Setting Levels of Ambition for the NHS Outcomes Framework

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

Chapter 4: Enhancing quality of life for people with long- term conditions

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Chapter 4: Domain 2 - Enhancing quality of life for people with long-term conditions

Introduction

4.1 This chapter sets out our proposals for calculating a level of ambition for domain 2: enhancing quality of life for people with long-term conditions. The proposed methodology is summarised in the executive summary and explained in detail in chapter 2.

4.2 In this chapter, we review available data for each indicator. A ‘notes’ section highlights some aspects which may merit further consideration. The chapter illustrates a range of factors that may affect outcomes (we use the term ‘drivers’ to describe these). 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.

4.3 We produce ‘current practice projections’ where data are available. The purpose of these projections is explained in the executive summary and in Chapter 2. They are not forecasts of performance – rather they represent benchmarks for assessing the likely NHS contribution to improving outcomes. After producing a projection, we then consider what scope there is for the NHS to improve outcomes measured by individual indicators within available resources.

4.4 Finally, sections 3 a and b provide examples of how these areas of possible improvement could be aggregated and used to inform a level of ambition that is set for each domain. It is important to note that this section is a partial assessment at this stage. It illustrates how we might set levels of ambition. We intend to quantify what might be possible to achieve at a national level. It would then be for the NHS Commissioning Board to decide how to meet that level of ambition.

4.5 Our partial assessment is based on building up a picture of what might be possible based on considering individual indicators. Our aim is to have a level of ambition that represents the goal of the domain as a whole – therefore we are clear that we may need to make some additional broader assumptions.

4.6 As indicated earlier in the document, this material is an analytical work in progress. It is being published in the interests of transparency, to outline our proposals, and invite comments. Levels of ambition will be included in the final mandate.

(1) Domain 2 overview and metric of improvement

4.7 Domain 2, Enhancing quality of life for people with long-term conditions, comprises: one overarching indicator, “2. Health related quality of life for people with long term conditions”, and six improvement areas.

4.8 The improvement areas are of two sorts:

- Sub-indicators. The first three improvement areas, (2.1 Proportion of people feeling supported to manage their condition, 2.2 Employment of people with long term conditions, 2.3 Unplanned hospitalisation for (i) chronic ambulatory care sensitive conditions (adults) and for (ii) asthma, diabetes and epilepsy in under 19s), relate to particular aspects of outcome for those suffering from long term conditions. Progress in these indicators therefore provides a useful initial analysis of what accounts for progress in the overarching indicator. However, 2.3.ii also includes children under the age of 18 whose quality of life will therefore not be captured under indicator 2 (which is based upon a survey of adults). 2.5 Employment of people with mental illness is included indicator in 2.2. It is nonetheless monitored separately as poor outcomes for this group may reflect inequity.

- Complementary Indicators. As mentioned 2.3ii Unplanned hospitalisation for asthma, diabetes and epilepsy in under 19s), captures outcomes for children only some of whom are included in the overarching indicator. Further, 2.4 Health related quality of life for carers is not included in the overarching indicator (except to the extent that carers themselves suffer from Long Term Conditions). Yet, the health of all carers is greatly influenced by the extent and sensitivity of NHS and social care. Quality of life for those with dementia (place maker indicator 2.6) is unlikely to be properly represented in the overarching indicator given the nature of the condition.

4.9 Together, the overarching indicator and the complementary improvement indicators provide a picture of the NHS’s contribution to improving the quality of life for those affected by long-term conditions. Thus, to construct a domain level metric of progress, we require a single concept that captures change in the four indicators:

- 2, Health related quality of life for those with Long Term Conditions
- 2.3.ii Unplanned hospitalisation for asthma, diabetes and epilepsy in under 19s),
- 2.4, Health related quality of life for carers
- 2.6, Health related quality of life for those with dementia

4.10 Each of indicators 2, 2.3.ii, 2.4 and 2.6 reflect changes in quality of life of persons affected by long term conditions (although in the case of 2.3.ii some assumptions are required to derive an estimate of implication for HRQoL of changes in emergency admissions). On a principle of equality, it is appropriate to give equal weight to benefits of each group (whilst avoiding double counting for example of carers with LTCs). Hence, an aggregated metric of outcome can be constructed by using a base weighted average of the health related quality of life respectively of those suffering from long term conditions, including those with dementia, and of their carers. The basis for the estimate of dementia quality of life has yet to be determined.

4.11 So the Domain Outcome Level metric in Domain 2 would be:

- Average health related quality of life for those affected by long-term conditions

4.12 However, in considering a change in HRQoL for a group of those affected by LTCs from one year to another, it is important to take account of expected duration of benefit. A change in NHS practice that results in a palliation of symptoms for a LTC sufferer may last only as long as continued NHS support is provided, whereas an intervention that slows the progression of a condition may have an enduring benefit to the LTC sufferer without the need for repeated NHS intervention. Assessment of the NHS contribution in this Domain should give more weight to interventions of the latter kind. This reflects the fact that the benefit would be more enduring and more good would be done, so, to that extent, more weight should be attributed to that outcome.

4.13 This suggests that the metric of incremental NHS contributions metric of incremental gain in Domain 2 should integrate improvement of health related quality of life over the duration of impact. Hence the metric of the NHS’ incremental contribution to Domain 2 should be:

- Improvement in EQ5D-assessed QoL, times duration of impact, measured in QALYs aggregated over all those affected by LTCs

4.14 (Calculation of benefits arising from treatment which lead to gains from fewer unnecessary hospitalisations can also be measured using this metric, as will be explained below.)

(2) Domain 2 Indicator Trends, Explanations, Projections and Scope for Improvement

4.15 This section sets out for each indicator or set of indicators:

a) Recent Trends and Explanations

b) Current Practice Projections

c) Scope for Improvement by Indicator

4.16 The analysis is predicated upon consideration of the influence of drivers of outcome. On the basis of our understanding of the relative contribution of different factors to these outcomes, current-practice projections for each indicator can be made on the assumption that the quality of the NHS contribution to outcomes is maintained at the same level as in the base-year, 2012-13 (see discussion in Chapter 2, section ii).

Outcome sought	***Improved health-related quality of life for people with long-term conditions.***
Indicator definition	Average *health status score for individuals aged 18 and over reporting that they have a long-term condition.*

(a) Indicator 2: Recent Trends and Explanations

4.17 Health related quality of life for people with long-term conditions is defined as the average EQ5D score, reported by people with long-term conditions, from the GP Patient Survey (GPPS). The score represents a synthetic measure of quality of life obtained through case-mix association. Each participant in the survey gave a score to 5 dimensions of interest (mobility, self-care, usual activities, pain/discomfort, and anxiety/depression). Each possible combination of scores represents a distinct case-mix which has been subsequently attributed a case-mix-specific adjusted weight to better represent the population. Finally, a weighted average yields the final score.

4.18 There are no recent trends from the GPPS to report for health related quality of life for people with long-term conditions as the only data available is 2011/12 wave-one data from the GPPS. The average aggregate EQ5D score from this partial dataset is 0.66. The following sections analyse a selection of breakdowns for this score.

Breakdown by condition

4.19 Table 2.a displays the average weighted score of the respondents by specific long-term condition. The lowest scores emerge from those who have reported long-term neurological problems, Alzheimer’s disease or dementia and, in general, who have reported long-term mental health problems. The highest scores were recorded for those with Asthma or long-term chest problems, with high blood pressure, and those who have reported cancer in the last 5 years.

Table 2.a – Health related quality of life for people with LTCs, by condition

Long-term condition	Average (weighted) EQ5D
Alzheimer’s disease or dementia	0.39
Angina or long-term heart problem	0.56
Arthritis or long-term joint problem	0.47
Asthma or long-term chest problem	0.68
Blindness or severe visual impairment	0.44
Cancer in the last 5 years	0.64
Deafness or severe hearing impairment	0.55
Diabetes	0.61
Epilepsy	0.58
High blood pressure	0.66
Kidney or liver disease	0.52
Learning difficulty	0.49
Long-term back problem	0.48
Long-term mental health problem	0.44
Long-term neurological problem	0.39
Another long-term condition	0.63

Source: GPPS

4.20 Table 2.b displays the breakdown of the EQ5D score into the relevant dimensions for each long-term condition. Unlike the EQ5D, the score for each dimension is a simple weighted average of the rating given by respondents where 1= No problem, 2= Some problems and 3= Severe problems. The scores are reported for a sub-sample of the respondents, i.e. those who completed Q34 entirely and correctly, to allow for easier comparisons between conditions’ performance. This does not allow for direct comparison with the EQ5D displayed in other parts of the section.

Table 2.b – Health related quality of life for people with LTCs, EQ5D breakdown by condition

Long-term condition	Mobility	Self-Care	Usual Activities	Pain/ Discomfort	Anxiety/ Depression	EQ5D
Alzheimer's disease or dementia	1.72	1.76	2.1	1.75	1.65	0.47
Angina or long-term heart problem	1.59	1.25	1.66	1.86	1.41	0.63
Arthritis or long-term joint problem	1.69	1.28	1.74	2.15	1.44	0.54
Asthma or long-term chest problem	1.32	1.14	1.4	1.59	1.37	0.74
Blindness or severe visual impairment	1.75	1.47	1.94	1.91	1.55	0.52
Cancer in the last 5 years	1.42	1.18	1.52	1.72	1.36	0.7
Deafness or severe hearing impairment	1.56	1.27	1.65	1.83	1.42	0.63
Diabetes	1.47	1.2	1.51	1.73	1.37	0.68
Epilepsy	1.42	1.31	1.56	1.6	1.49	0.67
High blood pressure	1.4	1.15	1.43	1.68	1.33	0.73
Kidney or liver disease	1.55	1.29	1.67	1.9	1.51	0.59
Learning difficulty	1.44	1.46	1.66	1.56	1.65	0.62
Long-term back problem	1.58	1.26	1.71	2.16	1.5	0.53
Long-term mental health problem	1.41	1.28	1.7	1.73	2.22	0.49
Long-term neurological problem	1.73	1.48	1.93	2.1	1.68	0.44
Another long-term condition	1.37	1.18	1.5	1.76	1.44	0.68
None of these conditions	1.09	1.03	1.14	1.37	1.24	0.87
I would prefer not to say	1.19	1.07	1.32	1.5	1.56	0.76

Source: GPPS

4.21 The highest, hence the worst, score for Mobility is associated with blindness or severe visual impairment; the worst score for Self-Care is reported by those with Alzheimer's disease or dementia, as is the one for Usual Activities. The conditions associated with the highest degree of Pain/Discomfort are, with almost the same score, long-term back problem and arthritis or long-term joint problems. Lastly, long-term mental health problems cause the highest reported Anxiety/Depression. Conversely, asthma or long-term chest problem seem to cause the lowest reduction in HRQoL, with the lowest scores in three out of five categories, namely Mobility, Self-Care and Usual Activities. Consistently with this feature, asthma or long-term chest problem is associated with the highest EQ5D.

4.22 As suggested by the average scores, the majority of respondents have either no problem or moderate problems. The frequency of reported severe problems is on average 1.3% for Mobility, 3.8% for Self-Care and 8% for Anxiety/Depression. Usual Activities and Pain/Discomfort obtained markedly higher frequencies of severe reported problems with 10.8% and 13.7% respectively.

Table 2.c – Health related quality of life for people with LTCs, EQ5D breakdown by condition

Alzheimer's disease/ dementia	Mobility	Self-Care	Usual Activities	Pain / Discomfort	Anxiety / Depression
No problem	33.30%	43.20%	24.80%	35.20%	44.30%
Some problem	61.40%	37.70%	40.10%	54.90%	46.40%
Severe problems	5.40%	19.00%	35.10%	9.90%	9.20%

Angina/ long term heart problem	Mobility	Self-Care	Usual Activities	Pain / Discomfort	Anxiety / Depression
No problem	41.70%	76.30%	42.90%	28.10%	63.10%
Some problem	57.80%	21.90%	48.00%	58.20%	32.70%
Severe problems	0.50%	1.80%	9.10%	13.70%	4.20%

Arthritis/ long-term joint problem	Mobility	Self-Care	Usual Activities	Pain / Discomfort	Anxiety / Depression
No problem	31.40%	73.70%	34.30%	6.20%	60.40%
Some problem	68.10%	24.70%	57.00%	72.60%	34.70%
Severe problems	0.50%	1.70%	8.70%	21.20%	4.90%

Asthma/long-term chest problem	Mobility	Self-Care	Usual Activities	Pain / Discomfort	Anxiety / Depression
No problem	31.40%	73.70%	34.30%	6.20%	60.40%
Some problem	68.10%	24.70%	57.00%	72.60%	34.70%
Severe problems	0.50%	1.70%	8.70%	21.20%	4.90%

Blindness/ severe visual impairment	Mobility	Self-Care	Usual Activities	Pain / Discomfort	Anxiety / Depression
No problem	27.30%	59.80%	25.50%	25.00%	52.30%
Some problem	70.40%	33.50%	55.00%	59.30%	40.30%
Severe problems	2.30%	6.70%	19.50%	15.70%	7.30%

Cancer in the last 5 years	Mobility	Self-Care	Usual Activities	Pain / Discomfort	Anxiety / Depression
No problem	58.00%	83.10%	54.80%	37.50%	66.60%
Some problem	41.50%	15.60%	38.10%	53.20%	30.50%
Severe problems	0.50%	1.30%	7.10%	9.30%	2.90%

Deafness/severe hearing impairment	Mobility	Self-Care	Usual Activities	Pain / Discomfort	Anxiety / Depression
No problem	44.60%	76.00%	45.80%	29.70%	62.50%
Some problem	54.70%	21.50%	44.00%	57.60%	33.00%
Severe problems	0.70%	2.50%	10.30%	12.70%	4.40%

Diabetes	Mobility	Self-Care	Usual Activities	Pain / Discomfort	Anxiety / Depression
No problem	54.10%	81.20%	56.00%	38.60%	66.60%
Some problem	45.30%	17.20%	37.30%	49.70%	29.20%
Severe problems	0.60%	1.50%	6.70%	11.70%	4.10%

Epilepsy	Mobility	Self-Care	Usual Activities	Pain / Discomfort	Anxiety / Depression
No problem	59.80%	74.30%	53.30%	49.80%	59.30%
Some problem	38.50%	20.90%	37.50%	40.30%	32.10%
Severe problems	1.80%	4.90%	9.20%	9.90%	8.60%

High blood pressure	Mobility	Self-Care	Usual Activities	Pain / Discomfort	Anxiety / Depression
No problem	60.60%	86.20%	62.30%	40.90%	69.80%
Some problem	39.10%	12.90%	33.00%	49.90%	27.00%
Severe problems	0.30%	0.90%	4.80%	9.20%	3.10%

Kidney or liver disease	Mobility	Self-Care	Usual Activities	Pain / Discomfort	Anxiety / Depression
No problem	46.20%	73.00%	44.20%	27.70%	56.50%
Some problem	52.60%	24.60%	44.70%	54.90%	35.80%
Severe problems	1.20%	2.40%	11.10%	17.40%	7.60%

Learning difficulty	Mobility	Self-Care	Usual Activities	Pain / Discomfort	Anxiety / Depression
No problem	57.70%	60.80%	43.50%	53.20%	47.70%
Some problem	40.80%	32.20%	46.80%	37.50%	39.80%

Severe problems	1.60%	7.00%	9.70%	9.30%	12.50%

Long-term back problem	Mobility	Self-Care	Usual Activities	Pain / Discomfort	Anxiety / Depression
No problem	42.90%	75.50%	37.20%	8.30%	56.70%
Some problem	56.60%	23.20%	54.70%	67.50%	36.50%
Severe problems	0.50%	1.20%	8.10%	24.20%	6.70%

Long-term mental health problem	Mobility	Self-Care	Usual Activities	Pain / Discomfort	Anxiety / Depression
No problem	60.00%	73.90%	39.70%	42.80%	12.00%
Some problem	39.40%	24.00%	50.40%	41.80%	53.80%
Severe problems	0.60%	2.00%	9.90%	15.40%	34.20%

Long-term neurological problem	Mobility	Self-Care	Usual Activities	Pain / Discomfort	Anxiety / Depression
No problem	30.90%	57.70%	24.80%	16.90%	43.50%
Some problem	65.40%	36.40%	57.60%	55.70%	44.60%
Severe problems	3.70%	5.90%	17.60%	27.40%	11.90%

Another long-term condition	Mobility	Self-Care	Usual Activities	Pain / Discomfort	Anxiety / Depression
No problem	63.50%	83.60%	56.70%	35.50%	62.10%
Some problem	35.80%	14.80%	37.00%	52.80%	32.20%
Severe problems	0.70%	1.60%	6.30%	11.60%	5.70%

Source: GPPS

4.23 The highest frequencies of severe problems derive from Alzheimer's disease or dementia. Roughly 35% of those who have reported it have severe problems in performing usual activities, 19% have severe difficulties with self-care and 5.4% have severe mobility problems. Of those with long term neurological problems, 27.4% experience severe pain/ discomfort and 34.2% of those with long term mental illness report severe anxiety/depression.

4.24 On average, across conditions, 46.5% report that they do not experience problems with Mobility; 30.1% declare no problem with pain/discomfort and 42.5% report no problem in performing usual activities. Overall, more than 55% of respondents with long term conditions do not experience anxiety/depressions and 72% do not have any problems with self-care. 2.d displays the breakdown of HRQoL measured by the EQ5D score, broken down by condition, both in the presence of a unique long term condition and in association with others (the case of comorbidities). As expected, the EQ5D score decreases significantly when two or more conditions co-exist. The average decrease across conditions, going from one LTC to comorbidities is 35.1%, with the highest decrease registered for epilepsy (42.7%) and the lowest for Alzheimer's disease or dementia (25.6%). This effect is probably due to the low starting point, i.e. people who suffer from this condition already report the lowest average EQ5D and this probably explains why the figure is less sensitive to additional LTCs.

Table 2.d –EQ5D breakdown by condition

	EQ5D	EQ5D with comorbidities
Alzheimer's disease or dementia	0.48	0.36
Angina or long-term heart problem	0.77	0.5
Arthritis or long-term joint problem	0.61	0.43
Asthma or long-term chest problem	0.87	0.52
Blindness or severe visual impairment	0.69	0.41
Cancer in the last 5 years	0.77	0.57
Deafness or severe hearing impairment	0.8	0.5
Diabetes	0.81	0.54
Epilepsy	0.79	0.45
High blood pressure	0.83	0.56
Kidney or liver disease	0.76	0.46
Learning difficulty	0.64	0.41
Long-term back problem	0.64	0.41
Long-term mental health problem	0.58	0.34
Long-term neurological problem	0.53	0.33
Another long-term condition	0.75	0.52
None of these conditions	0.81	NA
I would prefer not to say	0.68	NA

Source: GPPS

Breakdown by age and sex

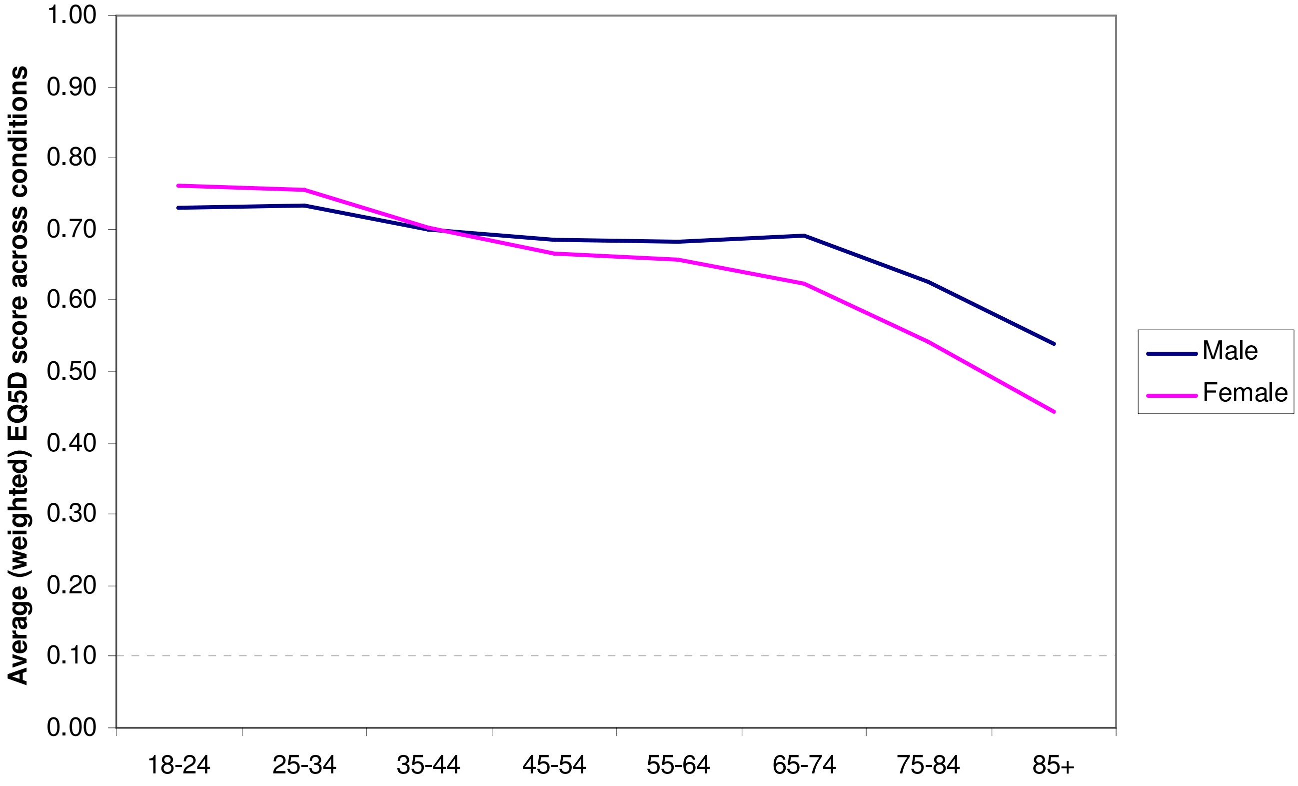
4.25 Table 2.e and Figure 2.a display the average weighted EQ5D score reported by people with long-term conditions (in wave-one), broken down by age and sex. It shows that the health related quality of life reported by people with long-term conditions decreases as age increases. The trend is very similar for males and females.

Table 2.e – Health related quality of life for people with LTCs, by sex and age band

	Age band							
Sex	**18-24**	**25-34**	**35-44**	**45-54**	**55-64**	**65-74**	**75-84**	**85+**
Male	0.73	0.73	0.7	0.68	0.68	0.69	0.63	0.54
Female	0.76	0.76	0.7	0.67	0.66	0.62	0.54	0.44

Source: GPPS

Figure 2.a – Health related quality of life for people with LTCs, by sex and age band



Source: GPPS

Breakdown by Region

4.26 Table 2.f shows the health-related quality of life for people with long-term conditions, by SHA; it shows that there is significant variation at SHA level.

Table 2.f – Health related quality of life for people with LTCs, by SHA

SHA	Average (weighted) score
North East	0.62
North West	0.63
Yorkshire and the Humber	0.65
East Midlands	0.66
West Midlands	0.64
East of England	0.68
London	0.66
South Central	0.71
South East	0.69
South West	0.68

Source: GPPS

Breakdown by deprivation

4.27 Table 2.g displays the results when performing a breakdown by level of deprivation . It shows that the more deprived individuals are less likely to have a high health-related quality of life.

Table 2.g – Health related quality of life for people with LTCs, by location

Level of deprivation	Value of Indicator 2
1 – Most deprived	0.59
2 – Moderately deprived	0.67
3 – Least deprived	0.73

Source: GPPS

Trends from the Health Survey for England

4.28 As there is no time series data for health related quality of life for people with long-term conditions, below is a time series for comparable data from the Health Survey for England (HSE) for a range of long-term conditions. Table 2.h and Figure 2.b display this data.

4.29 Comparing the aggregated average scores with indicator 2, the quality of life for people with long-term conditions appears relatively stable over this time period. The significant drop in the average score reported in 2004 can be attributed to the lower coverage of the HSE in that year.

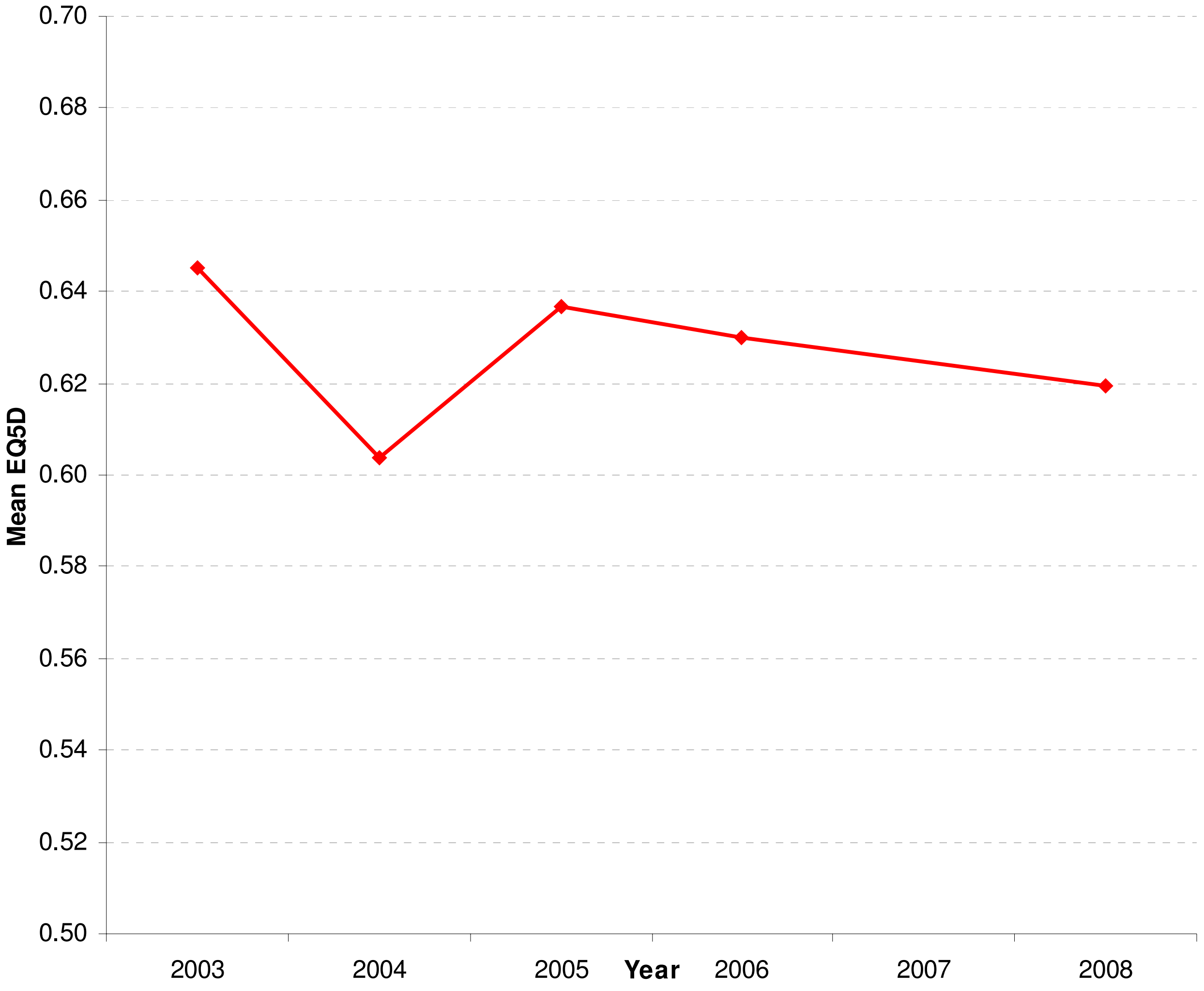
4.30 However, it should be noted that HSE data is not case-mix standardised. Therefore, changes may be explained by changes in the nature of the case-mix (e.g. an aging population with more co-morbidities and hence reporting lower EQ-5D scores). It is evident from demographic data that case-mix is changing over time. Therefore, it is not possible to compare changes over time without first ensuring that the annual data is comparable.

Table 2.e – Mean EQ-5D score for people with by long-term conditions, by condition

	Condition					
Year	**COPD**	**Stroke**	**Diabetes**	**Heart Attack / Angina**	**Asthma**	**ALL**
2003	0.58	0.6	0.77	0.73	0.87	0.65
2004	0.52	0.42	0.72	0.57	0.83	0.6
2005	0.63	0.58	0.81	0.7	0.87	0.64
2006	0.64	0.6	0.79	0.71	0.88	0.63
2008	0.67	0.55	0.76	0.7	0.87	0.62

Source: HSE

Figure 2.e - **Mean EQ-5D score for people with by long-term conditions, by condition**



Source: HSE

Notes:

4.31 There are a number of questions that arise from the data on health related quality of life for people with long-term conditions:

- What explains the significant variation by level of deprivation?
- What explains the significant variation by SHA?

