), a series of studies designed to improve population estimates in the areas that proved hardest to count in the 2001 Census. The results of this work by ONS, involving experts from local government and other bodies, confirmed the analysis contained in reports by the Statistics Commission and the Local Government Association that the One Number Census (ONC) worked well in most areas but that there were a few cases where it was not able sufficiently to adjust for exceptional circumstances.

The results from the LAPS analysis showed that there was a need for further revisions to the 2001 Census based population figures. The revisions were confined to 15 local authorities (LAs). Manchester and Westminster were the authorities with the largest changes, while there were much smaller revisions to 13 other LAs. The net result was to increase the estimate of the national population by 0.1 percent.

(c) In 2007 ONS published revised mid-year population estimates for 2002 to 2005 resulting from improvements to the recording of international migration. This primarily affected the distribution of population between sub-national areas. Generally, urban areas experienced the largest

changes, mostly increases to population. Whilst the former Spearhead Group contains many urban areas, the two largest increases occurred in areas not in the former Spearhead Group (Kensington and Chelsea, and Westminster). The impact on life expectancy figures and mortality rates for England and the former Spearhead Group was minimal.

- (d) In 2010 ONS published revised mid-year population estimates for 2002 to 2008 resulting from further improvements to the handling of the impact of migration on population estimates. The effect of these revisions is minor, but life expectancy and mortality figures included in this document may differ to those published in previous years because of these revisions.

Former Spearhead Group Local Authority (single-tier and district council) areas

Local Authorities are based on boundaries prior to the 1 April 2009 local government reorganisation, and are shown in alphabetical order (with ONS codes in brackets).

Barking and Dagenham (00AB)	Redcar and Cleveland (00EE)
Barnsley (00CC)	Rochdale (00BQ)
Barrow-in-Furness (16UC)	Rossendale (30UM)
Birmingham (00CN)	Rotherham (00CF)
Blackburn with Darwen (00EX)	Salford (00BR)
Blackpool (00EY)	Sandwell (00CS)
Blyth Valley (35UD) ^a	Sedgefield (20UG) ^b
Bolsover (17UC)	South Tyneside (00CL)
Bolton (00BL)	Southwark (00BE)
Bradford (00CX)	St. Helens (00BZ)
Burnley (30UD)	Stockton-on-Tees (00EF)
Bury (00BM)	Stoke-on-Trent (00GL)
Carlisle (16UD)	Sunderland (00CM)
Chester-le-Street (20UB) ^b	Tameside (00BT)
Corby (34UB)	Tamworth (41UK)
Coventry (00CQ)	Tower Hamlets (00BG)
Derwentside (20UD) ^b	Wakefield (00DB)
Doncaster (00CE)	Walsall (00CU)
Easington (20UF) ^b	Wansbeck (35UG) ^a
Gateshead (00CH)	Warrington (00EU)
Greenwich (00AL)	Wear Valley (20UJ) ^b
Hackney (00AM)	Wigan (00BW)
Halton (00ET)	Wirral (00CB)
Hammersmith and Fulham (00AN)	Wolverhampton (00CW)
Haringey (00AP)	
Hartlepool (00EB)	
Hyndburn (30UG)	
Islington (00AU)	
Kingston upon Hull, City of (00FA)	
Knowsley (00BX)	
Lambeth (00AY)	
Leicester (00FN)	
Lewisham (00AZ)	
Lincoln (32UD)	
Liverpool (00BY)	
Manchester (00BN)	
Middlesbrough (00EC)	
Newcastle upon Tyne (00CJ)	
Newham (00BB)	
North East Lincolnshire (00FC)	
North Tyneside (00CK)	
Nottingham (00FY)	
Nuneaton and Bedworth (44UC)	
Oldham (00BP)	
Pendle (30UJ)	
Preston (30UK)	

a. Following the 1 April 2009 local government reorganisation, these districts form part of Northumberland Unitary Authority (00EM)

b. Following the 1 April 2009 local government reorganisation, these districts form part of County Durham Unitary Authority (00EJ)

Annex B: The Previous Administration's Public Service Agreement Framework

The data presented in this document relate to targets and indicators that were part of Public Service Agreements (PSAs) published by the previous administration. The new government abolished the PSA system and will be replacing this with a new Public Services Transparency Framework as part of the 2010 Spending Review. In the interim, this document updates inequality monitoring data published in previous years.

(Note that all-age-all-cause mortality (AAACM), and mortality from cancer (ages under 75), circulatory diseases (ages under 75), and suicide and injury of undetermined intent (all ages) were included as Vital Signs indicators in the NHS Operating Framework for 2010/11. They remain as Vital Signs indicators following the revision to the NHS Operating Framework for 2010/11 published on 21 June 2010)⁶.

The main sections of this statistical bulletin present data and commentary on trends over the last 10 years (since 1998-00). This annex provides a summary of the latest position for each indicator compared with the baseline period (1995-97) for the associated former target. Further details of trends between the baseline and 1997-99 can be found in last year's bulletins^{4,5}.

