

# Chapter 7: Strengthen the Role & Impact of Ill Health Prevention

## Diabetes

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### Introduction

Diabetes is a major public health issue. There are currently around 3.8 million people living with diabetes in the UK and this is expected to increase to 6.25 million by 2035/6. The cost of diabetes to the NHS is:

- Over £1.5m an hour or 10% of the NHS budget for England and Wales.
- £14 billion pounds spend a year on treating diabetes and its complications, with the cost of treating complications representing the much higher cost.
- Around £230m per year on social care costs.

(Diabetes NST, 2008).<sup>1</sup>

It is estimated that there are 850,000 people in the UK who have diabetes but have not been diagnosed and the cost of undiagnosed diabetes can be estimated at an additional £1.5 billion<sup>2</sup>

The main risk factors for Type 2 diabetes are:

- Being overweight or obese (accounts for 80-85%)
- Having a waistline greater than 94 cm (37 inches) for men or greater than 90 cm (35 inches) for men of South Asian origin. For women, having a waistline greater than 80 cm (31.5 inches)
- Being more than 40 years old or for people of South Asian origin, more than 25 years old
- Family history of Type 2 diabetes
- Ethnic groups: Black African, Caribbean or South Asian origin
- Gestational diabetes
- Having ever experienced higher than normal blood glucose levels or pre-diabetes

Diabetes puts people at a higher risk of heart disease, stroke, blindness, kidney disease and amputations. Those with diabetes are up to five times more likely to suffer heart failure. Diabetes is the leading cause of blindness in the working age population. One thousand people with diabetes have to start kidney dialysis every year.<sup>3</sup>

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<sup>1</sup> Diabetes NST (2008). *Diabetes in England*. National Support Team for Diabetes, November 2008.

<sup>2</sup> Diabetes UK.

<sup>3</sup> Diabetes UK

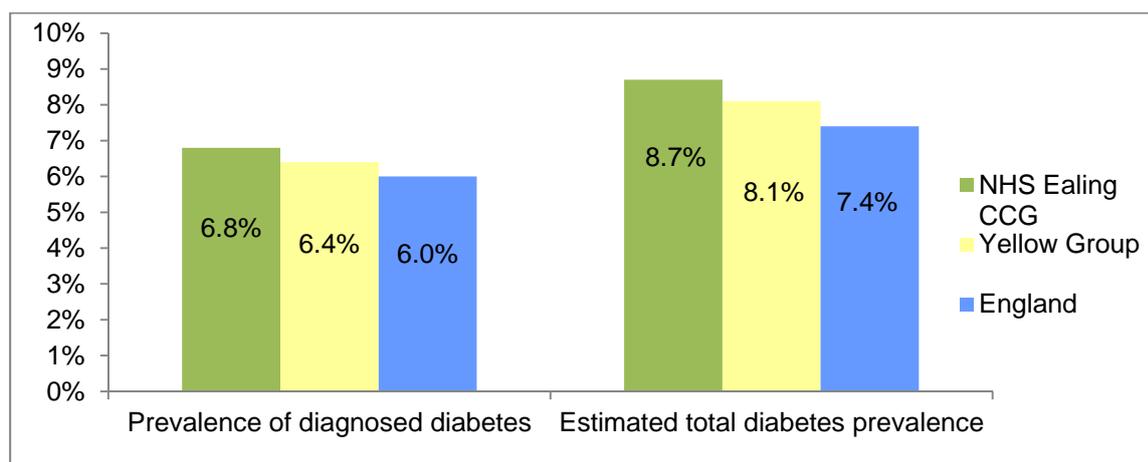
## Level of need in Ealing

In 2012/13 there were 21,890 (6.8%) people aged 17 years and older diagnosed with diabetes in Ealing. This is due to increased detection of cases, however it is estimated there are 5,659 adults with undiagnosed diabetes. Ealing has the joint 5<sup>th</sup> highest diabetes prevalence (6.8%) (With Barking & Dagenham and Enfield) across London.<sup>4</sup>

The current estimate of prevalence of Type 1 diabetes in children in the UK is one per 700-1000. Local Authorities and CCGs can expect between 100 – 150 children with diabetes to live in their area.<sup>5</sup>

The chart below compares the prevalence of diabetes in Ealing CCG with its cluster group and England. Ealing is in Yellow group<sup>6</sup> that has a relatively young population with higher than average proportion of Black and Asian ethnic groups and moderate levels deprivation.