Drivers of this indicator

4.32 **External Drivers.** The main external drivers for the health related quality of life for people with long-term conditions are likely to be the underlying prevalence of long-term conditions, socio-economic status and prevalence of co-morbidities.

4.33 **Healthcare drivers.** The main healthcare driver for the health related quality of life for people with long-term conditions is likely to be palliating symptoms and mitigating the progression of disease, which may include both primary and secondary care.

(b) Indicator 2: Current Practice Projections

4.34 As the only data available is 2011/12 wave-one data from the GPPS, a current practice projection has not been produced. However, once wave-two data from the GPPS becomes available, this indicator will be given a “flat” current practice projection, due to the following reasons:

- Even once wave-two data from the GPPS is available, there will be no time-series to analyse;
- Analysis of comparable data from the HSE suggests that a “flat” projection is appropriate.

(c) Indicator 2: Scope for Improvement

4.35 This section considers whether there is scope for further improvement in this outcome indicator. This includes potential improvements that will be delivered though existing policy programmes, as well as any improvements in outcomes that could be achieved within the current resource envelope through efficiency savings. The scope for improvement for each indicator can then be considered as part of the process to set an overall level of ambition for each domain.

4.36 Several current and planned policy initiatives are likely to lead to improvements in this outcome within current resources. The main initiative is the creation of Clinical Commissioning Groups (CCGs) and the expectation that clinically-led commissioning will result in better services for patients. There are existing policies in place that should support this e.g. Increased Access to Psychological Therapies (IAPT) as part of the NHS Mental Health Outcomes Strategy, extra support for dementia and the Three Million Lives initiative to roll-out tele-health to people with LTCs. The extent to which clinically led commissioning, supported by specific DH policies, will impact on this indicator is difficult to estimate with certainty, since the indicator operates at national level.

4.37 Beyond this, the planned improvements of care for people with LTCs as detailed in section c) of indicator 2 would also have an impact on this indicator.

2.1 – Proportion of people feeling supported to manage their condition

Outcome sought	*A greater proportion of people aged 18 and over suffering from a long-term condition feeling supported to manage their long term condition.*
Indicator definition	*For those who have reported a LTC,weighted proportion of individuals who have felt supported in coping with it in the last 6 months.*

(a) Indicator 2.1: Recent Trends and Explanations

4.38 This indicator is constructed on the basis of responses to the GPPS. For those who have answered “Yes” to Question 30 “Do you have a long-standing health condition?” the following is calculated. Numerator: number of “Yes, definitely” and “Yes, to some extent” (Yes, definitely and to some extent have a weight of 100 and 50 respectively). Denominator: number of positive answers (stated in numerator) plus number of “No” answers.

4.39 There are no recent annual trends to report for the proportion of people feeling supported to manage their condition as the data begins in the 2010/11 GPPS and the only data available for the second point in the time-series is 2011/12 wave-one data from the GP Patient Survey. The [weighted [1]] proportion of people feeling supported to manage their condition in this wave-one data is 69.4%.

4.40 It is however possible to make a comparison between the equivalent wave-one period subsets from 2010/11 i.e. comparing April-September 2010 and April-September 2011. A comparison of the 2010/11 annual figure and 2011/12 wave-one figure is unlikely to be robust due to possible seasonal effects. This partial time-series comparison is displayed in Table 2.1.a, it shows that there was a significant increase in the proportion of people feeling supported to manage their condition between 2010/11 and 2011/12.

Table 2.1.a – Proportion of people feeling supported to manage their condition – wave-one comparison

	2010 (April-September)	**2011** (April-September)
Proportion of people feeling supported to manage their condition	58.6%	69.4%

Source: GPPS

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[1] The weight is broken down into three parts: first, a **design weight** to account for the unequal probability of selection; second, a **non-response weight** to account for differences in the characteristics of responders and non-responders; and third, a **post stratification weight** by practice to ensure that the weighted responding sample within each practice resembles the population of eligible patients within the practice

Breakdown by age and sex

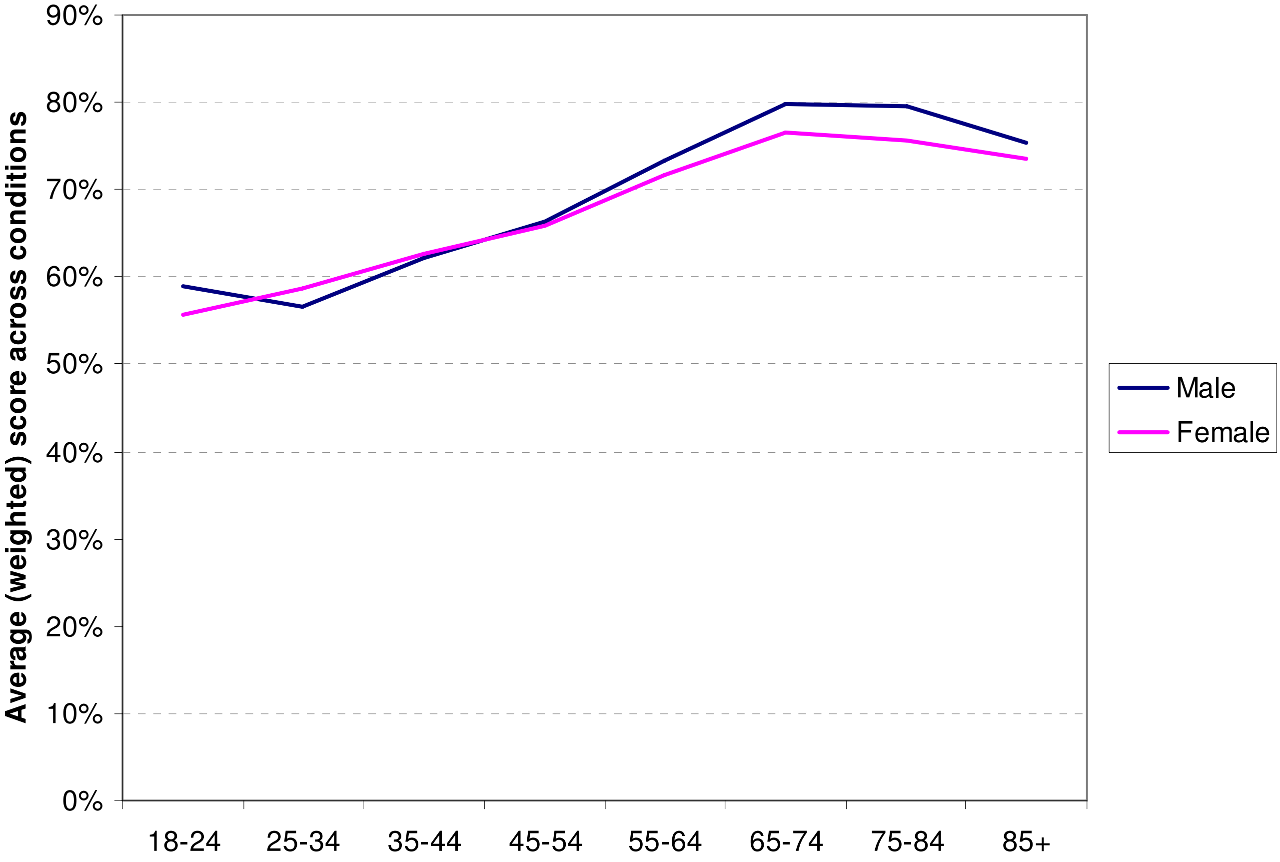
4.41 Table 2.1.b and Figure 2.1.a displays the breakdown of the 2011/12 wave-one score by age and sex; it shows that the proportion of people feeling supported to manage their condition increases up to the 65-74 age group, but then decreases modestly. The trend is very similar for males and females.

Table 2.1.b – Proportion of people feeling supported to manage their condition, by sex and age band

	Age band							
Sex	**18-24**	**25-34**	**35-44**	**45-54**	**55-64**	**65-74**	**75-84**	**85+**
Male	58.80%	56.60%	62.20%	66.30%	73.20%	79.80%	79.70%	75.30%
Female	55.70%	58.80%	62.50%	65.90%	71.70%	76.60%	75.50%	73.50%

Source: GPPS

Figure 2.1.a – Proportion of people feeling supported to manage their condition – wave-one comparison



Source: GPPS

Breakdown by condition

4.42 Table 2.1.c displays the average weighted [2] score of the respondents by specific long-term condition. The lowest scores emerge from those who have reported long-term neurological problems and long-term back problem. The highest scores are recorded for those who have reported cancer in the last 5 years and those who suffer from high blood pressure.

Table 2.1.c – Proportion of people feeling supported to manage their condition – Breakdown by condition

Long-term condition	Proportion of people feeling supported to managing their condition
Alzheimer’s disease or dementia	69.90%
Angina or long-term heart problem	73.40%
Arthritis or long-term joint problem	66.80%
Asthma or long-term chest problem	71.30%
Blindness or severe visual impairment	65.80%
Cancer in the last 5 years	75.90%
Deafness or severe hearing impairment	69.90%
Diabetes	73.90%
Epilepsy	67.60%
High blood pressure	74.50%
Kidney or liver disease	67.70%
Learning difficulty	62.30%
Long-term back problem	58.80%
Long-term mental health problem	60.50%
Long-term neurological problem	57.50%
Another long-term condition	65.00%

Source: GPPS

Breakdown by number of co-morbidities

4.43 Table 2.1.d displays the proportion of people feeling supported to manage their condition, broken down by the number of co-morbidities. It shows that the proportion of people feeling supported to manage their condition decreases for those with a greater number of co-morbidities. The proportions reported in Table 2.1.d cannot be directly compared with those in Table 2.1.a as not every patient who reported having a long-term condition specified which long-term condition(s).

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[2] The weight can be broken down into three parts: first, a **design weight** to account for the unequal probability of selection; second, a **non-response weight** to account for differences in the characteristics of responders and non-responders; and third, a **post-stratification weight** by practice to ensure that the weighted responding sample within each practice resembles the population of eligible patients within the practice.

Table 2.1.d – Proportion of people feeling supported to manage their condition – Breakdown by co-morbidity level

Co-morbidities	Proportion of people feeling supported to manage their condition	Count of respondents
1	70.1	99,092
2	70	56,020
More than 3	66.8	50,961

Source: GPPS

Breakdown by level of deprivation

4.44 Table 2.1.e displays the results when performing a breakdown by level of deprivation[3] . It shows that the more deprived individuals are less likely to report feeling supported to manage their condition.

Table 2.1.e – Proportion of people feeling supported to manage their condition – Breakdown by level of deprivation

Level of deprivation	Value of Indicator 2.1
1 - Most deprived	65.0%
2 - Moderately deprived	70.2%
3 – Least deprived	73.6%

Source: GPPS

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[3] The level of deprivation is based on the IMD is a multidimensional index synthesising 7 domains: **income, employment, health and disability, education skills and training, barriers to housing and other services, crime and living environment**. The IMD attributes a score to individuals living in a specific area and does so for each Lower layer Super Output Area (LSOA). The table reports the results dividing for **thirds of 10827 LSOAs each**, from the most deprived third to the least deprived third

Breakdown by SHA

4.45 Table 2.1.f shows the proportion of people feeling supported to manage their condition, by SHA; it shows that there is a relatively high degree of variation at SHA level.

Table 2.1.f – Proportion of people feeling supported to manage their condition – Breakdown by location

SHA	Average (weighted) score
North East	72.90%
North West	69.80%
Yorkshire and the Humber	71.00%
East Midlands	70.50%
West Midlands	68.90%
East of England	70.20%
London	61.30%
South East Coast	70.10%
South West	72.80%

Source: GPPS

Notes:

4.46 There are a number of questions that arise from the data for the proportion of people feeling supported to manage their condition:

- What explains the increase in the proportion of people feeling supported to manage their condition between 2010/11 (wave-one) and 2011/12 (wave-one)?
- What explains the trend in the age breakdown e.g. age vs. cohort effects
- What explains the significant variation by level of deprivation?
- What explains the significant variation by SHA?

Drivers of this indicator

4.47 **External Drivers.** The main external driver for the proportion of people feeling supported their condition is likely to be the prevalence of co-morbidities.

4.48 **Healthcare drivers.** The main healthcare driver for the proportion of people feeling supported to manage their condition is likely to be the quality of support services offered to patients with long-term conditions.

(b) Indicator 2.1: Current Practice Projections

4.49 There is no current practice projection for the proportion of people feeling supported to mange their condition. Once wave-two data for 2011/12 is available, a flat projection will be calculated with the annual data for 2010/11 and 2011/12.

(c) Indicator 2.1: Scope for Improvement

4.50 Several current and planned policy initiatives could lead to improvements in this outcome within current resources. The main initiative is the creation of CCGs and the expectation that clinically-led commissioning will result in better services for patients. There are existing policies in place that should support this e.g. Increased Access to Psychological Therapies (IAPT) as part of the NHS Mental Health Outcomes Strategy, extra support for dementia and the Three Million Lives initiative to roll-out tele-health to people with LTCs. The extent to which clinically led commissioning, supported by specific national policies, will impact on this indicator is difficult to estimate with certainty, since the indicator operates at national level.

4.51 Beyond this, the planned improvements of care for people with LTCs as detailed in section c) of indicator 2 would also have an impact on this indicator.

2.2 – Employment of people with long-term conditions

Outcome sought	***Improved functional ability, and ability to work, in people with long-term conditions.***
Indicator definition	*Percentage of respondents in the Labour Force Survey (LFS) who have a long-term condition who are classed as employed using the International Labour Organisation (ILO) definition of employment, compared to the percentage of all respondents classed as employed.* *The LFS question that is used to determine whether a person has an LTC is question 491: "Do you have any health problems or disabilities that you expect will last for more than a year?"* *Please note that an error has been identified in this indicator as well as indicator 2.5 such that it involved the use of UK non-England data. Preliminary analysis suggests that the size of the errors is relatively small. However the figures contained in this template NHS Outcomes Framework indicators should therefore be taken as provisional and will be reviewed with the correct data.*

(a) Indicator 2.2: Recent Trends and Explanations

Table 2.2.a: Employment rate for people with LTCs and Overall Population

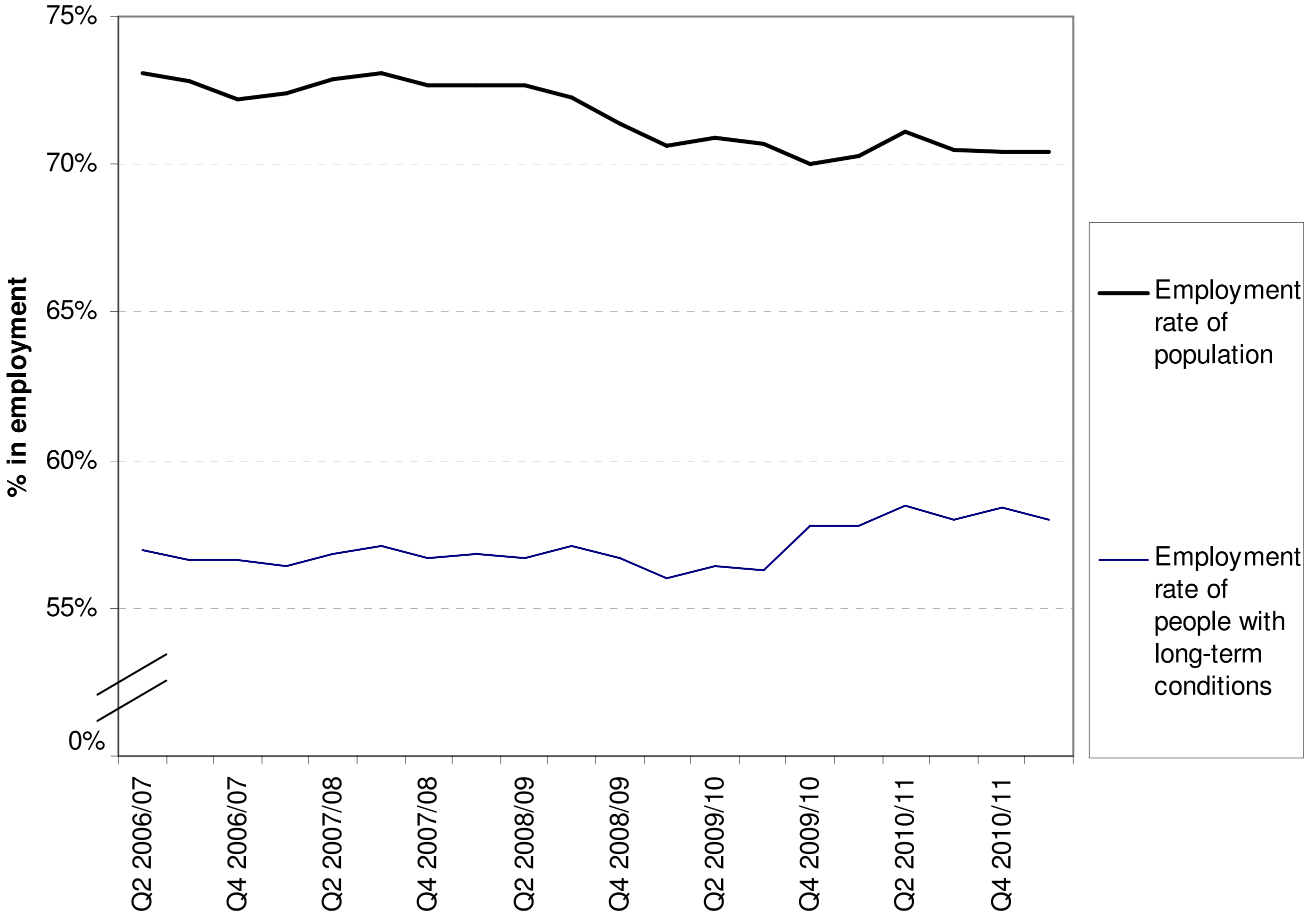
Quarter	Year	Overall population employment rate	Employment rate for people with LTCs	Difference
Q2	2006/07	73.1%	57.0%	16.1%
Q3		72.8%	56.6%	16.3%
Q4		72.2%	56.6%	15.7%
Q1	2007/08	72.4%	56.4%	16.0%
Q2		72.9%	56.8%	16.1%
Q3		73.1%	57.1%	16.0%
Q4		72.7%	56.7%	16.0%
Q1	2008/09	72.7%	56.8%	15.8%
Q2		72.7%	56.7%	16.0%
Q3		72.3%	57.1%	15.3%
Q4		71.4%	56.7%	14.8%
Q1	2009/10	70.6%	56.0%	14.6%
Q2		70.9%	56.4%	14.5%
Q3		70.7%	56.3%	14.4%
Q4		70.0%	57.8%	12.1%
Q1	2010/11	70.3%	57.8%	12.4%
Q2		71.1%	58.5%	12.6%
Q3		70.5%	58.0%	12.5%
Q4		70.4%	58.4%	12.0%
Q1	2011/12	70.4%	58.0%	12.4%

Source: NHS Information Centre

4.52 According to the LFS, the overall employment rate was broadly flat from Q2 2006/07 to Q3 2008/09. After a two quarter drop, the employment rate stabilised slightly above 70% for the rest the period.

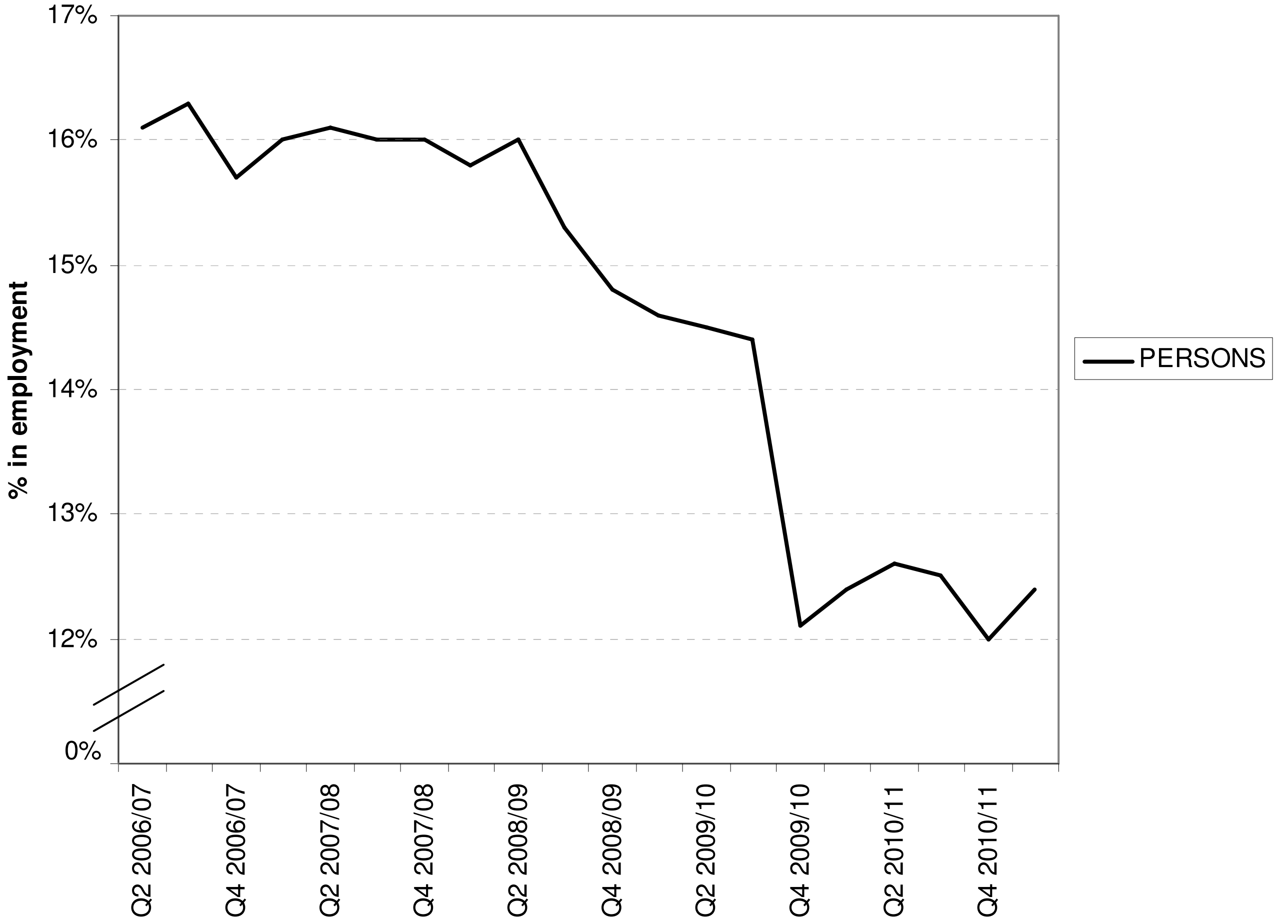
4.53 The employment rate for people with long-term conditions has been broadly stable over this period, with a small improvement between Q1 2009/10 and Q2 2010/11

Chart 2.2.a Employment rate for people with LTCs and Overall Population]



Source: NHS Information Centre

Chart 2.2.b Difference between the employment of rate of people with LTCs and the overall employment rate



Source: NHS Information Centre

4.54 Between Q2 2006/07 and Q1 2010/11, the gap in the employment rate between people with long term conditions and the general population has decreased from being 16.1% to 12.4%.

4.55 The trend from Q3 2006/07 to Q2 2008/09 can be interpreted as relatively stable with a slight decline. From Q4 2008/09 until Q1 2010/11 there is a sharp drop and then the difference seems to stabilise above 12% from 2010/11 Q2 onwards.

Breakdowns

4.56 Indicator 2.5, the difference in employment rate for those with mental illness, represents in itself a subset of this indicator. Analysis of other breakdowns by condition could help analyse further the resilience of employment for people with LTCs to the economic cycle.

4.57 Breakdowns according to religion, ethnic group and sector of employment are available for this indicator. However, the small sample size involved in several of the categories lead to very volatile series that are difficult to interpret.

4.58 Interpreting these breakdowns has not been possible at this stage, and further analysis is being carried out in order to correctly interpret these data. Issues we are considering and/or analysing include:

- appropriate aggregation of categories to more easily identify relevant patterns / level differences;
- consistency between the numerator and denominator in the calculation of these rates (also relevant to possible aggregations);
- other possible drivers of identified patterns.

Notes:

4.59 The main issues that arise from the data are:

- The employment rate of people with LTCs seems not to have been affected by the economic cycle. This contrasts with the decrease in the overall employment rate around 2008/09.
- The improvement in the employment rate of people with LTCs from Q4 2009/10 onwards

Drivers of this indicator

Driver	Impact on outcome
Unemployment, economic growth	The level of unemployment in the overall population is allowed for in the definition of the indicator, in that it considers only the gap in employment between those with long-term conditions and the overall population. However, it is possible that the variability in the labour market could have a disproportionate impact upon the employment of those with long-term conditions. Therefore the overall employment rate and GDP growth could be potentially important drivers. Since 2009, the overall population's employment has fallen, probably due to the slow down in GDP growth. The improvement in the employment rate for people with Long Term Conditions may be due to other factors, but seems indicative of a certain resilience in the employment rate of people with LTCs with respect to the economic cycle.
Prevalence and mix of LTCs	If the number of people identifying themselves as having a long-term condition changes, this may affect the indicator over time by altering both the overall number of cases and perhaps the case-mix.

DWP policy on employment incentives and employment for disabled people	(a) This outcome will also be affected by changes in financial incentives to work, including those implicit in the benefits system. Therefore it is likely to be affected by the planned reform of benefits and the introduction of Universal Credit. (b) DWP initiatives to change sickness absence procedures may also have an effect. The Department for Work and Pensions introduced the Statement of Fitness for Work (the fit note) on 6 April 2010, replacing the previous Medical Statement ('sick note') used to verify sickness absence after seven days with a new 'fit note'. The fit note focuses on what people can do, rather than what they can't, and allows doctors to say that patients 'may be fit for work' if certain adjustments are put in place for them. Adjustments could include reduced or flexible hours, change in duties or working environment. DWP research found that 61% of GPs believed the fit note had improved the quality of discussions with patients around return to work; and 70% believed the fit note had helped their patients make a phased return to work. This is one of the factors that could explain the relative resilience of the indicator to the economic cycle, at least since 2010 onwards. (c) DWP policies on the employment of disabled people and people with long-term conditions are also likely to affect this indicator. These include the Work Programme (launched on June 2011), which aims to provide tailored support to people on long term benefits to help them find work. They also include the "Work choice" scheme (Launched on October 2010), that aims to support the employment of disabled people with complex barriers to employment.
Socio-economic status	Socio-economic status of people with long-term conditions can affect their chances of employment. Therefore, changes to the status of the population can affect this outcome.
Co-morbidities	The prevalence of co-morbidities can make it more difficult for people with long-term conditions to find and retain employment.

Health Care drivers	The contribution of the NHS to mitigating the progression of disease, and external supporting capability to manage their condition is a driver of this outcome. NHS interventions aimed at people with Long Term Conditions may have contributed to the relative resilience of the employment rate of people with Long Term Conditions over this period.

Public health and social care drivers	Public health drivers include interventions that may mitigate disease progression such as reducing tobacco, alcohol and illicit drug abuse, obesity, encouraging physical activity. Other contributions include the prevention, early identification and management of risk factors, including high cholesterol, blood pressure, and diabetes; Social Care: the quality of social care including supporting timely discharge from hospital; the quality of care received whilst living at home or in residential care (e.g. recognition of the symptoms of stroke), medication compliance, mitigation of social isolation.

