Setting Levels of Ambition for the NHS Outcomes Framework

A technical annex to support Developing our NHS care objectives: A consultation on the draft mandate to the NHS Commissioning Board

Chapter 8: Drivers

Contents

Outcome drivers

8.1 This chapter sets out relevant developments in the following drivers of outcomes, to which reference is made in the sections considering drivers of outcomes for each indicator. It illustrates a range of factors that may affect outcomes and in some cases, we refer to findings from academic literature. Such citations are not intended to be a guide to clinical practice and should not be taken as official endorsement by the Department of Health. This material is an analytical work in progress. It being published in the interests of transparency, to outline our proposals, and to invite comments

8.2 This is not a comprehensive list of drivers, but rather covers those drivers that have effects on a large number of individual indicators – so as to avoid repetition in the domain texts.

- Alcohol misuse

- Diabetes

- Emergency admissions context

- Fruit and vegetables consumption

- Hypertension

- Obesity

- Tobacco use

Alcohol misuse

8.3 This outcomes driver section considers the percentage of adults drinking alcohol, volume of alcohol consumed by adults, frequency of consumption of alcohol by adults, and children consuming adults.

Harm

8.4 Alcohol misuse is a key driver of health harms. Over 60 diseases or conditions can be caused by drinking alcohol[1]. This includes chronic diseases such as a variety of cancers, circulatory and digestive disorders. It also includes acute harms through accidents, violence and self-harm, affecting more than just those drinking to excess.

8.5 For example, it is estimated that drinking more than 75g of pure alcohol (approx. 9 units) per day increases the likelihood of 'unspecified liver disease' by a factor of 27, while drinking between 40-75g (approx. 5-9 units) corresponds to a factor of 7[2].

8.6 There is a clear link between mental illness and alcohol misuse. Survey data suggest 14% of adults with alcohol dependency are receiving treatment for emotional or mental problems, compared to 7% of those without alcohol dependence[3].

8.7 Alcohol misuse is estimated to account 27% of all instances of assault, and 34% of cases of intentional self-harm and 32% of injuries resulting from road traffic accidents among males[4].

8.8 There were an estimated 6,669 alcohol-related deaths in 2010, with males making up 67% of the total[5].

Consumption

8.9 The long-term trend in the percentage of people drinking alcohol is decreasing. The proportion of adults who drank in 2009 was 84.2%, down from 88.8% in 2000.

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[1] Corrao et al. (2004): A meta-analysis of alcohol consumption and the risk of 15 diseases. Preventative Medicine 38, 613-9
[2] Alcohol-attributable fractions for England – Alcohol-attributable morality and hospital admissions. Centre for Public Health Faculty of Health and Applied Social Sciences Liverpool John Moores University (2008)
[3] Adult Psychiatric Morbidity in England, 2007: results of a household survey. NHS Information Centre (2007)
[4] Alcohol-attributable fractions for England – Alcohol-attributable morality and hospital admissions. Centre for Public Health Faculty of Health and Applied Social Sciences Liverpool John Moores University (2008)
[5] Office for National Statistics, Alcohol-related deaths in England and Wales, 1991 to 2010

Figure D.1.1 - Percentage of adults drinking alcohol
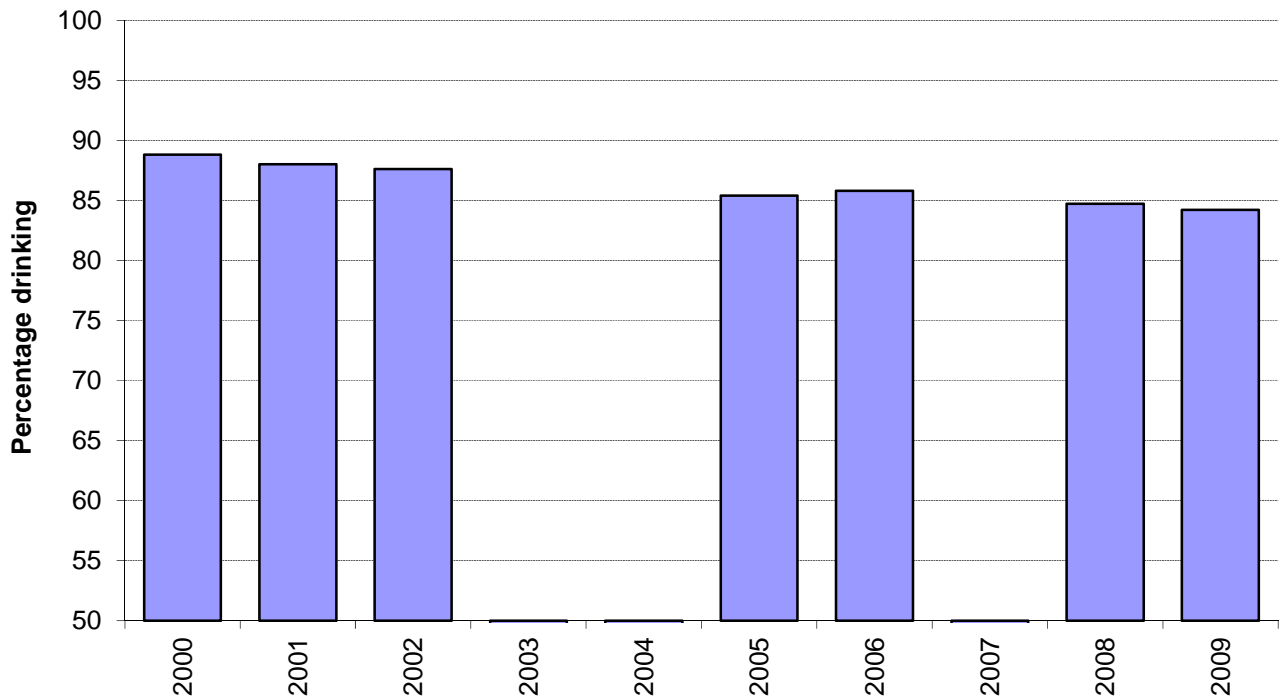
Source: ONS, General Lifestyle Survey (2009)
Note: Data not available for 2003, 2004 and 2007

8.10   The percentage of people drinking above the recommended weekly amount has decreased. For methodological reasons we cannot compare figures from 2006 with those for previous years. The proportion considered to be at 'increased risk' (males drinking 21 or more units per week and females drinking 14 or more) decreased by 3.7 percentage points from 25.4% in 2006 to 21.7% in 2009. The proportion considered to be at 'high risk' (males drinking 50 or more units per week and females drinking 35 or more) also decreased from 6.9% in 2006 to 5.2% in 2009.

Figure D.1.2 - Percentage of adults drinking at increased and high risk levels
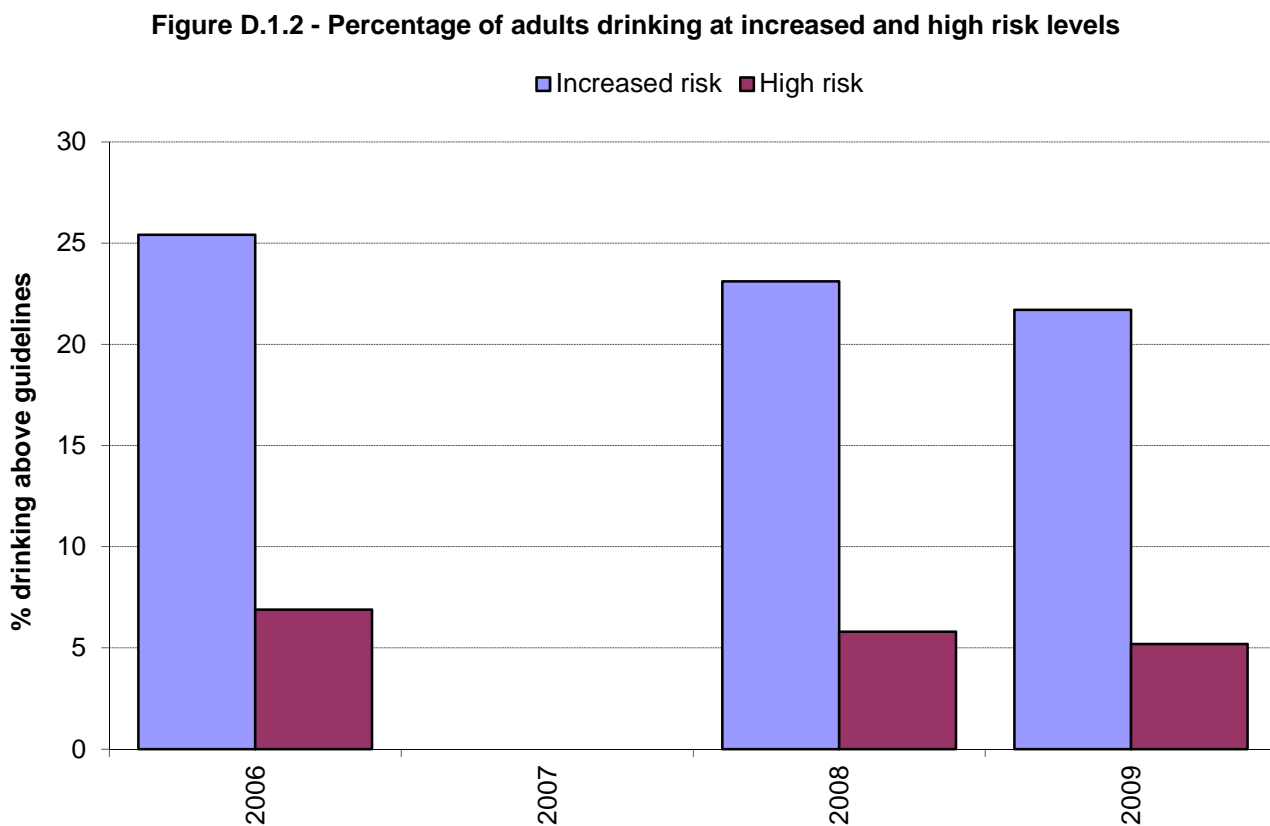
Source: ONS, General Lifestyle Survey
Note: Data not available for 2007

8.11   The HMRC estimate of alcohol consumed per adult provides a longer time series (2000/01-2010/11). This shows a 10% reduction in consumption between the peak in 2004/05 and 2010/11, when the estimated consumption per adult was 20.4 units per week.

Figure D.1.3 - Units of alcohol consumed per adult per week
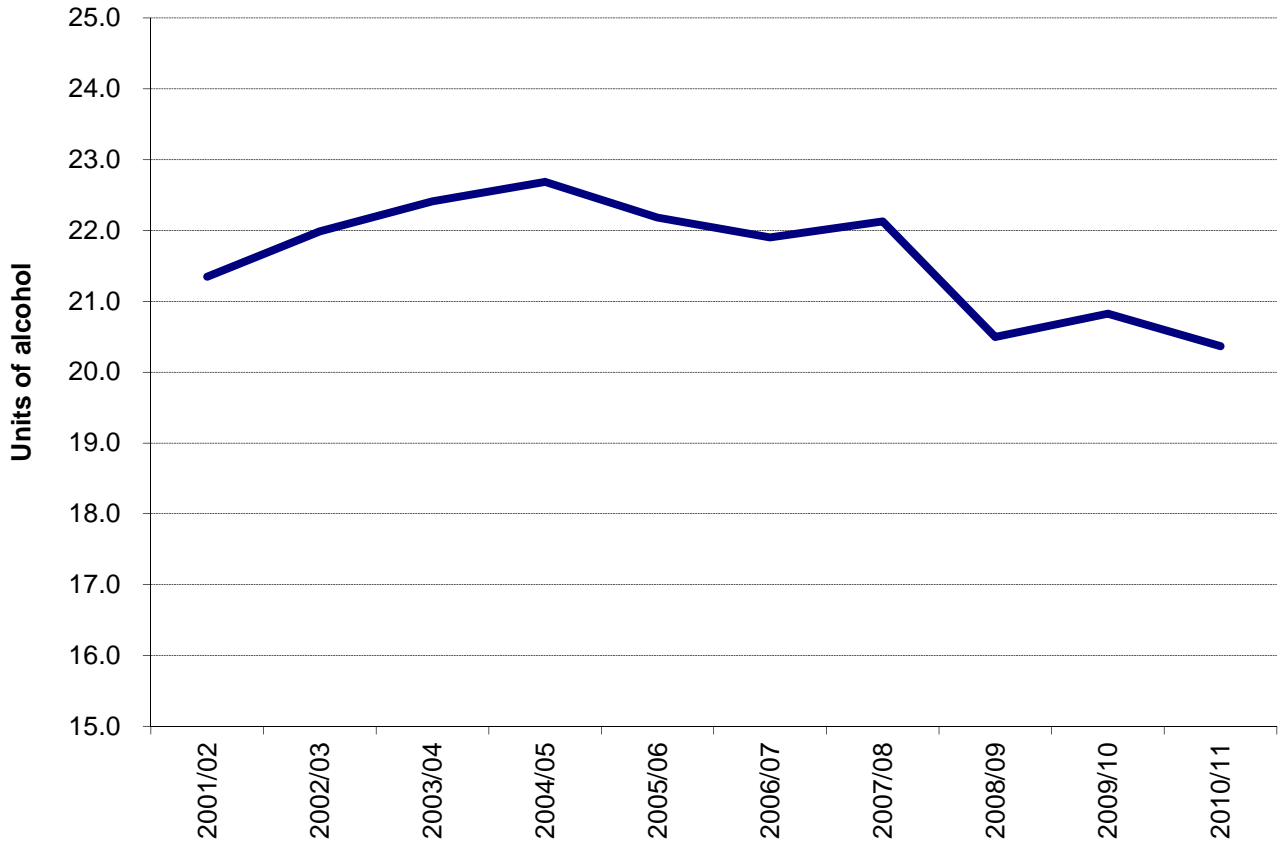
Source: HM Revenue and Customs, Alcohol Factsheet, March 2012

8.12 There has also been a reduction in the frequency that adults drink. 16.4% of adults reported drinking on 5 or more days per week in 2009, this is a 0.9 percentage point reduction on 2008, and compares to a peak of 19.7% in 2005.