Figure 1: Prevalence of diabetes in Ealing compared with cluster group and England, 2012/13



Source: Quality and Outcomes Framework, 2012/13 and APHO Diabetes Prevalence Model 2012

Diabetes prevalence is set to continue to increase between now and 2030. According to the APHO Diabetes Prevalence model,<sup>7</sup> diabetes prevalence locally is predicted to rise by 46% between 2014 and 2030. This equates to 10,505 more people developing the disease. The main factors are the ageing population and rapidly rising number of overweight and obese people.

<sup>4</sup> Quality Outcomes Framework 2012/13

<sup>5</sup> Source: Diabetes UK, 2012: Key statistics on diabetes

<sup>6</sup> Source: YHPHO definition of Yellow Group based on Census 2011 and Deprivation level on IMD2010 for 'A younger population with a higher than average proportion of the population from Black and Asian ethnic groups and moderate levels of deprivation.' All CCGs in England are split into 5 groups; Yellow Group comprises of 43 CCGs, including Hounslow, Hillingdon, Enfield, Barnet, Croydon, Redbridge and Slough.

<sup>7</sup> The APHO Diabetes Prevalence Model provides estimates of total (diagnosed and undiagnosed) diabetes prevalence for people aged 16 years and older for 2009- 2015, 2020, 2025 and 2030.

Table 1: APHO Diabetes Estimated prevalence aged >16 years in Ealing

	2014	2015	2020	2025	2030
<b>Number</b>	22,765	23,342	26,404	29,714	33,270
<b>Prevalence</b>	8.8%	8.9%	9.9%	10.8%	11.8%

Source: YPHHO Diabetes Prevalence Model (10<sup>th</sup> Dec. 2013)

Diabetes prevalence is higher in areas experiencing deprivation. Ealing is the third most deprived borough in West London (after Brent and Hammersmith & Fulham) and 13 out of 402 most deprived LSOAs in England are in Ealing. It is also known that people from Asian and Black ethnic groups are more likely to have diabetes and tend to develop the condition at younger age. According to the last Census (2011), there were 41% Ealing residents of Asian or Black ethnic origin, while London's overall figure was 32%.

Before people develop type 2 diabetes, they almost always have pre-diabetes and would be considered high risk. Diabetes UK suggests that approximately

- 15% or 1 in 7 adults have pre-diabetes<sup>8</sup> based on the WHO criteria.
- Out of which an estimated 5-12% develop Type 2 diabetes annually.
- If the above figure is applied, it is estimated there are approximately 60,000 pre-diabetics in Ealing, out of which an estimated 3,000-7,200 will develop type 2 diabetes annually.

However, progression varies among the population depending on different ethnic backgrounds and age. South Asians progress to diabetes at three times the rate of White Europeans. Diabetes UK recommends cases of pre-diabetes that are identified early on can be reversed, preventing them from progressing into full-blown type 2 diabetes.

According to NICE guidance everyone diagnosed with pre-diabetes should be offered intervention – which takes into account their risk of developing diabetes and Cardiovascular disease (CVD) and is tailored to the individual. Targets, such as weight reduction, changes in dietary habits and increased physical activity should also be assessed on an individual basis.

