Healthcare across the UK:
A comparison of the NHS in England, Scotland, Wales and Northern Ireland

Quality and Outcomes Framework analysis

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1 Since 2004, all four UK nations have used a voluntary incentive scheme known as the Quality and Outcomes Framework (QOF) to pay GP practices according to how well they care for their patients. The Framework currently comprises 146 process, activity and outcome measures, though the number and focus of some of these measures have changed over time. The Framework provides data on the uptake of good practice within primary care using indicators with consistent definitions and the same data collection techniques in all four nations. GP practices can score points – and receive financial reward – for undertaking processes, performing treatments and achieving outcomes related to the condition of their patients.

Methodology

2 Our work was based on the methodology of a study published by McClean and colleagues.[1] The analysis was undertaken using data for 8,197 GP practices in England, 942 in Scotland, 481 in Wales and 354 in Northern Ireland. We analysed QOF results across four disease areas – coronary heart disease (CHD), stroke, hypertension and diabetes to calculate:

- payment quality – the number of patients for whom the procedure had been conducted divided by the number of patients on the practice list with that particular condition (less those 'exception reported' by the practice);[2] and

- population achievement – the number of patients for whom the procedure had been conducted divided by the number on the practice list with that particular condition.

3 The QOF indicators chosen were the same as those used in the paper referred to above with the exception of those indicators that are no longer in use – where this was the case we replaced them with similar alternatives. We grouped our indicators into four categories (see Appendix One for a full list of the indicators):

- simple process (11 indicators);

- complex process (3);

- intermediate outcome (9); and

- treatment measures (5).

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1   G McLean, B Guthrie, M Sutton. Differences in the quality of primary medical care for CVD and diabetes across the NHS: evidence from the quality and outcomes framework. *BMC Health Services Research* 2007, 7:74.
2   The number on the practice list may be reduced by practice exception reporting on the basis of patient non-attendance or patient dissent, or if a patient is already on maximum treatment.

4   Data were taken from the QOF online results database in England. Similar data were collated from the Information Services Division Scotland, the Welsh Government and the Department of Health, Social Services and Public Safety for Northern Ireland. We used data for 1 April 2009 – 31 March 2010 (2009-10) and 1 April 2010 – 31 March 2011 (2010-11).

Results

5   For each of the four categories of indicators, we calculated a composite measure of performance (separately for payment quality and population achievement) at GP practice-level by taking the average (mean) score for the relevant indicators for each practice. Averages for England, Scotland, Wales and Northern Ireland, and for the nine English regions, were then calculated by taking an average for the practices within that nation or region. To investigate the significance of any variations in performance, we calculated 99 per cent confidence intervals around these averages.[3]

6   The results of our analysis are shown in **Figure 1** overleaf. Key points are as follows.

- GP practices in Scotland and Northern Ireland generally scored better across the 28 indicators we analysed, outperforming England across all four disease areas. GPs in Wales did not, on average, perform consistently differently from their counterparts in England.

- The quality of primary care, across the disease areas analysed, generally improved in all four nations between 2009-10 and 2010-11. The variation between the nations decreased, with England and Wales getting closer to the performance of Scotland and Northern Ireland.

- The extent of exception reporting[4] – whereby a GP practice can exclude a patient from their scores – varies across the nations and is highest in Scotland. Exception reporting is designed to prevent GP practices being penalised where, for example, patients do not attend for a review or a medication cannot be prescribed due to a contraindication.[5] Taking account of exception reporting, GP practices in Northern Ireland still performed better than in England. However, the performance of GP practices in Scotland was no longer consistently higher.

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3   Confidence intervals were calculated assuming normal distribution of indicator performance. This represents a limitation to the analysis since some of the indicators are likely to have non-normal distributions; further work could focus on re-estimating these confidence intervals.
4   Exception reporting includes patients both excluded and excepted.
5   Contraindication defined as a patient condition or factor that serves as a reason to withhold a medication.