Figure D.1.4 - Percentage of adults drinking on five or more days per week
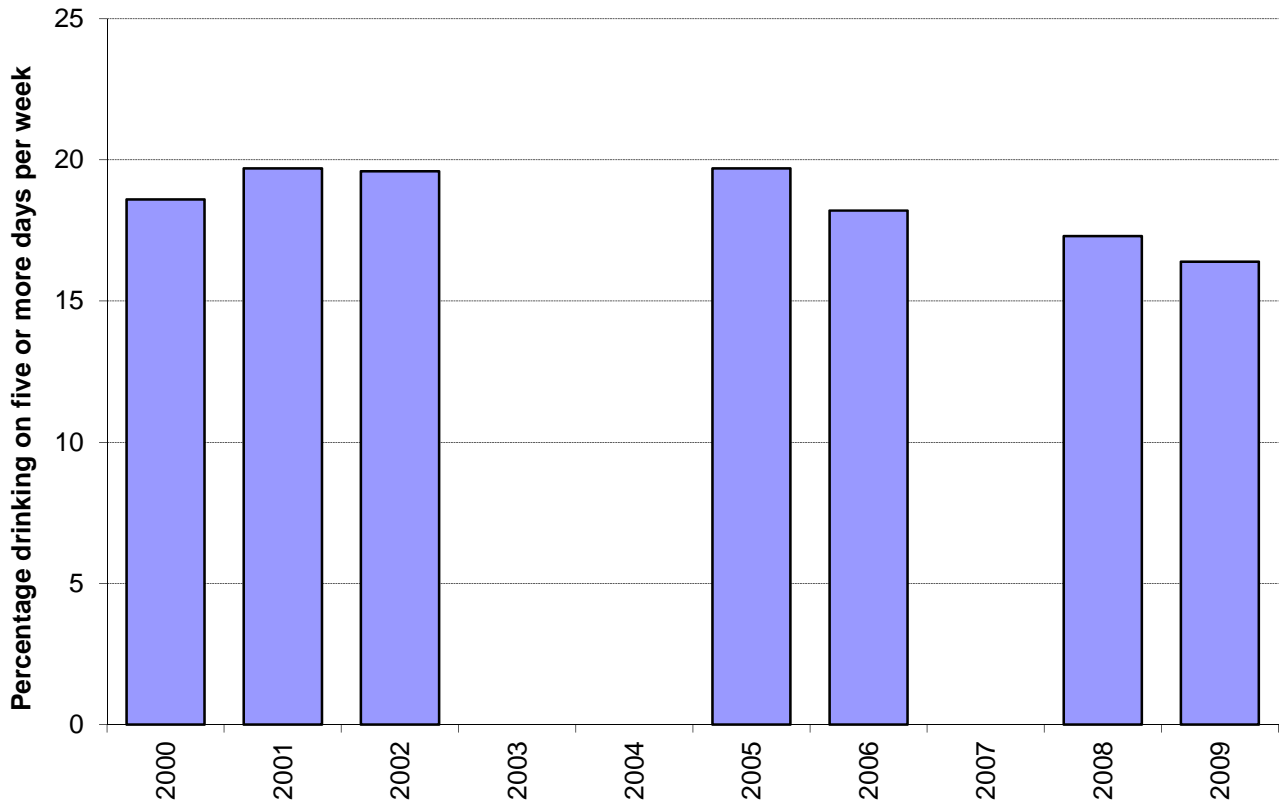
Source: ONS, General Lifestyle Survey
Note: Data not available for 2003, 2004 and 2007

8.13 The proportion of adults engaged in heavy episodic drinking (defined as more than 8 units in a single day for males and 6 units for females) has also declined. In 2009, 16.4% of survey respondents reported doing so in the week prior to the survey, compared to 18.0% the previous year and a peak of 20.0% in 2007.

Figure D.1.5 - Percentage of men who drank more than eight units and women who drank more than six units on their heaviest drinking day in the week prior to the survey
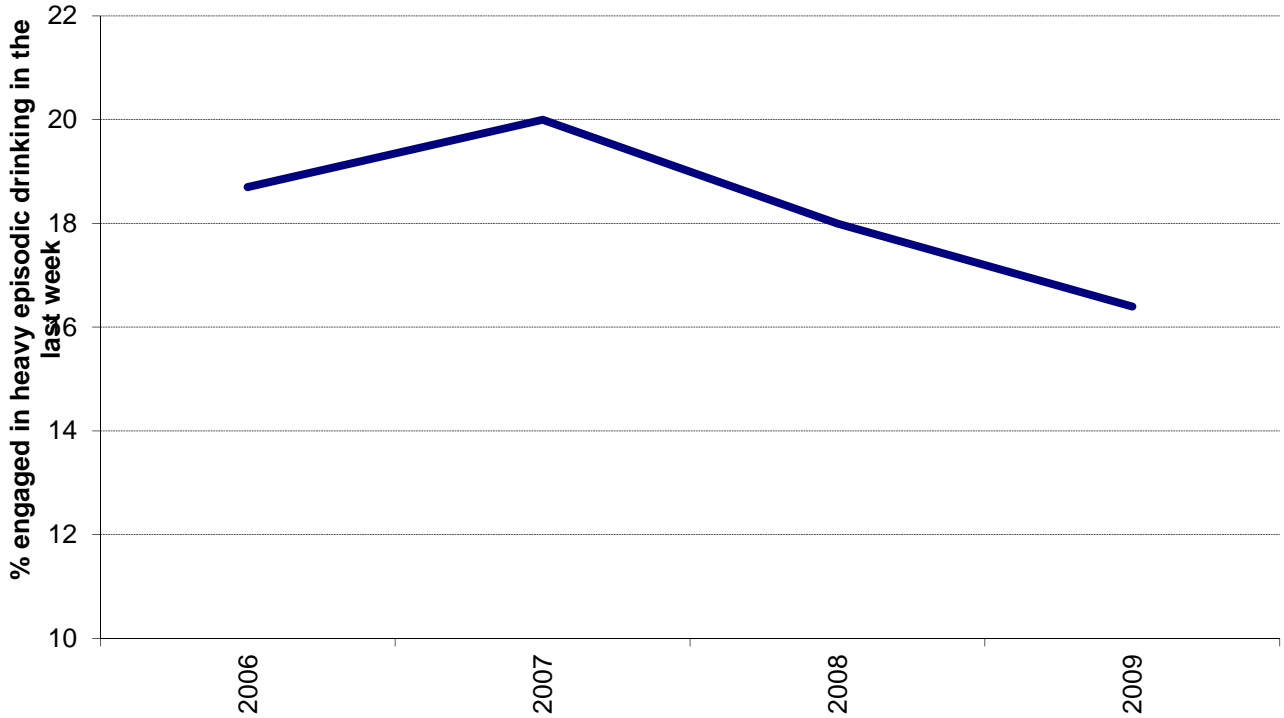
Source: ONS, General Lifestyle Survey

8.14 The proportion of children (11-15 year olds) who reported drinking in the week prior to responding to the survey fell by 50% over the period 2001-2010. The rate was 13% in 2010. Evidence suggests the risk of alcohol dependence is increased by starting drinking at a young age.

Figure D.1.6 - Percentage of 11-15 year olds who reported drinking in the week prior to the survey
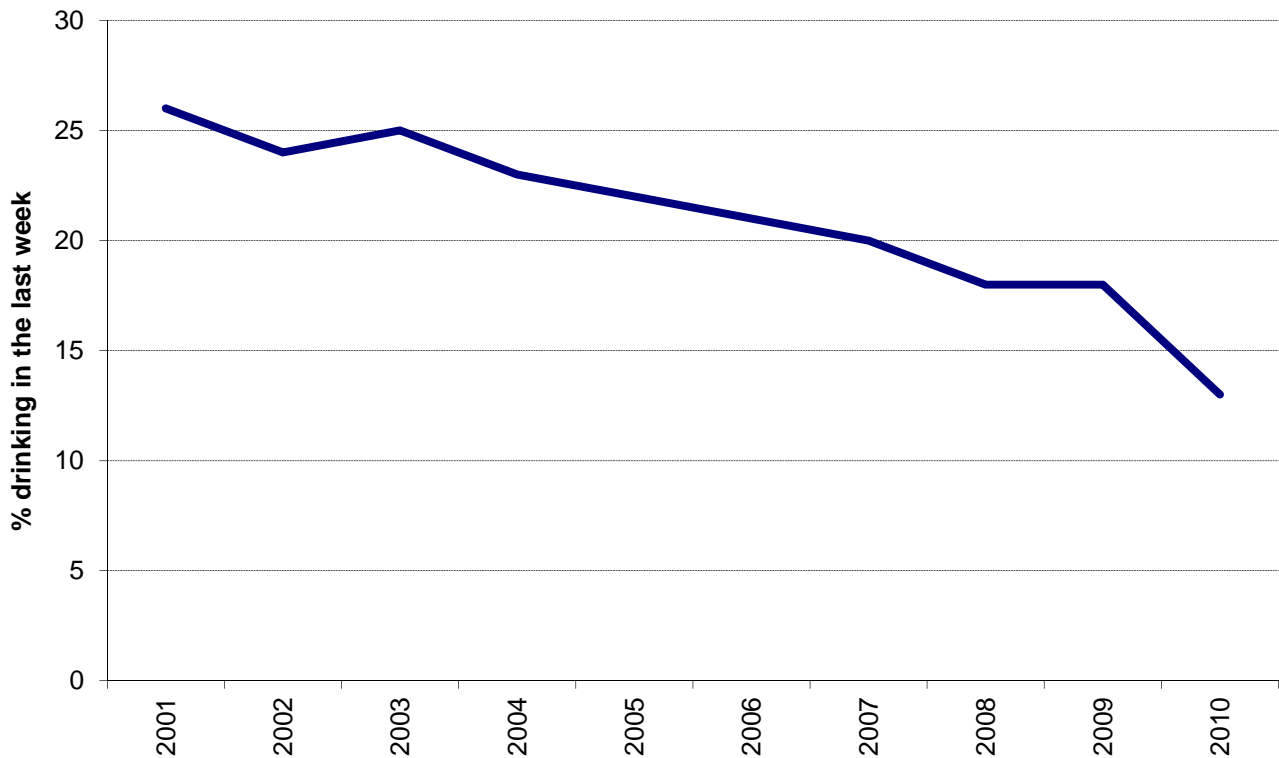
Source: IC, Survey of Smoking, Drinking and Drug Use Among Young People

Mortality

8.15 The evidence suggests that, whilst average consumption has fallen slightly since the middle of the last decade, this has taken some time to feed through into an effect on mortality.

8.16 Over the period 1991 to 2003, the number of alcohol-related deaths increased at a rate of 5.5% p.a., reducing to 2.5% p.a. between 2003 and 2008 and levelling out from 2008.

Figure D.1.7 - Age-standardised alcohol related deaths
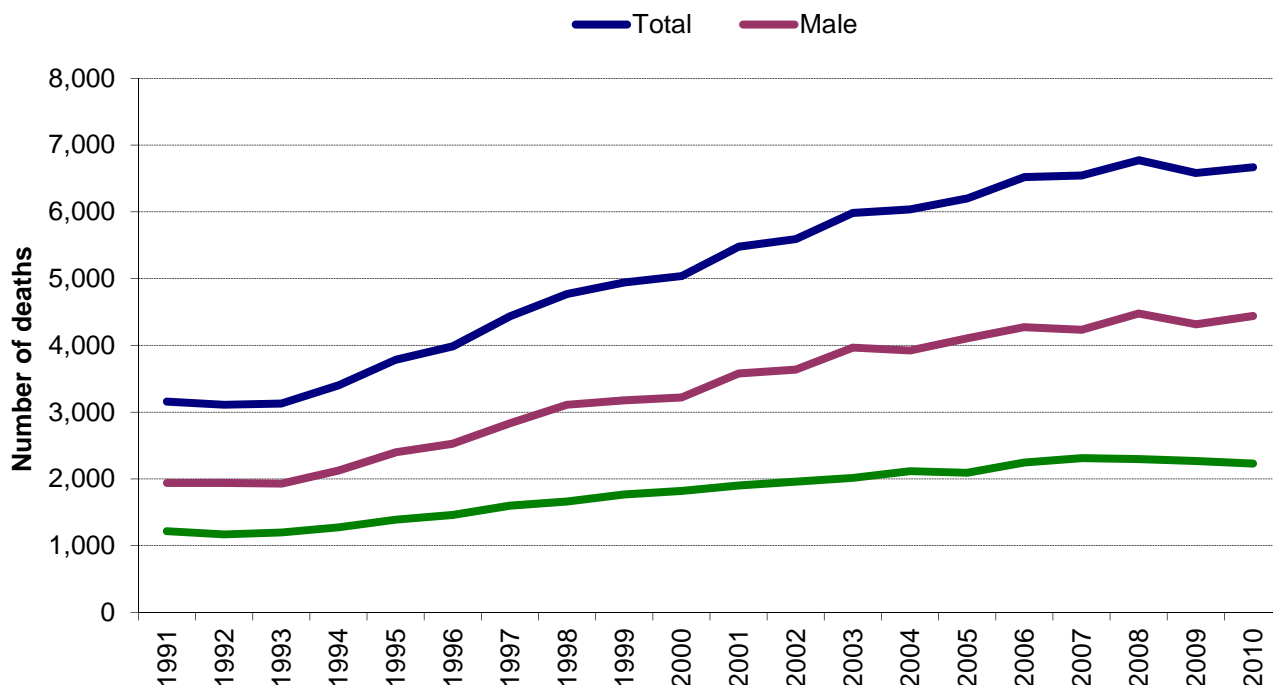
Source: ONS, Alcohol - related deaths in England and Wales, 1991 to 2010

Indicators affected

1a   Mortality from causes considered amenable to healthcare;

1b.i   Life expectancy at 75 (males);

1b.ii   Life expectancy at 75 (females);

1.1   Under 75 mortality rate from cardiovascular disease;

1.3   Under 75 mortality rate from liver disease;

1.4.iv Five year survival rate for breast cancer;

1.5   Under 75 mortality rate in people with serious mental illness (to be developed);

1.6.i   Infant mortality;

1.6.ii Perinatal mortality (including stillbirths);

2   Health related quality of life for people with long term conditions;

2.2   Employment of people with long term conditions;

2.3.i   Unplanned hospitalisation for chronic ambulatory care sensitive conditions (adults);

2.3.ii   Unplanned hospitalisation for asthma, diabetes and epilepsy in under 19s;

2.4   Health related quality of life for people with long-term conditions;

2.5   Employment of people with mental illness;

3a   Emergency admissions for acute conditions that should not usually require hospital admission;

3b   Emergency readmissions within 28 days of discharge from hospital;

3.1   Patient reported outcome measures (PROMs) for elective procedures;

3.3   An indicator on recovery from injuries and trauma (to be developed);

3.5.i   The proportion of patients with fragility fractures recovering to their previous level of mobility/walking ability at 30 days;

3.5.ii   The proportion of patients with fragility fractures recovering to their previous level of mobility/walking ability at 120 days;

3.6   Proportion of older people (65 and over) who were still at home 91 days after discharge from hospital into rehabilitation services;

5.4   Incidence of medication errors causing serious harm.

Key issues /questions

- There will be lag effects from changes in alcohol consumption and changes in the indicators;

- Cohort effects are likely to be significant, and different depending on the indicator in question.