### Care Processes & Treatment Targets

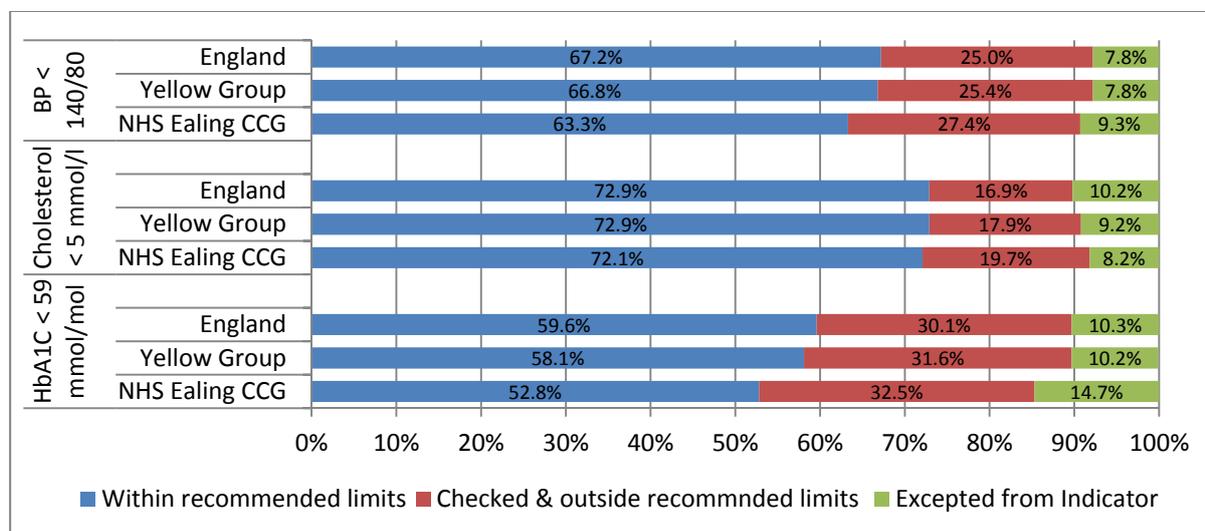
There are nine basic checks for the management of diabetes every year. The risk of developing diabetic complications can also be reduced if people with diabetes achieve recommended treatment standards to control blood glucose, blood pressure and cholesterol levels.

The chart below provides a breakdown of the key aspects of clinical management of patients with diabetes and highlights the attainment of HbA1c, blood pressure and

<sup>8</sup> Pre-diabetes is characterised by the presence of blood glucose levels that are higher than normal but not yet high enough to be classed as diabetes.

cholesterol targets in the 15 months ending March 2013. Ealing's attainments within recommended limits were lower than the Yellow group<sup>9</sup> and England averages.

Figure 1: Clinical Management of Diabetes in Ealing, Yellow Group and England, 2012/13



Source: Quality and Outcomes Framework, 2012/13

In 2012/13, out of all adults with diabetes registered in NHS Ealing CCG, 71.4% had an Hb1Ac<sup>10</sup> measurement of ( $\leq 8\%$ ), 69.8% had a blood pressure  $BP \leq 140/80$  and 78.5% had a total cholesterol  $\leq 5\text{mmol/l}$ . There is significant variation in the quality of care received by people with diabetes. This variation cannot be explained by need or spending alone and is likely to be influenced by the local set up and management of health services.

Table 2: Diabetes management in Ealing compared to similar Boroughs

Indicator	Ealing CCG	Brent CCG	Harrow CCG	Newham CCG
Diabetes Prevalence	6.8%	8.1%	8.1%	7.1%
HbA1c is $\leq 8\%$ in last 15mths	71.4%	72.2%	73.4%	70.4%
BP is $\leq 140/80$	69.8%	72.1%	71.5%	75.3%
Total cholesterol $\leq 5\text{mmol/l}$	78.5%	79.4%	80.5%	82.2%

Source: GP Practice Profiles, QOF 2012/13. <http://fingertips.phe.org.uk/profile/general-practice>