(b) Indicator 2.2: Current Practice Projections Methodology

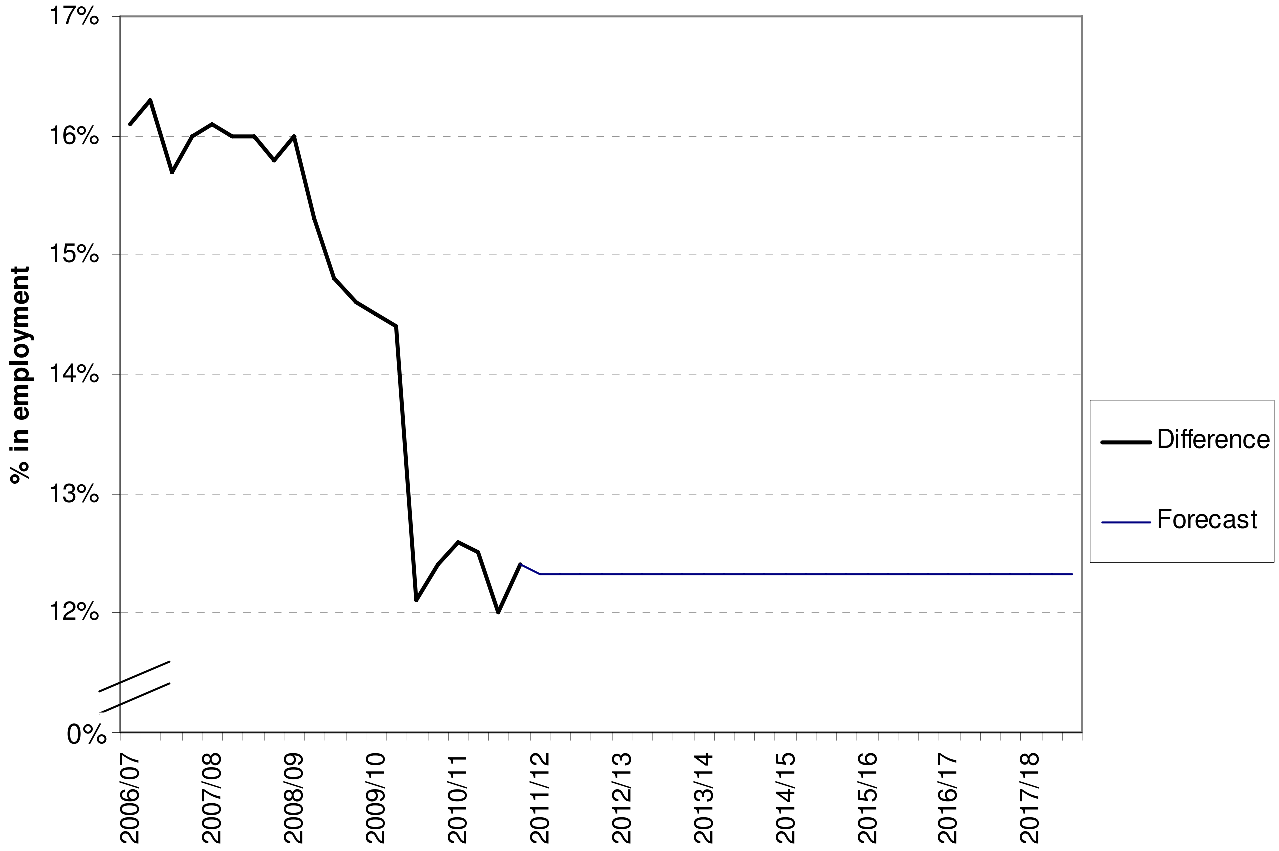
4.60 This indicator has improved over this period; however, there are changes that could be interpreted as structural breaks in the underlying trend. Overall, the employment rate for people with long-term conditions does not seem to be linked to changes in economic growth. These changes, in particular the recession in 2008 and 2009 and sluggish economic growth since then, have however affected overall employment rate to a great degree.

4.61 The resilience in the employment rate for people with LTCs to the economic cycle over this period could be explained by changes in DWP policy as well as improvements in NHS care, although it is difficult to differentiate between the two.

4.62 The projections arrived at in Table 2.2.b and Chart 2.2.c are arrived at via the following methodology:

- The default position that the indicator will remain “flat” is accepted. The broadly flat evolution of the indicator since 2009/10 Q4 is expected to continue.
- It should be noted as a risk to this projection that, if we assume that the employment rate of people with LTCs is not affected by the cycle, as the economy and the overall employment rate recover this could actually lead to a deterioration of the indicator.
- The exponentially smoothed mean (with a damping factor of 0.3) of the data points since 2009/10 Q4 is used to provide a flat projection.

Chart 2.2.c Difference in employment rate of people with LTCs versus the rest of the population



Source: NHS Information Centre

Table 2.2.b Difference in employment rate of people with LTCs versus the rest of the population

Quarter	Year	Difference in employment rate between overall population and people with mental illness or learning disability	Projection + Prediction interval
Q2	2006/07	16.1%	-
Q3		16.3%	-
Q4		15.7%	-
Q1	2007/08	16.0%	-
Q2		16.1%	-
Q3		16.0%	-
Q4		16.0%	-
Q1	2008/09	15.8%	-
Q2		16.0%	-
Q3		15.3%	-
Q4		14.8%	-
Q1	2009/10	14.6%	-
Q2		14.5%	-
Q3		14.4%	-
Q4		12.1%	-
Q1	2010/11	12.4%	-
Q2		12.6%	-
Q3		12.5%	-
Q4		12.0%	-
Q1	2011/12	12.4%	-
Q2		0.0%	0.0%
Q3		0.0%	0.0%
Q4		0.0%	0.0%
Q1	2012/13	0.0%	0.0%
Q2		0.0%	0.0%
Q3		0.0%	0.0%
Q4		0.0%	0.0%
Q1	2013/14	0.0%	0.0%
Q2		0.0%	0.0%
Q3		0.0%	0.0%
Q4		0.0%	0.0%
Q1	2014/15	0.0%	0.0%
Q2		0.0%	0.0%
Q3		0.0%	0.0%
Q4		0.0%	0.0%
Q1	2015/16	0.0%	0.0%
Q2		0.0%	0.0%
Q3		0.0%	0.0%
Q4		0.0%	0.0%
Q1	2016/17	0.0%	0.0%
Q2		0.0%	0.0%
Q3		0.0%	0.0%
Q4		0.0%	0.0%
Q1	2017/18	0.0%	0.0%
Q2		0.0%	0.0%
Q3		0.0%	0.0%
Q4		0.0%	0.0%

(c) Indicator 2.2: Scope for Improvement

4.63 Several current and planned policy initiatives are likely to lead to improvements in this outcome within current resources. In the health sector, there are a number of national initiatives in place to improve care for people with LTCs, as discussed in section c) of Indicator 2.

4.64 As discussed in the scope of improvement for terms of patients with Mental Illness (indicator 2.5), The Improving Access to Psychological Therapies (IAPT) can lead to improvements in the wellbeing and employment of people with Mental Illness.

4.65 The IAPT programme was set up in May 2006 and aims to improve public access to a range of NICE-approved psychological therapies for depression and anxiety disorders through:

- provision of an appropriately trained workforce,
- delivering therapies to specific NICE quality standards,
- routine monitoring of patient reported outcome measures,
- defined care pathways (characterised by a stepped care model) and
- flexible referrals routes (including self-referral by potential patients).

4.66 One in six adults is known to suffer from mental ill-health characterised by symptoms of depression and anxiety. The programme aims to expand access by treating 900,000 people per annum (15% of prevalence), with over 50% of those completing treatment recovering and most achieving reliable improvement with a smaller proportion achieving improved employment or social outcomes. The overall impact on employment cannot currently be quantified. This will be reviewed over the consultation period.

4.67 Additional improvements may be secured as a result of the policies planned around improved recovery. Recovery is identified as a key priority in the Mental Health strategy under Objective two: More people with mental health problems will recover. An aspect of recovery is gaining or maintaining employment. Recovery focused demonstration sites are being supported in 12 mental health trusts, and the development of specific recovery-related outcome measures are being considered, these could include employment outcomes. This expected to lead to an improvement in this indicator, although this cannot be quantified at this early stage.

2.3.i – Unplanned hospitalisation for chronic ambulatory care sensitive conditions in adults

Outcome sought	***Reduced serious deterioration in people with ambulatory care sensitive conditions.***
Indicator definition	*Value of unplanned hospitalisations for chronic ambulatory care sensitive conditions, per 100,000 population. The indicator will be standardised by age and sex. However, these are not currently available and non-standardised data have been used instead for the purposes of this template.*

(a) Indicator 2.3.i: Recent Trends and Explanations

4.68 The rate of unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults increased by approximately 1.1% between 2009/10 and 2010/11, from 950.9 to 960.9 per 100,000 population. Between 2003/04 and 2010/11, the rate decreased from 1,058.3 to 960.9, an average annual decrease of 1.3%.

4.69 Between 2003/04 and 2010/11 the rate of unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults decreased by 10.1%, from 1,069 to 961 hospitalisations per 100,000 population.

4.70 However, this trend is not uniform across the period, and there appear to be three important variations to this long term trend:

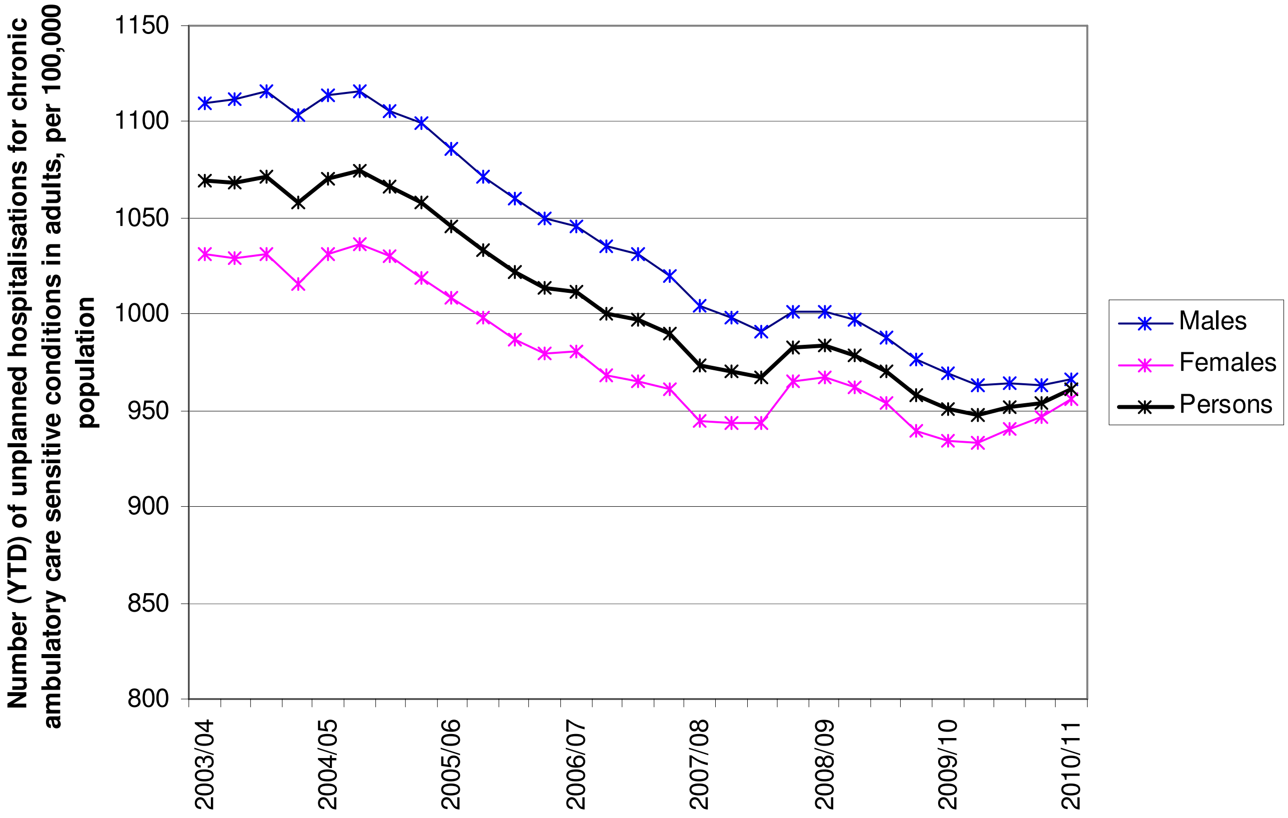
- There appears to be a different trend in the data from 2008/09;
- Following the change in trend from 2008/09, the trend appears more cyclical than previously;
- There is a significant difference between the rate for males and females in 2003/04 where the rate for males is 7.6% higher than for females. However, this gap reduces over the period to 1.0% in 2010/11. This narrowing occurs both sides of the change in trend from 2008/09, however this process accelerates following the change in trend e.g. in the second quarter of 200/09 the rate for males is 5.7% higher than for females.

Table 2.3.i.a – Unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults

		Year-to-Date Totals		
Quarter	**Year**	**Males**	**Females**	**Persons**
Q4	2003/04	1109.8	1031.6	1069.3
Q1		1111.7	1028.7	1068.7
Q2		1116	1031	1072
Q3		1103.6	1016.2	1058.3
Q4	2004/05	1113.5	1030.9	1070.7
Q1		1115.9	1036.9	1075
Q2		1105.6	1029.8	1066.4
Q3		1099	1018.9	1057.6
Q4	2005/06	1086.5	1008.3	1046.1
Q1		1071.1	997.8	1033.2
Q2		1059.8	987.1	1022.2
Q3		1050	979.6	1013.6
Q4	2006/07	1045.7	980.4	1011.9
Q1		1035	968.2	1000.5
Q2		1031.3	965.3	997.3
Q3		1019.9	961.4	989.8
Q4	2007/08	1004.8	944.7	973.9
Q1		997.8	943.6	969.9
Q2		991.3	943.8	966.8
Q3		1001.8	965.2	982.9
Q4	2008/09	1001.7	966.9	983.7
Q1		996.8	962	978.8
Q2		987.7	953.9	970.2
Q3		976.7	939.6	957.5
Q4	2009/10	969	934	950.9
Q1		963.2	933.7	947.9
Q2		964.2	940.2	951.7
Q3		963.2	946.2	954.3
Q4	2010/11	966	956.4	960.9

Source: GPPS

Fig 2.3.i.a – Unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults



Source: NHS Information Centre

Breakdown by diagnosis

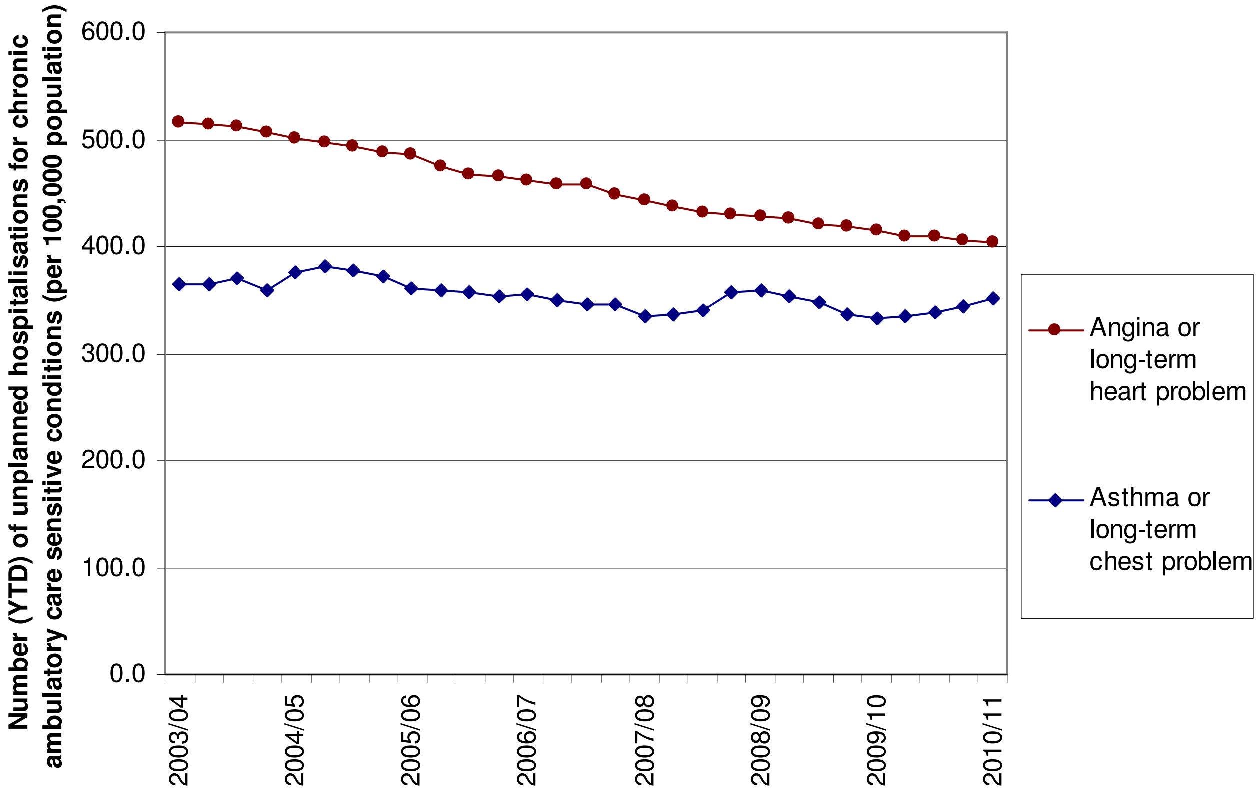
4.71 Table 2.3.i.b and Figures 2.3.i.b – 2.3.i.c show a breakdown, by diagnosis, for unplanned hospitalisations for chronic ambulatory care sensitive conditions. These data show that the downward trend between 2003/04 and 2007/08 is driven by Angina or long-term heart problems.

Table 2.3.i.b – Unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults (per 100,000 population), by primary diagnosis

		Year-to-Date Totals						
Quarter	Year	Angina or long-term heart problem	Epilepsy	Diabetes	High blood pressure	Asthma or long-term chest problem	Alzheimers disease or dementia	Another long-term condition
Q4	2003/04	516.7	61	64.1	13.1	364.8	26.7	22.8
Q1		513.8	62.1	65.2	13.5	364.7	26.4	23.2
Q2		512.0	62.2	64.9	13.6	369.3	25.9	24.1
Q3		506.5	63.5	65	13.8	359.1	25.4	24.9
Q4	2004/05	501.8	64.3	65.1	13.8	375.2	25.1	25
Q1		498.1	65.6	65.3	13.7	381.4	24.8	25.7
Q2		493.5	66.7	65.9	13.4	376.7	24.1	25.9
Q3		488.7	67.7	66.7	13.4	371.2	23.8	26
Q4	2005/06	485.9	67.9	68.4	13.5	360.3	23.8	26.7
Q1		475.4	67.9	67.9	13.4	358.9	23.2	26.7
Q2		467.9	67.6	67.5	13.3	357	22.8	26.3
Q3		464.6	67.3	67.1	13.4	353	22.4	26.3
Q4	2006/07	461.3	67.3	66.5	13.5	355.4	22	26.3
Q1		457.9	66.9	66.6	13.3	348.6	21.4	26.3
Q2		457.6	66.8	67	13.6	345.2	20.8	26.7
Q3		449.3	66.1	67.5	13	346.4	20.4	27
Q4	2007/08	443.3	66.4	68	12.7	335.5	20.5	27.4
Q1		438.2	65.9	68.8	13	335.8	20.3	27.9
Q2		431.6	65.7	69.2	12.9	339.4	19.9	28.2
Q3		429.0	65.7	70	13.1	357.5	19.9	28.2
Q4	2008/09	427.7	65.6	70.6	13.4	358.2	20	28.6
Q1		426.2	66.1	71.2	13.5	353.4	19.8	29
Q2		420.5	66.3	71.6	13.6	348.5	20.3	29.6
Q3		418.1	66.6	71.4	14	336.4	20.4	30.3
Q4	2009/10	414.6	66.4	71.6	14.3	332.6	20.4	30.7
Q1		409.6	66.2	71.9	14.3	334.5	20.7	30.4
Q2		409.5	66.4	72.6	14.5	337.9	20.6	30.1
Q3		405.6	66.4	73.5	14.5	344.6	20.5	29.4
Q4	2010/11	404.5	67	73.5	14.5	352.1	20.6	28.9

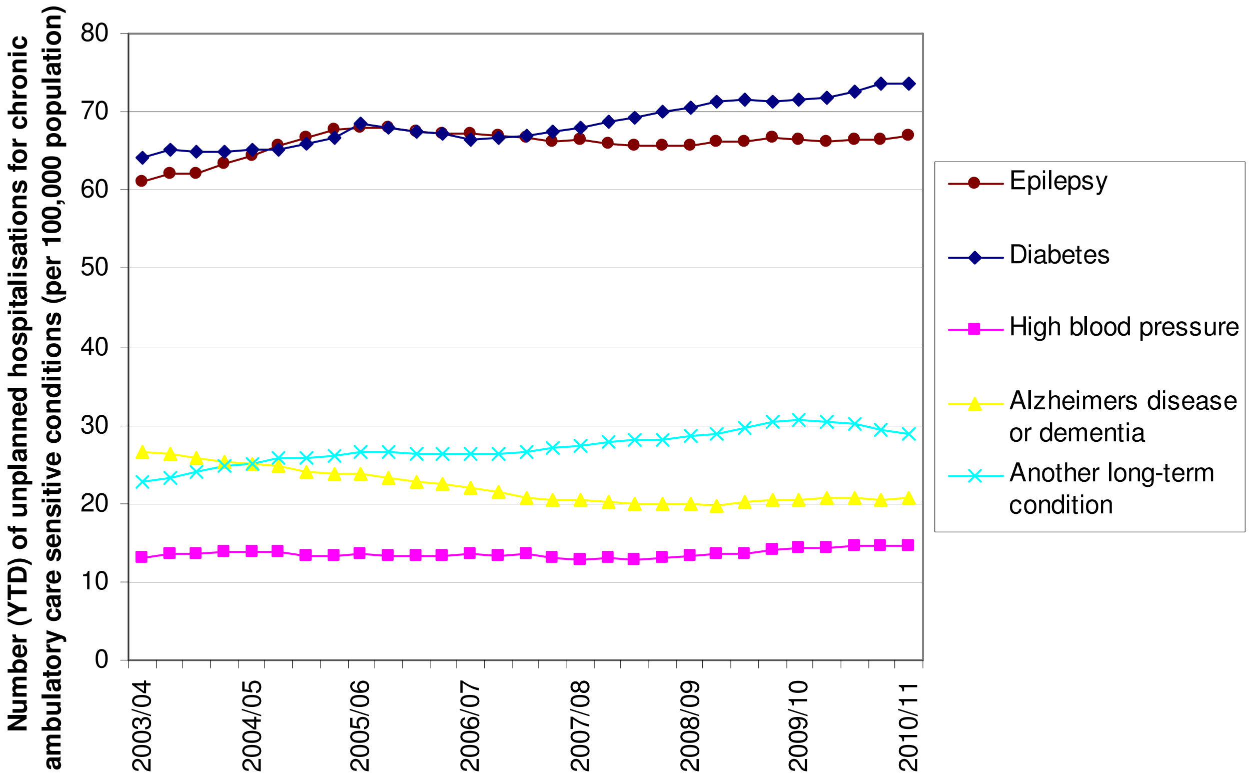
Source: NHS Information Centre

Figure 2.3.i.b - Unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults (per 100,000 population), by primary diagnosis



Source: NHS Information Centre

Figure 2.3.i.c - Unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults, by primary diagnosis



Source: NHS Information Centre

Breakdowns by IMD

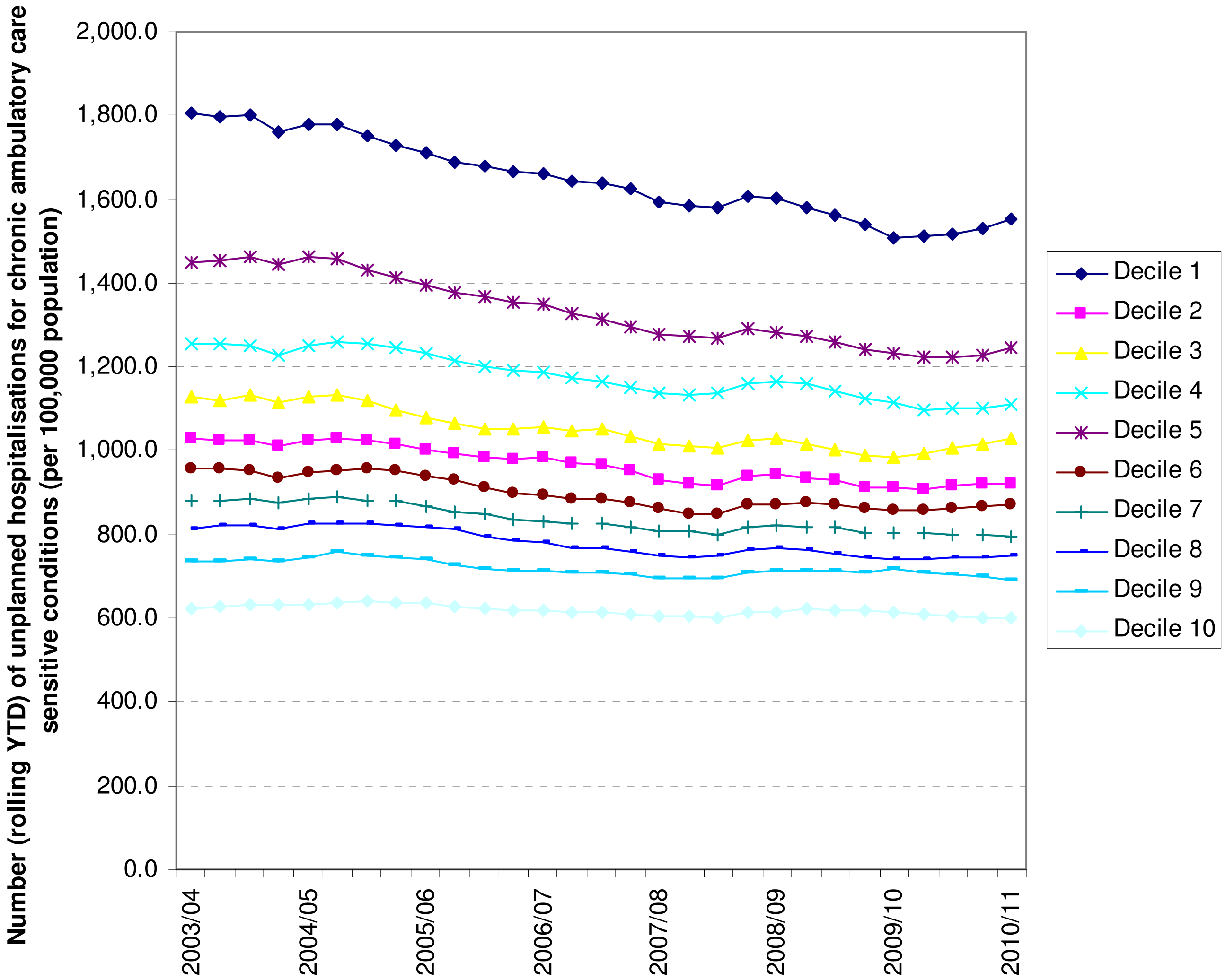
4.72 Table 2.3.i.c and Figure 2.3.id shows a breakdown, by deprivation decile, for unplanned hospitalisations for chronic ambulatory care sensitive conditions. There is significant variation across deciles. The rates have decreased between 2003/04 to 2010/11 for all IMD deciles. The largest decreases have been for the most deprived IMD deciles e.g. the most deprived decile (decile 1) decreased by 13.9% between 2003/04 and 2010/11, where as the least deprived decile (decile 10) decreased by 4.9% over the same period. This pattern broadly holds for the other deciles.