Figure 1

Average percentage achievement by indicator category and country for 2010-11 (with percentage change since 2009-10)

| Category	England (%)	Scotland (%)	Wales (%)	Northern Ireland (%)
Payment quality				
Simple	95.6 (+0.2)	96.5 (-0.2)	96.1 (+0.3)	96.4 (0)
Complex	91.5 (+2.6)	92.7 (+1.7)	92.9 (+3.8)	91.7 (+1.4)
Intermediate outcome	80.6 (+0.2)	83.0 (-0.2)	81.0 (+0.6)	82.5 (0.0)
Treatment	88.7 (+0.2)	91.2 (0.0)	88.6 (+0.5)	90.1 (-0.1)
Population achievement				
Simple	93.1 (+0.2)	93.1 (-0.3)	93.1 (+0.2)	94.4 (+3.8)
Complex	85.7 (+1.0)	84.6 (-0.5)	86.3 (+0.7)	85.3 (-0.4)
Intermediate outcome	74.7 (-1.8)	75.2 (-2.2)	74.3 (+0.2)	78.9 (+4.3)
Treatment	76.5 (-0.1)	77.7 (+3.4)	74.5 (+0.2)	80.7 (-0.7)

Source: National Audit Office

7 The results for Scotland, Wales and Northern Ireland along with that of the English regions, in comparison to England's national performance are given in **Figure 2** on pages 5 and 6 (payment quality) and **Figure 3** on pages 7 and 8 (population achievement). The variance between the nations is more pronounced in the population achievement scores than in the payment quality scores.
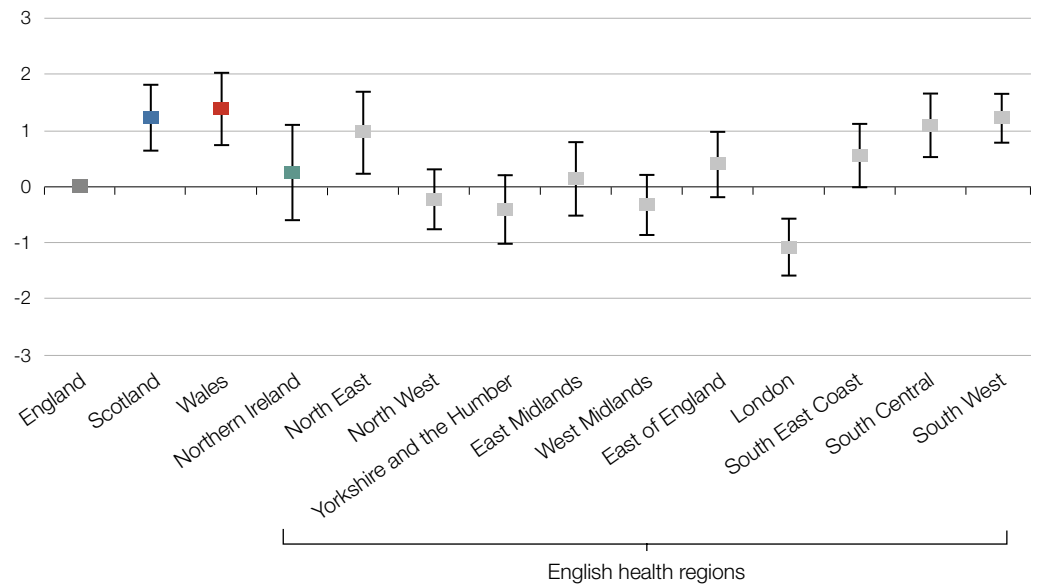
Figure 2

Differences in QOF scores between the nations and English health regions (payment quality) in 2010-11

Simple procedure, payment scores (%)