### Diabetes Complications

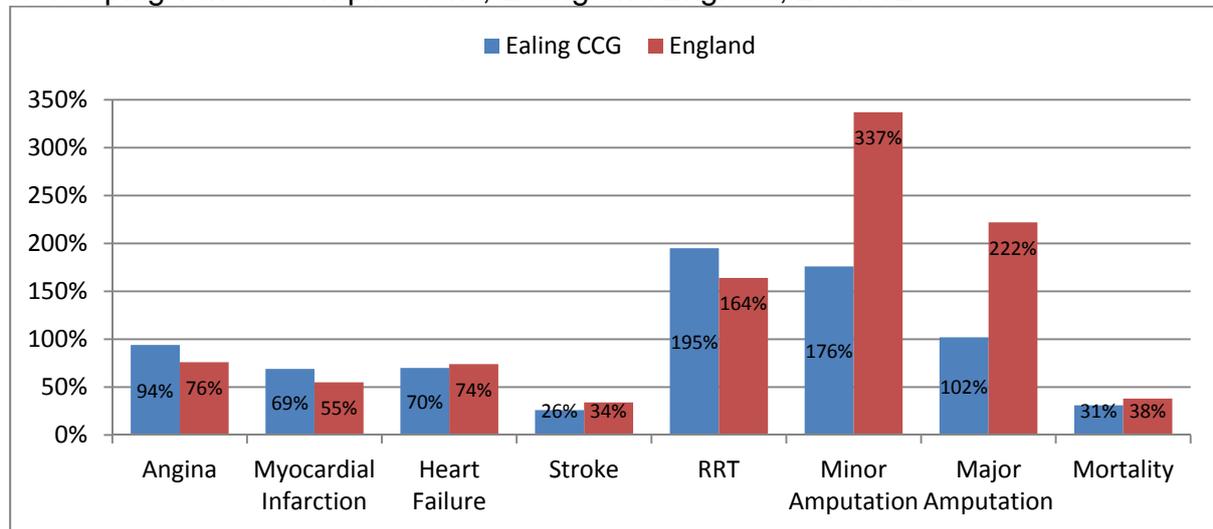
Poorly managed diabetes can lead to a range of complications including amputation, kidney disease, strokes, heart attacks, depression and blindness. As a result diabetes increases the chance of a person needing hospital admission by five

<sup>9 9</sup> The CCG Classification Groups provide a grouping of CCGs that have similar characteristics to allow appropriate benchmarking. Characteristics considered include: age structure of the population, % of population from Asian ethnic groups, % of population from Black ethnic groups, Indices of Deprivation 2010 (average score) and Population density. The yellow group has a younger population with a higher than average proportion of the population from Black and Asian ethnic groups and moderate levels of deprivation.

<sup>10</sup> Hb1Ac is a form of hemoglobin that is measured primarily to identify the average plasma glucose concentration over prolonged periods of time. In diabetes mellitus, higher amounts of glycated hemoglobin indicate poorer control of blood glucose levels.

times<sup>11</sup>. Compared to the general population, people with diabetes in Ealing were 68.8% more likely to have a myocardial infarction and 25.6% more likely to have a stroke. They were also 70.3% more likely to have a hospital admission where heart failure was recorded. In Ealing people with diabetes have a 31% greater chance of dying in a one year period after diagnosis than the general population.

Figure 2: Comparison between general population and diabetic patients in developing various complications, Ealing and England, 2011/12