Table 2.3.i.c - Unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults, by IMD

		Year-to-Date Totals									
Quarter	Year	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10
Q4	2003/04	1,804.9	1,027.9	1,127.1	1,256.6	1,447.9	959.2	882.4	814.2	736.7	624.5
Q1		1,798.5	1,024.0	1,120.6	1,254.7	1,452.6	955.4	880.9	820.7	735.6	628.1
Q2		1,802.0	1,024.8	1,131.1	1,248.7	1,461.9	951.8	886.1	823.1	742.4	629.8
Q3		1,762.5	1,011.9	1,115.1	1,229.2	1,446.3	936.6	877.0	814.1	736.8	630.9
Q4	2004/05	1,776.8	1,026.2	1,129.9	1,251.1	1,463.1	947.4	884.8	824.9	746.1	632.6
Q1		1,780.1	1,028.8	1,132.0	1,258.7	1,456.8	954.5	891.3	825.0	757.1	638.1
Q2		1,753.5	1,024.3	1,119.1	1,254.3	1,433.1	955.1	880.8	824.1	748.3	639.2
Q3		1,728.3	1,016.4	1,098.2	1,247.9	1,413.1	950.7	878.8	822.1	747.1	635.7
Q4	2005/06	1,713.0	1,003.4	1,079.7	1,230.3	1,393.1	940.5	868.4	814.9	739.5	638.5
Q1		1,690.3	993.1	1,066.0	1,214.9	1,377.4	930.9	854.3	811.4	725.3	628.6
Q2		1,679.2	984.3	1,050.4	1,201.7	1,368.9	912.0	847.4	795.6	719.6	621.9
Q3		1,666.3	978.8	1,053.1	1,191.5	1,356.5	898.9	836.6	785.5	711.5	618.6
Q4	2006/07	1,663.2	983.9	1,054.6	1,186.1	1,351.9	894.5	832.5	779.9	715.4	618.0
Q1		1,644.8	971.6	1,046.9	1,174.1	1,328.9	883.8	825.3	767.2	708.1	613.7
Q2		1,637.7	965.5	1,050.0	1,163.8	1,314.4	883.3	825.1	768.1	709.3	615.7
Q3		1,623.3	951.3	1,033.0	1,151.9	1,295.7	876.9	818.7	759.9	705.9	611.0
Q4	2007/08	1,592.7	928.4	1,014.1	1,135.9	1,276.2	862.5	809.5	749.8	693.1	606.6
Q1		1,586.6	922.7	1,011.6	1,133.6	1,271.1	850.8	806.6	746.5	696.4	604.7
Q2		1,578.7	918.5	1,005.6	1,139.5	1,266.6	849.6	801.1	747.2	693.6	601.8
Q3		1,608.0	940.5	1,024.6	1,162.5	1,290.2	869.1	816.4	762.5	708.1	612.3
Q4	2008/09	1,601.0	943.0	1,027.8	1,164.2	1,280.0	872.5	821.4	767.5	712.7	614.2
Q1		1,581.2	935.5	1,015.9	1,158.8	1,272.9	876.4	818.4	764.4	711.9	620.8
Q2		1,561.1	928.6	1,002.8	1,141.9	1,260.8	869.5	817.9	756.2	714.9	619.8
Q3		1,538.4	912.8	990.6	1,124.6	1,243.2	860.4	805.4	746.5	709.3	617.1
Q4	2009/10	1,509.5	910.6	984.1	1,114.4	1,231.7	856.6	804.2	740.2	716.4	612.9
Q1		1,510.9	907.7	992.2	1,098.4	1,224.1	857.5	801.7	739.9	710.4	607.3
Q2		1,517.1	914.9	1,007.7	1,100.8	1,221.8	864.0	800.2	745.1	705.9	605.5
Q3		1,528.8	919.0	1,016.5	1,102.6	1,229.0	864.7	798.8	745.6	702.0	599.6
Q4	2010/11	1,554.4	922.2	1,028.8	1,109.8	1,245.1	872.7	795.9	749.7	692.9	600.0

Source: NHS Information Centre

Figure 2.3.i.d - Unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults, by IMD



Source: NHS Information Centre

Breakdown by SHA

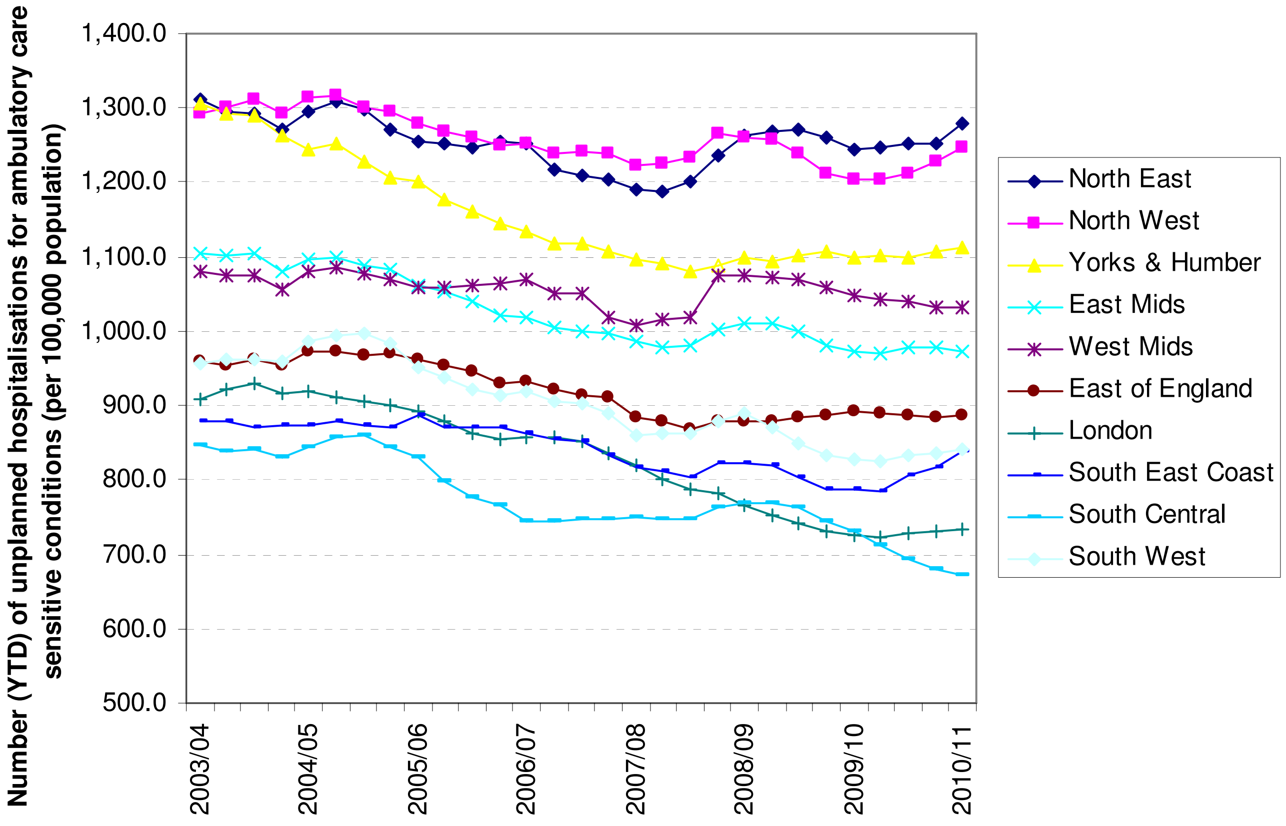
4.73 Table 2.3.i.d and Figure 2.3.i.e shows a breakdown, by deprivation decile, for unplanned hospitalisations for chronic ambulatory care sensitive conditions. There is significant variation between SHAs. The rates have decreased between 203/04 and 2010/11 for all SHAs. However, there are significant differences in the scale of this decrease e.g. the rate decreased by 20.8% in for South Central SHA, but by only 2.3% in North East SHA.

Table 2.3.i.d - Unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults, by SHA

Quarter	Year	North East	North West	Yorks & Humber	East Mids	West Mids	East of England	London	South East Coast	South Central	South West
Q4	2003/04	1,310.8	1,293.8	1,306.9	1,104.5	1,080.3	960.1	909.5	878.4	847.5	956.3
Q1		1,294.4	1,301.7	1,292.7	1,101.4	1,075.7	954.3	920.5	877.6	838.7	962.3
Q2		1,293.1	1,311.5	1,288.6	1,103.4	1,075.3	962.5	929.6	871.8	841.0	962.9
Q3		1,271.6	1,291.7	1,262.3	1,081.4	1,056.2	954.9	916.5	874.5	831.2	959.5
Q4	2004/05	1,295.2	1,313.4	1,245.5	1,096.4	1,079.1	972.8	919.3	873.5	843.2	986.7
Q1		1,308.9	1,315.8	1,253.3	1,099.7	1,085.0	973.6	912.1	878.8	856.9	995.6
Q2		1,298.4	1,300.6	1,228.2	1,087.9	1,076.5	967.0	904.6	873.9	861.0	997.9
Q3		1,270.7	1,294.4	1,205.5	1,082.4	1,070.5	969.0	901.0	871.0	843.8	983.8
Q4	2005/06	1,253.6	1,279.4	1,201.3	1,061.9	1,057.9	962.9	892.6	885.8	829.6	951.5
Q1		1,253.0	1,268.3	1,177.5	1,052.6	1,058.8	954.4	878.7	871.6	799.1	937.1
Q2		1,245.8	1,260.0	1,161.1	1,039.0	1,061.3	945.0	861.6	871.5	776.4	921.3
Q3		1,253.7	1,248.7	1,144.4	1,020.3	1,064.6	929.7	855.5	870.9	765.8	914.1
Q4	2006/07	1,251.1	1,252.8	1,134.4	1,017.2	1,068.3	933.3	856.9	863.6	743.7	920.0
Q1		1,218.2	1,239.4	1,118.2	1,006.4	1,051.8	921.8	856.9	853.8	743.2	905.0
Q2		1,208.0	1,241.1	1,116.8	1,000.3	1,051.1	913.1	851.5	850.6	747.7	902.0
Q3		1,203.6	1,238.5	1,106.1	997.9	1,018.3	910.1	837.1	833.3	748.5	890.1
Q4	2007/08	1,189.5	1,223.6	1,095.8	985.0	1,007.5	885.3	819.3	817.0	749.2	860.8
Q1		1,189.0	1,226.5	1,092.1	978.6	1,014.6	879.2	800.0	811.7	747.0	864.0
Q2		1,202.4	1,234.5	1,079.0	979.9	1,018.6	868.5	788.1	804.0	747.8	863.4
Q3		1,237.1	1,265.0	1,088.7	1,003.6	1,073.9	878.8	781.8	821.8	764.6	879.6
Q4	2008/09	1,261.8	1,260.7	1,098.6	1,011.4	1,074.5	878.2	765.4	822.6	769.5	888.5
Q1		1,269.7	1,257.8	1,093.5	1,010.4	1,072.8	879.8	753.4	818.7	769.8	869.9
Q2		1,270.6	1,237.8	1,102.1	998.9	1,070.3	884.7	741.3	804.8	763.2	849.2
Q3		1,260.5	1,211.3	1,107.4	980.8	1,057.6	885.9	731.5	787.6	743.2	833.5
Q4	2009/10	1,243.8	1,203.3	1,098.6	973.2	1,048.7	890.9	725.5	787.0	730.2	827.1
Q1		1,246.0	1,202.9	1,101.8	969.1	1,042.6	889.4	722.4	785.4	711.1	826.1
Q2		1,251.0	1,212.0	1,099.0	978.9	1,039.4	886.8	728.3	807.3	694.3	831.8
Q3		1,253.0	1,227.1	1,106.3	979.3	1,031.1	885.0	730.3	817.8	681.0	835.9
Q4	2010/11	1,280.3	1,245.7	1,113.8	972.7	1,031.0	886.7	733.8	839.7	671.3	841.0

Source: NHS Information Centre

Figure 2.3.i.e - Unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults, by IMD



Source: NHS Information Centre

Breakdown by Age

4.74 Table 2.3.i.e and Figure 2.3.i.f shows a breakdown, by age band, for unplanned hospitalisations for chronic ambulatory care sensitive conditions. The rate increases with age from 30-34. The age band with the lowest rate is 25-29.

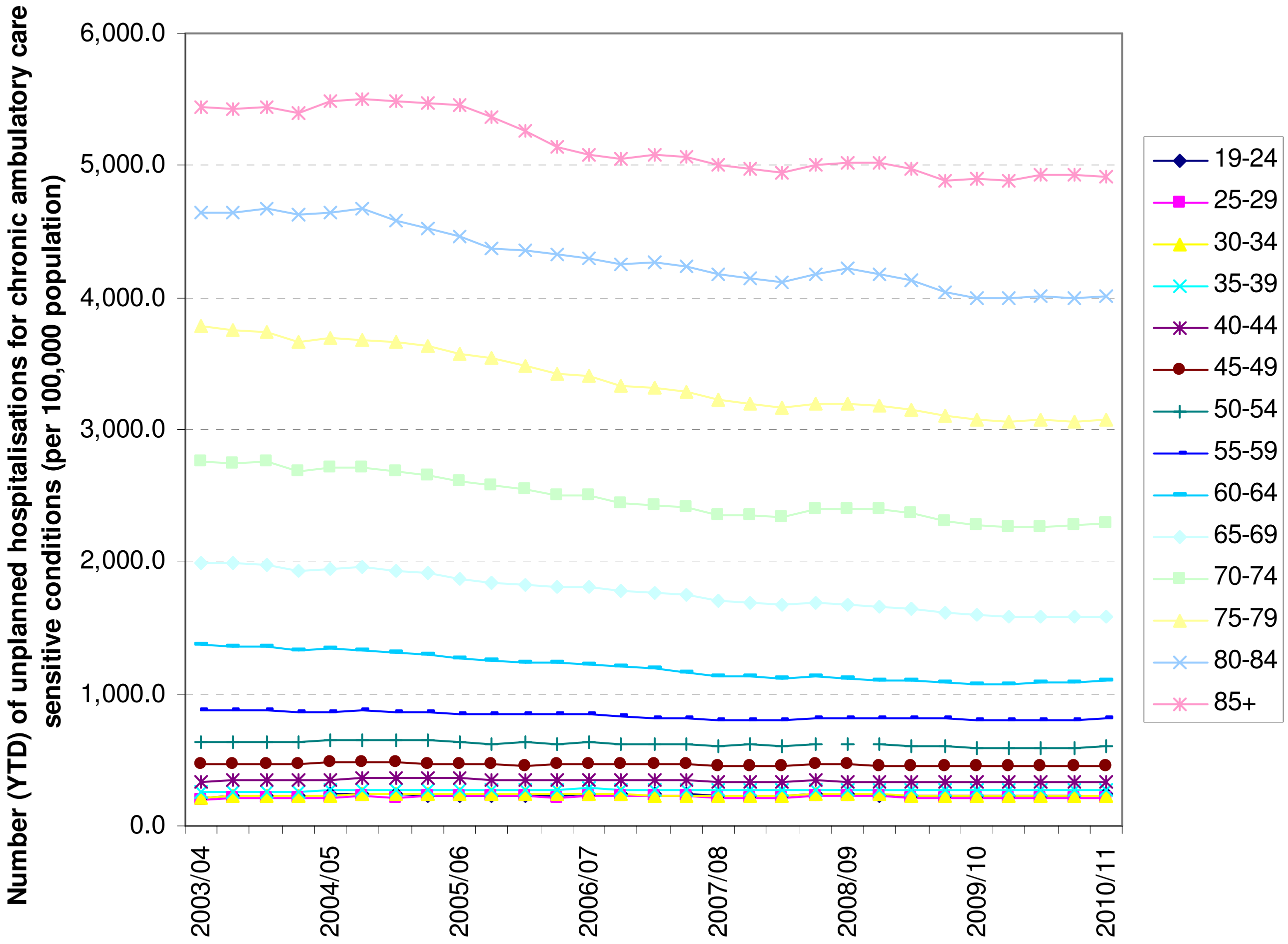
4.75 The difference between the age band with the highest rate and the age band with the lowest rate has decreased between 2003/04 and 2010/11, by 10.1% (528.7 per 100,000 population). This is driven by the rate for the age band with the highest rate (85+) decreasing by 9.1% (521.4 per 100,000 population) and the rate for the age band with the lowest rate (25-29) increasing by 3.7% (7.3 per 100,000 population). This increase in the rate for the 25-29 age band is representative of the rates for the younger age bands (19-24, 25-29, 30-34 and 34-39) all increasing.

Table 2.3.i.e - Unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults, by Age

		Year-to-Date Totals													
Quarter	**Year**	**19-24**	**25-29**	**30-34**	**35-39**	**40-44**	**45-49**	**50-54**	**55-59**	**60-64**	**65-69**	**70-74**	**75-79**	**80-84**	**85+**
Q4	2003/04	217.1	199.5	216.1	256.6	338.2	462.7	626.1	874.1	1,365.3	1,984.5	2,763.6	3,782.9	4,642.3	5,440.2
Q1		221.3	204.7	219.5	259.1	341.0	464.3	630.3	870.9	1,356.2	1,982.6	2,749.3	3,761.2	4,645.2	5,420.6
Q2		227.7	206.5	222.8	262.3	343.7	471.5	633.0	872.8	1,352.6	1,975.1	2,754.1	3,743.6	4,677.2	5,440.6
Q3		231.8	209.4	221.9	261.8	347.6	474.8	634.0	856.2	1,323.8	1,926.9	2,690.6	3,669.7	4,622.2	5,399.4
Q4	2004/05	235.4	217.4	227.7	267.3	352.6	481.3	649.4	865.2	1,335.2	1,946.9	2,715.0	3,693.7	4,642.5	5,482.8
Q1		239.6	218.8	234.7	271.7	355.6	484.6	654.5	867.9	1,328.2	1,953.7	2,719.9	3,681.3	4,669.7	5,504.7
Q2		236.4	217.4	234.6	272.6	358.3	483.4	644.4	862.7	1,310.9	1,936.8	2,686.5	3,665.4	4,588.4	5,486.6
Q3		232.9	221.3	238.3	276.6	355.6	474.8	642.6	857.9	1,289.1	1,907.5	2,657.6	3,631.3	4,521.3	5,476.9
Q4	2005/06	233.1	221.5	240.7	276.4	354.7	473.4	634.2	848.4	1,271.0	1,869.3	2,615.2	3,579.5	4,455.1	5,454.5
Q1		232.5	224.1	237.3	276.5	349.5	467.2	622.2	843.3	1,255.6	1,840.4	2,578.6	3,540.0	4,379.2	5,360.8
Q2		228.8	220.2	237.6	274.6	343.5	458.4	626.1	840.4	1,242.3	1,821.5	2,544.3	3,487.0	4,349.9	5,259.4
Q3		230.9	217.8	237.2	276.3	342.2	463.1	623.6	842.1	1,233.9	1,805.8	2,505.3	3,427.8	4,319.6	5,147.7
Q4	2006/07	236.7	221.6	237.8	281.1	343.9	465.8	627.9	839.9	1,221.7	1,811.5	2,498.9	3,402.7	4,292.2	5,079.5
Q1		236.6	218.7	234.1	278.3	341.2	466.1	625.3	832.6	1,199.7	1,784.9	2,444.2	3,328.5	4,257.2	5,055.7
Q2		236.2	219.7	232.4	274.4	342.5	466.7	624.4	821.1	1,187.1	1,763.4	2,422.4	3,314.8	4,267.5	5,075.1
Q3		234.7	220.4	228.1	271.6	341.1	459.9	616.9	809.3	1,163.0	1,744.7	2,407.0	3,288.0	4,240.2	5,069.2
Q4	2007/08	227.9	215.0	221.9	269.0	336.1	456.1	608.6	796.7	1,134.8	1,710.7	2,358.5	3,228.5	4,179.6	5,002.2
Q1		226.7	213.7	224.2	271.2	338.6	454.0	611.8	792.2	1,125.9	1,688.0	2,352.0	3,200.2	4,150.1	4,969.8
Q2		230.8	217.0	227.1	275.8	338.7	458.0	607.3	795.2	1,115.6	1,675.0	2,333.5	3,169.6	4,112.0	4,937.9
Q3		233.9	218.7	234.5	277.3	341.3	466.0	618.3	814.6	1,129.5	1,691.6	2,391.5	3,202.0	4,180.1	5,004.9
Q4	2008/09	234.9	220.6	235.9	273.2	338.3	461.2	620.8	814.9	1,121.3	1,673.5	2,401.7	3,192.6	4,215.1	5,026.3
Q1		233.2	218.8	236.3	269.8	334.6	458.4	616.0	815.5	1,107.7	1,657.4	2,390.3	3,184.4	4,170.7	5,017.0
Q2		229.7	215.4	233.3	267.6	332.4	452.6	609.6	807.8	1,093.2	1,640.0	2,371.3	3,147.2	4,136.7	4,978.9
Q3		229.7	210.7	229.5	268.9	331.0	453.7	604.7	807.7	1,078.8	1,609.7	2,312.1	3,103.8	4,045.0	4,891.5
Q4	2009/10	227.8	207.5	228.4	269.5	326.9	449.5	593.7	804.7	1,073.9	1,598.5	2,276.9	3,076.4	3,995.5	4,892.2
Q1		225.3	206.7	222.5	270.4	325.1	449.4	585.1	799.7	1,075.4	1,589.6	2,263.2	3,053.6	3,994.5	4,887.6
Q2		226.1	206.5	220.9	269.6	326.2	450.7	586.2	801.1	1,082.2	1,577.5	2,268.8	3,073.0	4,003.0	4,930.5
Q3		229.5	208.7	221.3	269.3	330.7	450.2	593.1	805.6	1,087.2	1,575.7	2,271.7	3,056.5	3,989.9	4,935.2
Q4	2010/11	235.5	206.8	221.5	268.1	334.0	453.6	598.5	812.5	1,101.4	1,575.7	2,295.7	3,073.9	4,016.3	4,918.8

Source: NHS Information Centre

Figure 2.3.i.f - Unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults, by Age



Source: NHS Information Centre

Notes:

4.76 There are a number of questions that arise from the data for the number of unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults:

- What explains the downward trend in admissions for Angina and long-term heart problems?
- Why do admission rates vary so significantly by IMD decile?
- Why is the variation in admission rates by IMD decile decreasing (this appears to be driven by the SHAs with the highest rates improving whilst others remain stable)
- Why do admission rates vary so significantly by SHA
- Why is the difference in admission rates by SHA widening (this appears to be driven by several SHAs improving significantly with others remaining more stable)
- What explains the increase in the admission rate for the younger (19-24, 25-29, 30-34 and 34-39) age bands?

Drivers of this indicator

4.77 **Healthcare drivers.** Earlier and more accurate diagnosis, making optimal use of referral pathways and available interventions, support after primary treatment. Better support to people to self-manage their condition.

4.78 **External drivers.** A literature review identified prevalence of co-morbidities, health education and self-management, access to primary healthcare services, integration of primary, secondary and social care, and socioeconomic status as the most significant external drivers for unplanned hospitalisations chronic ambulatory care sensitive conditions. Table 2.d gives further details of these significant external drivers and other external drivers identified in the literature review. It should be noted that these include public health and social care drivers where these help explain past trends.

Table 2.c – Summary of literature review findings: External Drivers of unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults.

KEY DRIVERS	Summary of Evidence
Prevalence of co morbidities	Evidence shows that higher levels of morbidity are associated with higher levels of emergency admission. Admission rates are also correlated with chronic illness. Higher levels of recorded morbidity and chronic disease in patients registered with GP Practices have also been shown to be associated with higher rates of emergency admission from those Practices. Evidence shows that it is common, with increasing age, to have more than one condition; these conditions act synergistically to further increase risk. Evidence shows that poly pharmacy due to multiple conditions is a common cause of unplanned hospital admission.
Health education and self-management	Evidence shows that self-management education for patients with COPD reduces the risk of at least one hospital admission my about 36% compared with usual care. Self-management education was associated with a reduction in shortness of breath and an improved quality of life. Evidence also shows that education for adult patients with asthma attending A&E with an acute exacerbation significantly reduced admission to hospital by 50%, but did not significantly reduce post-discharge morbidity and readmission for adult asthma patients.
Access to primary health care services	In the UK, unplanned admissions have risen steadily over the past 10 years. There is some evidence that this rise may be partly attributable to changes in out-of-hours provision that occurred in 2004. The evidence for an association between higher quality of primary care and reduced rates of admission is mixed. Lower rates of admission for asthma were found in practices whose prescribing patterns suggest better preventative care. However, recent research did not find any association between QOF scores and hospital admission for patients with asthma, COPD or coronary heart disease. Provision of diabetes clinics in primary care was significantly associated with reduced admission rates for diabetes, but the provision of asthma clinics was not associated with a

	similar reduction in admissions. Conversely, a systematic review showed that high standards of diabetes care in primary care do not necessarily lead to reduced hospital admissions.
Integration of primary, secondary and social care	There is evidence from a recent review by the *King's Fund* that integrating primary and social care reduces admissions. Data from Torbay shows that providing integrated care to the highest risk older people, who require intensive support, has resulted in a reduction in hospital admissions. Managed disease networks in Scotland demonstrated a reduction in emergency admissions for ambulatory care-sensitive conditions in the three years after the networks were implemented. There is very little evidence to suggest that clinics provided by hospital specialists in primary care reduce hospitalisation rates when delivered in isolation. However, this systematic review found that specialist outreach, as part of more complex multifaceted interventions involving collaboration with primary care, education or other services, is associated with reduced use of inpatient services.
Socioeconomic status	There is evidence from the UK, North America and Europe that people who live in areas of socio-economic deprivation have higher rates of emergency admissions. Deprivation is more strongly linked to emergency admissions than elective admissions.
OTHER DRIVERS	**Summary of Evidence**
Ethnicity	Being from a minority ethnic group is associated with higher risk of emergency admission.

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(b) Indicator 2.3.i: Current Practice Projections

Methodology

4.79 The projections arrived at in Table 2.3.i.g. and Figure 2.3.i.h are arrived at via the following methodology:

- A default position that the indicator will remain "flat" is taken. It is assumed that the apparent flat cyclical trend since 2007/08 represents the relevant data for projecting forward.

- The annual rates for the data since 2007/08 are averaged by exponential smoothing (using a damping factor of 0.3), therefore giving greater weight to more recent observations; this exponentially smoothed average is used as the "flat" projection.

A Prediction Interval is calculated as follows:

- The standard deviation of the annual data since 2007/08 around the trend (in this case the projection level) is calculated;
- One standard deviation is added to the projected rates to give a prediction interval on the "worse" side of the projection.

4.80 It should be noted that we plan to project this indicator using a cohort based analysis. However, this has not been possible for the Consultation. Therefore a more simple methodology has been used, for illustrative purposes.

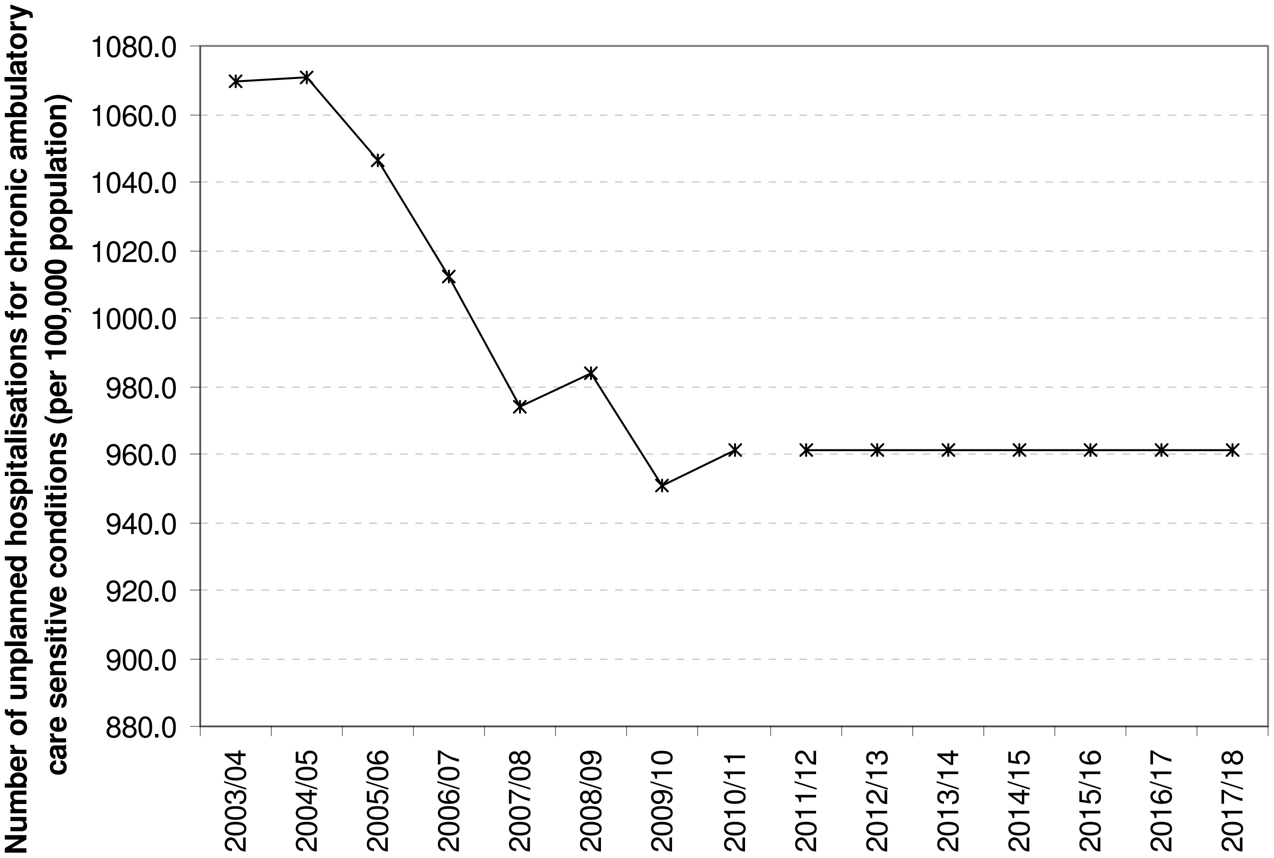
Results

Table 2.3.i.g – Current Practice Projection for: unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults (per 100,000 population)

Year	Annual Value	Projection
2003/04	1069.3	-
2004/05	1070.7	-
2005/06	1046.1	-
2006/07	1011.9	-
2007/08	973.9	-
2008/09	983.7	-
2009/10	950.9	-
2010/11	960.9	-
2011/12	-	961.0
2012/13	-	961.0
2013/14	-	961.0
2014/15	-	961.0
2015/16	-	961.0
2016/17	-	961.0
2017/18	-	961.0

Source: NHS Information Centre

Figure 2.3.i.h – Current Practice Projection for: unplanned hospitalisations for chronic ambulatory care sensitive conditions in adults (per 100,000 population)



Source: NHS Information Centre

(c) Indicator 2.3.i: Scope for Improvement

4.81 This section considers whether there is scope for further improvement in this outcome indicator. This includes potential improvements that will be delivered though existing policy programmes, as well as any improvements in outcomes that could be achieved within the current resource envelope through efficiency savings. The scope for improvement for each indicator can then be considered as part of the process to set an overall level of ambition for each domain.