English health regions
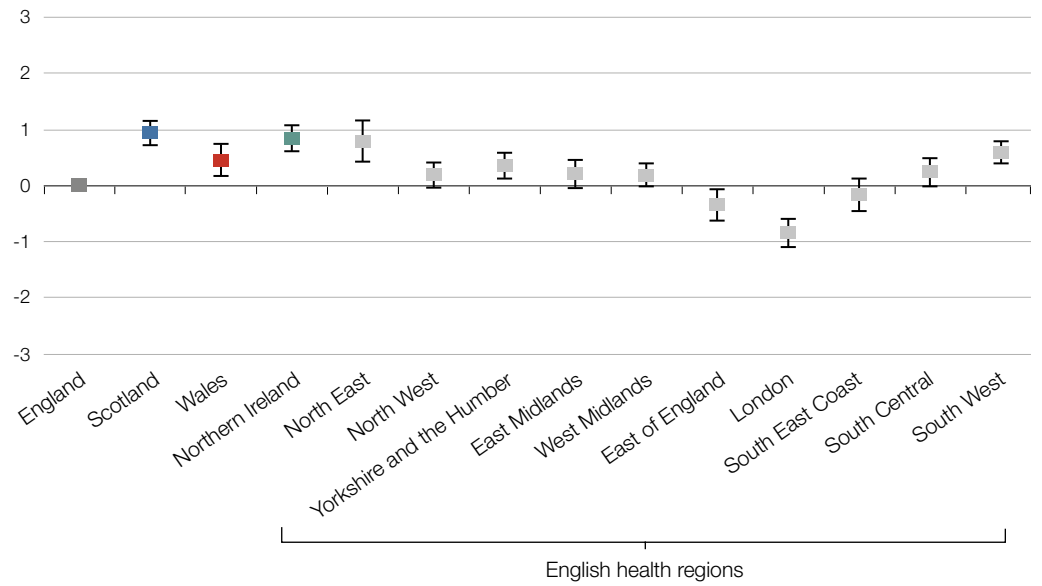
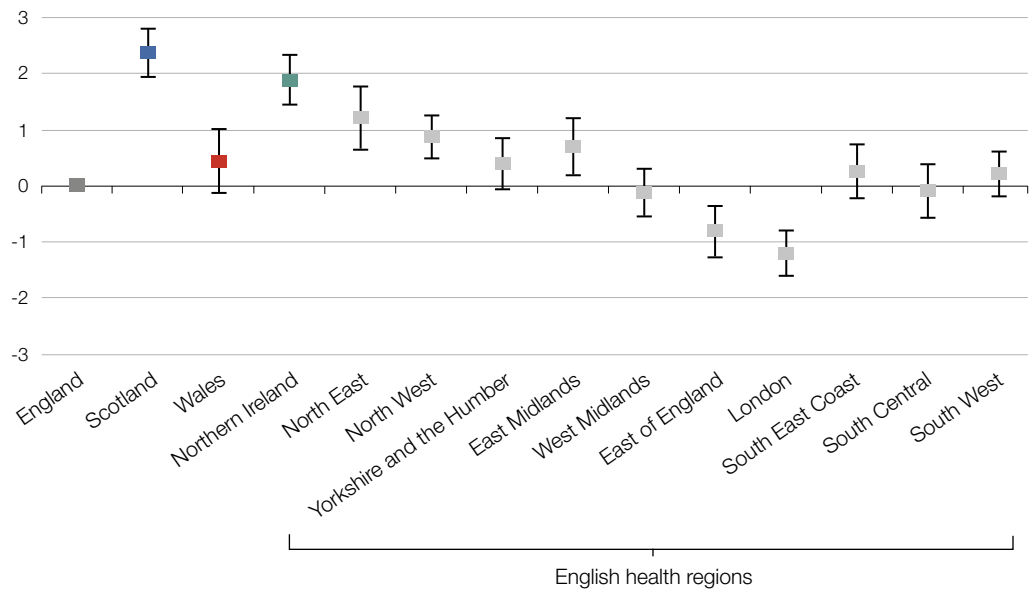**Complex procedure, payment scores (%)**

English health regions

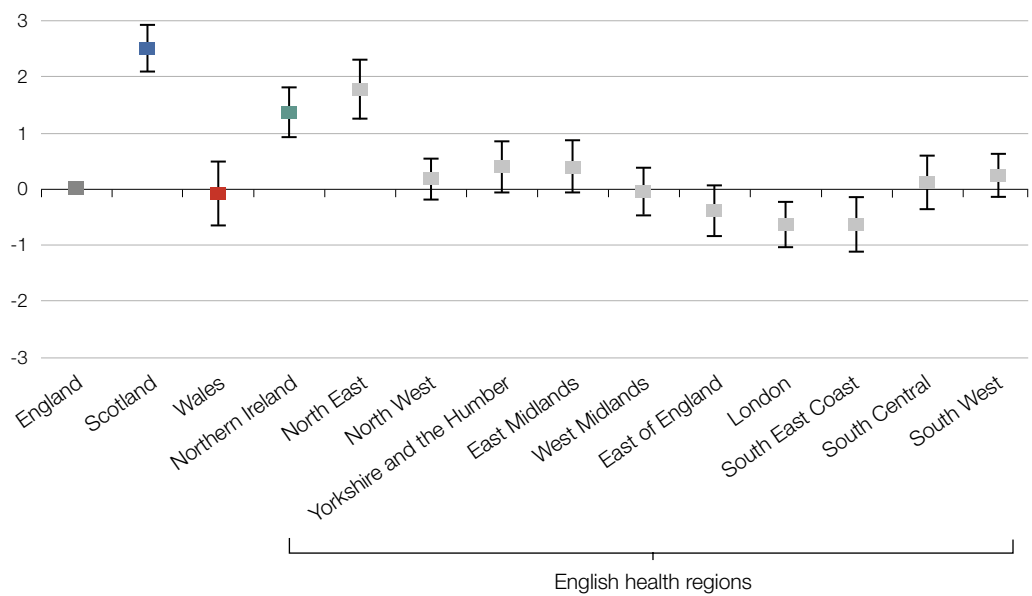— 99% confidence interval   □ Mean difference from England