The former PSA targets/indicators are set out below (note that all PSA targets/indicators are measured against a baseline of 1995-97, and were all set against a target date of 2010, assessed using 2009-11 data):

Life expectancy – overall:

- a. To increase the average life expectancy at birth in England to 78.6 years for men and to 82.5 years for women.

Life expectancy – inequalities:

- b. To reduce the relative gap in life expectancy at birth between the fifth of local authorities with the worst health and deprivation indicators (formerly known as 'the Spearhead Group') and the population as a whole (England), by at least 10%.

AAACM - overall and inequalities:

AAACM rates were used as a proxy to monitor progress towards the former targets for overall life expectancy and inequalities in life expectancy, and were particularly relevant at local level. The former life expectancy targets remained the ultimate measures of success and for AAACM, progress for England and the former Spearhead Group was assessed against the levels required to deliver the former life expectancy targets.

For the AAACM indicator, the current estimate is that the former life expectancy targets were equivalent to:

- c. AAACM in England decreasing to 649 deaths per 100,000 for males and 466 deaths per 100,000 for females.

- d. The absolute gap – i.e. difference – in AAACM rates between the former Spearhead Group and the England average to decrease to 99 deaths per 100,000 for males and 58 deaths per 100,000 for females.

Cancer mortality for persons under 75 – overall and inequalities:

- e. To reduce the cancer mortality rate by at least 20%.
- f. A reduction in the inequalities gap of at least 6% between the former Spearhead Group and the England average.

Circulatory diseases mortality in persons under 75 – overall and inequalities:

- g. To reduce the mortality rate from all circulatory diseases by at least 40%.
- h. A reduction in the inequalities gap of 40% between the former Spearhead Group and the England average.

Suicide and undetermined injury mortality – overall:

- i. To reduce the mortality rate from suicide and undetermined injury by at least 20%.

Accident mortality – overall:

- j. To reduce the mortality rate from accidents by at least 20%.

Note on the AAACM indicator (c)

The translation from life expectancy to AAACM depends on the age distribution of death rates, and the translation from the life expectancy gap to the AAACM gap also depends on the England life expectancy, so the estimates are subject to revision. The current estimates of the life expectancy target equivalents are based on the 2007-09 age distribution of death rates and the current England life expectancy trend. Further details of the use of AAACM as a proxy for the former life expectancy targets, and of all the former PSA targets and indicators, can be found in last year's bulletins.

Note on the former Spearhead Group

The former Spearhead Group was defined in 2004 for use with associated former PSA targets included in the 2004 Spending Review under the previous administration. It consists of 70 Local Authority (single-tier and district council) areas with "the worst health and deprivation indicators", based on life expectancy, premature mortality from cancer and cardiovascular disease, and the Index of Multiple Deprivation. For further details, see the Technical Notes (Annex A).

For further information about the use of absolute and relative gaps, please refer to the Technical Notes (Annex A).

Table 7: Commentary on former PSA targets/indicators

Indicator(s) ^a	Brief description of former PSA indicator and associated target (including reference to list above for full explanation)	Baseline (1995-97)	Latest figures (2007-09)	Description of change
Life Expectancy at Birth^b				
Life Expectancy - males	To increase Life Expectancy to 78.6 years (a)	74.5 years	78.0 years	Life expectancy at birth has increased by 3.5 years since the baseline. This increase reflects a steady improvement in life expectancy in each year of the time series.
Life Expectancy gap – males (Note: this is a <u>relative</u> gap)	To reduce the gap in life expectancy at birth between the former Spearhead Group and the population as a whole by 10% (b)	2.57%	2.75%	The relative gap in life expectancy between the England average and the former Spearhead Group has fluctuated during the time series, and is currently 0.17 percentage points, or 7% higher than at baseline.
Life Expectancy - females	To increase Life Expectancy to 82.5 years (a)	79.6 years	82.1 years	Life expectancy at birth has increased by 2.6 years since the baseline. This increase reflects a steady improvement in life expectancy in each year of the time series.
Life Expectancy gap – females (Note: this is a <u>relative</u> gap)	To reduce the gap in life expectancy at birth between the former Spearhead Group and the population as a whole by 10% (b)	1.77%	1.99%	The relative gap in life expectancy between the England average and the former Spearhead Group has widened over the time series, and is currently 0.22 percentage points, or 13% higher than at baseline.
All-Age-All-Cause Mortality (AAACM) rate^c				
AAACM - males	AAACM rate to decrease to 649 deaths per 100,000 (based on current estimates) (c)	931 deaths per 100,000 population	673 deaths per 100,000 population	The AAACM rate has decreased each year in the time series. The AAACM rate has reduced by 258 deaths per 100,000 population, or by 28%.
AAACM gap – males (Note: this is an <u>absolute</u> gap)	Gap in AAACM rates between the Spearhead Group and the England average decreasing to 99 deaths per 100,000 (based on current estimates) (d)	142 deaths per 100,000 population	124 deaths per 100,000 population	The AAACM gap has decreased steadily since the start of the time series and is now 18 deaths per 100,000 population lower than in 1995-97.
AAACM - females	AAACM rate to decrease to 466 deaths per 100,000 (based on current estimates) (c)	606 deaths per 100,000 population	478 deaths per 100,000 population	The AAACM rate has decreased each year in the time series. The AAACM rate has reduced by 128 deaths per 100,000 population, or by 21%.
AAACM gap – females (Note: this is an <u>absolute</u> gap)	Gap in AAACM rates between the Spearhead Group and the England average decreasing to 58 deaths per 100,000 (based on current estimates) (d)	75 deaths per 100,000 population	75 deaths per 100,000 population	The AAACM gap has remained broadly unchanged since the baseline, although there has been some fluctuation during the time-series.
Cancer Mortality for ages under 75^c				
Cancer mortality rate (persons)	To reduce cancer mortality by at least 20% (e)	141.2 deaths per 100,000 population	112.1 deaths per 100,000 population	The cancer mortality rate has fallen each year since the baseline. The rate has reduced by 29.1 deaths per 100,000 population, or a decrease of 20.6%.
Cancer mortality gap	A reduction in the inequalities	20.7 deaths	18.3 deaths	The absolute gap has fallen by 11.6% since the baseline. Between