4.82 Several current and planned policy initiatives are likely to lead to improvements in this outcome within current resources. At a national level the department estimates that a 20% reduction in emergency readmissions, against the level reached if no action was taken, for people with long-term conditions should be possible, however through plans to transform care across the NHS, local organisations may plan to reduce this by more or less. This not a national target, but what should be possible in aggregate, through following best practice and innovative approaches to transforming care. The initiative on telehealth and telecare (3 million lives) aims to help people with long-term conditions benefit from this technology (the Whole System Demonstrator programme).

4.83 Early headline findings show that when used appropriately as part of an integrated care package, telehealth can reduce emergency admissions by 20% and A&E attendances by 15%.

4.84 Aside from these initiatives there is evidence there could be further scope for improving this outcome at zero net cost by reducing regional variation and/or rolling out best practice. Part of the NHS initiative to reduce emergency admissions of people with LTCs is about supporting people to self care. By embedding self care support into primary and secondary care pathways, and making every contact an opportunity to have a self care discussion, individuals will become better able to have the confidence to manage their conditions themselves. For example, having the correct information about the condition, how to take medicines appropriately, knowing / being confident about what to do in an exacerbation can all prevent emergency admissions.

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

Outcome sought	***Reduced unplanned time spent in hospital by children with specific long-term conditions that should be managed outside hospital.***
Indicator definition	*Value of unplanned hospitalisations for asthma, diabetes and epilepsy in under 19s – per 100,000 population. The indicator will be standardised by age and sex. However, these are not currently available and non-standardised data have been used instead for the purposes of this template.*

(a) Indicator 2.3.ii: Recent Trends and Explanations

4.85 The rate for unplanned hospitalisations for asthma, diabetes and epilepsy in under 19s fell by approximately 1.3% between 2009/10 and 2010/11, from 352.8 to 348.1 unplanned hospitalisations per 100,000 population. Between 2003/04 and 2010/11, the rate increased from 338.0 to 348.1, an average annual increase of 0.3%.

4.86 There is no obvious long-term trend in the number of hospitalisations for asthma, diabetes and epilepsy in under 19s. However, there is significant variation, with the rate per 100,000 of population varying from 382.6 in 2006/07 and 338.7 in 2003/04, a difference of 11.4%. This variation follows a cyclical pattern over a two-year period, which appears to break down in the most recent two years (2009/10 to 2010/11).

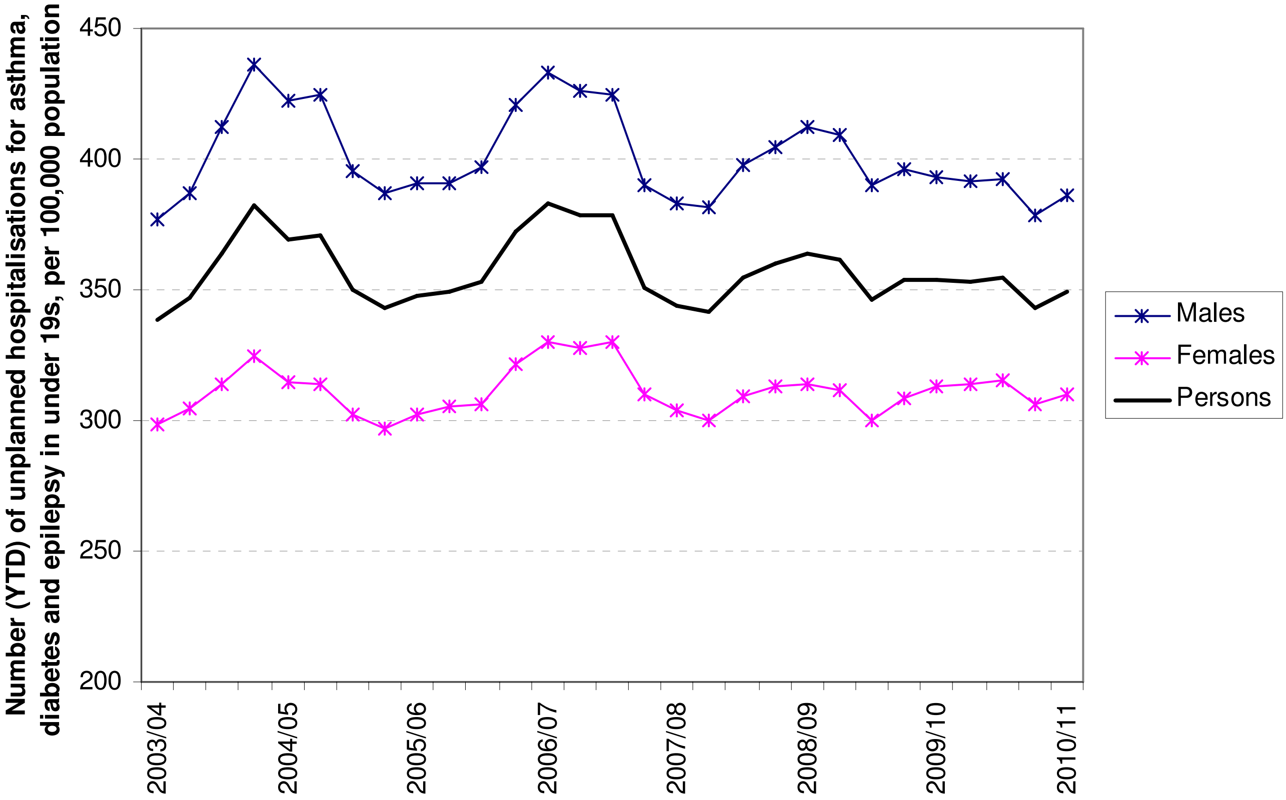
4.87 Both the long-term trend and pattern in variation are very similar for both males and females with males, on average, having a rate 29% higher than for females.

Table 3.ii.a – Unplanned hospitalisations for asthma, diabetes and epilepsy in under 19s, males, females and persons (per 100,000 population)

		Year-to-Date Totals		
Quarter	Year	Males	Females	Persons
Q4	2003/04	376.6	298.8	338.8
Q1		387.3	304.7	347.2
Q2		412.2	313.6	364.2
Q3		436.5	324.8	382.1
Q4	2004/05	422	314.4	369.6
Q1		424.4	313.7	370.4
Q2		395.5	302.4	350.1
Q3		386.7	296.6	342.7
Q4	2005/06	390.8	302.2	347.5
Q1		390.9	305.2	349.1
Q2		396.8	306.3	352.7
Q3		420.6	321.6	372.4
Q4	2006/07	432.7	330.1	382.8
Q1		425.9	327.8	378.2
Q2		424.3	330	378.5
Q3		389.9	309.7	350.9
Q4	2007/08	382.8	303.5	344.2
Q1		381.3	300.3	341.8
Q2		397.9	309.6	354.8
Q3		404.6	312.7	359.8
Q4	2008/09	412	313.6	364
Q1		409	311.5	361.5
Q2		390	299.9	346.1
Q3		396.4	308.8	353.7
Q4	2009/10	393	313	354
Q1		391.5	313.5	353.4
Q2		392.6	315.1	354.7
Q3		378.8	305.8	343.1
Q4	2010/11	386.4	309.7	348.9

Source: NHS Information Centre

Figure 2 .3.ii.a – Unplanned hospitalisations for asthma, diabetes and epilepsy in under 19s, males, females and persons (per 100,000 population)



Source: NHS Information Centre

Breakdown by diagnosis

4.88 The significant variation in the number of hospitalisations for asthma, diabetes and epilepsy in under 19s is driven by asthma (see Table 2.3.ii.b and Figure 2.3.ii.b), which accounts for both the majority of the hospital admissions (62% in 2010/11) and is the source of the two-year cyclical trend in the earlier periods.

4.89 The approximately two-year cyclical trend may be driven by high pollen years, a driver of asthma related admissions. The causes of the apparent dampening of this variation are unknown. However, possible explanations include better management of asthma in primary care e.g. earlier diagnosis and the improved carrying of inhalers, or more recent years having lower pollen levels.

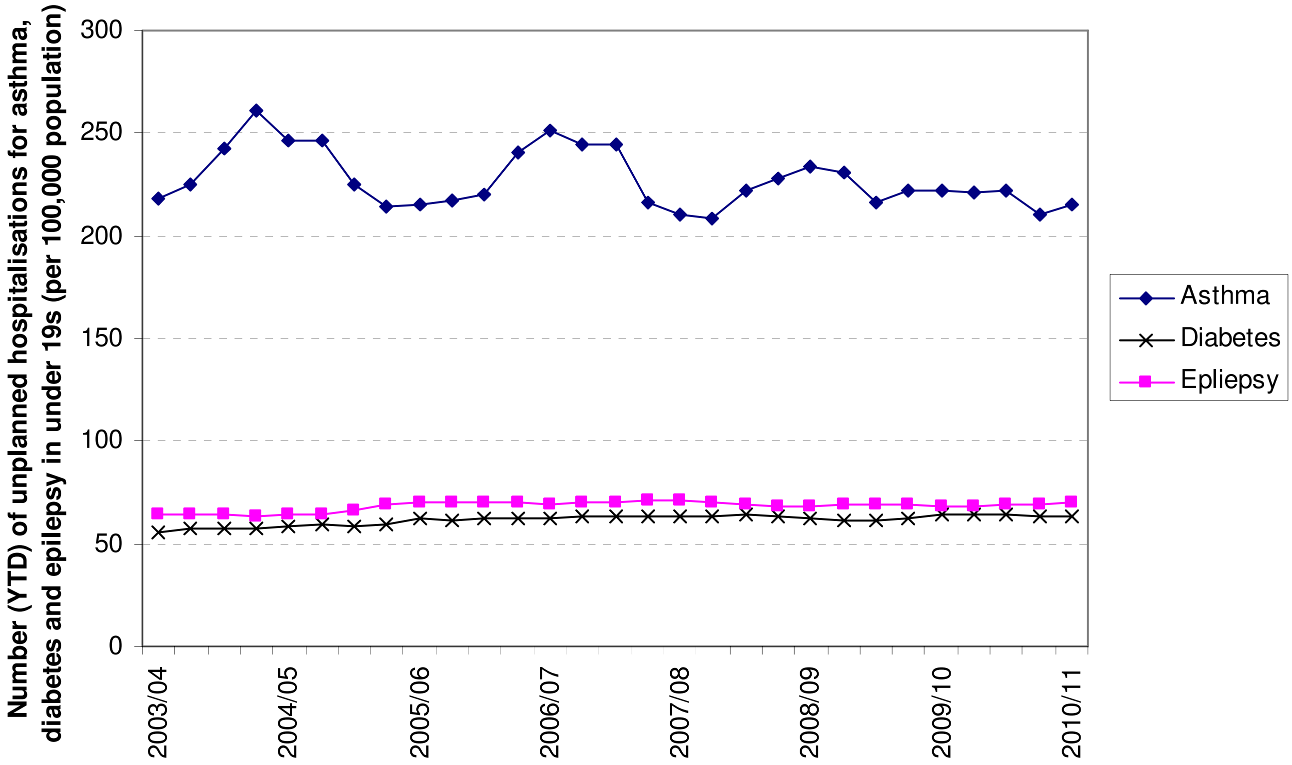
4.90 The “Asthma – quarterly data” column in Table 2.3.ii.b and Figure 2.3.ii.c shows that there is a significant seasonal effect driving the unplanned hospitalisations for asthma in under 19s, with a peak occurring in the third quarter of each year.

Table 2.3.ii.b – Unplanned hospitalisations for asthma (including quarterly data), diabetes and epilepsy in under 19s (per 100,000 population), by primary diagnosis

Quarter	Year	Asthma	Asthma - quarterly data	Diabetes	Epliepsy
Q4	2003/04	218.5	54.9	55.9	64.3
Q1		225.1	54	57.5	64.6
Q2		242.2	73.1	57.6	64.5
Q3		261.1	79.1	57.8	63.3
Q4	2004/05	246.8	40.6	58.8	64.1
Q1		246.7	53.9	59.1	64.7
Q2		224.6	51	58.9	66.6
Q3		214.4	68.9	59.7	68.7
Q4	2005/06	215.6	41.8	62	70.1
Q1		217	55.3	61.7	70.5
Q2		220.4	54.4	62.3	70.1
Q3		240.2	88.7	62.4	69.7
Q4	2006/07	251	52.6	62.4	69.2
Q1		244.9	49.2	63.2	69.9
Q2		244.5	54	63.3	70.5
Q3		216.2	60.4	63.7	71
Q4	2007/08	210	46.4	63.1	71
Q1		208.4	47.6	63.4	70
Q2		221.8	67.4	63.9	69.1
Q3		228.4	67	63.3	68.1
Q4	2008/09	233.6	51.6	62.2	68.3
Q1		231.1	45.1	61.3	69.2
Q2		216.2	52.5	61.2	68.7
Q3		221.8	72.6	62.7	69.1
Q4	2009/10	221.7	51.5	64.1	68.1
Q1		221.2	44.6	64.4	67.7
Q2		222.1	53.4	64	68.7
Q3		210.1	60.6	63.6	69.5
Q4	2010/11	215.3	56.7	63.1	70.5

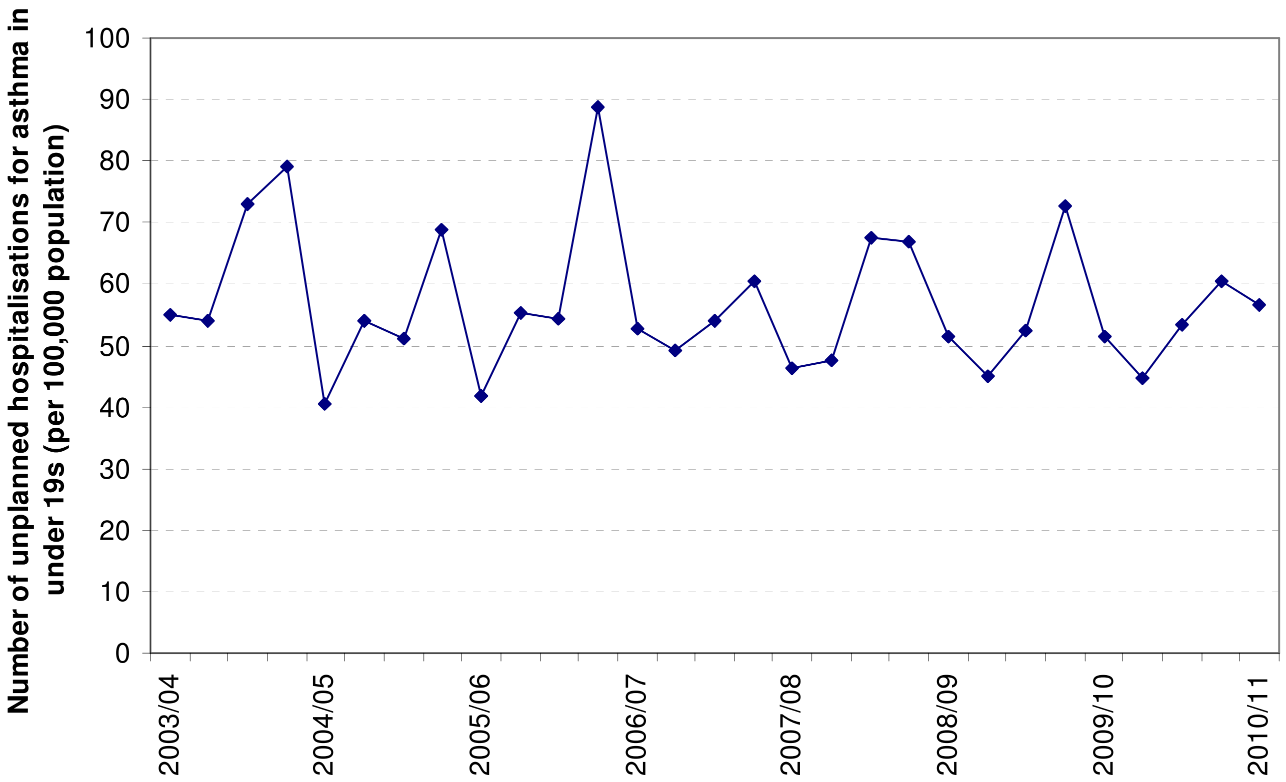
Source: NHS Information Centre

Figure 2.3.ii.b – Unplanned hospitalisations for asthma, diabetes and epilepsy in under 19s (per 100,000 population), by primary diagnosis



Source: NHS Information Centre

Figure 2.3.ii.c – Unplanned hospitalisations for a primary diagnosis of asthma in under 19s (per 100,000 population) – quarterly data



Source: NHS Information Centre

Breakdown by IMD

4.91 Socioeconomic status is an important driver of unplanned hospitalisations for asthma, diabetes and epilepsy in under 19s (see "Drivers of this indicator"). This can be seen by differing levels in the rate of unplanned hospitalisations by IMD decile e.g. in 2010/11, the most deprived decile (decile 1) had a rate 157.7% higher than for the least deprived decile (decile 10).

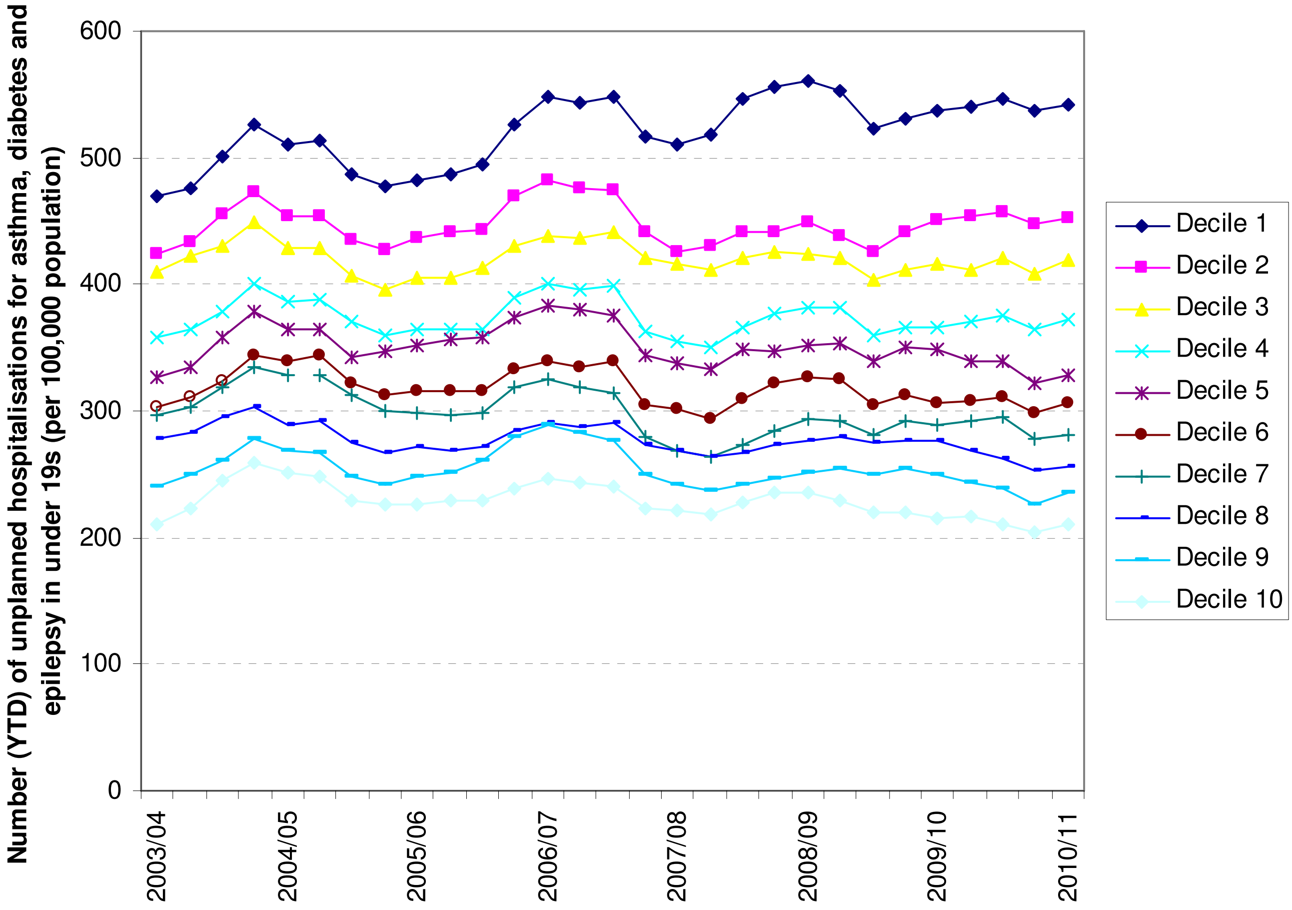
4.92 There has also been a slight widening of the difference between the most deprived and the least deprived groups. This appears to be driven by the rate for the most deprived IMD decile (decile 1) having increased by 15.2% between 2003/04 and 2010/11. The rates for the other deciles appear more stable, although decile 2 has also increased by 6.3% between 2003/04 and 2010/11.

Table 2.3.ii.c – Unplanned hospitalisations for asthma, diabetes and epilepsy in under 19s (per 100,000 population), by IMD

Quarter	Year	Decile 1	Decile 2	Decile 3	Decile 4	Decile 5	Decile 6	Decile 7	Decile 8	Decile 9	Decile 10
Q4	2003/04	470	424.7	410	357.7	327.1	302.6	296.2	278.3	240.7	210.4
Q1		476.2	433.4	422.2	363.9	335.3	311.5	303.7	282.1	249.4	223.2
Q2		500.7	455.2	431.1	377.9	358.6	322.9	318.1	296	260.7	244.8
Q3		525.5	472	448.6	400.2	378.7	343.4	334.9	302.7	277.9	258.6
Q4	2004/05	510.8	454.7	428.3	386.5	363.7	338.6	327.9	288.9	269	251.6
Q1		514.3	453.6	428.9	387.3	364.7	343.2	328.4	291.8	267.5	248.2
Q2		487	434.3	406.1	370.1	342	321.5	312.6	275	248.5	229.8
Q3		476.8	427.1	396	360.2	346.9	312.3	299.8	266.9	242.3	225.5
Q4	2005/06	482.6	436.7	404.9	364.9	352.5	315.1	298.2	271.4	247.8	226.4
Q1		486.8	441.2	404.6	364.3	356.1	315.3	297.6	269.1	251.3	228.8
Q2		495.4	442.9	413.2	364.9	357.9	315.7	297.8	271.2	261.1	230.1
Q3		526.8	469.4	430.4	389.7	373.7	332.2	318.1	284.2	279.5	238.4
Q4	2006/07	548.2	482.8	438.2	400.5	384	338.6	325.2	290.1	289.6	246.2
Q1		542.8	475.2	436	395.3	379.5	335	318.7	287.9	282.6	243.9
Q2		548	474.7	442	399	374.8	339.4	314.4	289.9	276	240.4
Q3		516.1	442	420.4	362.4	344.4	304.5	279.6	272.9	249.5	223
Q4	2007/08	510.7	425.7	416.7	354.2	338	300.9	269.2	268.5	241.4	220.8
Q1		517.6	430.7	411.3	350.2	333.3	294.3	263.7	263.2	236.9	219
Q2		546.6	441.8	421.1	366.7	349.3	309.7	273.7	267.4	241.4	228.4
Q3		555.8	442	425	376.2	346.4	322.4	284.2	272.7	246.7	235.7
Q4	2008/09	560.6	450	424	382.2	351.1	327	293.5	277.1	250.7	235
Q1		553.6	438.6	421.6	381.3	354	325.4	292.2	279.7	254.9	228.9
Q2		522.8	425.4	403.2	359.7	339.7	304.7	281.6	274.2	249.6	219.3
Q3		530.3	440.6	411.1	366.7	350.8	312.8	291.6	276.7	253.8	219.5
Q4	2009/10	537.1	450.2	415.7	366.5	348.3	306.2	288.5	276.6	249.9	214.8
Q1		539.9	454.5	412.2	370.2	339.7	308.6	292.4	268	242.7	217.5
Q2		546.5	457.6	421.7	375.7	338.6	311.7	295.2	262.3	238.3	210.4
Q3		537.6	448.4	407.7	364.8	322.6	298.9	278.3	253.2	226.8	204.7
Q4	2010/11	541.5	451.6	418.8	371.8	327.6	306.9	281.6	256.1	234.9	210.1

Source: NHS Information Centre

Figure 2.3.ii.d – Unplanned hospitalisations for asthma, diabetes and epilepsy in under 19s (per 100,000 population), by IMD



Source: NHS Information Centre

Breakdown by SHA

4.93 There is significant variation, by SHA, in unplanned hospitalisations for asthma, diabetes and epilepsy in under 19s. For example, in 2010/11, the rate in North West SHA is 94.9% higher than the rate for South West SHA.

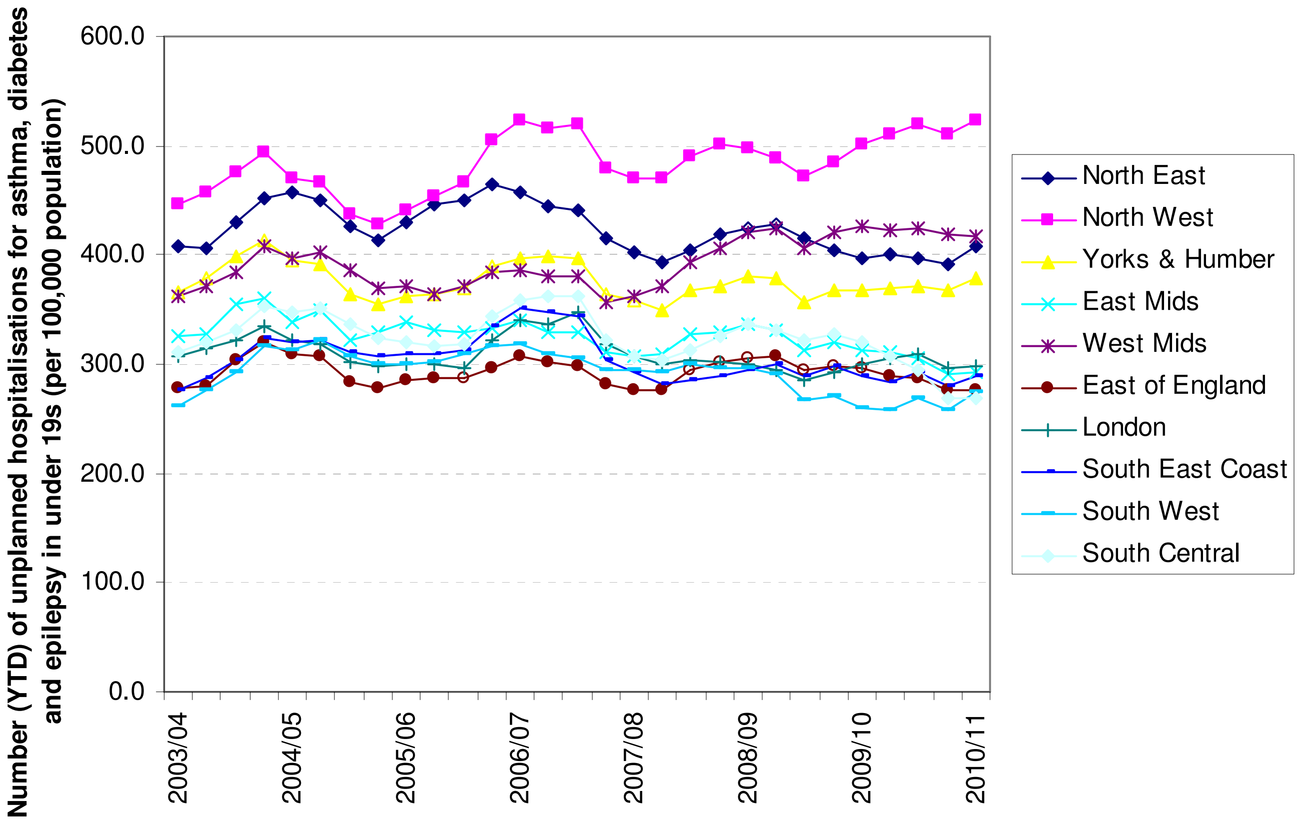
4.94 There has also been a slight widening of the difference between the SHAs with the highest rates and the SHAs with the lowest rates. This appears to be driven by the rate for North West and West Midlands SHAs increasing between 2003/04 and 2010/11 e.g. the rate for North West SHA increased by 17.2%. The rates for the other SHAs are stable, taking into account the cyclical variation discussed above.