Figure 2 *continued*
Differences in QOF scores between the nations and English health regions (payment quality) in 2010-11

Intermediate outcome, payment scores (%)

English health regions

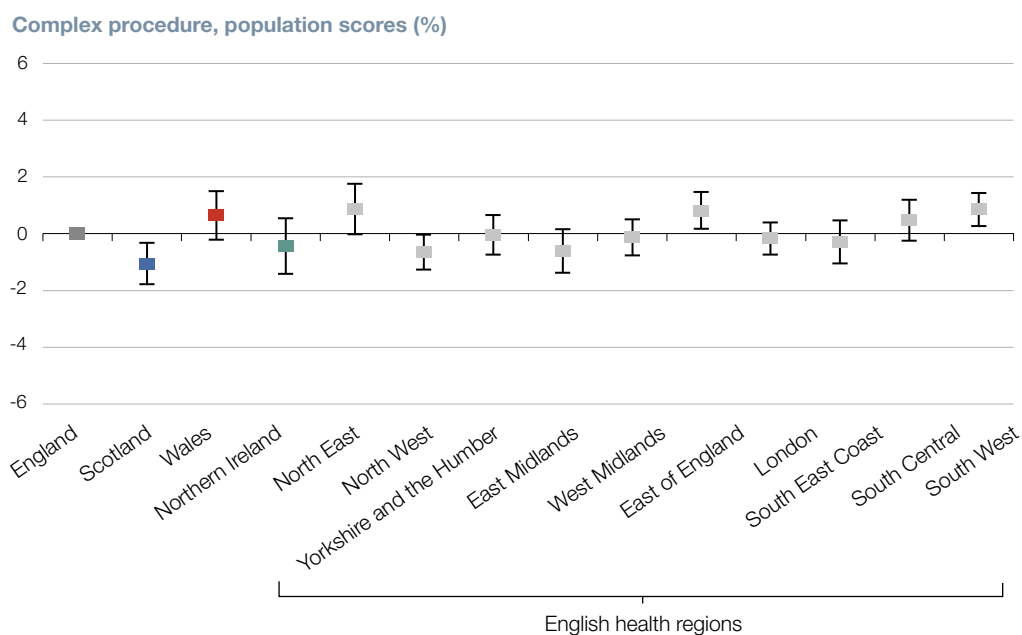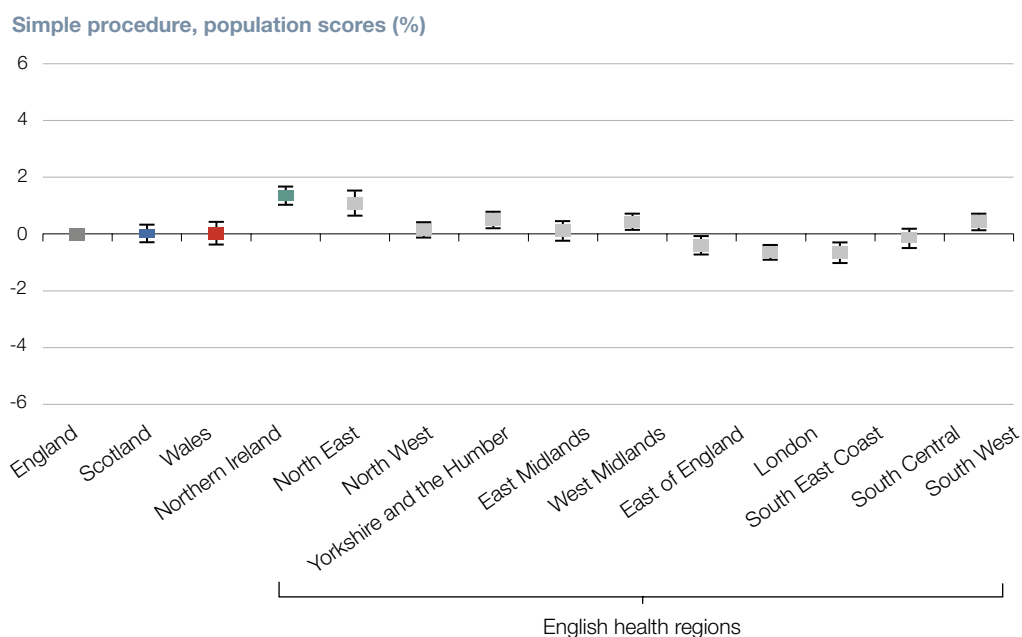Treatment, payment scores (%)