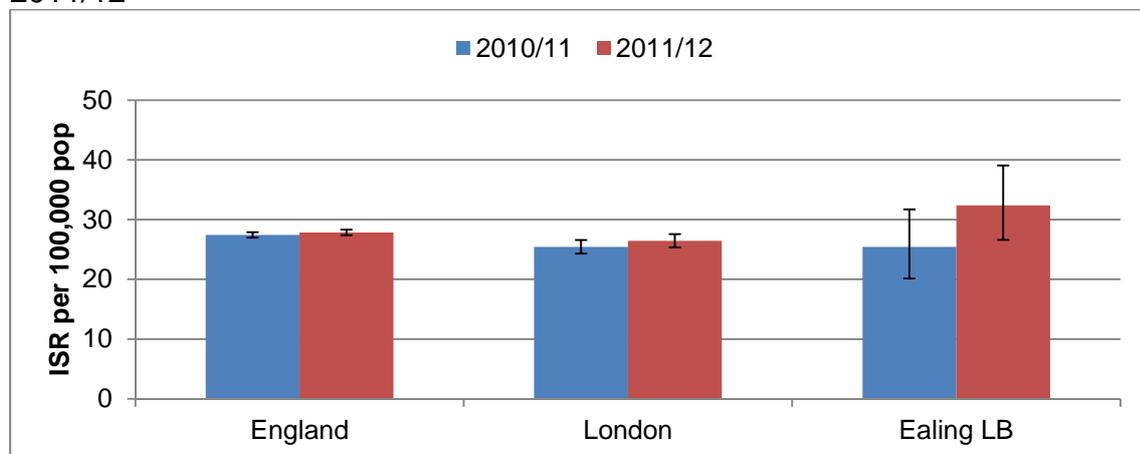


Source: National Diabetes Audit 2011/12

### Emergency Admissions

In 2011/12 the rate of emergency hospital admissions due to diabetic ketoacidosis and coma in Ealing was 32/100,000 population. Though higher than the London (27/100,000) and England (28/100,000) averages, the difference was not statistically significant (Figure 3). Compared to the year 2010/11, Ealing's emergency admission rate improved by 27.3% in 2011/12.

Figure 3: Emergency hospital admissions: diabetic ketoacidosis and coma, Indirect standardised rates (ISR) for London boroughs, London and England, Persons, 2011/12



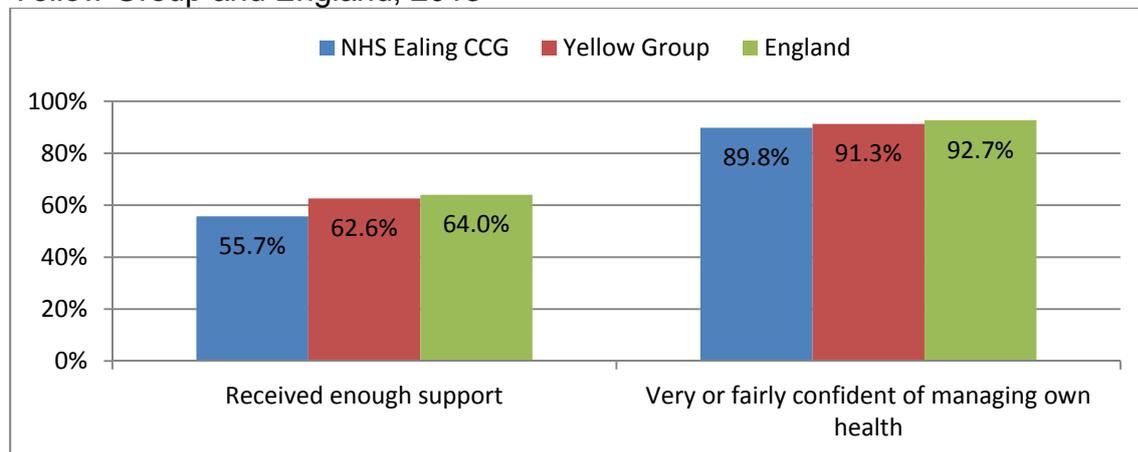
Source: Hospital Episodes Statistics and National Statistics

<sup>11</sup> Turning the Corner: Improving Diabetes Care; A Report from Dr Sue Roberts National Clinical Director for Diabetes to the Secretary of State for Health, June 2006, Department of Health, p. 13

### Patient Perspective

Data from GP patient survey show that the percentage of people with long term conditions (including Diabetes) who feel they have received enough support from their local organisation (56%) and are confident of managing their own health (90%) is lower than the Yellow group and England averages (Figure 4).