Table 2.3.ii.d - Unplanned hospitalisations for asthma, diabetes and epilepsy in under 19s (per 100,000 population), by SHA

		Year-to-Date Totals									
Quarter	Year	North East	North West	Yorks & Humber	East Mids	West Mids	East of England	London	South East Coast	South West	South Central
Q4	2003/04	407.8	445.6	366.2	325.0	362.7	277.7	307.0	276.7	261.0	311.1
Q1		406.8	457.6	379.1	327.4	371.5	279.1	314.4	288.0	276.0	319.5
Q2		429.2	476.2	398.3	354.1	384.7	302.8	322.6	303.2	291.9	330.4
Q3		452.3	493.4	412.8	360.5	408.8	320.5	335.2	323.5	315.6	353.1
Q4	2004/05	456.7	469.3	394.5	339.3	396.1	308.3	321.9	320.3	313.2	348.0
Q1		449.7	465.6	391.1	349.0	401.6	306.8	318.7	322.8	321.7	351.3
Q2		425.6	437.2	364.4	322.3	385.5	284.4	302.5	310.6	307.8	336.8
Q3		414.3	428.2	354.9	329.5	370.4	278.2	298.7	306.7	299.2	323.4
Q4	2005/06	430.3	440.2	362.0	337.8	371.5	284.8	299.7	308.8	299.3	320.7
Q1		446.2	454.0	363.7	331.7	363.8	287.1	300.6	308.4	301.3	316.5
Q2		449.9	466.2	369.6	329.7	371.9	286.7	297.2	312.5	308.8	317.4
Q3		464.2	505.2	389.4	333.6	384.8	296.9	322.1	334.2	317.1	343.4
Q4	2006/07	458.0	522.8	397.8	340.0	385.9	307.7	339.8	351.4	318.4	358.4
Q1		445.2	516.1	398.7	329.7	380.5	302.0	337.2	347.3	308.6	362.4
Q2		440.4	519.8	396.4	329.4	379.8	297.3	347.8	343.5	305.4	361.4
Q3		415.9	478.7	363.6	311.2	357.5	282.0	318.0	303.6	293.8	321.7
Q4	2007/08	402.0	470.2	358.7	307.0	361.5	275.5	306.8	292.6	294.7	307.3
Q1		392.8	470.6	349.8	309.9	371.0	277.0	299.9	282.3	293.3	303.6
Q2		404.1	489.4	368.4	328.2	393.6	293.9	302.9	284.8	299.5	313.1
Q3		418.4	500.4	371.7	328.7	407.0	301.0	301.8	289.9	296.6	326.5
Q4	2008/09	424.3	497.5	380.3	336.9	421.0	306.1	299.5	293.8	296.5	335.8
Q1		427.5	488.7	378.9	330.2	424.0	307.5	295.2	300.0	290.7	331.4
Q2		414.8	471.9	357.3	312.3	407.0	293.7	284.9	288.4	267.8	322.6
Q3		404.4	484.0	367.4	319.3	420.1	298.9	293.5	297.7	271.5	326.9
Q4	2009/10	396.6	500.8	367.7	312.6	427.1	295.7	300.5	288.4	259.1	320.3
Q1		401.4	509.9	369.2	311.2	423.4	289.4	305.0	284.4	257.8	308.1
Q2		396.7	519.6	371.7	306.1	423.5	287.7	308.8	292.1	268.6	294.3
Q3		390.7	511.1	367.2	290.1	418.1	276.9	296.7	279.3	258.5	269.1
Q4	2010/11	408.7	522.4	378.2	293.3	417.2	276.2	299.0	289.3	273.6	268.0

Source: NHS Information Centre

Figure 2.3.ii.e – Unplanned hospitalisations for asthma, diabetes and epilepsy in under 19s (per 100,000 population), by SHA



Source: NHS Information Centre

Notes:

There are a number of questions that arise from the data for the number of unplanned hospitalisations for asthma, diabetes and epilepsy in under 19s:

- Why does the past two-year cyclical trend breakdown in 2010/11?
- Why is variation in the indicator less between 2007/08 and 2010/11 than between 2003/04 and 2007/08? For example, can this be attributed to improved NHS performance or drivers e.g. pollen of asthma admissions for children?
- Why do admission rates vary so significantly by IMD decile
- Why are admissions for the poorest IMD decile increasing where the others appear stable?
- Why do admission rates vary so significantly by SHA
- Why is the difference in admission rates by SHA widening (this appears to be driven by several SHAs improving significantly where others remain more stable)?

Drivers of this indicator

4.95 **External drivers.** A review of the literature by clinicians identified tobacco use, community support, socioeconomic status and diabetes (for asthma and epilepsy) as the most significant external drivers for unplanned hospitalisations for asthma, diabetes and epilepsy in under 19s. Table 2.c gives further details of these significant external drivers and other external drivers identified in the review. It should be noted that these include public health and social care drivers where these help explain past trends.

4.96 **Healthcare drivers.** Earlier and more accurate diagnosis making optimal use of referral pathways and available interventions. Support after primary treatment. Better support to people to self-manage their condition. Note: Further information on the external drivers in bold can be found in the “Drivers” section of this technical Annex.

Table 2.c – Summary of literature review findings: External Drivers of unplanned hospitalisations for asthma, diabetes and epilepsy in under 19s

	PRIMARY DIAGNOSIS		
KEY DRIVERS	**Asthma**	**Diabetes**	**Epilepsy**
Tobacco use	There is evidence of a direct causal relationship between parental smoking and lower respiratory tract illness in children up to 3 years of age. According to evidence, infants whose mothers smoke are four times more likely to develop wheezing illnesses in the first year of life. There is evidence of exposure to tobacco contributes to the severity of childhood asthma. Average exposure is associated with a 30% increased risk of asthma symptoms.	There is some evidence of a link between maternal smoking and subsequent childhood diabetes. There is evidence that tobacco use by diabetic children is unlikely to significantly effect hospitalisation, although it will increase the long-term risk of complications.	There is no clear evidence of an association between passive smoking or maternal smoking in pregnancy and subsequent epilepsy.

Community support	There is evidence that those who do not have a written personal asthma action plan are four times more likely to have an asthma attack requiring emergency hospital treatment.	“Quality of care whilst living at home” is an important driver.	The Cochrane review on care delivery in epilepsy stated No study appears to have demonstrated any detrimental effects but the evidence in favour of any single programme is insufficient to make it possible to recommend one programme rather than another.
Socioeconomic status	There is evidence that children living in homes with damp or mould are 1.5 to 3 times more likely to experience coughing and wheezing.	There is evidence that outcomes in diabetes tend to be worse in lower socioeconomic groups. It is likely that higher levels of deprivation increase the likelihood of poor control, and therefore increased risk of presentation.	There is evidence that socioeconomic status is linked to adherence to treatment which could result in poor control and subsequent increased admissions. However, there are a number of potential confounders and a lack of systematic review in this regard.

Diabetes	A large study in *Paediatrics* showed that children with diabetes are more inclined to develop asthma, and also that young children who may have both of these conditions find it more challenging to maintain their blood sugar levels. These findings have been replicated in other countries.	N/A	There is a study demonstrating that children with diabetes (type one) have an increased risk of epilepsy and evidence exists in young adults.
OTHER DRIVERS	**Asthma**	**Diabetes**	**Epilepsy**

for the NHS Outcomes Framework

Prevalence	One in eleven children has asthma and it is the most common long-term condition. The UK has among the highest prevalence rates of asthma symptoms in children worldwide. Many publications report increasing incidence has reached a plateau (and symptom incidence may be falling).	Incidence of diabetes (particularly type 2) continues to rise. This is very closely linked to the increasing proportion of children who are clinically obese. The current estimate of prevalence of Type 1 diabetes in children in the UK is one per 700–1,000. This gives a total population of 25,000 under-25s with Type 1 diabetes. Prevalence figures for children are limited but as many as 1,400 children may have Type 2 diabetes in the UK·	Epilepsy is a common chronic neurological condition. There are no significant trends in terms of increase or decrease at present (Prevalence rate 700 per 100,000 in children under the age of 16 years).

Obesity	Epidemiological data shows a link between asthma and obesity, although definitive links when confounders are removed are not clear.	A systematic review demonstrates an evidence for an association between childhood obesity, or higher BMI, and increased risk of subsequent Type 1 diabetes. Relationships between type 2 diabetes and obesity are not in doubt. Actual risks vary but obesity is likely to at least double your risk.	There is evidence from genetic studies that obesity and epilepsy have a common pathway. One study has shown almost 40% of children with newly diagnosed epilepsy are overweight or obese.
Alcohol Consumption	There has been some research on maternal alcohol consumption during pregnancy and an increased risk of asthma, but this is not universally supported.	Alcohol increases the risk of disordered sugar levels. It is therefore possible an epidemic of underage drinking may increase the chance of diabetic teenagers being admitted but these numbers would not be significant.	Chronic Alcohol exposure in uterus may be associated with a risk of developing seizures, but the evidence for smaller amounts is not clear.

Physical Activity	A Cochrane review (13 RCTs, n = 455) showed that physical training increases cardiorespiratory capacity but has no effect on lung function and days of wheezing in people with asthma.	A Cochrane review showed generally school-based interventions had no effect on leisure time, physical activity rates, systolic and diastolic blood pressure, body mass index, and pulse rate but did improve VO2 max. A dramatic increase in out of school activity in obese children or at risk of obesity is likely to reduce the incidence of type 2 diabetes.	Increasing or decreasing physical activity at school and at home may change the incidence of obesity which may in turn affect the prevalence of epilepsy, but there are no clear links.
Cholesterol	There are no clear associations here.	Increasing cholesterol is a risk factor for diabetes but its effect in children is unclear.	There are no clear associations here.

Quality of care whilst living at home or in residential care	A systematic review on publications which aimed to improve gaps in asthma care has been performed. As only six studies included information on the costs of improving asthma care, no consensus estimates of the cost/benefit ratio for better asthma care could be derived. There was insufficient evidence in the literature for assessment of the impact of gaps in care and the costs of closing those gaps. Two Cochrane reviews suggest that measures to control house dust might allergens do not appear to be a cost-effective method of treating asthma. Studies were heterogeneous in terms of intervention, and allocation was not adequately concealed in some studies. At present, there is no clear benefit of house dust mite avoidance.	A UK consensus document on diabetes in children and young people noted patient empowerment and increased skills in caregivers may be beneficial in affecting outcomes.	There is no clear evidence of changing outcomes with quality of care but the themes are likely to be the same as Asthma and Diabetes.

Prevalence of co-morbidities	See Diabetes section above. Gastro-Oesophageal Reflux: The relationship of increased asthma symptoms, particularly at night, to gastro-oesophageal reflux remains uncertain, although the condition is three times more prevalent in people with asthma than in the general population. A Cochrane review (12 RCTs) concluded that the treatment of gastro-oesophageal reflux in people with asthma had no effect on asthma symptoms or lung function. Dry cough improved, although this symptom was probably not due to asthma.	Note links with Asthma.	

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(b) Indicator 2.3.ii: Current Practice Projections

Methodology

4.97 The projections arrived at in Table 2.3.ii.f. and Figure 2.3.ii.g are arrived at via the following methodology:

- A default position that the indicator will remain "flat" is taken.
- The annual rates are averaged by exponential smoothing (using a damping factor of 0.3), therefore giving greater weight to more recent observations; this exponentially smoothed average is used as the "flat" projection.
- A Prediction Interval is calculated as follows:
    - The standard deviation of the annual data around the trend (in this case the projection level) is calculated;
    - One standard deviation is added to the projected rates to give a prediction interval on the "worse" side of the projection.

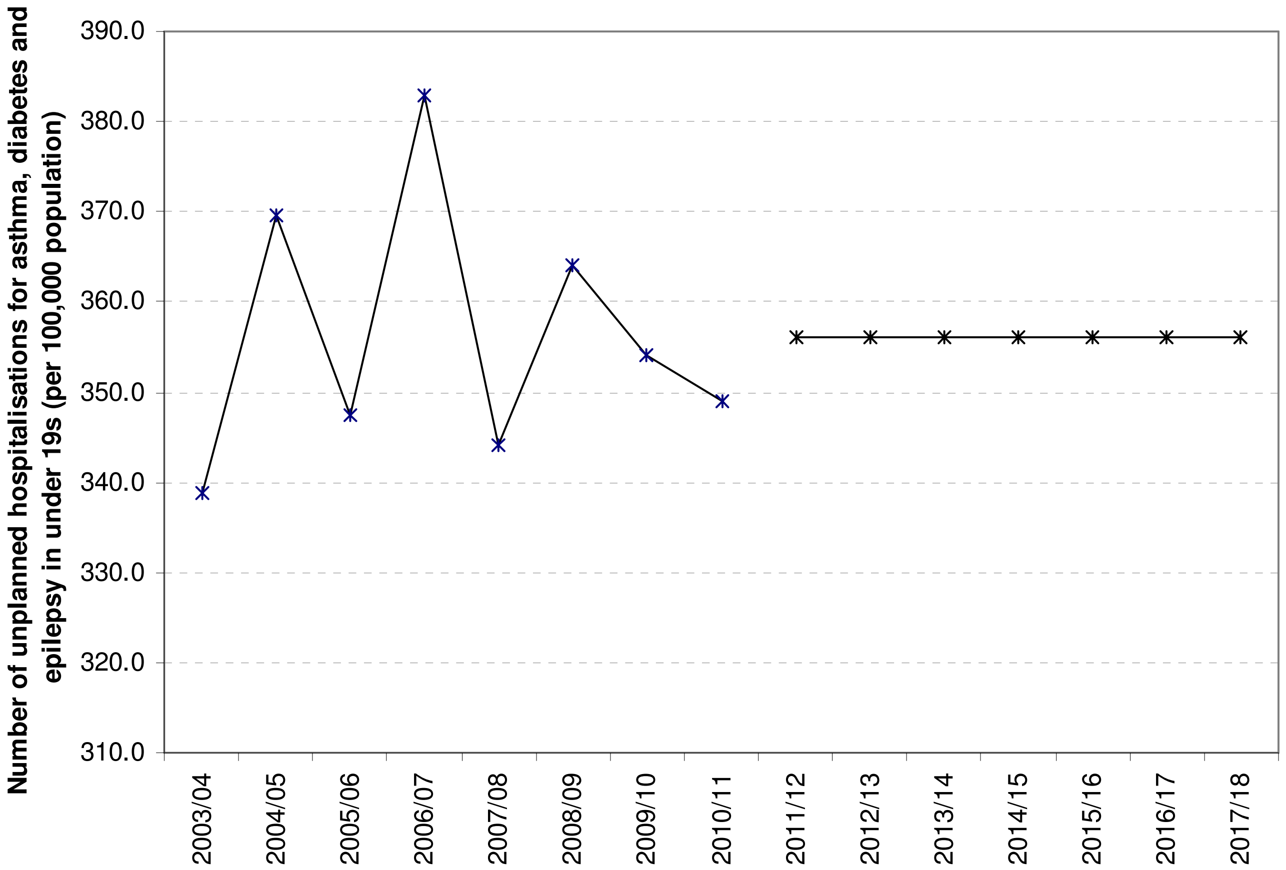
Results

Table 2.3.ii.f – Current Practice Projection for: unplanned hospitalisations for asthma, diabetes and epilepsy in under 19s (per 100,000 population)

Year	Annual Value	Projection
2003/04	338.8	-
2004/05	369.6	-
2005/06	347.5	-
2006/07	382.8	-
2007/08	344.2	-
2008/09	364.0	-
2009/10	354.0	-
2010/11	348.9	-
2011/12	-	356.0
2012/13	-	356.0
2013/14	-	356.0
2014/15	-	356.0
2015/16	-	356.0
2016/17	-	356.0
2017/18	-	356.0

Source: NHS Information Centre

Figure 2.3.ii.g – Current Practice Projection for: unplanned hospitalisations for asthma, diabetes and epilepsy in under 19s (per 100,000 population)



Source: NHS Information Centre

(c) Indicator 2.3.ii: Scope for Improvement

4.98 Several current and planned policy initiatives are likely to lead to improvements in this outcome within current resources. The potential to reduce emergency admissions by 20% through transforming care, as described in the scope for improvement section for 2.3 (i) may apply here. There are a number of local NHS initiatives designed to reduce admissions. These may also lead to avoiding hospital admissions for people with long term conditions, including children.

4.99 The Quality and Outcomes Framework (QOF) contains indicators that reward GP Practices for working to reduce emergency admissions and, since April 2012, contains new indicators on reducing avoidable A&E attendances through improving care provided and access to primary care services. 2011/12 indicator outcomes may already be affected by this, based on the HES data.

4.100 A roll-out of such initiatives to reduce overall emergency admissions would, however, be expected to have a significant impact. QOF indicators and incentives aimed to reduce emergency admissions should help with the roll-out of such initiatives. The latest HES data on overall emergency admissions shows a notable slowing of the rising trend in 2011, which may be evidence that these initiatives are already having an effect. Although these are only early indications, they are broadly encouraging. “Doctor First” and similar interventions aimed at reducing overall emergency admissions are the most promising avenue to explore with a view to setting a scope for improvement. However, assumptions need to be made as to what would be a reasonable roll-out of such interventions (i.e. what would be the take-up over the 5-years after 2013/14).

2.4 – Health-related quality of life for carers

Outcome sought	***Improving health-related quality of life for carers.***
Indicator definition	*Case-mix adjusted health status EQ-5D.*

(a) Indicator 2.4: Recent Trends and Explanations

4.101 Health related quality of life for carers is defined as the average EQ5D score, reported by people who report themselves as carers, from the GP Patient Survey (GPPS). The score represents a synthetic measure of quality of life obtained through case-mix association. Each participant in the survey gave a score to 5 dimensions of interest (mobility, self-care, usual activities, pain/discomfort, and anxiety/depression). Each possible combination of scores represents a distinct case-mix which has been subsequently attributed a case-mix-specific adjusted weight to better represent the population. Finally, a weighted[4] average yields the final score.

4.102 There are no recent trends to report for health related quality of life for carers as the only data available is 2011/12 wave-one data from the GPPS. However, the average aggregate EQ5D score from this partial dataset is 0.75. The following sections analyse a selection of breakdowns for this score.

Breakdown by age and sex

4.103 Table 2.4.a and Figure 2.4.a display the health related quality of life for carers broken down by sex and age. It shows that health related quality of life for carers decreases as age increases. The trend is very similar for males and females.

Table 2.4.a – Health-related quality of life for carers by sex and age band

	Age band							
Sex	**18-24**	**25-34**	**35-44**	**45-54**	**55-64**	**65-74**	**75-84**	**85+**
Male	0.81	0.79	0.78	0.78	0.75	0.72	0.66	0.59
Female	0.82	0.81	0.79	0.78	0.75	0.69	0.62	0.53

Source: GPPS

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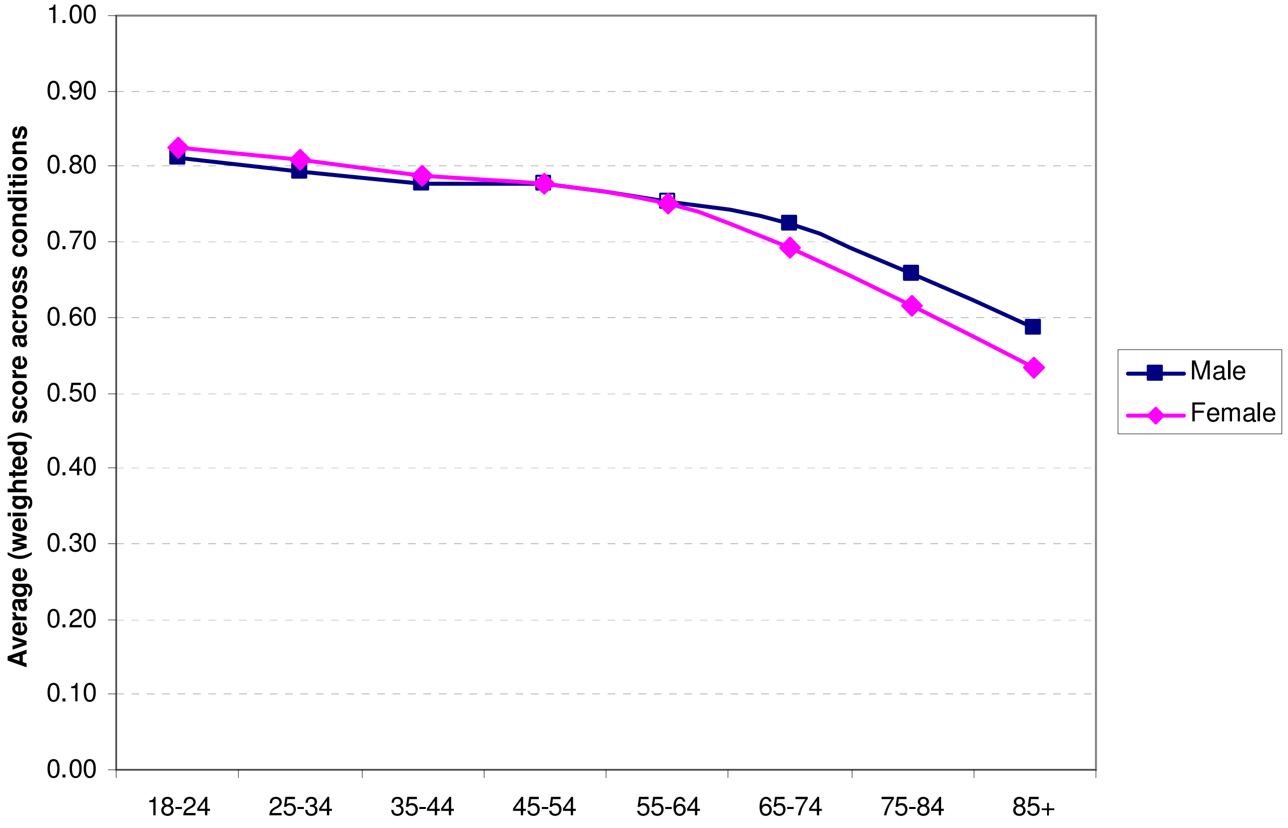
[4] The weight can be broken down into three parts: first, a **design weight** to account for the unequal probability of selection; second, a **non-response weight** to account for differences in the characteristics of responders and non-responders; and third, a **post-stratification weight** by practice to ensure that the weighted responding sample within each practice resembles the population of eligible patients within the practice.

Figure 2.4.a – Health-related quality of life for carers by sex and age band



Source: GPPS

Breakdown for long-term conditions

4.104 Table 2.4.b. displays the health related quality of life for carers, broken down by whether they have a long-term condition themselves. It shows that carers without a long-term condition themselves report a significantly higher quality of life than those with a long-term condition. This breakdown is important, since LTCs can be affected (and in some cases caused) by providing care.

Table 2.4.b – Health-related quality of life for carers for those with/without LTCs

Health-related quality of life for carers	Average (weighted) EQ5D score	Count - % of total
With LTCs	0.68	61,467
Without LTCs	0.89	33,351
Do not know	0.72	1,726
Total	**0.75**	**98,641**

Source: GPPS

Breakdown by hours spent caring

4.105 Table 2.4.c displays the quality of life for carers broken down by the number of hours they spend caring per-week. As would be expected, the quality of life reported by carers decreases as the number of hours spent caring increases.

4.106 Table 2.4.d shows this broken down further by whether the carer has a long-term condition themselves or not. It shows that carers with a long-term condition themselves appear to be adversely affected by higher levels of caring effort more than those carers who do not.

Table 2.4.c – Health related quality of life for carers, by number of hours per week spent caring

Number of Hours per week	Average (weighted) EQ5D score	Count of carers	Percentage of the total
01-9	0.8	53,797	55%
10-19	0.75	11,733	12%
20-34	0.71	7,150	7%
35-49	0.68	4,846	5%
50+	0.66	21,115	21%
Total	**0.75**	**98,641**	

Source: GPPS

Table 2.4.d – Health-related quality of life for carers for those with/without long-term conditions

Number of caring hours reported per week	with LTCs	no LTCs
01-9	0.73	0.9
10-19	0.69	0.87
20-34	0.64	0.87
35-49	0.6	0.85
50+	0.6	0.85

Source: GPPS

Breakdown by specific long-term condition

4.107 Tables 2.4.e displays the health related quality of life reported by carers who have one or several long-term conditions. Table 1.b displays the health related quality of life reported by carers with a given long-term condition.

4.108 As expected, carers with a greater number of long-term conditions report a lower health related quality of life than those with fewer long-term conditions. The average EQ5D scores reported in Table 2.4.e cannot be directly compared with those in Table 2.4.b as not every patient who reported having a long-term condition specified which long-term condition(s).

Table 2.4.e – Health-related quality of life for carers – by number of LTC

Number of long-term conditions	Average (weighted) EQ5D score	Count	Percentage
1	0.76	32,690	54%
2	0.65	15,994	26%
3	0.53	7,215	12%
more than 3	0.32	4,637	8%

Source: GPPS

Table 2.4.f – Health-related quality of life for carers – by long-term condition

Condition	Average (weighted) EQ5D score
Alzheimer's disease or dementia	0.39
Angina or long-term heart problem	0.56
Arthritis or long-term joint problem	0.47
Asthma or long-term chest problem	0.68
Blindness or severe visual impairment	0.44
Cancer in the last 5 years	0.64
Deafness or severe hearing impairment	0.55
Diabetes	0.61
Epilepsy	0.58
High blood pressure	0.66
Kidney or liver disease	0.52
Learning difficulty	0.49
Long-term back problem	0.48
Long-term mental health problem	0.44
Long-term neurological problem	0.39
Another long-term condition	0.63

Source: GPPS

Breakdown by level of deprivation

4.109 Table 2.4.g displays the health related quality of life reported by carers, broken down by deprivation thirds[5] . It shows that more deprived carers report, on average, lower health related quality of life.

Table 2.4.g– Health-related quality of life for carers – Breakdown by deprivation level

Level of deprivation	Average (weighted) EQ5D score
1 - Most deprived	0.79
2 - Moderately deprived	0.84
3 - Least deprived	0.86

Source: GPPS

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[5] The level of deprivation is based on the IMD is a multidimensional index synthesising 7 domains: **income, employment, health and disability, education skills and training, barriers to housing and other services, crime and living environment**. The IMD attributes a score to individuals living in a specific area and does so for each Lower layer Super Output Area (LSOA). The table reports the results dividing for **thirds of 10827 LSOAs each**, from the most deprived third to the least deprived third.

Breakdown by SHA

4.110 Table 2.4.h displays the health related quality of life reported by carers, broken down by SHA. This breakdown shows that there is little regional variation.

Table 2.4.h– Health-related quality of life for carers – by deprivation level

SHA	Average (weighted) EQ5D score
North East	0.73
North West	0.73
Yorkshire and the Humber	0.75
East Midlands	0.76
West Midlands	0.75
East of England	0.77
London	0.75
South East Coast	0.77
South West	0.76

Source: GPPS

Notes:

There are a number of questions that arise from the data on health related quality of life for carers:

- What explains the decreasing health related quality of life for carers as the number of hours spent caring increases?
- Why does this affect those without long-term conditions more than those without?

Drivers of this indicator

4.111 **Healthcare drivers.** Earlier and more accurate diagnosis, making optimal use of referral pathways and available interventions, support after primary treatment. Better support to people to self-manage their condition.

4.112 **External drivers.** A literature review identified several external drivers as significant to the quality of life (QoL) of carers. Carers will be affected by factors indirectly as carers (because certain factors affect their ability to take care of patients and because the QoL of the carer is affected by that of the patient) and directly as individuals. Table 2.4.i gives further details of these significant external drivers and other external drivers identified in the literature review.

Table 2.4.i – Summary of literature review findings: External drivers of health related quality of life for carers

	Direct effect as an individual	**Indirect effect as a carer** **(effects that act through the patient or through the activity as a carer)**
Socioeconomic status	Less favourable socioeconomic status, less paid work and not being single are all predictors for poor QoL scores in rheumatoid arthritis (RA), for colorectal cancer, for chronic obstructive pulmonary disease (COPD)	There is evidence that younger carers are subject to more emotional stress, financial worries and loss of employment. These factors are likely to affect younger carers with a lower socioeconomic status to a greater extent. Depression in carers for Alzheimer's Disease patients is linked to income amongst other factors.

Obesity	Obesity is a risk factor for type 2 diabetes and a risk factor in exacerbating insulin intolerance leading to more complications and a lower quality of life. Higher BMI was associated with lower scores in physical functioning, bodily pain and general health and vitality. Dietary intervention has been shown to lead to a significant reduction in both systolic and diastolic blood pressure. Obesity is the strongest modifiable risk factor associated with osteoarthritis (OA) for both the development of low back pain in adults and also continuing symptomatology and reduced quality of life. A meta-analysis suggests that patients with an elevated BMI are at increased risk of developing asthma and increased asthma severity. In COPD low BMI (≤21) is a predictor of accelerated lung function decline, diminished physical function and mortality. Contrary to asthma, weight gain in COPD actually improves prognosis and, therefore, QoL.	High BMI, associated with significantly worse physical functioning, will put significant strain on carers looking after the patient. It will be more difficult for the carer of an obese person to lift and look after the patient. Increasing BMI may worsen a respiratory disease; this in turn will put more pressure on carers.