English health regions

— 99% confidence interval   ☐ Mean difference from England

NOTES
1   All scores are reported in comparison to the English mean performance.
2   Vertical lines reflect 99 per cent confidence intervals. These were estimated by assuming normal distribution of practice performance. This is a potential limitation of the analysis since some of the indicators are likely to have non-normal distributions.

Source: National Audit Office

Figure 3

Differences in QOF scores between the nations and English health regions (population achievement) in 2010-11

Simple procedure, population scores (%)

English health regions

Complex procedure, population scores (%)
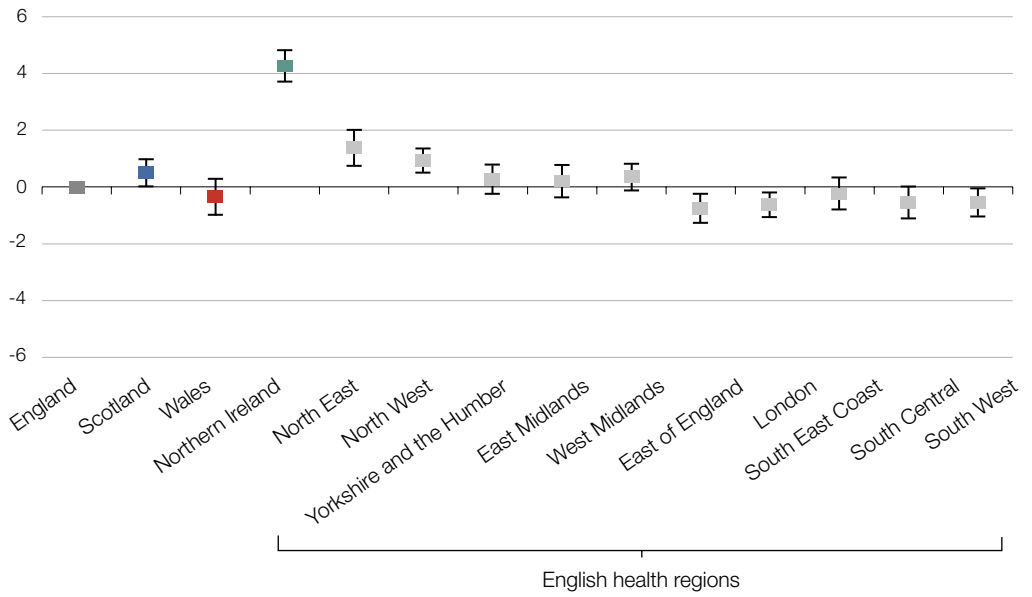