Indicator(s) ^a	Brief description of former PSA indicator and associated target (including reference to list above for full explanation)	Baseline (1995-97)	Latest figures (2007-09)	Description of change
(Note: this is an <u>absolute</u> gap)	gap of at least 6% between the former Spearhead Group and the England average. (f)	per 100,000 population	per 100,000 population	1995-97 and 2003-05 the gap narrowed by 12.1%, but since 2003-05 the gap has fluctuated with no clear trend.
Circulatory Diseases Mortality for ages under 75^c				
Circulatory Diseases mortality rate (persons)	To reduce circulatory diseases mortality by at least 40% (g).	141.3 deaths per 100,000 population	70.5 deaths per 100,000 population	The circulatory diseases mortality rate has fallen each year since the baseline. The rate has reduced by 70.8 deaths per 100,000 population, or a decrease of 50.1%.
Circulatory Diseases mortality gap (Note: this is an <u>absolute</u> gap)	A reduction in the inequalities gap of 40% between the former Spearhead Group and the England average (h)	36.7 deaths per 100,000 population	21.6 deaths per 100,000 population	The absolute gap has narrowed each year since the baseline. The gap has fallen by 15.1 deaths per 100,000 population, or by 41.1%.
Mortality from Suicide and Injury from Undetermined Intent^c				
Suicide mortality rate (persons)	To reduce the death rate from suicide and undetermined injury by at least 20% (i)	9.2 deaths per 100,000 population	7.9 deaths per 100,000 population	Mortality from suicide and injury from undetermined intent has decreased by 1.3 deaths per 100,000 population since the baseline or by 14.2%. In the first three time-periods after the baseline, the mortality rate increased to a peak of 9.7 deaths per 100,000 population. Since 1998-00 the mortality rate decreased year on year until 2007-09 which showed an increased compared to 2006-08.
Accident Mortality^c				
Accident mortality rate (persons)	To reduce the death rate from accidents by at least 20%	15.8 deaths per 100,000 population	15.7 deaths per 100,000 population	Since 1995-97 the accident mortality rate has shown a broadly flat trend. The accident mortality rate was slightly lower (0.7% lower) in 2007-09 than the baseline.

- a. See commentary in the main sections for detailed definition of indicators.
- b. Life expectancy change and relative gap figures are based on life expectancy figures rounded to 2 decimal places.
- c. Mortality rate change and absolute gap figures are based on unrounded mortality rates.

References

1. National Interim Life Tables for the UK and constituent countries, and sub-national life expectancy data for the UK and constituent countries are on the National Statistics website:

<http://www.statistics.gov.uk/statbase/Product.asp?vlnk=14459>

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

2. Mid-year population estimates can be found at the National Statistics website:

<http://www.statistics.gov.uk/statbase/Product.asp?vlnk=15106>

3. Data on death registrations (in England and Wales) can be found at the National Statistics website:

<http://www.statistics.gov.uk/statbase/Product.asp?vlnk=14409>

4. *Mortality Target Monitoring: Update to include data for 2008, Progress against mortality targets for England for 2010, in respect of cancer, circulatory diseases, intentional self-harm, and accidents*, Department of Health (Oct 2009):

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsStatistics/DH_106776

5. *Mortality target monitoring (Life expectancy and All-Age All-Cause Mortality, overall and inequalities): Update to include data for 2008*, Department of Health (Nov 2009):

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_107609

6. *Revision to the Operating Framework for the NHS in England 2010/11*

http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_110107