Figure 4: Patient perspective of care received from local organisations, Ealing, Yellow Group and England, 2013



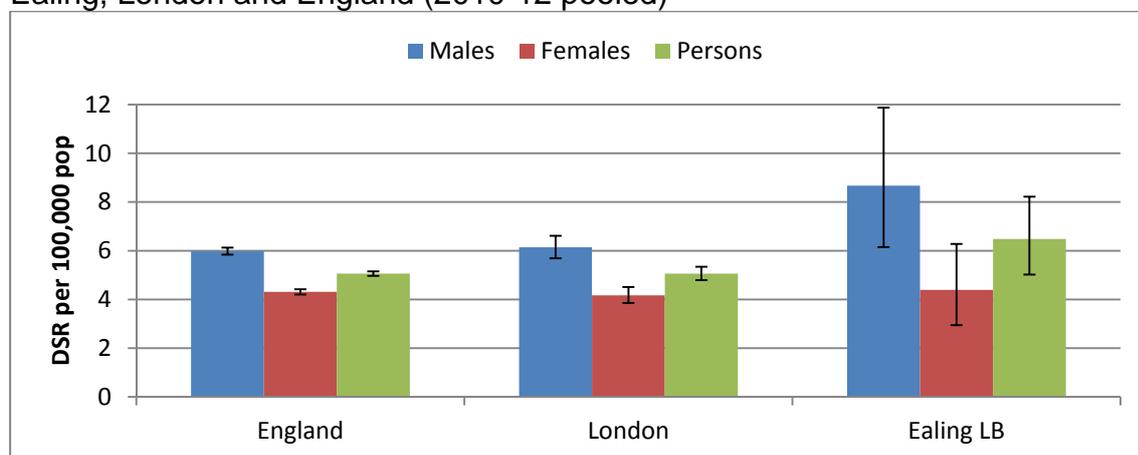
Source: GP Patient Survey 2013

### Mortality

Ealing’s male all age diabetes mortality rate (8.7/100,000 population) for the period 2010-12 was significantly higher than the England average. Overall there was a slight improvement in Ealing’s rates as compared to the period 2009-11. However the difference was not statistically significant (Figure 5).

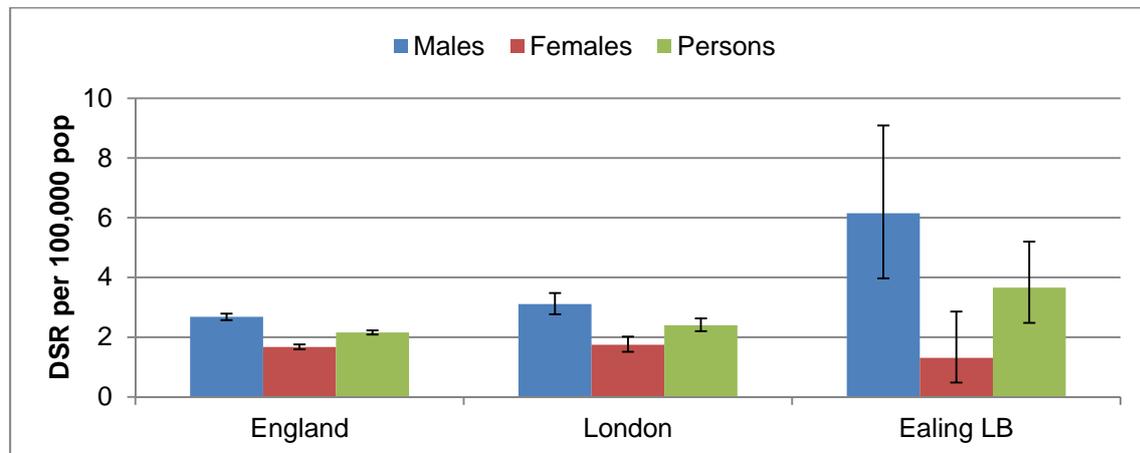
Ealing’s male under 75 diabetes mortality rate (6.2/100,000 population) for the period 2010-12 was significantly higher than the England and London averages. Overall there was a slight improvement in Ealing’s rates for males and persons as compared to the period 2009-11. However the difference was not statistically significant (Figure 6).