Diabetes

This outcomes driver considers the proportion of adults (aged 16 and over) reporting doctor-diagnosed diabetes.

Harm

8.17 Being overweight or having a raised waist measurement are risk factors for diabetes. Diabetes is characterised by high blood glucose levels.

8.18 Diabetes is one of the major causes of avoidable mortality; according to the Health Survey for England, 11.6% of all deaths among 20-79 year olds in 2005 were a result of diabetes[6].

8.19 Diabetes is a significant risk factor for CVD and worsens the effect of other CVD risk factors such as hypertension, smoking and obesity[7] .

National rate and trend

8.20 Figure D. 2.1 shows the prevalence of diabetes in adults. The prevalence of diabetes has been increasing over time. Due to a change in the calculation, data is only reported on a consistent basis from 2003. In 2010, diabetes prevalence was 1.5 times higher than the 2003 level, for both males and females. Prevalence of diabetes in females has been increasing more quickly than males, between 2003 and 2010, female prevalence of diabetes has increased by an average of 6.5% per year, compared to 5.6% for males.

8.21 From 2009 to 2010, the diabetes prevalence rate for males declined by 0.2 percentage points, in females there was an increase of 0.8 percentage points.

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[6]

http://www.ic.nhs.uk/webfiles/publications/003_Health_Lifestyles/HSE2010_REPORT/HSE2010_Trends_commentary.pdf

[7]

http://www.ic.nhs.uk/webfiles/publications/003_Health_Lifestyles/HSE2010_REPORT/HSE2010_Trends_commentary.pdf

Figure D.2.1 – Prevalence of diabetes in adults
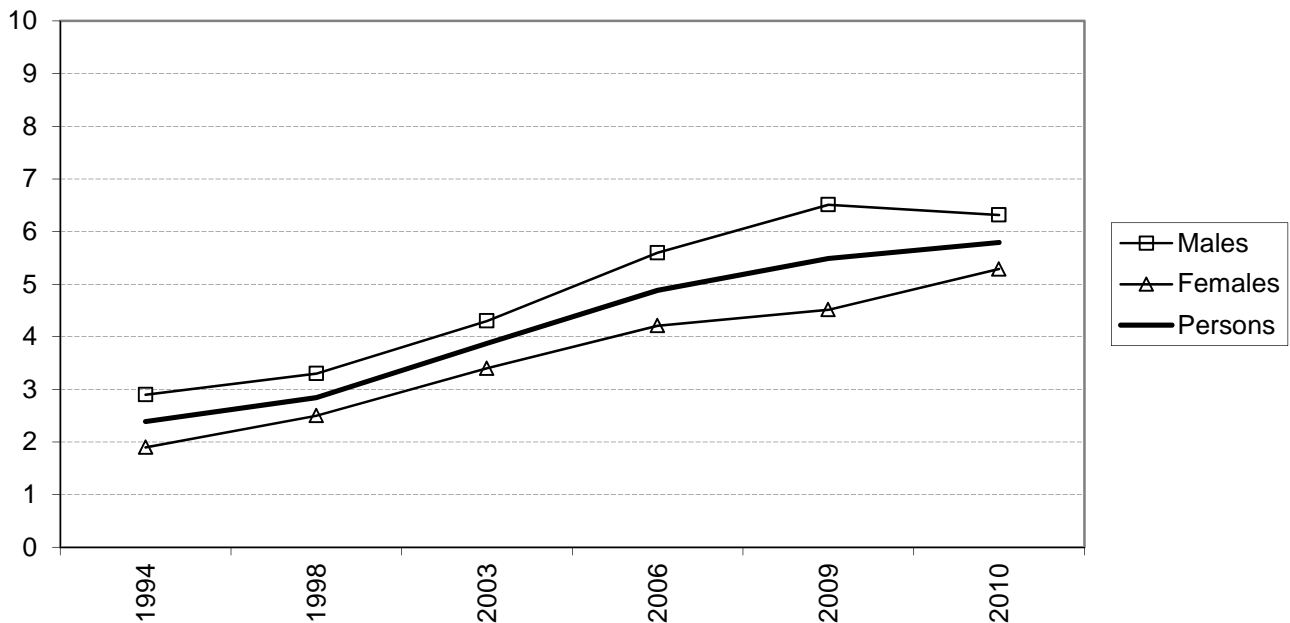
Source: Health Survey for England (HSE)

8.22 There were an estimated 3.1 million people with diabetes in England in 2009/10[8], of which 760,000 were undiagnosed. The Association of Public Health Observatories (APHO) Diabetes Prevalence Model[9] estimates that this figure will have almost doubled, to 4.6m by 2030 with prevalence of 9.5% (lower uncertainty limit, 6.7%, upper, 14.1%)

Breakdown by age

8.23 Diabetes prevalence increases with age. Prevalence rates among younger adults (ages 16-34) have remained relatively stable but there have been larger increases in prevalence rates in older age groups, for both males and females (see Tables D.2.1-D.2.2 and Figures D.2.2-D.2.3).

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[8] National Audit Office, The management of diabetes services in the NHS, Report by the Controller and Auditor General, 21 May 2012. http//www.nao.org.uk/publications/1213/adult_diabetes_services.aspx
[9] http://www.yhpho.org.uk/default.aspx?RID=81090

Table D.2.1 – Prevalence of diabetes, by age group and year – persons

Year	Males	Females	Persons
1994	2.9	1.9	2.4
1998	3.3	2.5	2.8
2003	4.3	3.4	3.9
2006	5.6	4.2	4.9
2009	6.5	4.5	5.5
2010	6.3	5.3	5.8

Source: Health Survey for England (HSE)

Figure D.2.2 – Prevalence of diabetes, by age group and year - persons
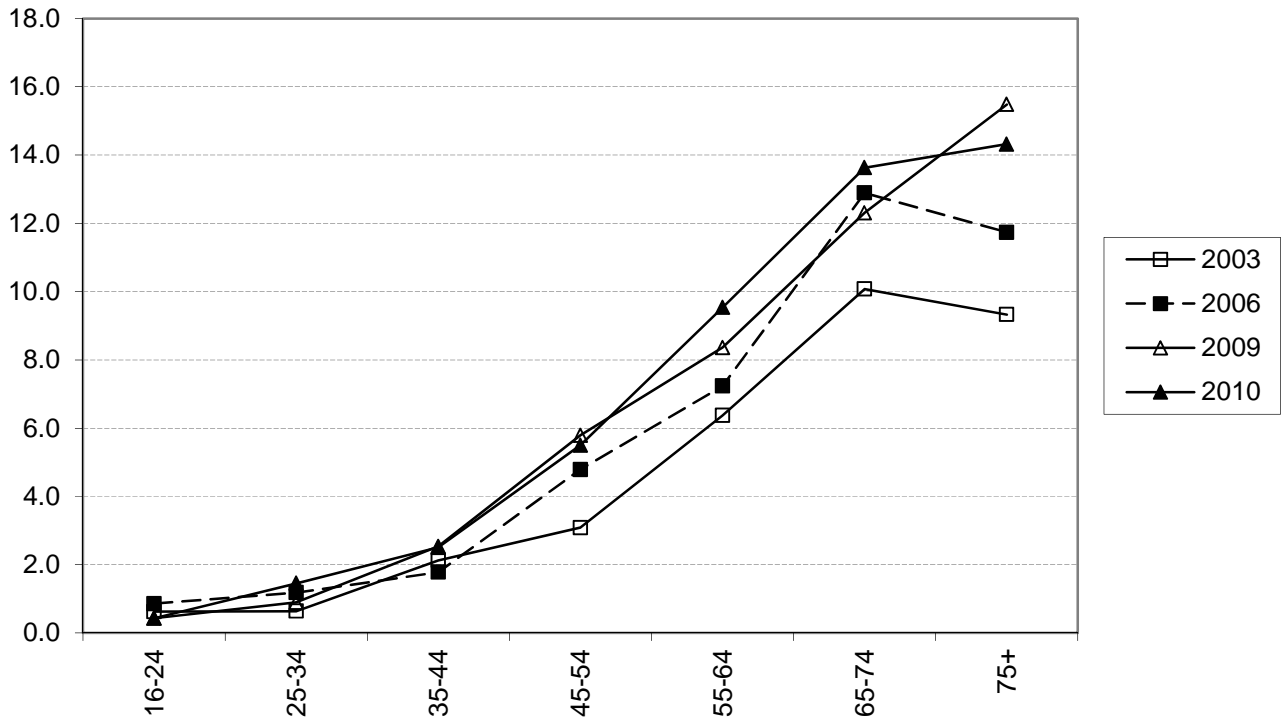
Source: Health Survey for England (HSE)

Table D.2.2 – Prevalence of diabetes, by age group and year – males

Age group	2003	2006	2009	2010
16-24	0.6	0.9	0.4	0.4
25-34	0.6	1.2	0.9	1.5
35-44	2.1	1.8	2.5	2.5
45-54	3.1	4.8	5.8	5.5
55-64	6.4	7.2	8.4	9.5
65-74	10.1	12.9	12.3	13.6
75+	9.3	11.7	15.5	14.3
Average	3.9	4.9	5.5	5.8

Source: Health Survey for England (HSE)

Figure D.2.3 – Prevalence of diabetes, by age group and year – males

Source: Health Survey for England (HSE)

Table D.2.3 – Prevalence of diabetes, by age group and year – females

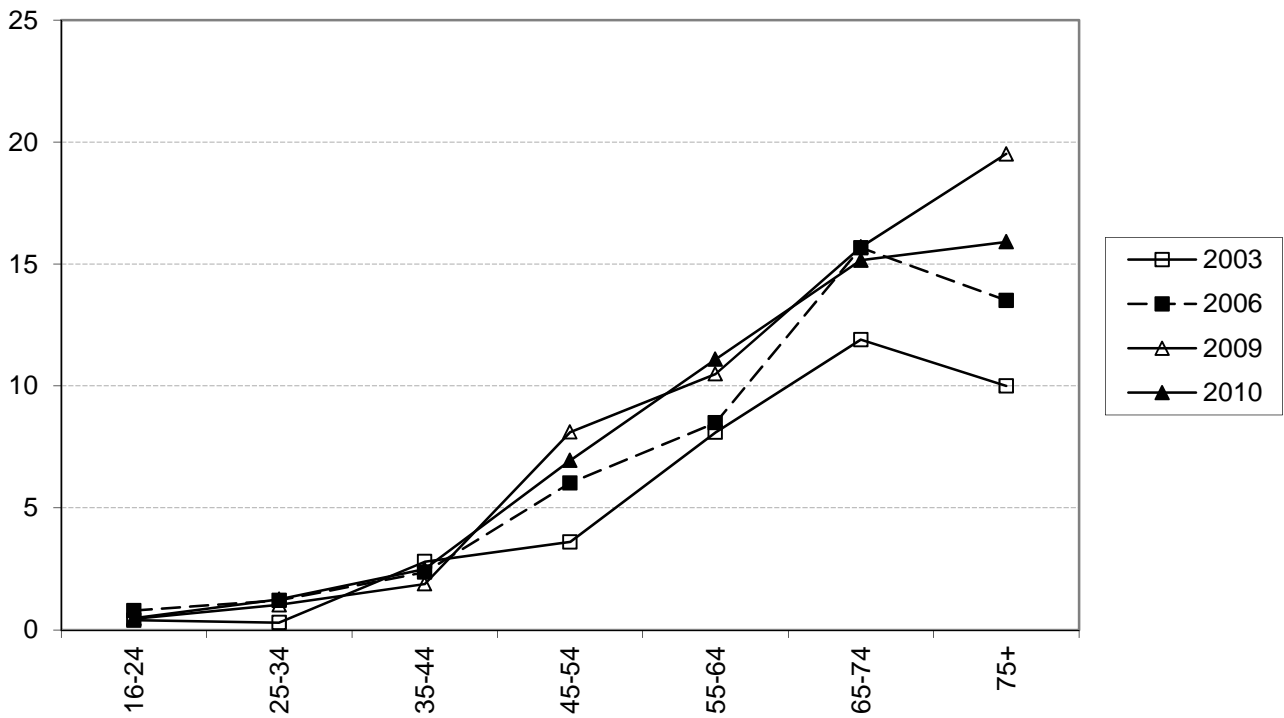| Age group	2003	2006	2009	2010
16-24	0.4	0.8	0.5	0.5
25-34	0.3	1.2	1.0	1.3
35-44	2.8	2.4	1.9	2.5
45-54	3.6	6.0	8.1	6.9
55-64	8.1	8.5	10.5	11.1
65-74	11.9	15.7	15.7	15.2
75+	10.0	13.5	19.5	15.9
Average	4.3	5.6	6.5	6.3

Source: Health Survey for England (HSE)

Figure D.2.4 – Prevalence of diabetes, by age group and year – females
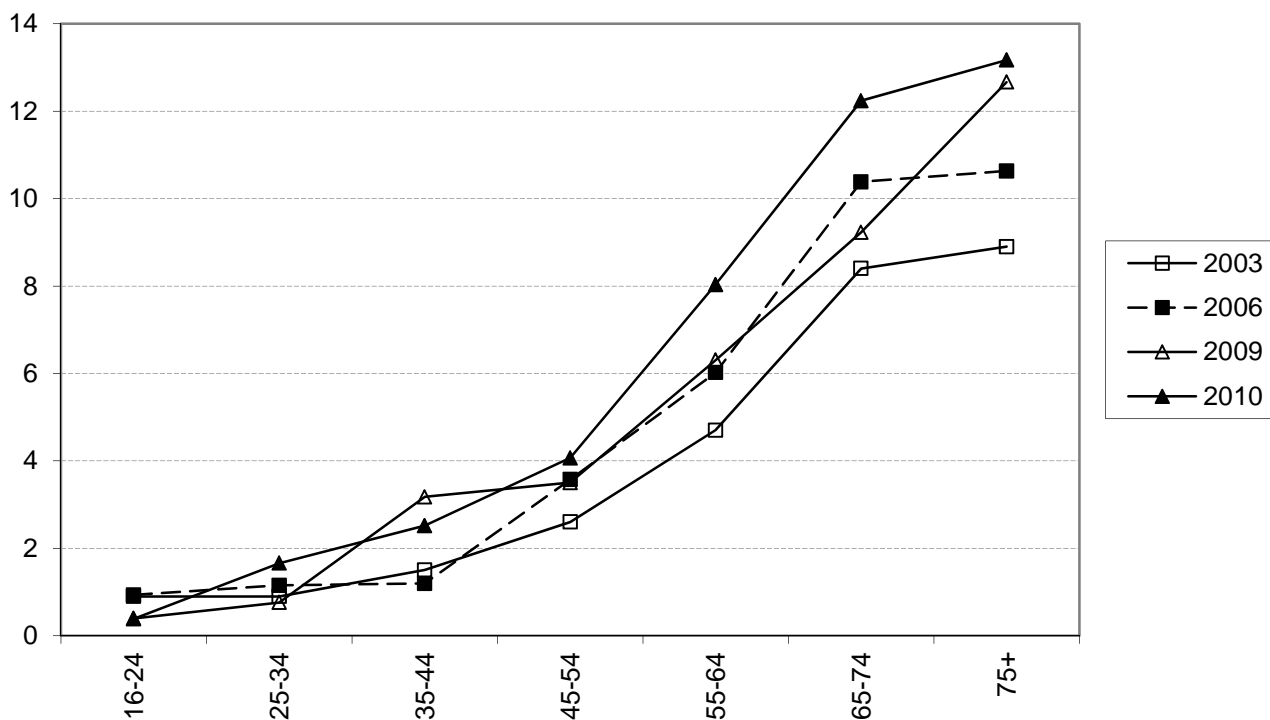
Source: Health Survey for England (HSE)

Context: Incidence

8.24 A 2009 study (Gonzalez et al) in the Journal of Epidemiology and Public Health[10] investigated, separately, the incidence of type I and II diabetes in the UK. This study identified an increasing trend in the prevalence and incidence of diabetes from 1996 to 2005. The overall change was largely due to increased incidence of type II diabetes (from 2.6 to 4.3 per 1,000 person years), the incidence of type I diabetes remained relatively constant throughout the period.