Physical activity	Exercise-promoting interventions lead to a modest reduction in systolic and diastolic blood pressure. However physical activity may actually exacerbate the symptoms of LTCs.	Maintaining mobility and joint movement is important to maintain patient independence, but excessive physical activity could worsen pre-existing OA and therefore directly affect carers. It may have a beneficial impact on the capacity of daily living, thereby reducing the burden and any subsequent depression for the carer.
Alcohol	The literature consistently demonstrates that moving from moderate to excessive alcohol drinking (more than 21 units/week for men, and more than 14 units/week for women) is associated with raised blood pressure and increased cardiovascular disease (16). This would influence both prognosis and QoL.	Alcohol use in people with asthma may lead to more frequent exacerbations and admissions (which will also have an impact on the carer) and a lower quality of life for both the patient and the carer.
Illicit drug use	Hypertension and the risk of fatal asthma attacks can be worsened by illicit drug use. Both methamphetamine and cocaine are known to increase blood pressure. In a retrospective study of hospital admissions for asthma in patients aged 16 and older, almost a third were users of cocaine and/or heroin.	Drug use among patients will cause significant conflict between the patients and their carers by both causing behavioural problems and reducing the ability of the carer to aid the patient with daily living.

Chronic kidney disease	The vicious circle caused by hypertension and CKD's influence on each other can lead to further complications, such as a reduction in quality of life and increased necessity for pharmacological treatments	Negatively affects the QoL of the carer through the increase of co-morbidities in patients with hypertension.
Mitigation of social isolation	Studies have found that men that live alone and have low social support are more likely to have poor hypertension control.	Carers are particularly reliant upon respite from their daily tasks and social isolation will increase the care burden. Balanced with this is the fact that a lack of perceived independence by carers can lead to lower QoL scores
Provision of social care/ resources available to social care **Quality of social care in hospitals to support early discharge** **Quality of care whilst living at home or in residential care** **Community support**	Studies have examined the effect of efficient integration of health and social care and the outcomes that this has on managing long-term conditions. Whilst QoL scores were not specifically measured there seems to be evidence that keeping patients out of hospital and in their own homes increases their psychological quality of life.	Increasing support for patients being cared for in their own homes will significantly benefit the QoL of their carers. The more hours spent caring for a patient, the higher the chance of the carer developing depression (as is the case for the spouse). The availability of domiciliary nursing care may provide valuable respite and would reducedepression associated with high levels of care.

Gender	Females are more strongly associated with increased risk of OA and RA, in which it is also often more severe. The female gender is also correlated with increased admissions and re-admissions for asthma, and male gender for COPD.	Any drivers that increase severity of long-term conditions and/or pain will impact negatively upon carers. Female carers' quality of life is more affected by that of their patient with respect to males.
Age	Older patients are more likely to respond and follow advice, this in turn is likely to reduce complications from diabetes, COPD, asthma, heart disease and stroke and thereby improve quality of life. Often there is a decrease in physical QoL with age and Older patients are more likely to develop OA and RA, and develop increasingly progressive symptoms.	Increased compliance of older patients is balanced by increasing levels of co-morbidities and reduced function that occur with age. Caring for patients younger than 65 is an important predictor of depression.
Stress	External, non-medical stresses are likely to exacerbate LTCs. Relaxation interventions are known to be associated with statistically significant reductions in systolic and diastolic blood pressure.	The QoL of patients is directly related to the QoL of their carers. Typically people caring for patients with low QoL scores due to chronic heart failure (CHF) had lower QoL scores themselves.

Tobacco use	Smoking induces arterial stiffness that may persist for a decade after smoking cessation. It increases the risk of future complications that impair the quality of life of the patient (the carer in this case). Smoking has been shown to be a risk factor for greater disease severity.	Tobacco use is likely to significantly increase the severity of COPD, asthma, RA and back pain; and increases the risk of acquiring many diseases. Increases in severity or number of co-morbidities will adversely affect the quality of life of patients and their carers.
Behavioural symptoms of disease		21% of carers suffer from depression and the patient's behaviour, cognitive and functional disabilities were associated with depressive symptoms. There is higher reported QoL in carers of people with Alzheimer's Disease as opposed to Fronto Temporal Dementia (due to behavioural symptoms).

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Note: Further information on the external drivers in bold can be found in the “Drivers” section.

(b) Indicator 2.4: Current Practice Projections

4.113 As the only data available is 2011/12 wave-one data from the GPPS, a current practice projection has not been produced. However, once wave-two data from the GPPS becomes available and a full data point for 2011/12 can be constructed, this indicator will be given a “flat” current practice projection.

(c) Indicator 2.4: Scope for Improvement

4.114 As mentioned in the Carers Strategy 2010 there are two planned initiatives relevant to this indicator:

- increasing awareness of supporting carers in primary health care
- providing additional resources through PCT baselines to support carers to take a break from their caring role.

4.115 In respect of increasing the awareness of supporting carers in primary health care, the Department is supporting a number of initiatives organised by the RCGP and carers voluntary organisations since 2009/10. £1 million is being made available in 2012/13 to continue this work and there is ongoing exploration to extend it to other medical and nursing professional bodies. Initiatives include the development of e learning modules, face to face training sessions in GP practices and the development of commissioning guidance for CCGs.

4.116 In respect of the second initiative to provide additional resources through PCT baselines to support carers to take a break from their caring role, £400m is included in PCT baselines from 2011-15 to support carers take a break from caring. The 2012/13 NHS O/F requires PCTs to agree plans for supporting carers with LAs and to publish those plans by 30 September 2012.

4.117 Local schemes for carers breaks are emerging, eg in Cambridgeshire the development of a GP prescribing service for carers breaks – now adopted by all GP surgeries in the county. Warwickshire are now rolling out a programme of carer support workers who will work in all GP surgeries in the county. All 3 CCGs have agreed to support it.

4.118 In both Cambridgeshire and Warwickshire evidence is now being collected to determine the impact of these initiatives on carers’ health outcomes. This will build on the emerging evidence from the evaluation of the DH Carers Strategy Demonstrator sites by University of Leeds.

4.119 GPs can obtain 3 QOF points by maintaining a carers register. Few surgeries have more than about 4% of their patients identified as carers – some are as low as 1%. This seems pretty poor in comparison with the number of patients who identified themselves as carers in the GP patient survey last year – 18%. In the 2001 Census 10% of the population identified themselves as carers. DH funded the same question to appear in the 2011 census and we should have the analysis of the population data soon.

4.120 Recognised, valued and supported: next steps for the Carers Strategy sets out how the Government will work to improve the current and future situation of carers. The Carers Strategy of 2010 draws upon the conclusions and the planned policies of its 2008 predecessor, but it redefines the agenda. It identifies four priority areas:

1. “supporting those with caring responsibilities to identify themselves as carers at an early stage, recognising the value of their contribution and involving them (…)”;

2. “enabling those with caring responsibilities to fulfil their (…) potential”;

3. “personalised support both for carers and those they support (…)”

4. “supporting carers to remain mentally and physically well”.

4.121 These goals will be attained addressing health, education, social care and employment issues. All the planned interventions are expected to have a positive impact on this indicator, the level of which depends on five dimensions of the wellbeing of carers: mobility, self-care, usual activities, pain/discomfort, and anxiety/depression.

4.122 Indeed, the National Carers’ Strategy Demonstrator Sites (DS) programme provides supporting evidence. The DS, developed by the Department of Health as a part of the 2008 Carers’ Strategy, focused on 3 areas of support for carers: health checks, breaks, and NHS support. Some of the carers who participated were later surveyed to gain an understanding of their perception of the service and their response was largely positive.

4.123 Better health outcomes for carers are likely be achieved if they are identified early on as carers, offered health checks as well as social care assessments, and offered support according to their needs eg breaks from caring, emotional support, access to IAPT (in line with NICE standards on dementia care). It would also help if information was appropriately shared with them about the condition of the person they care for and on moving and handling, and if they were involved in planning hospital discharge and re-ablement and were treated with dignity and respect . This is as much about attitudes and behaviours demonstrated by healthcare professionals towards carers as it is about the provision of specific interventions for them

4.124 The following analysis presents a potential way of quantifying how these planned improvements could be translated into a quantified scope for improvement. The caring activities of the carers represent a relevant avoided cost for society (later hospitalisation for the person they care for and/or no reliance on a paid carer determine lower public spending) and as important contributors carers must be supported in their activities.

4.125 The caring activities can cause both physical and psychological strain and can have an impact on the well-being on the carer and this is confirmed by the different prevalence of particular long term conditions with respect to individuals who are not carers. Higher prevalence has been registered for arthritis (14% vs 10%), for back problems (11% vs 8%). Carers are, lastly, more inclined to declare moderate to high anxiety (36% vs 32%) and difficulties in performing the usual activities (39% vs 37%) [6].

Table 2.4.j– Health-related quality of life for carers – by LTC/no LTC

	Carers	Non Carers
LTCs	0.681	0.678
no LTCs	0.885	0.912

Source: GPPS

4.126 It is possible to quantify the scope for improvement that the policies addressing quality of life for carers should aim to achieve by deriving the loss attributable to the caring burden. It is possible to obtain this figure taking the differential in quality of life for carers and non carers by LTCs. The aim is to abate this level by eliminating the disadvantaging gap between QoL for carers and non-carers both for the categories who have LTCs and for those who do not. Defining:

- non-carers with LTCs;
- carers with LTCs;
- non-carers without LTCs;
- carers without LTCs;

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[6] The high percentage (above 30%) is also due to the fact that there are markedly fewer respondents. Is must not therefore be interpreted as a percentage of the respondents to the survey but to the specific question.

4.127 The current scope for improvement would be the absolute value of the loss

$$\left|(QoL(2) - QoL(1)) \cdot no.(2) + (QoL(4) - QoL(3)) \cdot no.(4)\right|$$

deriving from the caring activities. Controlling for LTCs and adjusting for the projected population growth [7] the loss is equivalent to 88,781 QALYs[8] .

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[7] Source: ONS. The projection refers only to the growth rate of the population. The proportions between cares and non carers are assumed to remain unaltered. The same applies to the prevalence of LTCs in the population. Intuitively, if the incidence of LTCs were to change, the results for the indicator would change accordingly. This is a consequence of the impact on carers' quality of life depending on whether or not an individual has a LTC.

[8] At the same time, if the incidence of LTCs among carers were amenable to the combined action of the NHS and of the Social Care support for carers then this could lead to a biased estimation of the scope for improvement. Controlling for the effect of LTCs is necessary in order not to overestimate the detrimental effect of the caring activities themselves It appears that the contribution to the decrease in quality of life for carers is only perceived by individuals who do not have LTCs, whose health related quality of life is high. On the contrary, where the quality of life is negatively affected by LTCs, the burden of caring does not represent an important source of discomfort.

2.5 – Employment of people with mental illness

Outcome sought	***Improved functional ability, through employment, in people with mental illness and learning disabilities***
Indicator definition	*Percentage of respondents in the Labour Force Survey (LFS) who have a mental illness or learning disability who are classed as employed using the International Labour Organisation (ILO) definition of employment compared to the percentage of all respondents classed as employed.* *The LFS question that is used to determine whether a person has mental illness or learning disability is question 464:* *Do you have..* *(…)* *14 severe or specific learning difficulties (mental handicap)?* *15 mental illness or suffer from phobias, panics or other nervous disorders?* *(…)* *It should be noted that this indicator represents a sub-set of indicator 2.2, which looks at the difference between the overall employment rate and that for people with Long Term Conditions (LTCs), including Mental Illness.* *Please note that an error has been identified in this indicator as well as indicator 2.2 such that it involved the use of UK non-England data. Preliminary analysis suggests that the size of the errors is relatively small. However, the figures contained in this template NHS Outcomes Framework indicators should therefore be taken as provisional and will be reviewed with the correct data.*

(a) Indicator 2.5: Recent Trends and Explanations

4.128 Between Q2 2006/07 and Q1 2011/12, the employment rate for people with mental illness or learning disability changed from around 26.8% to 26.9%.

4.129 From Q2 2006/07 until Q4 2007/08 it was relatively stable. From Q4 2007/08 until Q2 2010/11 it increased slightly. From Q4 2009/10 onwards it has gradually declined.

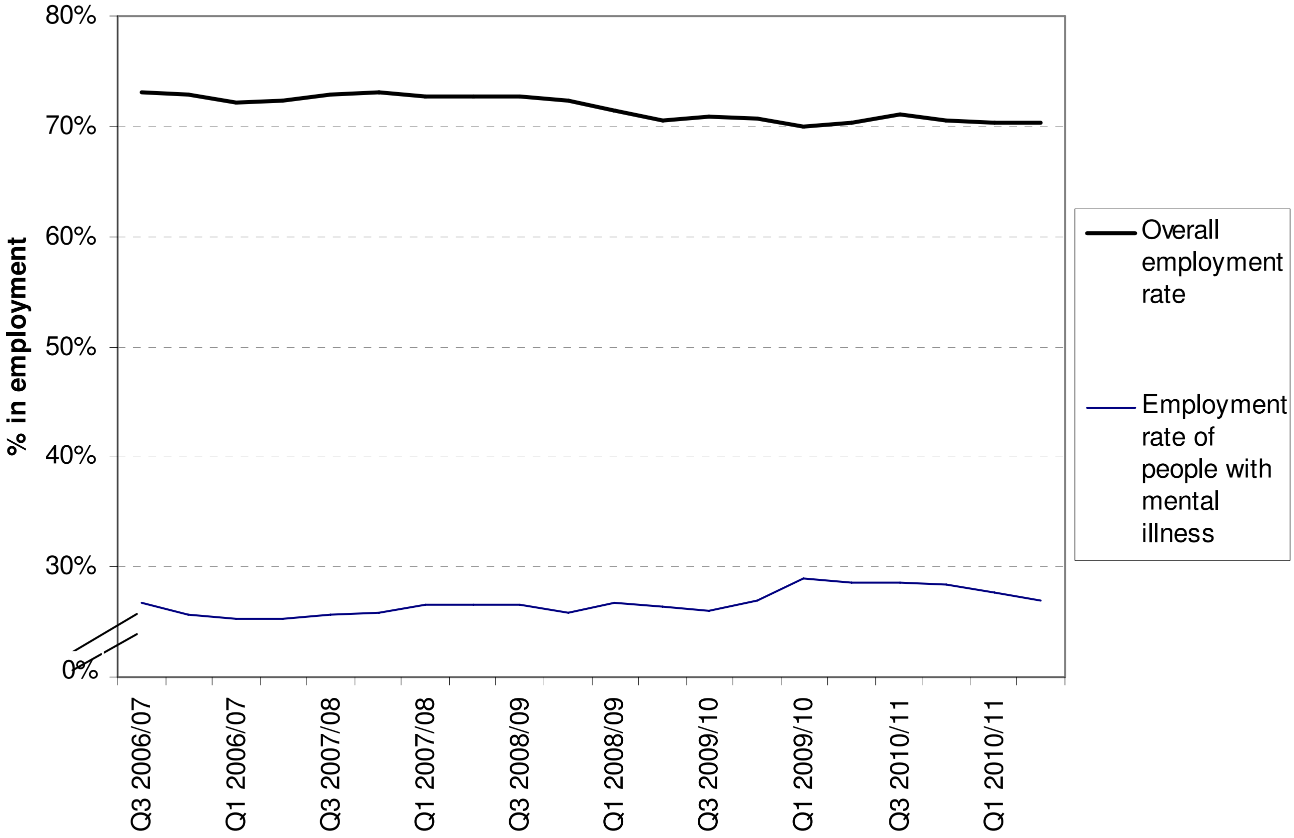
4.130 However, it should be noted that this indicator is likely to suffer from relatively low numbers, which makes interpreting trends difficult.

Table 2.5.a Difference between employment rate of population and employment rate of people with mental illness or learning disability

Quarter	Year	Employment rate for the overall population	Employment rate for people with mental illness or learning disability	Difference
Q2	2006/07	73.1%	26.8%	46.2%
Q3		72.8%	25.7%	47.1%
Q4		72.2%	25.3%	46.9%
Q1	2007/08	72.4%	25.2%	47.2%
Q2		72.9%	25.7%	47.3%
Q3		73.1%	25.8%	47.2%
Q4		72.7%	26.5%	46.2%
Q1	2008/09	72.7%	26.6%	46.0%
Q2		72.7%	26.5%	46.2%
Q3		72.3%	25.9%	46.4%
Q4		71.4%	26.8%	44.6%
Q1	2009/10	70.6%	26.4%	44.2%
Q2		70.9%	26.0%	44.9%
Q3		70.7%	26.9%	43.9%
Q4		70.0%	29.0%	41.0%
Q1	2010/11	70.3%	28.6%	41.7%
Q2		71.1%	28.6%	42.5%
Q3		70.5%	28.3%	42.1%
Q4		70.4%	27.7%	42.7%
Q1	2011/12	70.4%	26.9%	43.5%

Source: NHS Information Centre

Chart 2.5.a Overall employment rate and employment rate of people with mental illness or learning disability



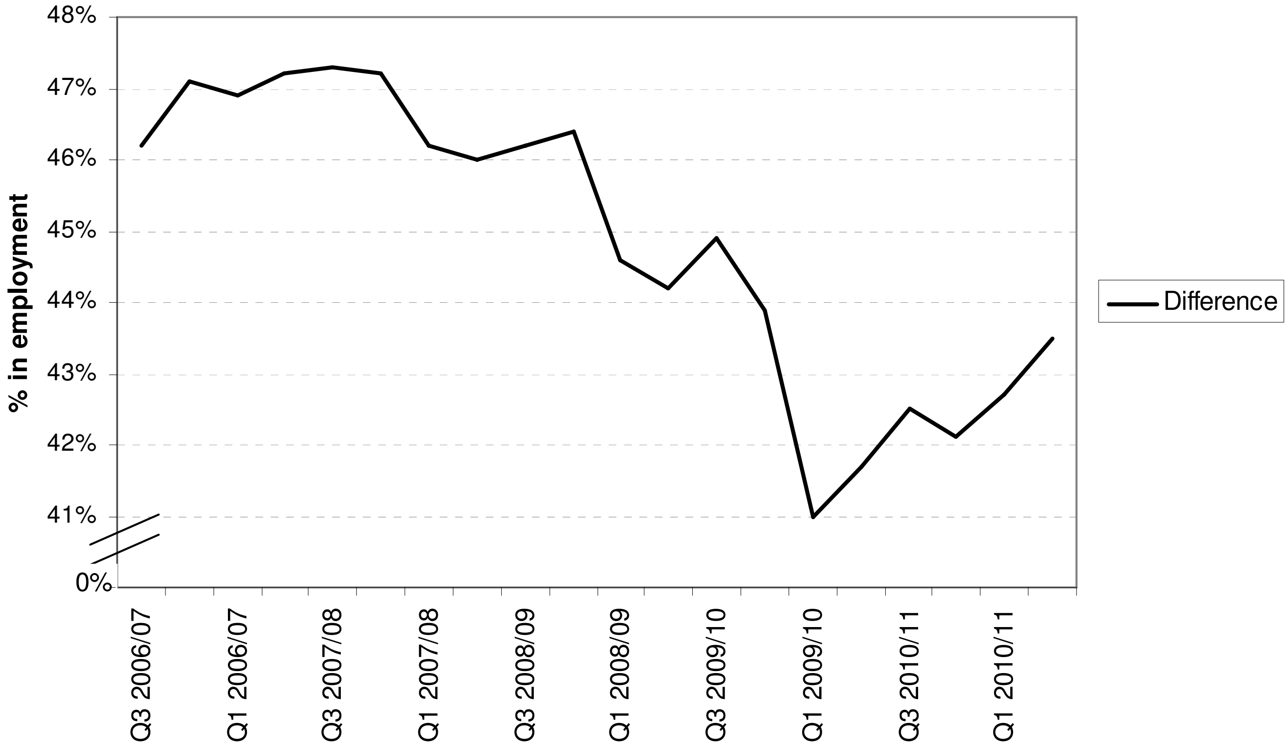
Source: NHS Information Centre

4.131 On Q1 2011/12, the gap in the employment rate between people with mental illness and the general population was 43.5%.

4.132 Between 2006/07 Q3 and 2011/12 Q1, the gap between the employment rate for people with mental illness and the general population decreased from around 46% to 43%.

4.133 From 2006/07 Q2 until 2008/09 Q4 it seems to be relatively stable, with a slight decreasing trend. From 2008/09 Q4 until 2009/10 Q1 it falls sharply. From 2010/11 Q2 onwards, it increases again.

Chart 2.5.b Difference between employment rate of population and employment rate of people with mental illness or learning disability



Source: NHS Information Centre

Breakdown by condition

4.134 The breakdown by condition shows that the employment gap for those with depression and other nervous disorders has been greater than that for those with learning disability until 2011/12 Q1.

4.135 The difference in employment rates for those with depression and other nervous disorders has followed a similar trend to that of the overall indicator. However, the difference for those with learning disability has had a notably different evolution. From Q2 2006/07 until Q4 2007/08 it fell (42.5% to 38%). Since then until the end of the data series, it has risen (from 38.0% until 45.0%).

4.136 A notable feature is that the two series converge from Q4 2009/10 onwards and appear to follow a similar trend.

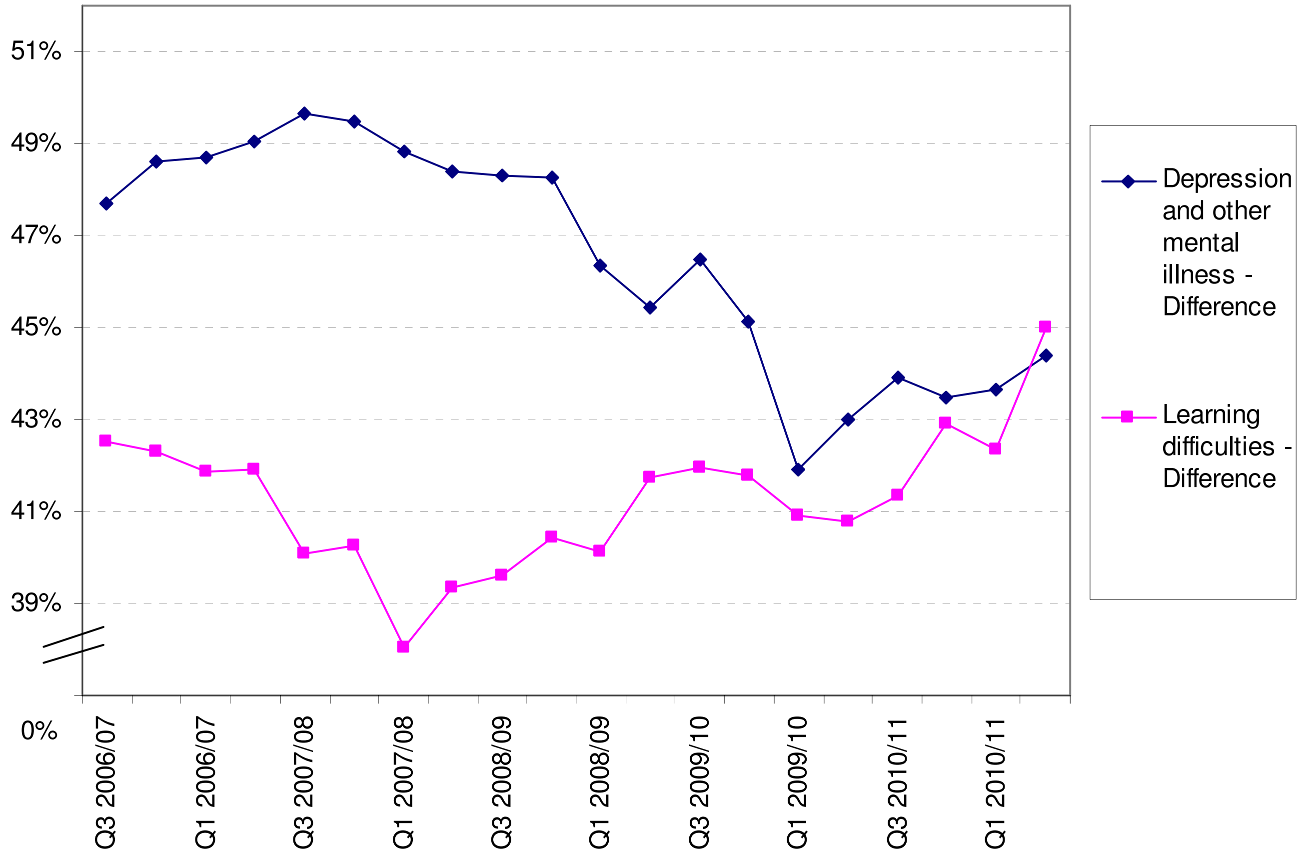
4.137 Any interpretation should however note that the numbers involved are likely to be small.

Table 2.5.b Employment rate of population and employment rate of people with mental illness or learning disability by type of condition

Quarter	Year	Employment rate for the overall population	Severe or specific learning difficulties	Depression, anxiety, Mental illness, or other nervous disorders
Q2	2006/07	73.1%	47.7%	42.5%
Q3		72.8%	48.6%	42.3%
Q4		72.2%	48.7%	41.9%
Q1	2007/08	72.4%	49.0%	41.9%
Q2		72.9%	49.6%	40.1%
Q3		73.1%	49.5%	40.3%
Q4		72.7%	48.8%	38.0%
Q1	2008/09	72.7%	48.4%	39.4%
Q2		72.7%	48.3%	39.6%
Q3		72.3%	48.3%	40.5%
Q4		71.4%	46.4%	40.1%
Q1	2009/10	70.6%	45.4%	41.7%
Q2		70.9%	46.5%	42.0%
Q3		70.7%	45.1%	41.8%
Q4		70.0%	41.9%	40.9%
Q1	2010/11	70.3%	43.0%	40.8%
Q2		71.1%	43.9%	41.4%
Q3		70.5%	43.5%	42.9%
Q4		70.4%	43.7%	42.4%
Q1	2011/12	70.4%	44.4%	45.0%

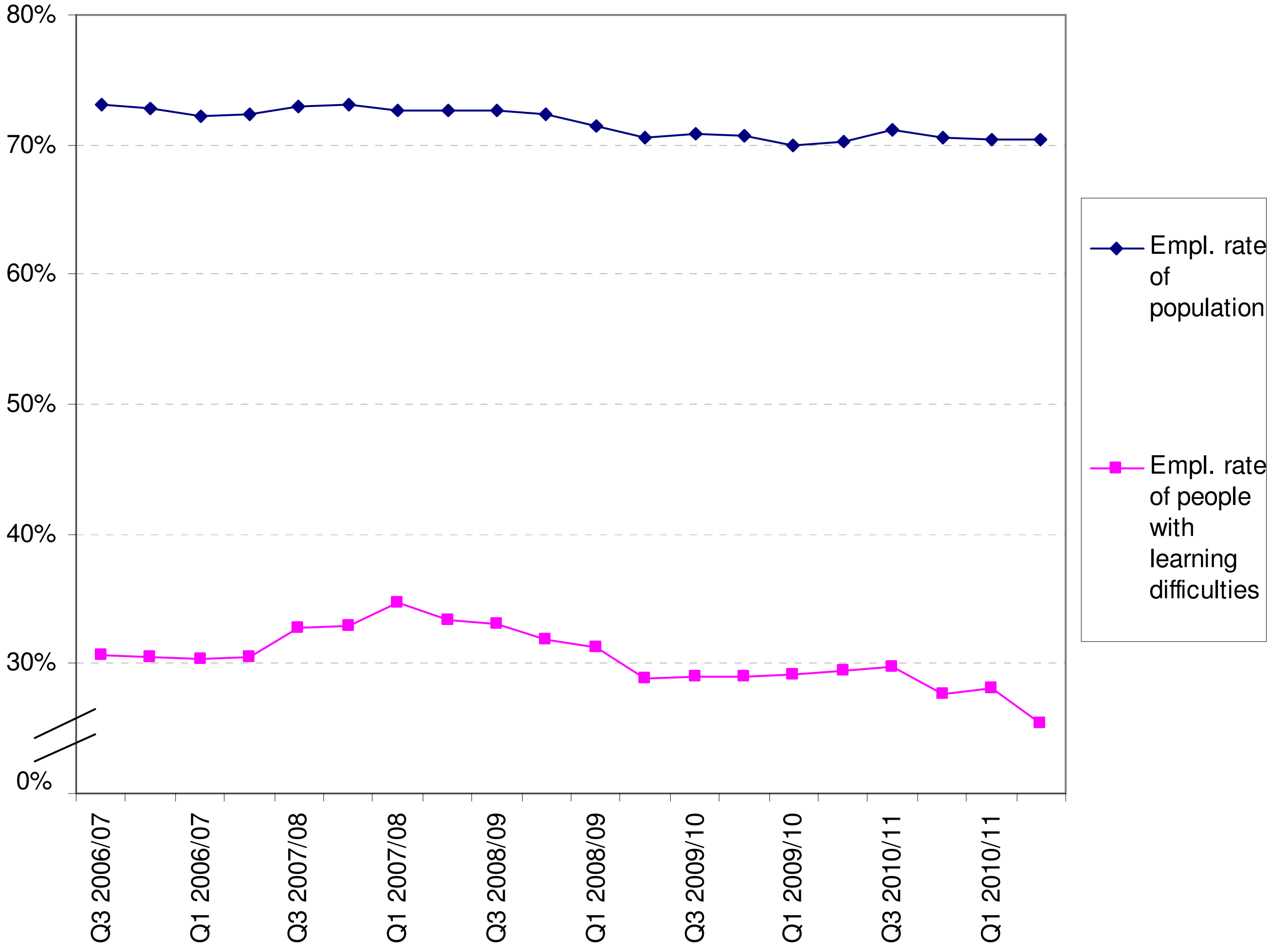
Source: NHS Information Centre

Chart 2.5.c Difference between overall employment rate and employment rate of people with mental illness by type of condition



Source: NHS Information Centre

Chart 2.5.d Overall employment rate and employment rate of people with learning difficulties



Source: NHS Information Centre

Additional breakdowns

4.138 Breakdowns according to religion, ethnic group and sector of employment are available for this indicator. However, the small sample size involved in several of the categories lead to very volatile series that are difficult to interpret.