Figure 5: Mortality from diabetes, Directly Standardised Rate (DSR), All Ages, Ealing, London and England (2010-12 pooled)



Source: The NHS Information Centre for health and social care

Figure 6: Mortality from diabetes, Directly Standardised Rate (DSR) for persons aged below 75 years, Ealing, London and England (2010-12 pooled)



Source: The NHS Information Centre for health and social care

## Current Interventions in Ealing

### Health Trainers

NHS Health Trainers in Ealing provide advice, motivation and practical support to adults who want to adopt healthier lifestyles. They give practical support and advice to help develop and maintain a healthy lifestyle, and act as a link between professionals and communities. Individuals can self-refer via email or phone or practices can refer.

### The Ealing Healthy Lifestyle Programme

A free comprehensive behaviour change 12-week programme for adults over 18 in relation to increasing physical activity, improving nutrition intake, maintaining a healthier weight and stopping smoking, for patients who meet the eligible criteria for the programme, identified through the NHS health check.

### Ealing Walks programme

A programme of walks open to all people across the borough. People who would like to undertake more activity can join on or more of the walks offered across Ealing on different days of the week at varying times including evenings and weekends.

### MEND (Physical Activity & Healthy Eating)

MEND is a 10 – week family based healthy lifestyle programme for children aged 7 – 13 years, who are classified as overweight or obese through the national weight measurement programme in schools. Sessions include physical activity, nutrition and support on motivating behaviour changes.

### NHS health checks

NHS Health Check Programme offers a risk assessment to those between the ages of 40 – 74 every five years to assess people's risk of heart disease, stroke, kidney disease and Type 2 diabetes, followed by support and advice to help them reduce or manage their risk.

In Ealing, NHS health programme is currently being delivered by 78 GP practices and a community outreach provider. The programme made significant progress last year, the uptake of health checks increased from 62% in 2012/13 to 75% in 2013/14. This is the second highest NHS Health Check uptake rate across London boroughs and in the top 5% of boroughs nationally. However, there are variations across practices. Many of the practices underperforming are in wards of great epidemiological need.

A community based NHS health check service was commissioned in January 2014 in order to provide equitable service delivery in Ealing borough, raise the public profile of NHS Health Checks in general, and target specifically those with highest CVD risk by focussing publicity on populations affected by specific determinants.

Between January and August this year, 3,098 NHS health checks were offered at various community sites. Out of the screened population, 1,470 people required an HbA1c test to be carried out because they had a BMI  $\geq 30$  (27.5 for South Asian) or an elevated blood pressure. Of these:

- 214 people had a raised HbA1c  $\geq 42$ mmol/mol and  $< 48$  mmol/mol.
- 82 people had a result that was High HbA1c is defined as  $\geq 48$  mmol/mol and  $< 86$  mmol/mol.
- 4 people had a reading in the very high range. HbA1c is defined as  $\geq 86$  mmol/mol.