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[10] http://jech.bmj.com/content/early/2009/02/24/jech.2008.080382.full.pdf+html

Indicators affected

1a   Mortality from causes considered amenable to healthcare;

1b.i   Life expectancy at 75 (males);

1b.ii   Life expectancy at 75 (females);

1.1   Under 75 mortality rate from cardiovascular disease;

1.4.iii,iv   Five-year survival for breast cancer;

1.4.vii   Under 75 mortality rate from cancer;

1.5   Under 75 mortality rate in people with serious mental illness (to be developed);

2   Health related quality of life for people with long-term conditions;

1.1   Proportion of people feeling supported to manage their condition;

1.2   Employment of people with long-term conditions;

2.3.ii   Unplanned hospitalisation for asthma, diabetes and epilepsy in under 19s;

3.1   Patient Reported Outcomes Measures (PROMs) for elective procedures;

3.3   Improving recovery from injuries and trauma (to be developed);

3.4   Improving recovery from stroke (to be developed);

3.5.i   The proportion of patients with fragility fractures recovering to their previous levels of mobility / walking ability at 30 days;

3.5.ii   The proportion of patients with fragility fractures recovering to their previous levels of mobility / walking ability at 120 days;

3.6   Proportion of older people (65 and over) who were still at home 91 days after discharge from hospital into rehabilitation services.

Emergency admissions context

8.25 This outcomes driver section considers the numbers and rates of change of emergency readmissions.

8.26 Over the previous 4 years, Hospital Episode Statistics (HES) emergency admissions have increased year on year. However, the rate of increase has slowed from 5% between 2007/08 and 2008/9 to 2% between 2009/10 and 2010/11. Based on published monthly provisional HES data (which change by 2% on revision), it is possible there could be a 3% decline in 2011/12 (see Figure D.3.1). Monthly Activity Returns (MAR) data (which cover two more months than HES) suggest a smaller decrease. The first estimate assumes that given current imperatives for efficiency savings, the trend in the ratio of emergency admissions at the end of year to that after the first 6 months reduces a little more quickly than for the previous 3 years. However, MAR data suggest this trend may not continue (see Figure D.3.2).

Figure D.3.1 – Trend in Emergency Admissions

	2007/08	2008/09	2009/10	2010/11	2011/12 Estimates
HES Emergency Admissions (millions)	4.75	5.01	5.18	5.29	5.15
Estimated Emergency Admissions informed by MAR				5.29	5.22
% change year on year		5%	3%	2%	
Monthly Activity Return % Estimate				2%	-1%
HES % Estimate				2%	-3%
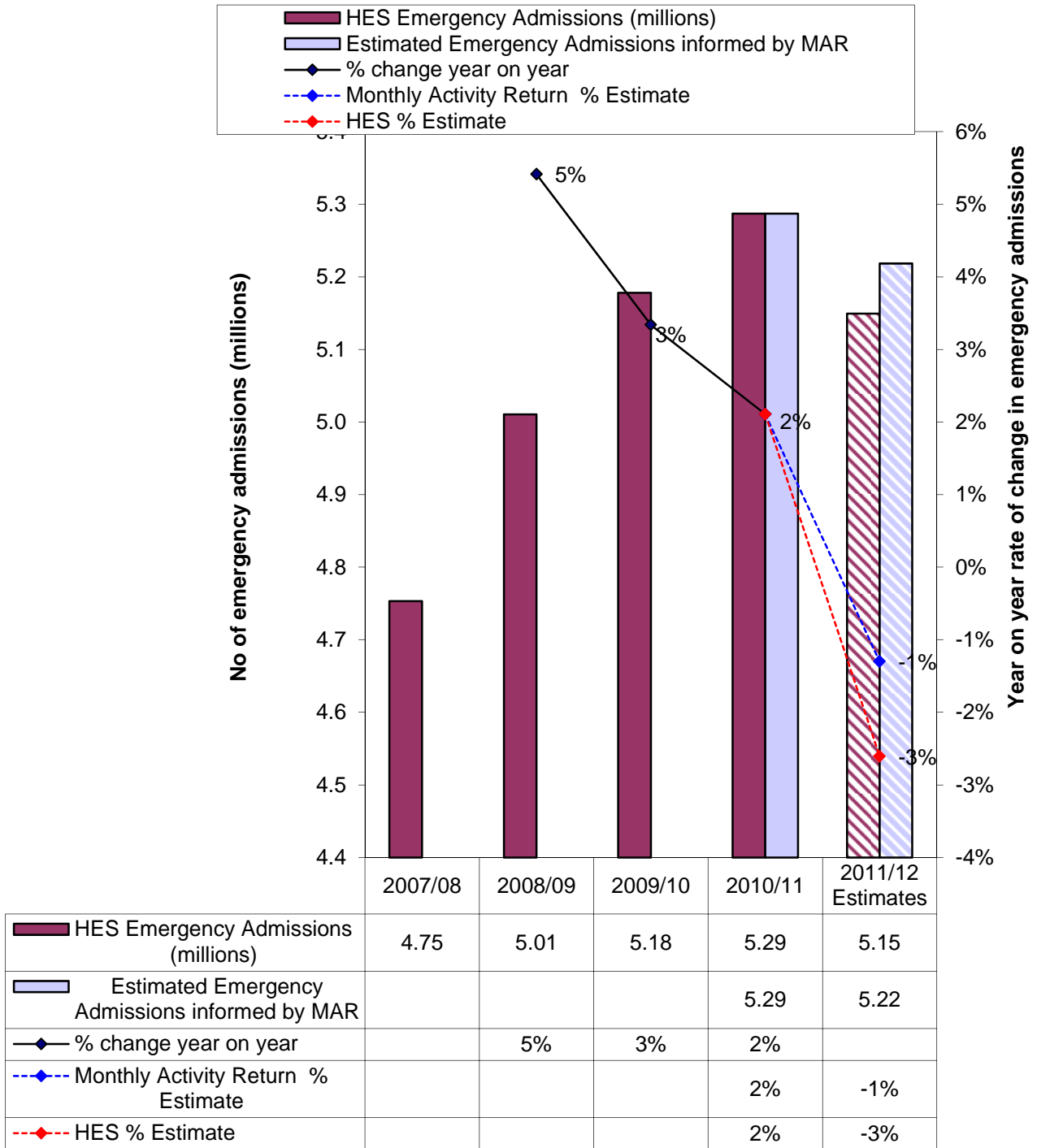
Source: Provisional monthly HES

Figure D.3.2 – Emergency admission time series in ratio number at end of financial year to number in first 6 months
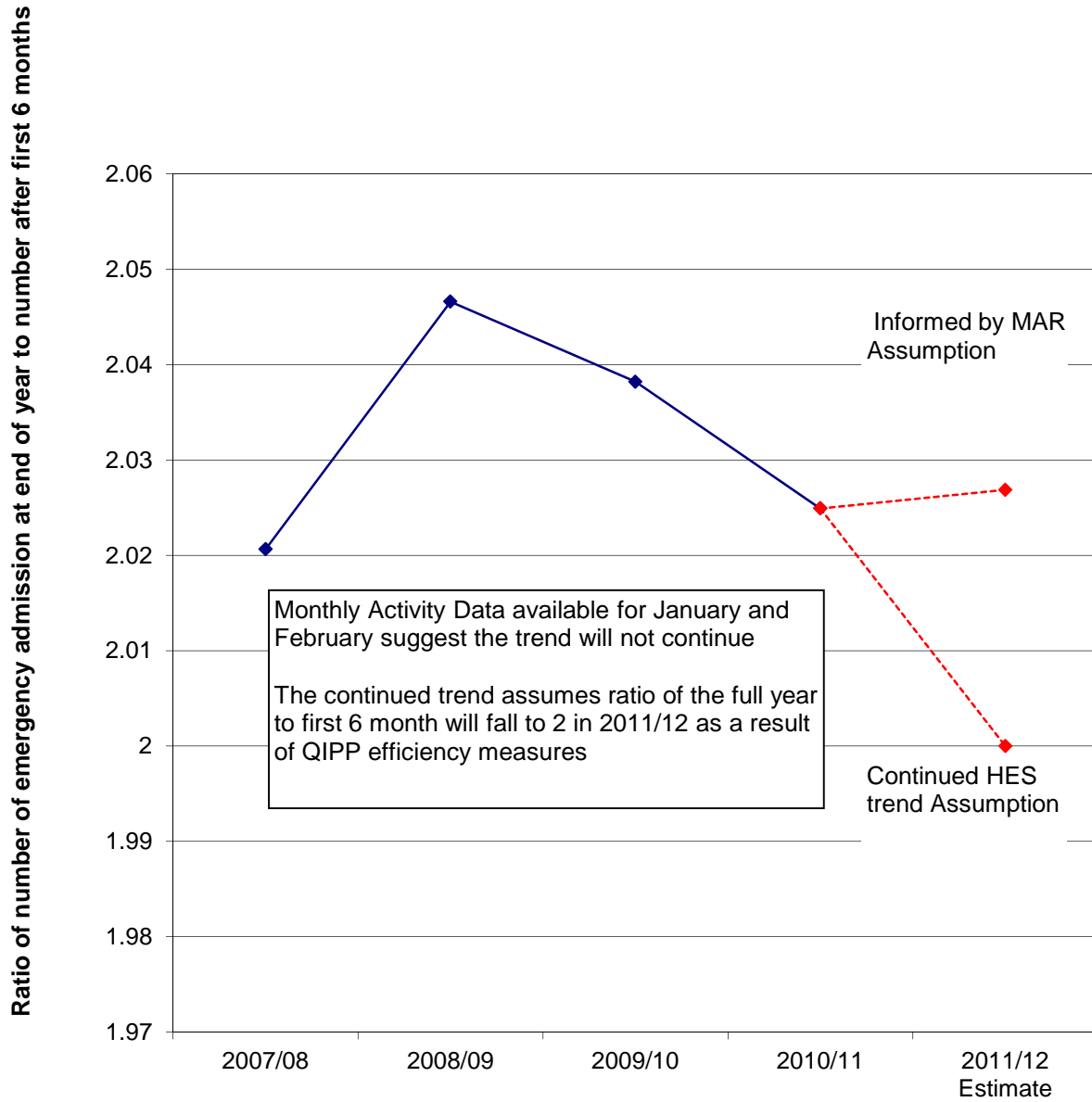
Source: Provisional monthly HES

8.27 Figure D.3.3 shows a closer view of 2011/12. It shows HES annual rates of change on a monthly basis for emergency and all admissions excluding day cases. The rate of change of emergency admissions has fallen over this year (2010/11).

8.28 Over the same period, the equivalent rates of change for length of stay are negative (see Figure D.3.3). For emergency admission they are more negative (representing a more rapid decrease) than for all admissions.

Figure D.3.3 – Year-to-date rates of change for inpatient admissions, by sector
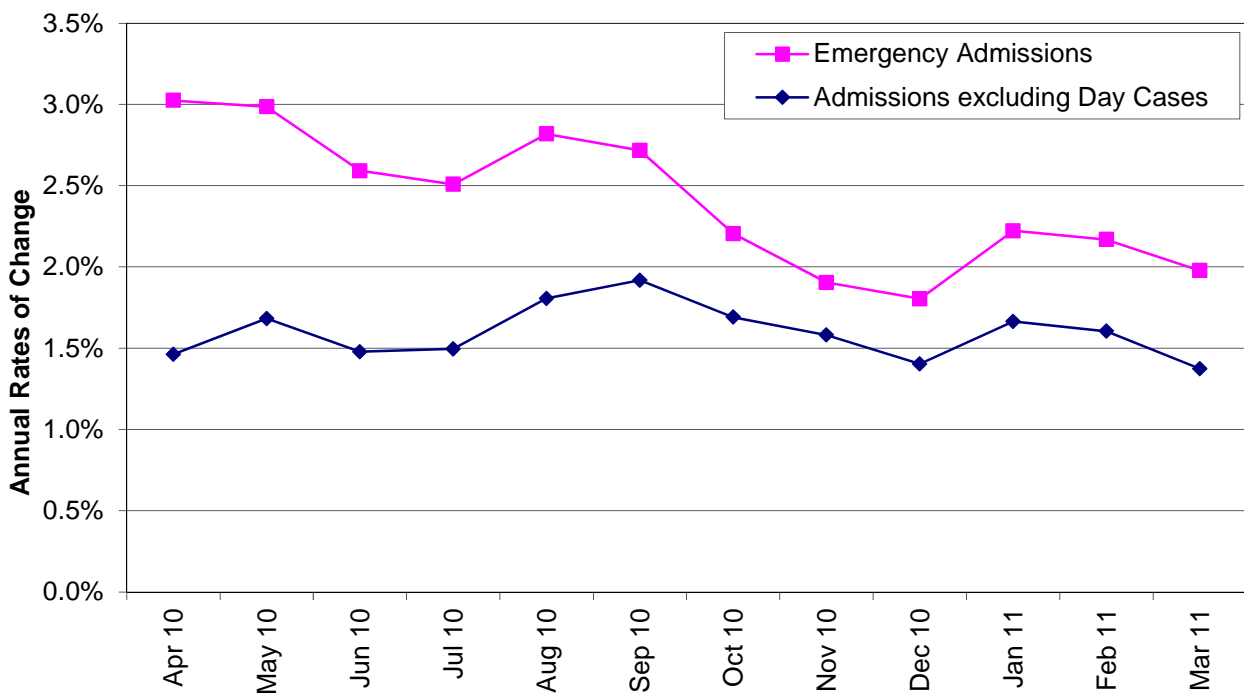
Source: HES