English health regions

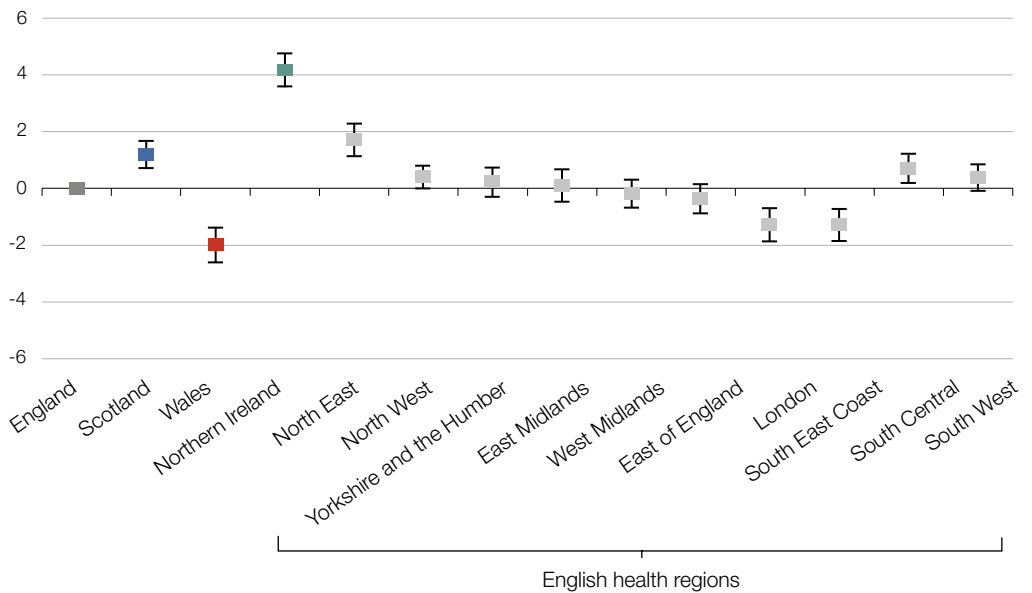— 99% confidence interval   ☐ Mean difference from England

Figure 3 *continued*

Differences in QOF scores between the nations and English health regions (population achievement) in 2010-11

Intermediate outcome, population scores (%)

English health regions

Treatment, population scores (%)

English health regions

— 99% confidence interval   ☐ Mean difference from England

NOTES

1   All scores are reported in comparison to the English mean performance.

2   Vertical lines reflect 99 per cent confidence intervals. These were estimated by assuming normal distribution of practice performance. This is a potential limitation of the analysis since some of the indicators are likely to have non-normal distributions.

Source: National Audit Office

Appendix One

Quality and Outcomes Framework indicators used

Disease area	Indicator definition
Simple process	
Smoking 03	The percentage of patients with certain condition (including coronary heart disease, stroke or TIA, diabetes) whose notes record smoking status in the previous 15 months (except those who have never smoked where smoking status need only be recorded once since diagnosis).
CHD 05	Record of blood pressure in previous 15 months.
Stroke 05	Record of blood pressure in previous 15 months.
Hypertension 04	Record of blood pressure in previous 9 months.
Diabetes 11	Record of blood pressure in the previous 15 months.
CHD 07	Record of total cholesterol in previous 15 months.
Stroke 07	Record of total cholesterol in previous 15 months.
Diabetes 16	Record of total cholesterol in previous 15 months.
Diabetes 02	Record of BMI in previous 15 months.
Diabetes 05	Record of H1Abc or equivalent in previous 15 months.
Diabetes 14	Record of serum creatinine testing in the previous 15 months.
Complex process	
Diabetes 21	The percentage of patients with diabetes who have a record of retinal screening in the previous 15 months.
Diabetes 09	Record of peripheral pulse test in the previous 15 months.
Diabetes 10	Record of neuropathy testing in the previous 15 months.

Disease area	Indicator definition
Intermediate outcome	
CHD 06	Blood pressure recorded in previous 15 months less than or equal to 150/90.
Stroke 06	Blood pressure recorded in previous 15 months ≤ 150/90.
Hypertension 05	Blood pressure recorded in previous 15 months less than or equal to 150/90.
Diabetes 12	Blood pressure recorded in previous 15 months ≤ 145/85.
CHD 08	Total cholesterol recorded in previous 15 months less than or equal to 5 mmol/l.
Stroke 08	Total cholesterol recorded in previous 15 months less than or equal to 5 mmol/l.
Diabetes 17	Total cholesterol recorded in previous 15 months less than or equal to 5 mmol/l.
Diabetes 23	The percentage of patients with diabetes in whom the last HbA1C is 7 or less (or equivalent test/reference range depending on local laboratory) in the previous 15 months.
Diabetes 07	HbA1c recorded in previous 15 months ≤ 10 per cent.
Treatment	
CHD 09	Aspirin, alternative anti-platelet or anti-coagulant being taken.
CHD 10	Treated with beta-blocker.
CHD 12	Record of influenza immunisation in previous flu season.
Stroke 10	The percentage of patients with TIA or stroke who have had influenza immunisation in the preceding 1 September to 31 March.
Diabetes18	The percentage of patients with diabetes who have had influenza immunisation in the preceding 1 September to 31 March.