### **Spending on Diabetes**

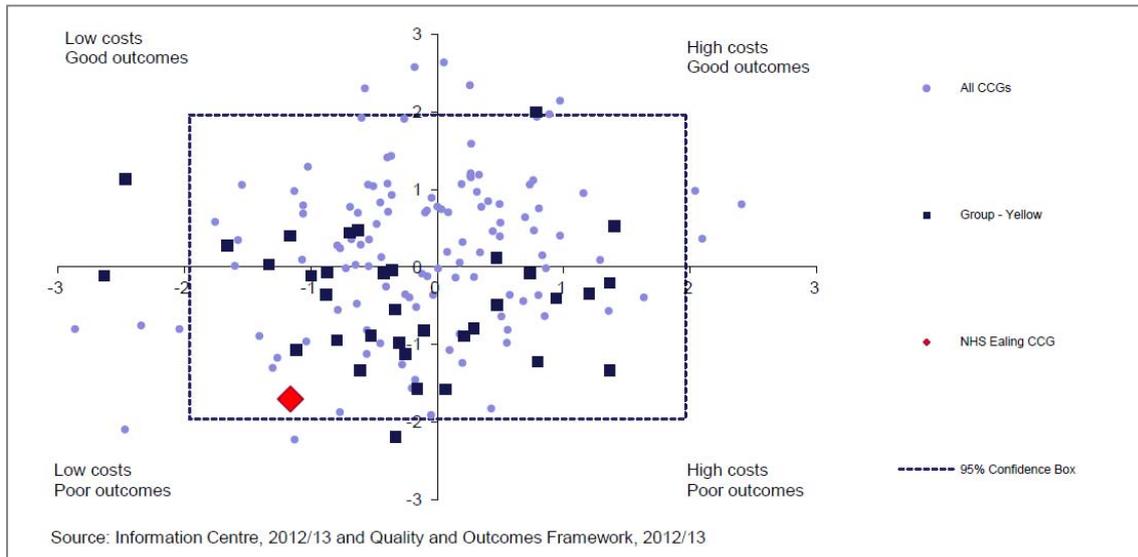
The NHS Ealing CCG total expenditure on endocrine, nutritional and metabolic problems category (includes diabetes) was £3.06 billion in 2012/13 financial year. The total expenditure on diabetes was £1.54 billion, approximately 50% of the total category budget.<sup>12</sup>

The NHS Ealing CCG spent a total of £5 million on prescriptions for diabetes items in 2012/13. This was equivalent to £226.13 per adult with diabetes. Average spending per item was lower than the England average. NHS Ealing was classified as being in the low cost and poor outcome quadrant (Figure 6).

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<sup>12</sup> <http://www.england.nhs.uk/resources/resources-for-ccgs/prog-budgeting/>

Figure 6: Average cost per item for anti-diabetic items, Ealing, Yellow group, all CCGs, 2012/13



### Identified needs and intervention gaps

Diabetes risk factors, prevalence, mortality and other key outcomes are strongly related to ethnicity and deprivation. The following key unmet needs have been identified from the above data analysis and current intervention evaluation:

- There are approximately 5,659 people with undiagnosed diabetes and therefore are not benefitting from treatment.
- There are nearly 60,000 people at high risk/pre-diabetes in Ealing. Primary care and other healthcare professionals can use a validated computer based risk assessment tool to identify people at high risk of type 2 diabetes and refer them to lifestyle support programmes.
- The NHS Health Checks programme has successfully delivered targets but needs scaling up, to increase uptake in wards with the greatest needs and identify not only those at risk of developing diabetes but also with undiagnosed hypertension and chronic kidney disease.

## Recommendations for Commissioners

1. All high risk patients or pre-diabetes are referred to evidence based quality assured intensive lifestyle programme that cover physical activity, weight management, diet and behaviour changes techniques. It is important to involve the target communities in planning the design and delivery of the programme to ensure it is sensitive and flexible to the needs, abilities, cultural or religious norms of local people.
2. In order to reduce number of people dying from diabetes and its complications, there is need to increase awareness of the risks, bring about wholesale changes in lifestyle, improve self-management among people with diabetes and improve access to community diabetes care services.
3. Review the approach locally of Diabetes Care Providers to angina risk reduction, including exercise, diet composition, weight management, smoking, glucose control, blood pressure control and cholesterol control ([www.nice.org.uk/cg87](http://www.nice.org.uk/cg87); [www.nice.org.uk/cg15](http://www.nice.org.uk/cg15)).
4. The community-based diabetes multi-disciplinary team is an important innovation. Its impact and outcomes should be monitored to ensure it progresses as expected. It is important to establish coordinated approach between community cardiology and diabetes services in which both diabetes and cardiovascular disease can be jointly managed, promoting self-care and empowerment.
5. A proactive approach is required to identifying people at high risk and 5,659 people with undiagnosed type 2 diabetes in Ealing. The best approach to achieving this would be to accelerate the NHS Health Check programme, which will lead to both diagnosis of diabetes and identification of those at higher risk in whom preventive interventions are appropriate.