Figure D.3.4 – Year-to-date rates of change for mean length of stay, by sector
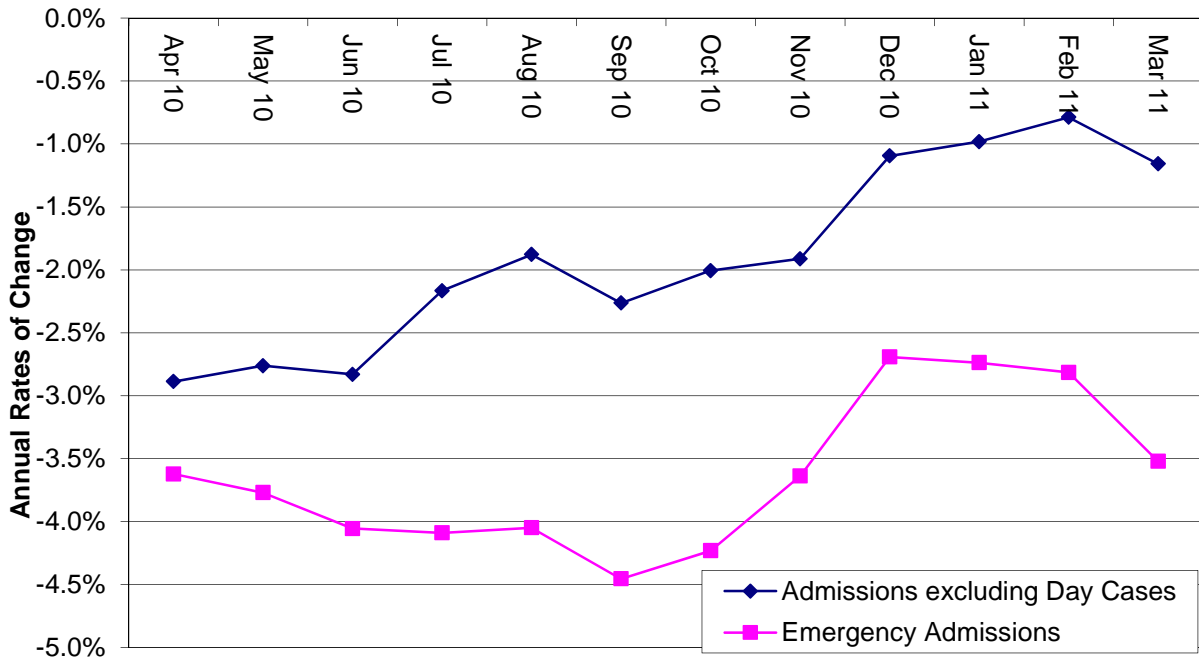
Source: HES

8.29 Figure D.3.5 shows there has been a decrease in emergency bed days for the complete year. Though for the final four months bed days for all admissions shown [small] positive rates of change.

Figure D.3.5 – Year-to-date rates of change for bed days, by sector
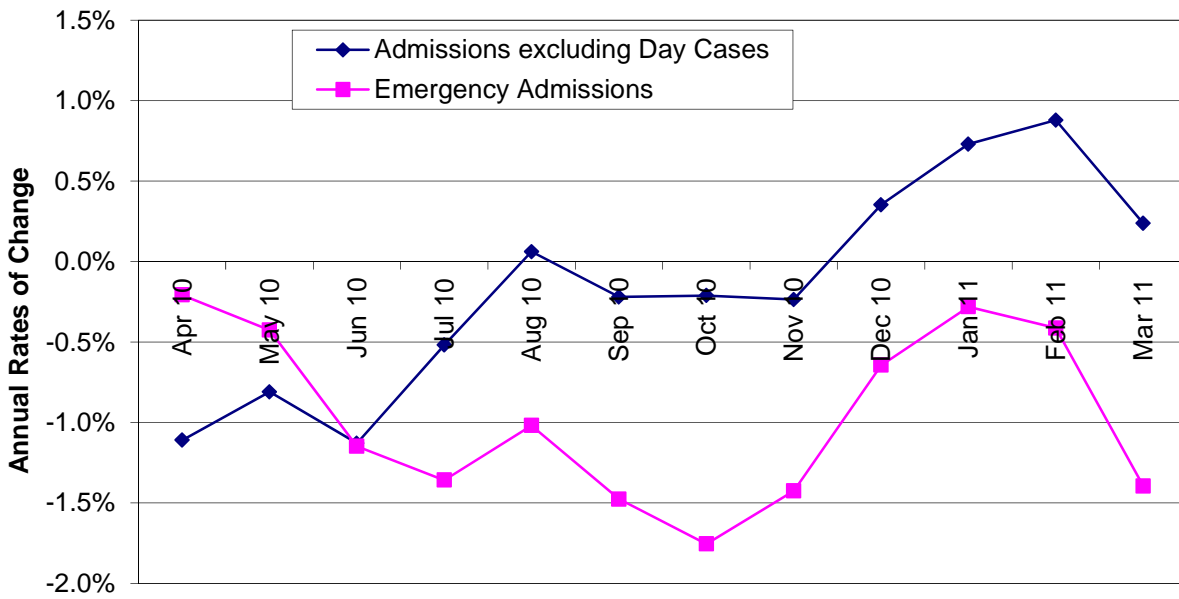
Source: HES

8.30 An NHS initiative to reduce the number of emergency by 20% by 2014/15 against a baseline assuming continued growth, equating to a 6% reduction on the number of emergency readmissions in 2008/09 by 2014/15. (see Figure D.3.6)

8.31 Figure D.3.6 also shows continued growth to 2010/11, but latest data suggest a fall of around 3% between 2010/11 and 2011/12. The estimate for 2011/12 is based upon published provisional data, which typically change by approximately 2% on revision.

Figure D.3.6 – Trends in emergency admissions QIPP baseline
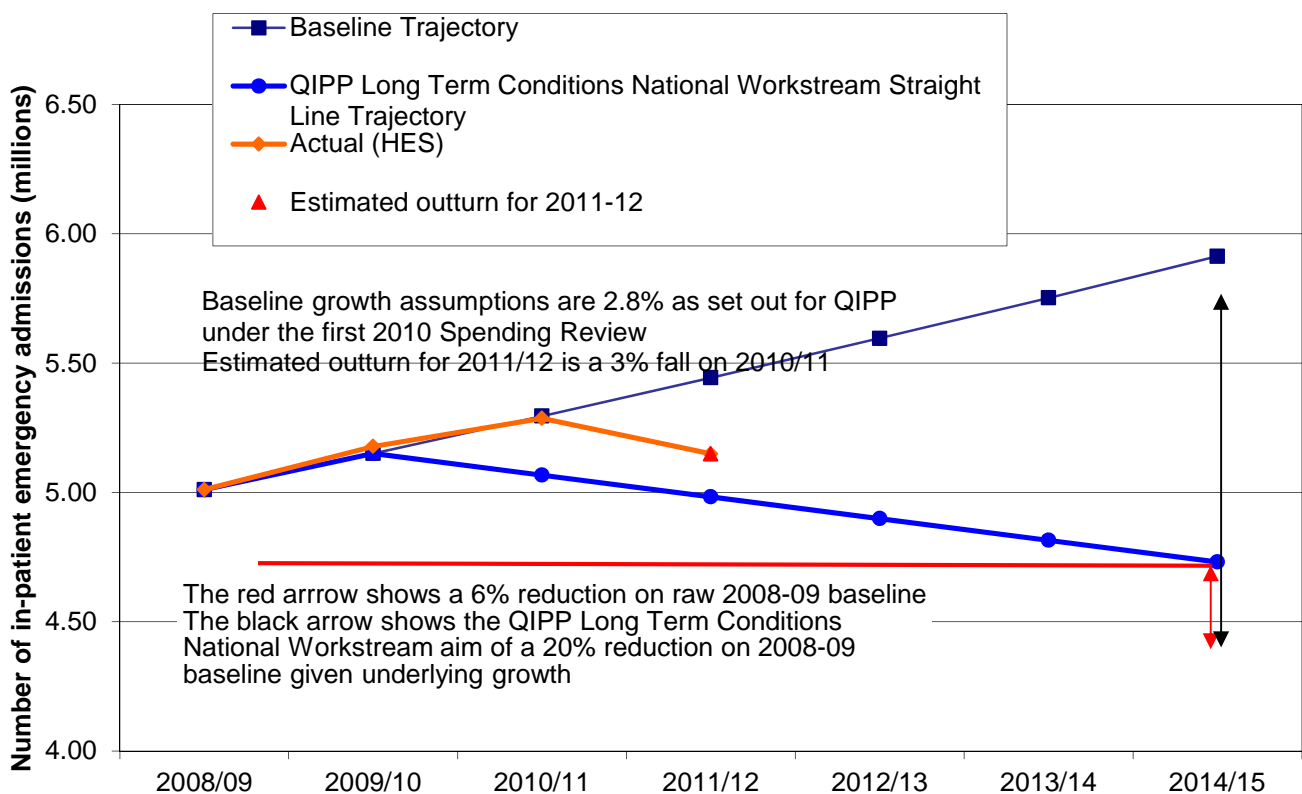
Source: HES

8.32 Figure D.3.7 shows monthly rates of change (each month compared with the same month the previous year) in numbers of emergency admissions based on latest published provisional HES data (typically accurate to within 2%). There is a downward trend in rates of change of emergency admissions with no increase for September and October 2011 compared with the same months the previous year.

Figure D.3.7 – Monthly (compared to the equivalent month in the previous year) rate of change in emergency admissions
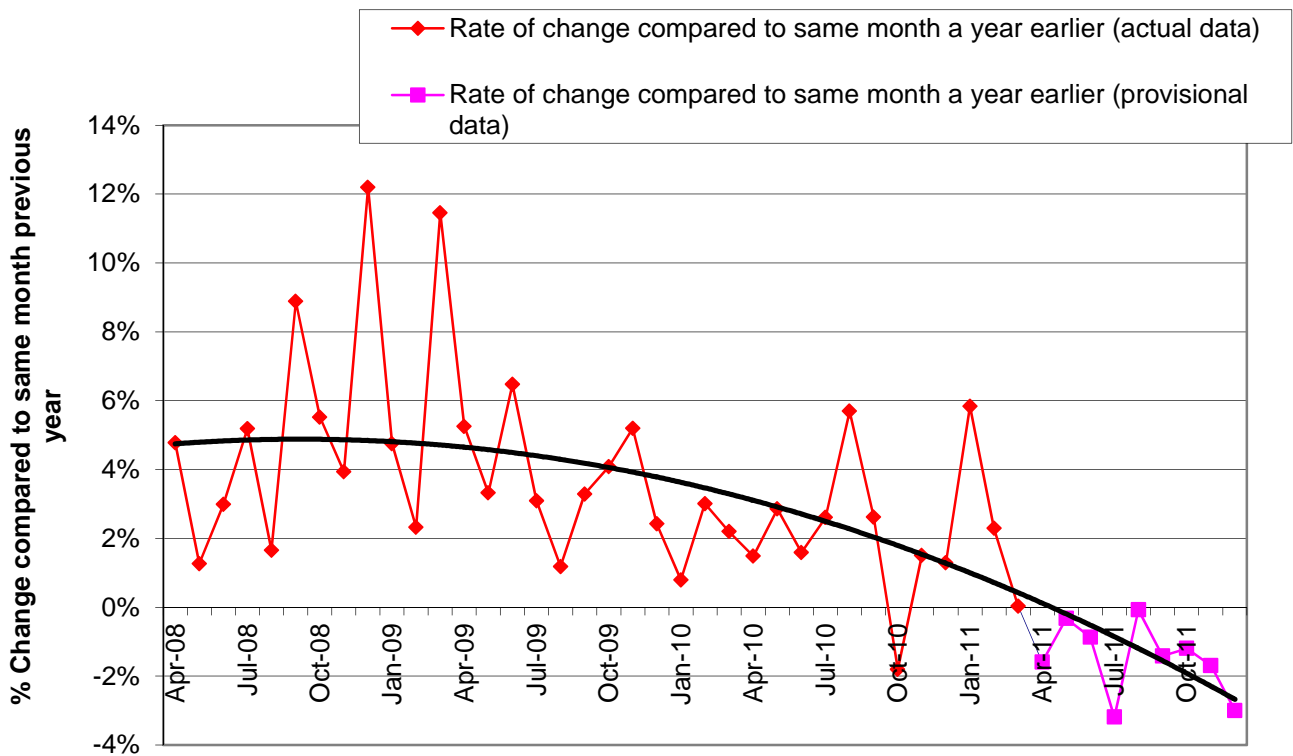
Source: HES

Indicators affected

2.3.i   Unplanned hospitalisation for chronic ambulatory care sensitive conditions (adults);

2.3.ii   Unplanned hospitalisation for asthma, diabetes and epilepsy in under 19s;

3a   Emergency admissions for acute conditions that should not usually require hospital admission;

3.b   Emergency re-admissions within 30 days

3.2   Emergency admissions for children with lower respiratory tract infections;

Key issues / questions

- By the end of 2010/11, the rate of change of emergency admissions showed only a small downward trend. Published HES monthly provision data show a stronger downward trend for 2011/12[11].

- The count of emergency admission covered episodes with an admission method indicating the admission was an emergency (admission method codes 21 to 24 and 28, (see the HES Data Dictionary for further details on these codes and descriptions of all other fields within HES)[12].

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[11] http://www.hesonline.org.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=1122 (last link on RHS of web page)

[12] http://www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=289

Fruit and vegetables consumption

This outcomes driver considers the proportion of adults consuming five or portions of fruit and vegetables per day.

Harm

8.33 The Government recommends an intake of at least five portions of fruit or vegetables per day to help reduce the risk of some cancers, heart disease and many other chronic conditions.

8.34 In Europe, the burden of disease attributable to low fruit and vegetable intake has been estimated to be between 19% and 35% for heart disease, 12% and 23% for stroke, 13% and 24% for stomach and oesophageal cancers, 8 and 16% for lung cancer, and 1 and 3% for colorectal cancer (Pomerleau et al, 2005).

8.35 Fruit and vegetables are good sources of many vitamins and minerals. In addition, fruit and vegetables contain a range of other compounds called phytochemicals, including flavonoids, glucosiniolates and phyto-oestrogens. These have a range of beneficial effects on the body. They act as antioxidants which can help prevent damage to tissues that is associated with the development of cardiovascular disease and some cancers. Furthermore, it is thought that nutrients and phytochemicals act in concert to influence the risk of certain chronic diseases.

8.36 The 5-a-day guidelines were based on the recommendation from the WHO that consuming 400g of fruit and vegetables a day can reduce risks of chronic diseases.