4.139 Interpreting these breakdowns has not been possible at this stage, and further analysis is being carried out in order to correctly interpret these data. Issues we are considering and/or analysing include:

- appropriate aggregation of categories to identify relevant patterns / level differences;
- consistency between the numerator and denominator in the calculation of these rates (also relevant to possible aggregations);
- other possible drivers of identified patterns.

Notes:

4.140 The main features of the series that need to be explained are the improvement in the indicator from Q3 2006/07 to Q4 2009/10 and the deterioration from Q4 2009/10 onwards.

Drivers

Driver	Impact on outcome
Socio-economic status	Socio-economic status of people with mental illness or learning disability can affect their chances of employment.
Co-morbidities	The prevalence of co-morbidities can make it more difficult for people with mental illnesses or learning disabilities to find and retain employment.
Unemployment, economic growth	The rate of employment in the overall population is allowed for in the definition of the indicator, as it considers only the gap in employment between those with mental illness and the overall population. However, it is possible that the variability in the labour market has a disproportionate impact upon the employment of those with mental illness or learning disabilities. Therefore, the overall employment rate and GDP growth are potentially important drivers. Since 2009, the overall population's employment rate has fallen probably due to the slow down in GDP growth. In contrast, the evolution of the employment rate for people with mental illness or learning disabilities over this period does not

	appear to be linked to GDP growth in an obvious way.
Prevalence and mix of mental illness and learning disability	If the number of people identifying themselves as having a mental illness or learning disability changes, this may affect the outcome over time by altering both the overall number of cases and perhaps the case-mix. A common feature of severe and enduring mental health disorders is reduced insight to one self's Mental Health condition. As this indicator is dependent on patients, self-reporting of mental disorder will be subject to inherent bias. However, this will only act as a driver if changes in the treatment of this disorder lead to changes in the patient's insight and thus the likelihood of reporting their disease over time. This improvement of the outcome would be attributable to the work of the NHS, but could affect the indicator in either direction. Additionally, not all those with mental disabilities will be able to complete the LFS questionnaire and so the indicator may in fact capture a skewed sample of those with learning disabilities. However, there is a likely correlation between being able to complete the questionnaire and employability, so the lack of coverage may not affect this indicator largely.
DWP policy on employment incentives	(a) This outcome will be affected by changes in financial incentives to work, including those implicit in the benefits system. Therefore, it is likely to be affected by the planned reform of benefits and the introduction of Universal Credit. (b) DWP initiatives to change sickness absence procedures can also have an effect. The Department for Work and Pensions introduced the Statement of Fitness for Work (the fit note) on 6 April 2010, replacing the previous Medical Statement ('sick note') used to verify sickness absence after seven days with a new 'fit note'. The fit note focuses on what people can do, rather than what they can't, and allows doctors to say that patients 'may be fit for work' if certain adjustments are put in place for them. Adjustments could include reduced or flexible hours, change in duties or working environment. DWP research found that 61% of

	GPs believed the fit note had improved the quality of discussions with patients around return to work; and 70% believed the fit note had helped their patients make a phased return to work. This is one of the factors that could explain the relative resilience of the indicator to the economic cycle, at least since 2010 onwards. (c) DWP policies on the employment of disabled people and people with long-term conditions are also likely to affect this indicator. These include the Work Programme (launched on June 2011), which aims to provide tailored support to people on long term benefits to help them find work. They also include the "Work choice" scheme (Launched on October 2010), that aims to support the employment of disabled people with complex barriers to employment.
Quality of working conditions	The quality of working conditions can be a driver of both severity and prevalence of mental illness. However, it may also affect the chances for a person with a mental illness to find and retain employment. Sick leave rate statistics can be a proxy for the quality of working conditions and therefore could be used to take account of this effect. Over this period, sick leave for the UK has been broadly constant, although with a minimum of 2.1 in Q1 2009.
Healthcare factors	The contribution of the NHS to mitigating the progression of mental health conditions and external supporting capability to manage learning disabilities and mental health conditions are drivers of this outcome. NHS interventions aimed at people with Long Term Conditions may have contributed to the relative resilience of their employment rate over this period.

(b) Indicator 2.5: Current Practice Projections

4.141 This indicator has improved over this period; however, there are changes that could be interpreted as structural breaks in the underlying trend. Overall, the employment rate for people with mental illness does not seem to be linked to changes in economic growth. These changes in particular the recession in 2008 and 2009 and sluggish economic growth since then, have however affected overall employment rate to a great degree.

4.142 Any interpretation should also take into account that indicator 2.5 is a subset of indicator 2.2 and may be affected by small numbers.

4.143 The projections arrived at in Table 2.5.c and Figure 2.5.e are arrived at via the following methodology:

- The default position that the indicator will remain “flat” is accepted. The deterioration from Q4 2009/10 onwards is not expected to continue. This forecast will be reviewed in view of the available evidence ahead of the mandate publication.
- Therefore, the forecasting approach is to maintain the current value for the indicator for the forecasting period.
- It should be noted as a risk to this projection that, if we assume that the employment rate of people with LTCs is not affected by the cycle, as the economy recovers and the overall employment rate recovers, this could actually lead to a deterioration of the indicator.

Chart 2.5.e Difference between employment rate of population and employment rate of people with mental illness

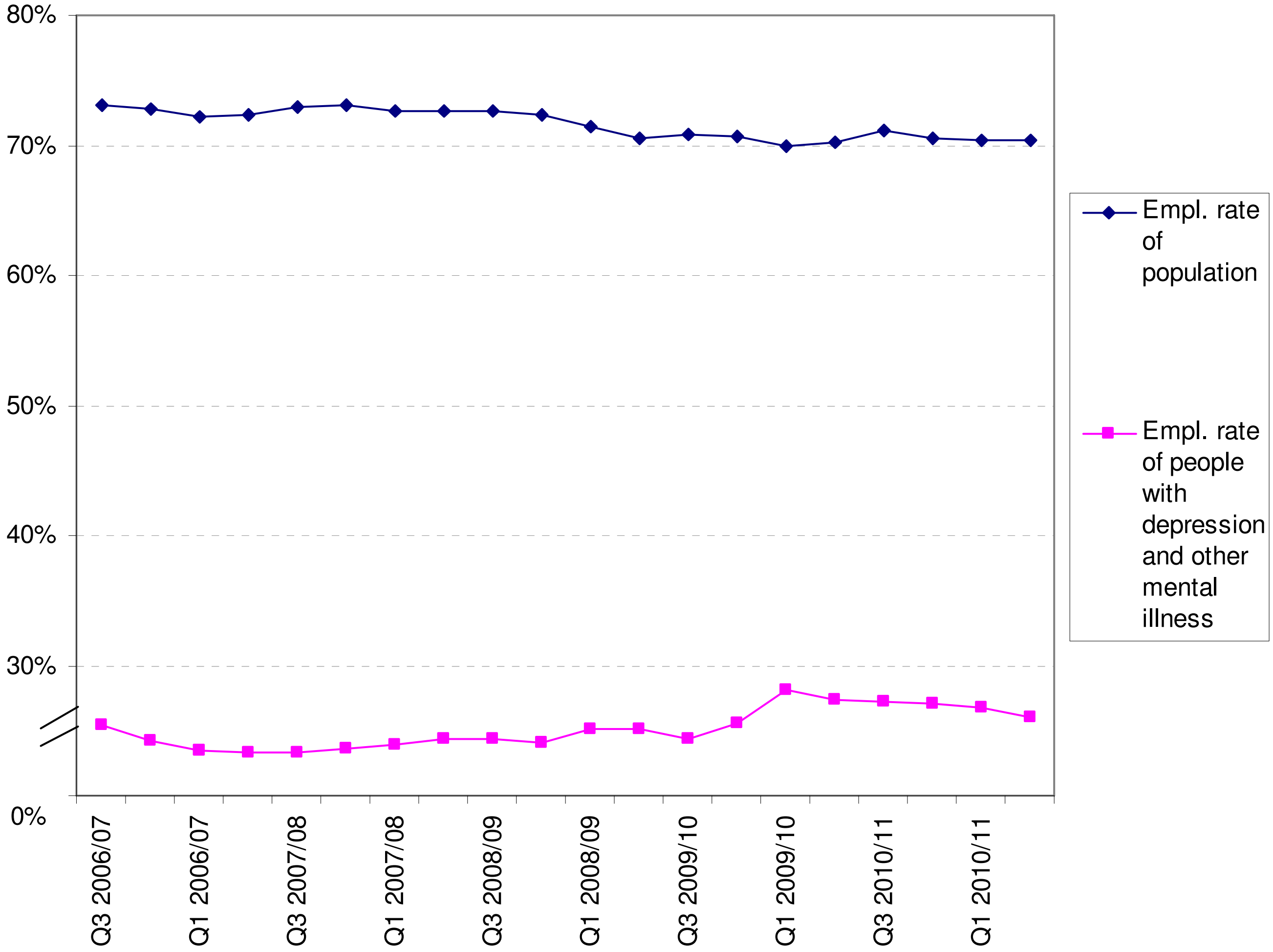


Table 2.5.c Difference between employment rate of population and employment rate of people with mental illness or learning disability

Quarter	Year	Difference in employment rate between overall population and people with mental illness or learning disability	Forecast
Q2	2006/07	46.20%	
Q3		47.10%	
Q4		46.90%	
Q1	2007/08	47.20%	
Q2		47.30%	
Q3		47.20%	
Q4		46.20%	
Q1	2008/09	46.00%	
Q2		46.20%	

Q3		46.40%	
Q4		44.60%	
Q1		44.20%	
Q2		44.90%	
Q3		43.90%	
Q4	2009/10	41.00%	
Q1		41.70%	
Q2		42.50%	
Q3		42.10%	
Q4	2010/11	42.70%	
Q1		43.50%	
Q2			43.50%
Q3			43.84%
Q4	2011/12		43.84%
Q1			43.84%
Q2			43.84%
Q3			43.84%
Q4	2012/13		43.84%
Q1			43.84%
Q2			43.84%
Q3			43.84%
Q4	2013/14		43.84%
Q1			43.84%
Q2			43.84%
Q3			43.84%
Q4	2014/15		43.84%
Q1			43.84%
Q2			43.84%
Q3			43.84%
Q4	2015/16		43.84%
Q1			43.84%
Q2			43.84%
Q3			43.84%
Q4	2016/17		43.84%
Q1			43.84%
Q2			43.84%
Q3			43.84%
Q4	2017/18		43.84%

Source: NHS Information Centre

(c) Indicator 2.5: Scope for Improvement

4.144 This section considers whether there is scope for further improvement in this outcome indicator. This includes potential improvements that will be delivered though existing policy programmes, as well as any improvements in outcomes that could be achieved within the current resource envelope through efficiency savings. The scope for improvement for each indicator can then be considered as part of the process to set an overall level of ambition for each domain.

4.145 Several current and planned policy initiatives are likely to lead to improvements in this outcome within current resources.

4.146 The Improving Access to Psychological Therapies (IAPT) programme was set up in May 2006 and aims to improve public access to a range of NICE-approved psychological therapies for depression and anxiety disorders through:

- provision of an appropriately trained workforce,
- delivering therapies to specific quality standards,
- routine monitoring of patient reported outcome measures,
- defined care pathways (characterised by a stepped care model) and
- flexible referral routes (including self-referral by potential patients).

4.147 One in six adults is known to suffer from mental ill-health characterised by symptoms of depression and anxiety. The programme aims to expand access by treating 900,000 people per annum (15% of prevalence), with over 50% of those completing treatment recovering and most achieving reliable improvement with a smaller proportion achieving improved employment or social outcomes. The overall impact on employment cannot currently be quantified. This will be reviewed over the consultation period.

4.148 Additional improvements may be secured because of the policies planned around improved recovery. Recovery is identified as a key priority in the Mental Health Strategy under Objective 2: More people with mental health problems will recover. An aspect of recovery is gaining or maintaining employment. Recovery focused demonstration sites are being supported in 12 mental health trusts, and the development of specific recovery-related outcome measures are being considered, these could include employment outcomes. This is expected to lead to an improvement in this indicator, although this cannot be quantified at this early stage.

2.6 – Enhancing quality of life for people with dementia

Improving the ability of people with dementia to cope with symptoms

Outcome sought	Improving the ability of people with dementia to cope with symptoms
Indicator definition	To be determined but this will include the diagnosis rate and a complementary measure of improved quality of life.

(a) Indicator: Recent Trends and Explanations

4.149 The above further indicator will measure early diagnosis of people with dementia with the aim of securing improvements in the quality of life for patients with dementia and their ability to cope with symptoms.

4.150 This is being developed.

(b) Indicator: Current Practice Projections

4.151 To be confirmed.

(c) Indicator scope for improvement

4.152 Several current policy initiatives may lead to improvements in this outcome within current resources.

4.153 Improving diagnosis rates, support and treatment for people with dementia is a key priority in the Department's outcomes focused implementation plan for the National Dementia Strategy and in the recently launched Prime Minister's challenge on dementia.

4.154 Currently, only 42% of people with dementia in England have a formal diagnosis, with the rate of diagnosis varying from 27% in the worst supporting areas to 59% in the best. As set out in the Prime Minister's challenge on dementia, from April 2013 there will be a quantified ambition for diagnosis rates across the country, underpinned by robust and affordable local plans. Clinical commissioning groups and local health and wellbeing boards will be encouraged to work with wider local partners to improve diagnosis rates.

4.155 The NHS Operating Framework 2012/13 announced the Dementia CQUIN goal to improve awareness and diagnosis of dementia in an acute hospital setting. The new national goal will be measured by three indicators relating to the screening, risk assessment and referral for specialist diagnosis of people aged over 75 who are admitted to hospital.

4.156 The Prime Minister's Challenge on Dementia sets out a commitment to invest in a nationwide campaign to raise awareness of dementia from autumn 2012, to be sustained to 2015. The national awareness campaign, which will be running this Autumn will be aimed at encouraging people to seek early diagnosis of dementia by spotting the signs and symptoms.

4.157 In July 2011 the Department published a Dementia Commissioning Pack which supports the commissioning of effective early diagnosis services through the provision of practical resources for commissioners.

4.158 The Department is working with the Royal College of Psychiatrists to drive up the proportion of memory services that are accredited. We will ensure that GPs and other health professionals make patients aged 65 and over aware of memory services, and refer those in most need of assessment.

Domain 2: (3) Domain Levels of Ambition

4.159 This section considers for Domain 2 as a whole:

a) Aggregated Scope for Improvement

b) Levels of Ambition

c) Implications for Inequality

Domain 2: (3)(a) Aggregated Scope for Improvement

4.160 In this section Domain 2 partial assessment of the aggregated scope for improvement, in terms of additional QALYs is derived from assessed scope for improvement for individual indicators in the Domain. This draws on the analysis of current practice projections and scope for improvement data presented above and provides additional analysis where necessary.

for the NHS Outcomes Framework

Domain 2 - Quality-Adjusted Life-Years gained		
	Trajectory	**Scope for Improvement**
2012/13*	0	38,000
2013/14	0	46,000
2014/15	0	58,000
2015/16	0	61,000
2016/17	0	61,000
2017/18	0	61,000
2018/19	0	61,000
2019/20	0	61,000
2020/21	0	61,000
2021/22	0	62,000
2022/23	0	62,000
2 year		104,000
5 year		287,000
10 year		599,000

Notes

The aggregated scope for improvement shown is based upon QALYs gained from
- improvements in care for people with ambulatory care sensitive long-term conditions which lead to reductions in emergency admissions, and from
- roll-out of IAPT for people with long-term health problems

Potential additions and improvements to this analysis are as follows:
- improvements to health through better care planning for those with less serious LTCs (i.e. who do not require emergency admissions),
- improvements for dementia when achievable levels of diagnosis have been established,
- improvements for carers based on analysis presented in the above section on the scope for improvement for carers when the analysis is refined
- potential improvements in care for diabetes and other long-term conditions where appropriate.

4.161 These figures will be updated in the consultation period such that the scope for improvement is calculated from a 2012/2013 base year. As data for 2012/13 will not be available at that time it will be necessary to forecast a 2012/2013 outturn as the basis for such calculation, which will then be subject to review in light of the final figures once available.

4.162 Quality-Adjusted Life-Year (QALY) improvements are currently measured based on aggregated scope for improvement across the following indicators:

- quantified through Quality of life (QoL) gains associated with reducing emergency admissions for people with ambulatory conditions (indicator 2.3i)
- quantified through QoL gains for U18s with diabetes, asthma and epilepsy (indicator 2.3ii)
- Improvements in quality-of-life through rolling out Improving Access to psychological Therapies (IAPT) (contributing to improvements in indicator 2

4.163 Additional scope for improvement to be added:

- improvements to health through better care planning for those with less serious LTCs (i.e. who do not require emergency admissions),
- improvements for dementia when achievable levels of diagnosis have been established
- improvements for carers based on analysis presented in the above section on scope for improvement for carers when analysis is refined
- potential improvements in diabetes care and for other long-term conditions where appropriate

Scope for improvement – quality of life for patients with long-term conditions – indicators 2.3i and 2.3ii

4.164 Reductions in emergency admissions are used to approximate the effects of care planning. Potential improvements in the methodology have been identified and are discussed further below. The aspiration is for emergency admissions to be 20% lower than trajectory, by 2014/15. This could come through improvements in care which will lead to efficiency gains. The exact levels of reduction will be determined locally by the NHS. For the purposes of these calculations we have assumed the level below trajectory will be maintained post-14/15.

Potential for reduction in Emergency Admissions (% vs. current practice projections)	
2012/13	-5%
2013/14	-10%
2014/15	-15%
2015/16	-20%
2016/17	-20%
2017/18	-20%
2018/19	-20%
2018/20	-20%
2019/20	-20%
2020/21	-20%
2021/22	-20%
Source: DH assessment of the potential for reducing emergency admissions in emergency admissions for long-term conditions	

4.165 Current practice projections are based on the current estimated trajectory of the indicator, which is documented above - for indicators 2.3(i) and 2.3(ii) this is estimated to be a flat rate per 100,000 of the population (implying an annual growth rate of around 0.8%.

Scope for improvement – quality of life improvements through rolling out IAPT

4.166 Based on the scope for improvement for the expansion of IAPT documented above QoL improvements through Improved Access to Psychological therapies (IAPT) are estimated based on this aspiration, repeated in the table below.

Approximate central estimate of patients going through IAPT by 2014/15	***800,000***
Ambition for success rate of IAPT	50%
Source: DH IAPT Impact Assessment	

Conversion to Domain Metric – quality of life for patients with long-term conditions – indicators 2.3i and 2.3ii

4.167 Quality-of-life gains through improvements in care for people with long-term conditions are estimated using potential improvements in EQ-5D score between different ‘health states’ of a long-term condition. This could for example be the different levels of self-reported health in different severity states of a disease or the difference in health between a well-managed and badly managed condition. A good example is the difference between well-medicated and poorly medicated epilepsy. The latter is likely to inhibit quality-of-life, e.g. the ability to undertake every-day activities and potentially to lead to hospitalisation.

4.168 For ambulatory care sensitive conditions (indicator 2.3i) these are approximated in the table below. A weighted average is calculated using the sample weights of the different LTCs from the GP Patient Survey (GPPS). This average improvement is then combined with estimated reductions in emergency admissions described above, and with estimates of duration of impact described below.

4.169 For indicator 2.3ii – U19s asthma, epilepsy and diabetes – a weighted average of the QoL gains for those conditions is calculated to be 0.05. The same method is applied as for indicator 2.3i to calculated the QALY gains.

QoL improvements per patient per annum (calculated by comparing EQ-5D scores from being in different health states, i.e. well managed long-term condition vs. an event that leads to hospitalisation)	**Min**	**Max**	**sample size in GP Patient Survey**
Alzheimers disease or dementia	0.04	0.1	3475
Angina or long-term heart problem	0.05		33897
Asthma or long-term chest problem	0.05		52467
Diabetes	0.02		43756
Epilepsy	0.26	0.56	5537
High blood pressure	0.26		118455
Another long-term condition	0.002	0.058	60107
weighted average improvement for ambulatory care LTCs (based on sample size for each condition in the GPPS)	0.12		
Source: Based on a judgement of relevant estimates of the health-related quality of life in differenet health states of long-term condions taken from Tengs and Wallace (2000) “One thousand health-related quality-of-life estimates” Medical Care 38(6):583-637; GPPS for estimated sample size			

Duration of impact

4.170 In the case of emergency admissions we estimate QALY gains to have a “duration of 1 year”, i.e. the benefits of better care do not persist into the future unless better care is maintained. This may be a slight underestimate of benefits as some health improvements through better management may persist in future years, this could be adjusted for in the estimate of wider benefits of care planning still to be quantified.

QALY estimates

4.171 The QALY estimates presented in the table below are based on the reduction in emergency admissions implied by the aspirations in the table under scope for improvement above, compared to the current practice projections which are estimated in the previous sections of this document. This scope for improvement in terms of admissions avoided is then multiplied by the potential QoL gain presented in the table above to give the overall potential gain. The implications of this for average EQ-5D score are still to be estimated.

Year	Estimated annual QALY gains – indicator 2.3i – EM for ambulatory care sensitive conditions	Estimated annual QALY gains – indicator 2.3i – EMs for U19s – epilepsy, diabetes and asthma
2012/13	3,927	688
2013/14	6,284	1,041
2014/15	8,681	1,399
2015/16	8,755	1,411
2016/17	8,830	1,423
2017/18	8,903	1,435
2018/19	8,976	1,447
2019/20	9,046	1,458
2020/21	9,116	1,469
2021/22	9,185	1,480
2022/23	9,253	1,491

Conversion to Domain Metric – IAPT gains

4.172 Gains from IAPT are calculated using the estimated number of patients going through IAPT per year and the estimated QALY improvement below. There is evidence that IAPT reduces anxiety and depression[9] . The QALY improvement below is estimated based on the likely change in EQ-5D if score on the anxiety and depression domain is improved. This is based on analysis set out in the Impact Assessment reference above.

QALY gain per year over (two years)	**0.11**
QALY gain per year	0.06
Improvement in average EQ-5D	0.06

4.173 Estimated QALY gains based on the calculations laid out above are presented in the table below.

Year	**Estimated annual QALY gain through roll out of IAPT**
2012/13	34,650
2013/14	39,600
2014/15	49,500
2015/16	49,500
2016/17	49,500
2017/18	49,500
2018/19	49,500
2019/20	49,500
2020/21	49,500
2021/22	49,500
2022/23	49,500

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[9] http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_083172.pdf

Conversion to Domain Metric – Dementia gains

4.174 Subject to further analysis

Conversion to Domain Metric – Carers

4.175 Approximately 90,000 QALYs gained through reducing the health-related quality of life gap for carers is estimated above. This is subject to further analysis prior to being included in aggregated scope for improvement

Sensitivities and discussion

4.176 Current results overall are likely to be an underestimate of the scope for improvement for this domain as potential improvements identified in a number of indicators has not been quantified.

4.177 Results estimated to date are sensitive to the estimated EQ-5D improvements that achieved through improvements in care for people with LTCs. These are presented in the table above and are taken from a study which presents a meta-analysis of a selection of studies and their QoL impact results.

4.178 The overall improvements in quality of life are based on a multiplication of the overall ambition for reduction in emergency admissions, multiplied by the number of emergency admissions. The one-to-one relationship is likely to be too simple and further work is required. In reality there will be a smaller number of individuals than emergency admissions, as those with severe unmanaged disease are likely to be admitted multiple times in a year (making the calculations above an overestimate of benefit).

4.179 On the other hand there could be a multiplicative effect on quality-of-life and emergency admissions of better managing a patient with moderate disease, for example, moving from multiple admissions per annum to very few (this would make the calculations above a underestimate of benefit).

4.180 There will also likely to be some emergency admissions that are beneficial for patients. However as the ambition is not to reduce emergency admissions to zero, rather to reduce a proportion there is an implicit assumption that the emergency admissions being avoided are “undesired” emergency admissions.

4.181 At this stage estimates of impact of roll-out of IAPT are indicative as additional estimate of the EQ-5D impact is required

Domain 2: (3)(b) Levels of Ambition

4.182 This section assesses appropriate Levels of Ambition for Domain 2, adding to the scope for improvement of individual indicators the scope for gains in allocative efficiency, conditioned by a realistic assessment of the challenge presented to the NHS to achieve requisite change.

4.183 For Domain 2 the scope for allocative efficiency between different disease areas should be informed by work on marginal cost/QALY in different disease areas arising from review of NICE Quality Standards and other evidence.

4.184 Levels of ambition will be included in the final mandate.

(3)(c) Domain 2 Implications for Inequality

4.185 Further work will explore relevant considerations for assessment of inequality in Domain 2.

(4) Considerations for Retrospective Assessment of Domain 2 NHS performance.

4.186 This section draws attention to the factors that should be taken into account when assessing whether overall domain performance by the NHS has met levels of ambition set.

4.187 The Department has commissioned research specifically to model the relationship between prevalence of different conditions and reported Health Related Quality of Life (measured by responses to EQ5-D survey). This work will aim to produce a methodology for standardising EQ-5D average scores in a way that controls for the influence of confounding factors.

4.188 It is envisaged that this analysis will include the following three phases:

4.189 1st Phase - Using a single wave of the GP Patient Survey, the first stage of the analysis will be to identify individuals reporting long term conditions and use the EQ-5D as dependent variable with the 15 long term conditions, gender, age, ethnicity and deprivation as independent variables. The goal will be to identify variables significantly associated with variations in EQ-5D in long term conditions.

4.190 2nd Phase - The results of the modelling of predictors of EQ-5D in long term conditions will be used to explore two analytical strategies aimed at controlling for the influence of confounders:

- **Weighted outcome index**: the analysis will construct a standardised EQ-5D index for the population of individuals with long term conditions, by developing a set of weights for the GP Patient Survey on the basis of the factors linked to variations in EQ-5D (the factors identified in the first phase of the analysis). These weights will be applied to subsequent GP Patient Survey samples to standardise for differences in key characteristics between waves and thus to control for the effect of confounders.
- **Regression analysis**: The regression results model will also be used to carry out adjustment analyses to interpret yearly changes in EQ-5D observed for GP Patient Survey.

4.191 (3rd Phase) For any source such as GP Patient Survey that requires sampling, it will be very difficult formally or systematically to distinguish compositional effects of sampling from underlying changes in the incidence and prevalence of long term conditions, and changes in the likelihood of someone with a particular condition of a particular level of severity self-reporting. A third phase of analysis will be required therefore to estimate the differential contribution to the adjusted EQ5D score arising from changes in the quality of service provided by the NHS (which may affect duration in a particular stage or severity level of the condition) on the one hand, and changes in the incidence and likelihood of reporting an LTC on the other. This stage of analysis will involve using other sources, including the Health Survey for England data with its richer set of patient data, but also including the various models of incidence and prevalence for distinct long term conditions developed by the Public Health Observatories and elsewhere, in order to create a consistent estimate of prevalence of individual LTCs at different stages and to assess how prevalence at different stages might be evolving over time – due to shifting public health drivers of incidence and likelihood of self-report on the one hand, and NHS influences on stage-duration on the other. Consequently, the analyses to produce a model to be used for adjustment and interpretation of yearly changes will be accompanied by an assessment of the impact of key factors beyond the effects of services that may influence yearly changes in EQ-5 D.

4.192 This assessment will include:

(i) methodological factors such as sampling and other reporting biases, including the likelihood of self-reporting a condition of given level of severity;
(ii) estimation of underlying effects on the incidence and prevalence of long term conditions such as population ageing and the growing prevalence of multiple morbidity;
(iii) the NHS influence on stage-duration (which also determines mortality).

4.193 Performance can be assessed by consideration of the observed path of HRQoL respectively for Carers and for those suffering from LTC. This should involve the following steps:

- retrospective adjustment of the projection in light of any unexpected shifts in the external drivers of performance, taking into account lags. In particular for Domain 2, it will be critical to adjust for :
- changes in the measured prevalence in long term conditions, according to the whether they arise from earlier diagnosis and or from deferred mortality
- changes in the underlying prevalence occasioned by external drivers of outcome (eg smoking)
- calculation of the residual movement and attribution to NHS performance (noting whether there are any known changes in NHS practice that might explain changes in outcome)
- translation of net divergences into incremental QALYs gained or lost, allowing for the duration of impact of those benefiting or suffering from shifts in HRQoL
- comparison of aggregated net change in QALYs attributed to the NHS with Levels of Ambition.