8.37 The Government's 5 a day programme cites the following main barriers to eating more fruit and vegetables[13] :

- Access and availability - whether people have access to good quality, affordable fruit and vegetables locally

- Attitudes and awareness - awareness of the 5 A DAY message, and people's knowledge, attitudes, motivation and skills concerning buying, preparing and eating fruit and vegetables.

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[13]

http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/Publichealth/Healthimprovement/FiveADay/FiveADaygeneralinformation/DH_4069924

National trend

8.38 Consistent data on fruit and vegetable consumption is available from 2003 to 2010, and is shown in Table D.4.1 and Figure D.4.1. Over this time period, a higher proportion of women have consistently achieved the 5-a-day recommendation than men. The proportion of people consuming 5 or more portions of fruit and vegetables per day has increased by 9% over the period. However, current rates of consumption for both males and females is currently below the 2006 peak. From 2009 to 2010, there was a rise in the proportion of males meeting the 5-a-day recommendation, but the female rate continued to decline.

Table D.4.1 – Proportion of adults consuming five or more portions of fruit and vegetables per-day

Year	Males	Females	Persons
2003	21.9	25.9	23.9
2004	23.1	26.8	25.0
2005	26.0	29.5	27.8
2006	27.8	31.5	29.7
2007	27.5	30.7	29.1
2008	25.1	29.0	27.1
2009	24.6	27.7	26.2
2010	25.3	26.8	26.0

Source: Health Survey for England (HSE)

Figure D.4.1 – Proportion of adults consuming five or more portion of fruit and vegetables per-day
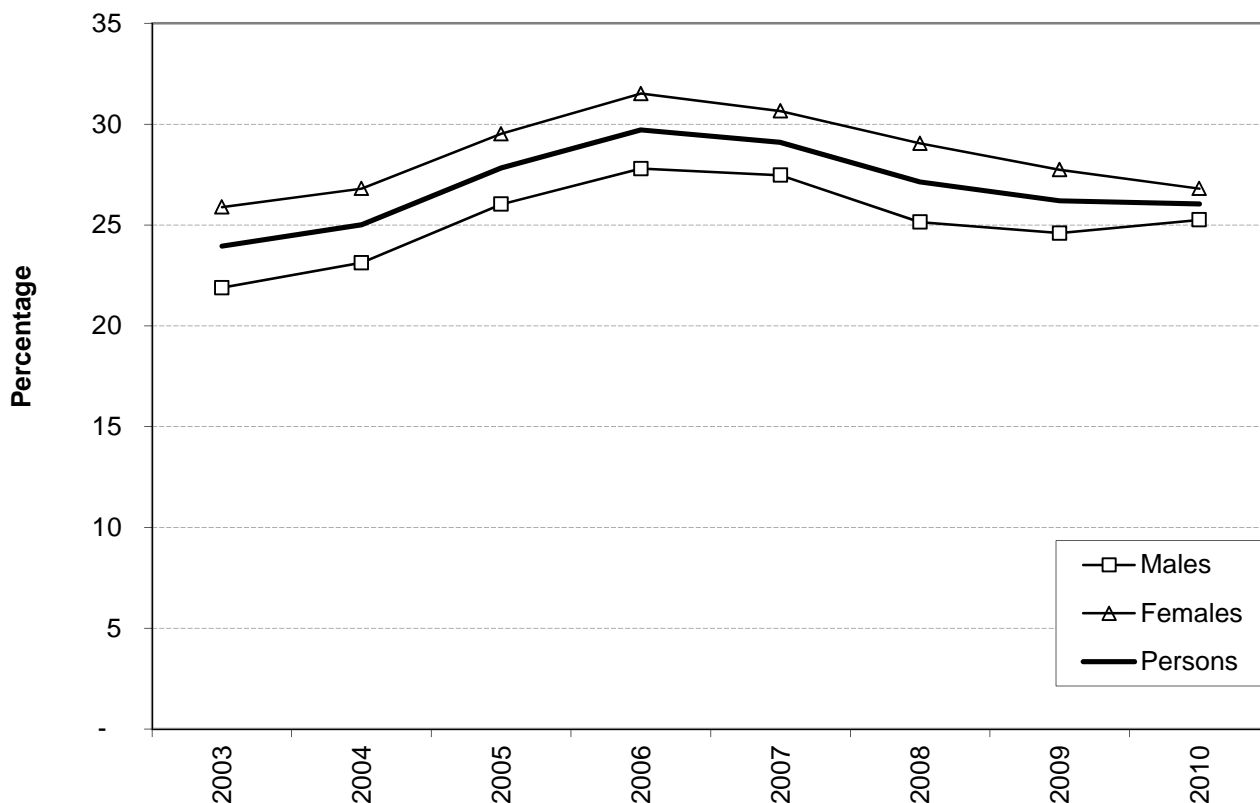
Source: Health Survey for England (HSE)

8.39 DEFRA identify that overall purchases of fruit and vegetables have been on a downward trend since 2007 (see Table D.4.2 and Figure D.4.2). Higher fruit prices have resulted in consumers buying less fruit rather than trading down. Consumers responded to higher vegetable prices by trading down in some cases, but otherwise were willing to pay more .

8.40 Between 2003 and 2010, the mean number of portions of fruit and vegetables consumed per person has increased by an average of 0.7% per annum, 3.4 to 3.6. There was a slightly larger increase for males than females (0.9% and 0.6% respectively). However, the mean portions consumed is still below the peak of 3.6 portions for men and 3.9 portions for women in 2006 and 2007.

Table D.4.2 – Mean number of portions of fruit and vegetables consumed per-day, adults

Year	Males	Females	Persons
2003	3.2	3.5	3.4
2004	3.3	3.6	3.5
2005	3.5	3.8	3.7
2006	3.6	3.9	3.8
2007	3.6	3.9	3.8
2008	3.5	3.8	3.7
2009	3.4	3.7	3.5
2010	3.4	3.7	3.6

Source: Health Survey for England (HSE)

Figure D.4.2 – Mean number of portions of fruit and vegetables consumed per-day, adults
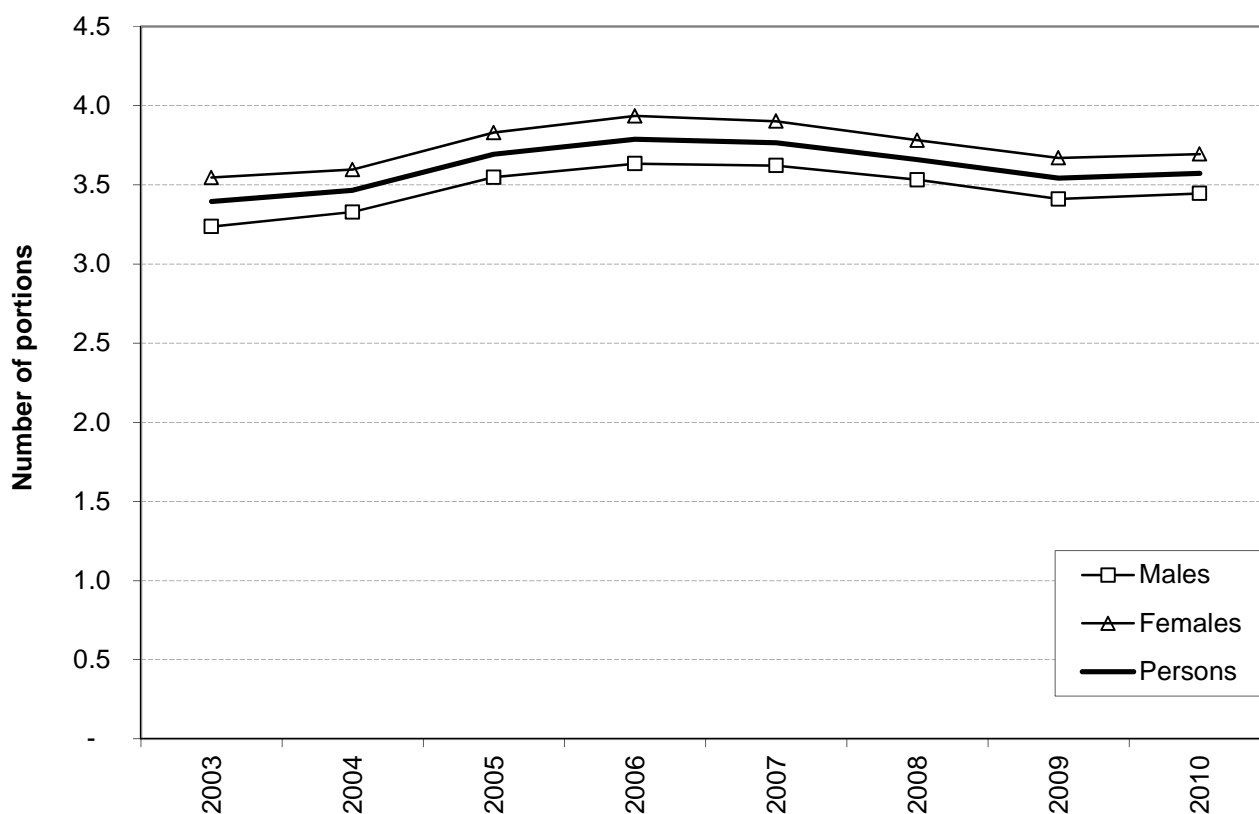
Source: Health Survey for England (HSE)

Indicators affected

1a   Mortality from causes considered amenable to healthcare;

1b.i   Life expectancy at 75 (males);

1b.ii   Life expectancy at 75 (females);

1.1   Under 75 mortality rate from cardiovascular disease;

1.4.vii Under 75 mortality rate from cancer.

Hypertension

This outcomes driver considers a systolic blood pressure at or above 140mmHg or diastolic blood pressure at or above 90mmHg or being on medication for high blood pressure

Harm

8.41 Hypertension is an important public health challenge worldwide because of its high prevalence and the associated increase in risk of disease. It is the most important modifiable risk factor for cardiovascular, cerebrovascular and renal disease, and one of the most preventable and treatable causes of premature deaths worldwide[14].

Prevalence

8.42 The prevalence of hypertension in 2010 was at 31.5% amongst men and 29.0% amongst women, remaining at a similar level over the last few years. It should be noted that these figures are not age-standardised. Given the ageing of the population, the fact that the proportion of people with hypertension has not changed over this period should be interpreted as a modest improvement.

Figure D.5.1 – Prevalence of hypertension
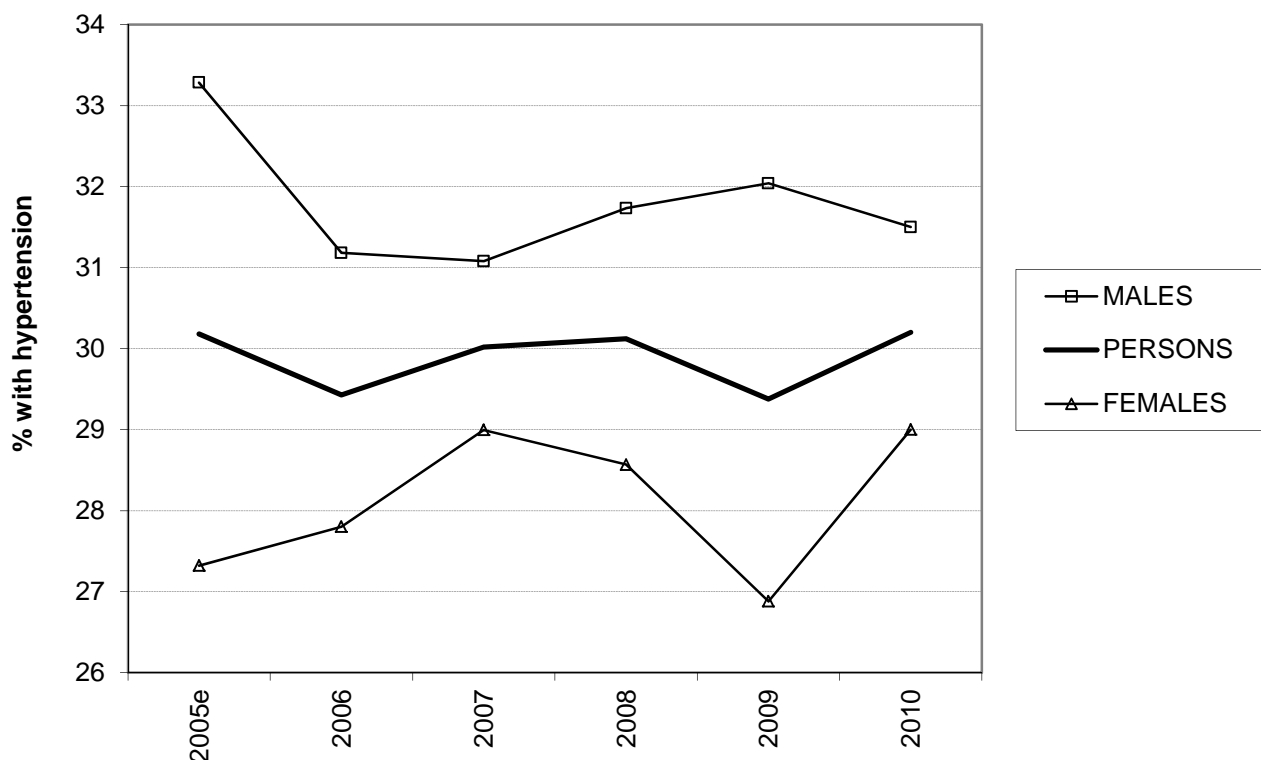
Source: NHS information Centre (Health Survey for England)

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[14] Health Survey for England. Trend Tables 2010, NHS Information Centre.

Indicators affected

1a   Mortality from causes considered amenable to healthcare;

1b.i   Life expectancy at 75 (males);

1b.ii   Life expectancy at 75 (females);

1.1   Under 75 mortality rate from cardiovascular disease;

1.3   Under 75 mortality rate from liver disease;

1.4.iv   Five-year survival for breast cancer;

1.5   Under 75 mortality rate in people with serious mental illness (to be developed);

2   Health related quality of life for people with long-term conditions;

2.1   Proportion of people feeling supported to manage their condition;

2.2   Employment of people with long-term conditions;

2.3.i   Unplanned hospitalisation for chronic ambulatory care sensitive;

2.4   Health-related quality of life for carers;

3a   Emergency admissions for acute conditions that should not usually require hospital admission;

3b   Emergency readmissions within 28 days of discharge from hospital.

Obesity

This outcomes driver considers a Body Mass Index (BMI) (kg/m2) of 30 or more.

Harm

8.43 Obesity (or being overweight) occurs when energy intakes exceed energy expenditure through metabolism and daily physical activity. Obesity represents a significant public health problem because it is a major risk factor for disease and mortality. A number of studies have established that overweight and obesity are associated with cardiovascular risk and cardiovascular-related mortality. Obesity is also associated with cancer, disability during older age and decreased life expectancy, as well as serious chronic conditions such as Type 2 diabetes, hypertension and hyperlipidaemia (high levels of fat in the blood that can lead to narrowing and blockages in blood vessels)[15].

Prevalence

8.44 Figure D.6.1 shows the prevalence of obesity trend. In 2010, the rate of obesity in England was 26.1%. Between the years 1993 and 2010, there was a marked increase in the proportion of the population that was obese. For men there was an increase from 13% in 1993 to 26% in 2010 and for women from 16% in 1993 to 26% in 2010. The rate of increase in obesity prevalence has been slower in the second half of the period than the first half, and there are indications that the trend may be flattening out, at least temporarily. However, obesity in men and women in 2010 was at its highest level since 1993, and in men the 2010 level was also significantly higher than in the period between 2000 and 2005. 2011 data from the HSE 2011 should help determine whether this spike is temporary or not.

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[15] Health Survey for England. Trend Tables 2010, NHS Information Centre.

Figure D.6.1 – Prevalence of obesity
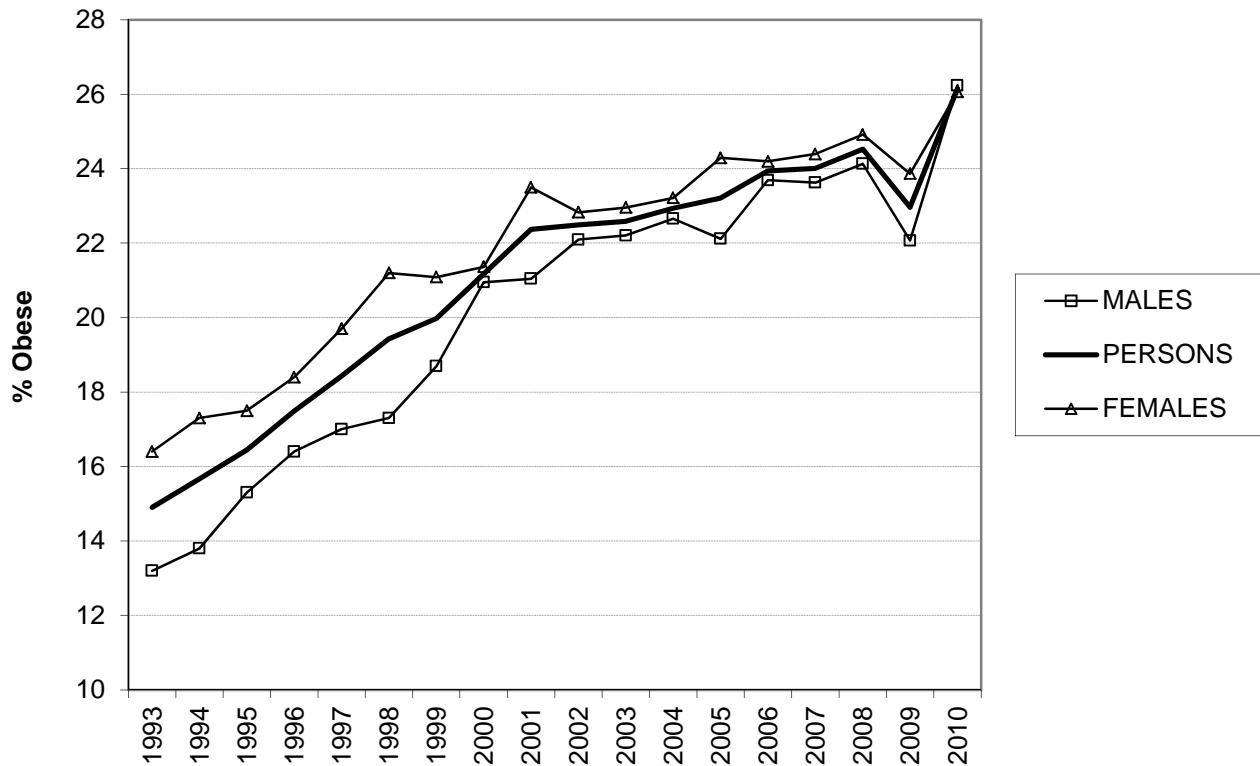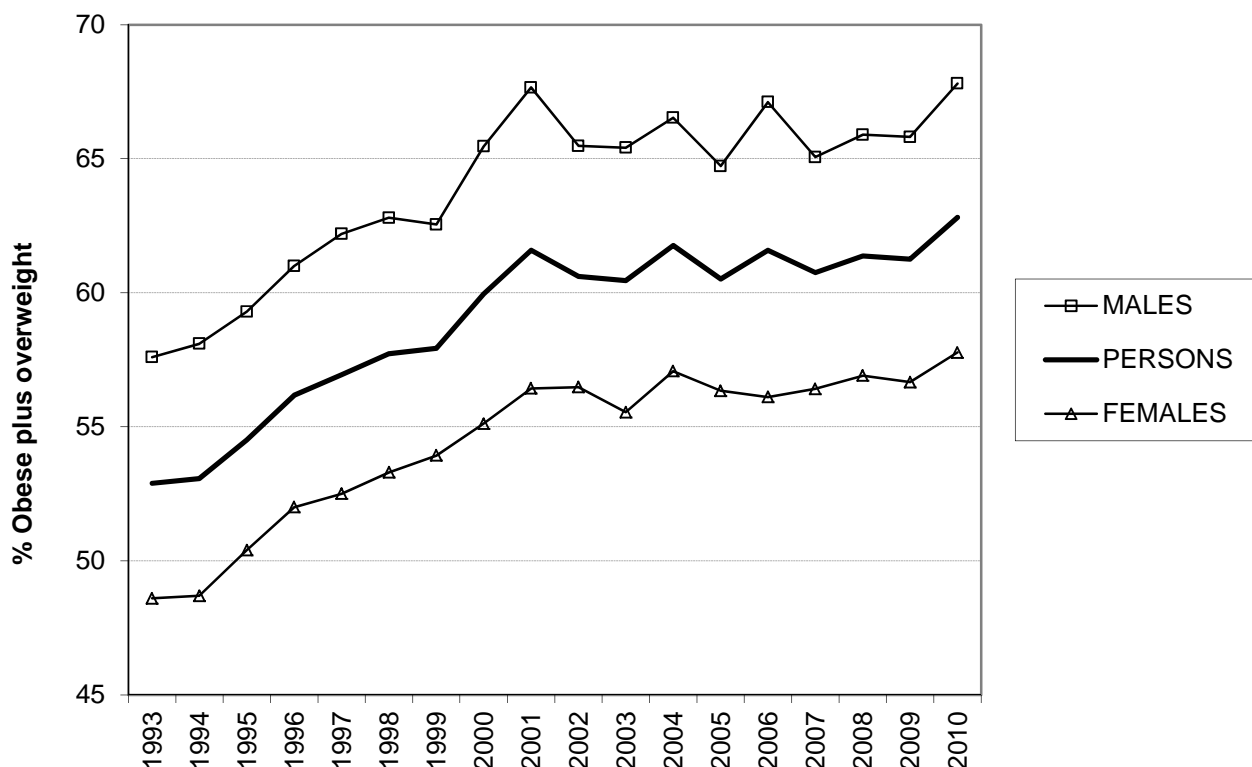

Source: NHS information Centre

8.45 For context, Figure D.6.2 shows the percentage of the population that is overweight, including those who are obese. The proportion stands at 62.8% in 2010. The trend is rising although more slowly than that for the obese. There is also a clear difference with the proportion of those overweight being higher for men than women throughout the period.

Figure D.6.2 – Prevalence of obese plus overweight individuals

Source: NHS information Centre (Health Survey for England)

Indicators affected

1a   Mortality from causes considered amenable to healthcare;

1b.i   Life expectancy at 75 (males);

1b.ii   Life expectancy at 75 (females);

1.1   Under 75 mortality rate from cardiovascular disease;

1.3   Under 75 mortality rate from liver disease;

1.4.i,ii   One- and five-year survival from colorectal cancer;

1.4.iii,iv One- and five-year survival from breast cancer;

1.5   Under 75 mortality rate in people with serious mental illness (to be developed);

1.6.i   Infant mortality;

1.6.ii   Neonatal mortality and stillbirths;

2   Health related quality of life for people with long-term conditions;

2.2   Employment of people with long-term conditions;

2.3.i   Unplanned hospitalisation for chronic ambulatory care sensitive;

2.3.ii   Unplanned hospitalisation for asthma, diabetes and epilepsy in under 19s;

3a   Emergency admissions for acute conditions that should not usually require hospital admission;

3.1   Patient reported outcome measures (PROMs) for elective procedures;

3.3   An indicator on recovery from injuries and trauma (to be developed);

3.4   An indicator on recovery from stroke (to be developed);

3.5.i   The proportion of patients with fragility fractures recovering to their previous levels of mobility / walking ability at 30 days;

3.5.ii   The proportion of patients with fragility fractures recovering to their previous levels of mobility / walking ability at 120 days;

3.6   Proportion of older people (65 and over) who were still at home 91 days after discharge from hospital into rehabilitation services;

5b   Severity of harm;

5.1   Incidence of hospital-related venous thromboembolism (VTE);

5.3   Incidence of newly-acquired category 3 and 4 pressure ulcers;

5.5   Admission of full-term babies to neonatal care.

Tobacco use

This outcomes driver considers the prevalence of cigarette smoking among adults.

Harm

8.46 Smoking causes a number of health harms both to the smoker and those around them.

8.47 For example, research suggests a male smoker is 23 times as likely to suffer from throat or lung cancer compared to someone who has never smoked, and 17 times as likely to suffer from bronchitis or emphysema[16].

8.48 An estimated 18% of all deaths (81,700) among adults aged 35 and over in England during 2010 can be attributed to smoking[17]. Among these, cancers (37,500 deaths), respiratory (22,300 deaths) and circulatory diseases (20,600) caused the majority of deaths. In addition, nearly half a million (461,700) admissions to hospital are estimated to be attributable to smoking. A larger proportion of men than women died from smoking-related diseases, reflecting the higher rates of smoking by men in the past.

8.49 In addition, over 12,000 deaths among people over 20 years of age each year are estimated to be attributable to exposure to second-hand smoke[18].

8.50 Children from less affluent backgrounds suffer greater levels of exposure to second-hand smoke when growing up. Infants of parents who smoke are more likely to suffer from serious respiratory infections (such as bronchitis and pneumonia), symptoms of asthma and problems of the ear, nose and throat (including glue ear). Exposure to smoke in the womb is also associated with psychological problems in childhood[19]. Among children in the UK each year, exposure to second-hand smoke causes over 20,000 cases of lower respiratory tract infection in children under 3 years, 120,000 cases of middle ear disease and at least 22,000 new cases of wheeze and asthma[20].

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[16] Statistics on smoking: England, 2011. NHS Information Centre (2011)
[17] Statistics on smoking: England, 2011. NHS Information Centre (2011)
[18] Royal College of Physicians (2005). *Going smoke-free: the medical case for clean air in the home, at work and in public places: A report on passive smoking by the Tobacco Advisory Group of the Royal College of Physicians.* Royal College of Physicians, London.
[19] National Institute for Health and Clinical Excellence (2010). *Quitting smoking in pregnancy and following childbirth: Guidance.* NICE, London.
[20] Royal College of Physicians (2010). *Passive Smoking and Children.* Royal College of Physicians, London.
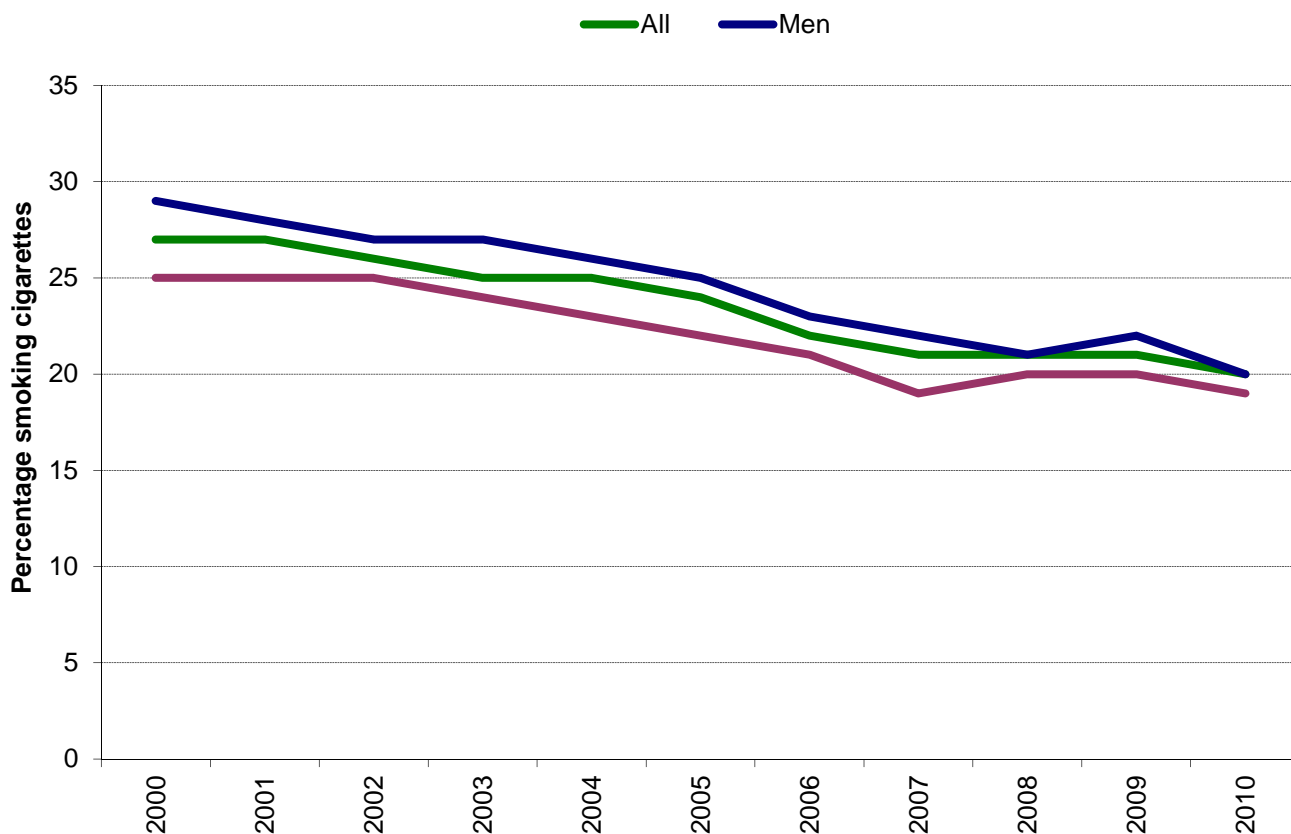
Prevalence

Prevalence by age and sex

8.51 The long-term trend in the prevalence of people smoking cigarettes is downward. The percentage of adults smoking cigarettes has declined from 27% in 2000 to 20% 2010, a 7 percentage point reduction.

8.52 The prevalence of smokers remains slightly higher in men than women (20% compared to 19%), but this difference has narrowed from a 4 percentage point gap in 2000 (29% and 25% for males and females respectively).

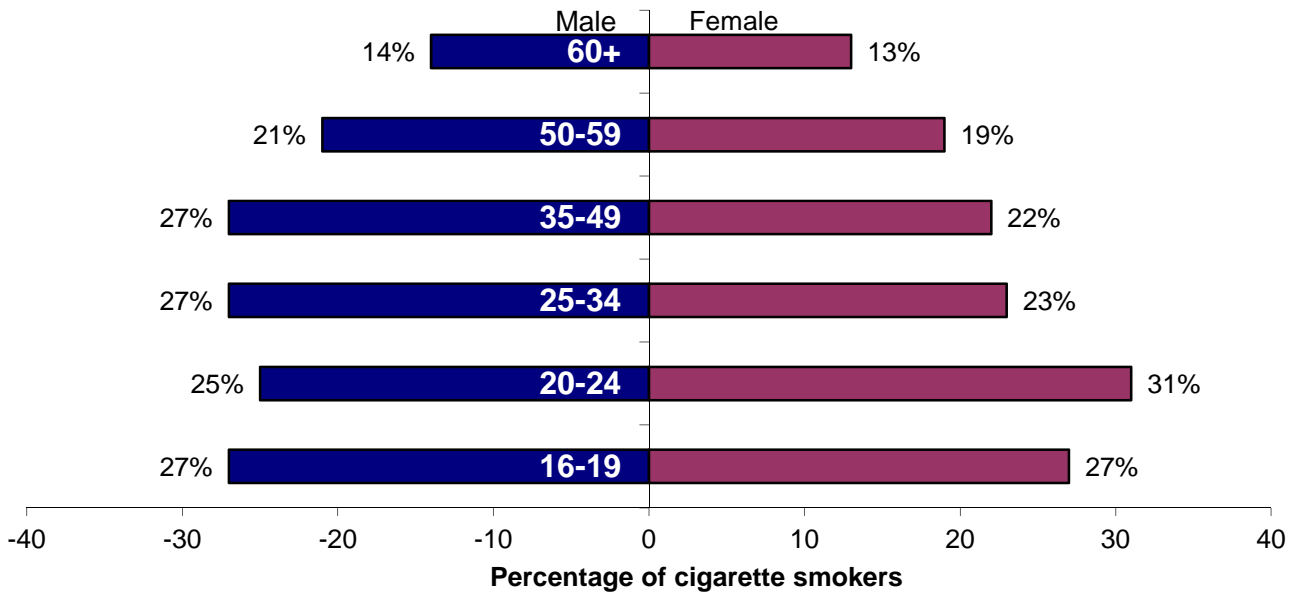**Figure D.7.1 - Prevalence of cigarette smoking by sex, England**

Source: ONS, General Lifestyle Survey

8.53 For the adult population as a whole, cigarette smoking is most prevalent among 20-24 year olds (28%). However, for males cigarette smoking is most common in slightly older age groups (25-34 and 35-49).

**Figure D.7.2 - Prevalence of cigarette smoking by age and gender, England 2009**

Source: ONS, General Lifestyle Survey

Prevalence by socioeconomic status

8.54 Smokers in routine and manual work have the highest average consumption of cigarettes, smoking an average of 14 cigarettes per day in 2009.

Figure D.7.3 - Average daily cigarette consumption by current smokers, by socio-economic classification, England 2009
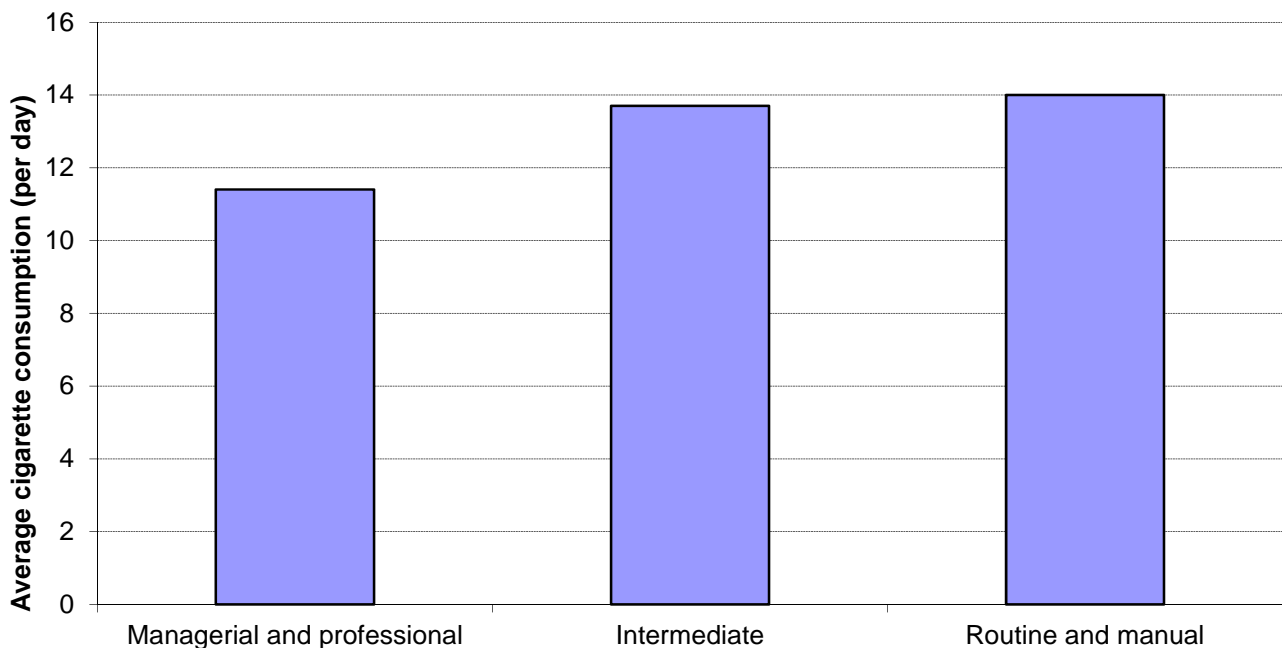
Source: ONS, General Lifestyle Survey

8.55 The long-term trend in the number of children (11-15) who have never smoked is also increasing. In 2010, 73% of 11-15 year olds asked reported having never smoked, this is a 18 percentage point increase on 2000. The rate is slightly higher for boys (75%) than girls (72%).

8.56 As well as the increase in the number of child never smokers, there has been a 50% reduction in the number of children responding that they regularly (at least once a week) smoke between 2000 and 2010. The rate in 2010 was 5%, with boys being less likely than girls to smoke regularly (4% compared to 6%).

Prevalence by region

8.57 There is significant variation in smoking prevalence by region. Tables D.7.1 – D.7.2 show a time-series of smoking prevalence by region, for persons, males and females respectively.

Table D.7.1 – Smoking prevalence, by Government Office Region – persons

Government Office Region	Year											
	1998	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
North East	29	27	29	27	28	29	29	25	22	21	22	21
North West	31	30	29	28	30	28	24	25	23	23	23	22
Yorkshire and the Humber	29	28	29	27	25	28	25	23	22	25	22	23
East Midlands	27	25	28	24	27	27	25	20	19	20	19	16
West Midlands	29	26	24	23	25	23	22	22	23	20	22	21
East of England	25	25	26	25	25	24	23	19	18	19	19	19
London	31	27	27	24	24	22	22	21	19	19	22	17
South East	24	25	24	26	24	22	22	20	19	20	19	19
South West	25	27	24	25	24	23	25	23	21	21	18	17
ENGLAND	28	27	27	26	25	25	24	22	21	21	21	20

Source: ONS, General Lifestyle Survey

Table D.7.2 – Smoking prevalence, by Government Office Region – males

Government Office Region	Year											
	1998	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
North East	28	27	33	24	30	28	28	25	21	17	20	17
North West	29	29	28	28	30	27	26	26	25	25	24	23
Yorkshire and the Humber	30	29	30	27	25	30	27	24	21	24	23	24
East Midlands	27	27	28	24	31	27	25	21	22	20	19	15
West Midlands	32	27	27	25	26	26	23	25	25	21	22	21
East of England	26	27	27	25	28	26	25	22	20	20	20	20
London	34	31	29	29	28	26	25	24	22	21	26	19
South East	28	28	26	27	25	25	24	21	21	21	21	21
South West	26	30	27	27	26	25	26	22	21	21	19	18
ENGLAND	29	29	28	27	27	26	25	23	22	21	22	20

Source: ONS, General Lifestyle Survey

Table D.7.3 – Smoking prevalence, by Government Office Region – females

Government Office Region	Year											
	1998	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
North East	30	28	26	29	27	30	30	25	22	23	23	25
North West	32	30	29	28	30	28	23	23	22	22	22	22
Yorkshire and the Humber	28	26	28	27	24	26	23	23	23	25	22	22
East Midlands	26	24	27	24	24	28	25	19	17	19	18	17
West Midlands	26	24	22	21	24	21	21	19	21	19	21	21
East of England	24	23	25	25	22	23	21	17	16	18	18	17
London	27	24	26	21	20	19	20	19	17	18	19	16
South East	21	23	23	25	22	20	21	19	17	18	18	18
South West	25	24	22	24	22	21	25	23	20	22	17	17
ENGLAND	26	25	25	25	24	23	22	21	19	20	20	19

Source: ONS, General Lifestyle Survey

Prevalence in children

8.58 Figure D.7.4 shows the smoking behaviour of 11-15 year olds. It shows that the percentage of this age group who have never smoked is increasing (for both males and females), and also that the percentage of this age group who are regular smokers is decreasing.

Figure D.7.4 - Smoking behaviour of 11-15 year olds, England
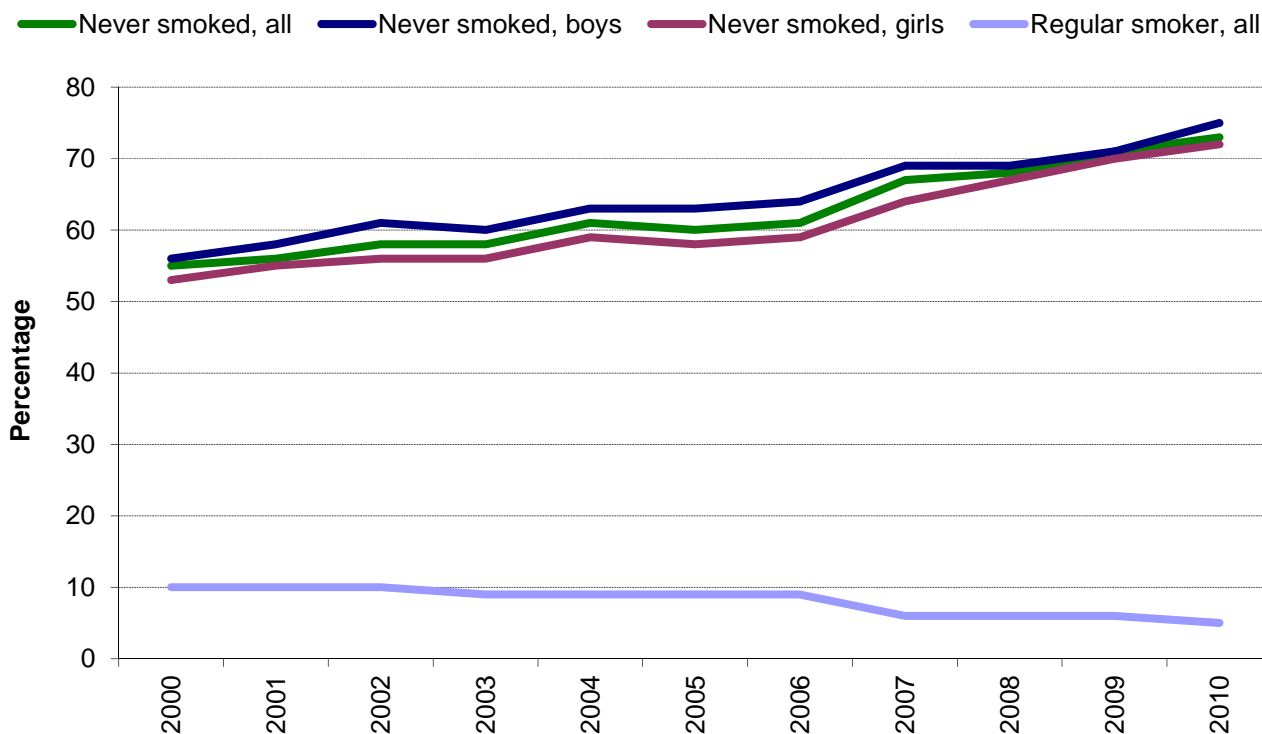
Source: IC, Survey of Smoking, Drinking and Drug Use Among Young People

Indicators affected

1a   Mortality from causes considered amenable to healthcare;

1b.i   Life expectancy at 75 (males);

1b.ii   Life expectancy at 75 (females);

1.1   Under 75 mortality rate from cardiovascular disease;

1.2   Under 75 mortality rate from respiratory disease;

1.4.iv Five-year survival for breast cancer;

1.5   Under 75 mortality rate in people with serious mental illness (to be developed);

1.6.i   Infant mortality;

1.6.ii   Perinatal mortality (including stillbirths);

2.3.i   Unplanned hospitalisation for chronic ambulatory care sensitive conditions (adults);

2.3.ii   Unplanned hospitalisation for asthma, diabetes and epilepsy in under 19s;

3a   Emergency admissions for acute conditions that should not usually require hospital admission;

3b   Emergency readmissions within 28 days of discharge from hospital;

3.1   Patient reported outcome measures (PROMs) for elective procedures;

3.2   Emergency admissions for children with lower respiratory tract infections;

3.3   An indicator on recovery from injuries due to trauma (to be developed);

3.4   An indicator on recovery from stroke (to be developed);

3.5.i   The proportion of patients with fragility hip fractures recovering to their previous levels of mobility/walking ability at 30 days;

3.5.ii   The proportion of patients with fragility fractures recovering to their previous levels of mobility/walking ability within 120 days;

3.6   Proportion of older people (65 and over) who were still at home 91 days after discharge from hospital into rehabilitation services.

Key issues/questions

- There will be lag effects from changes in tobacco use and changes in the indicators;

- Cohort effects are likely to be significant, and different depending on the indicator in question.