# Croydon joint strategic needs assessment
2010/11

# Diabetes

Author: Daniel MacIntyre

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# Key findings

### Diabetes in Croydon

Diabetes is a significant health issue in Croydon. At the end of March 2010, 16,516 or just over one in 23 of all patients registered with Croydon GPs had been diagnosed with diabetes. It is estimated that a further 2,666 patients registered with Croydon GPs have either not been diagnosed or have not had their diabetes recorded correctly. These patients comprise 14% of the estimated total diabetes population. The estimated prevalence of diabetes in Croydon is 5% for 2009.

In Croydon there are higher rates of diabetes amongst men compared with women at all ages and the obesity rates for patients diagnosed with diabetes are twice as high as those in the general population.

In 2008/09, diabetes accounted for 9.7% of all NHS Croydon's prescribing costs. It is estimated that 167 or 13.6% of all deaths of Croydon residents aged between 22 and 79 in 2008 could be attributed to diabetes. When assessing the relationship between health outcomes and expenditure on diabetes, data from 2008/09 shows Croydon as having low expenditure and poor health outcomes for diabetes. Croydon diabetes services underwent a major restructuring in 2009 and exceeded their target of having 42% of patients with an HbA1c (a measure of blood glucose control) of 7% or less in 2009/10. However, comparative data allowing an assessment of the effects of the restructuring are not yet available.

### Inequalities

There is a strong association between diabetes and deprivation in the borough. Prevalence rates are 70% greater for people in the most deprived areas of Croydon than those in the least deprived. There are inequalities in diabetes prevalence rates between people of different ethnicities in Croydon. Those in Mixed White and Black Caribbean (10.7%), Pakistani (10.3%), Bangladeshi (14.0%) and Asian Other (10.0%) groups all have prevalence rates of 10% or over, compared with 3.8% for White British. The percentage of patients with controlled levels of blood glucose for Mixed White and Black African (36.2%), Pakistani (35.1%), Bangladeshi (24.1%) and Other Black (36.4%) is low compared with White British (48.2%). There is a prevalence rate of 13.1% amongst patients with severe mental health problems, compared with a prevalence rate of 5% in the general population.

### Blood glucose control

The goal of diabetes therapy is to maximise healthy life expectancy and avoid medical complications. One of the main ways that this is achieved is through normalising blood glucose levels. HbA1c is a measure of average blood glucose control over a two or three month period. The National Institute for Health and Clinical Excellence (NICE) recommends normalising HbA1c levels to above 6.5%, and target levels for most patients in Croydon are between 6.5% and 7%.[1] In 2008/09, NHS Croydon's diabetes target was based on the number of patients with an HbA1c of 7.5% or less. From 2009/10 this has been reduced to 7% or less.

At 31 March 2010, 47.1% of Croydon's diabetes patients who had been tested over the previous fifteen months had an HbA1c of 7% or less. The percentage of children and young people aged 18 or under with an HbA1c of 7.5% or less is worse than the national average and has been so for the last five years. There are unexplained differences in blood glucose control between different general practices in Croydon.

1 Senior diabetes specialist nurse, personal communication. 11/11/10

### Self management

Self management is central to diabetes care. However, only a very small percentage of diabetes patients in Croydon have been on a nationally recognised structured education programme, as they have only been run in the borough for the last two years. People with diabetes who took part in focus groups were not aware of the existence of these programmes but stated that they would welcome the opportunity to attend one. A number of focus group participants believed that diabetes treatment is a process directed by healthcare professionals and did not see a role for self management. Some people also expressed the view that diabetes was a 'mild' condition, and participants had little awareness of the term HbA1c, although they may know it under another name such as 'long term blood glucose'.

Care planning is the process whereby the patient and clinician work together to support the patient to self manage the condition which can include setting goals. There are currently no data monitoring the extent and quality of care planning in general practices.

People who have diabetes may need psychological support but there is currently no disease specific support being provided in Croydon.

### Diabetes prevention

There is a strong association between obesity and diabetes in Croydon. Of those patients with diabetes who had their weight measured, 36.7% of males and 48.4% of females were obese.

Although the first standard of the *National service framework for diabetes (NSF)* relates to prevention, physical activity, healthy eating and other preventative services in Croydon are not being explicitly linked to diabetes. In addition, numerous voluntary and community sector organisations, while not having a specific diabetes remit, are working with populations at risk of developing the condition, such as Black and minority ethnic groups and older people.

## Recommendations

### Strategic recommendations

NHS Croydon and Croydon Council should:

1 Integrate diabetes strategies with wider programmes to tackle deprivation, particularly those with an impact on obesity and physical activity rates.

### Recommendations for commissioners

NHS Croydon and Croydon Council commissioners should:

### Quality and monitoring

2 Ensure that services are commissioned at all stages of the patient pathway for people with, or at risk of developing, diabetes, consistent with recognised national standards.

3 Monitor diabetes data in order to identify variability in service quality as measured by HbA1c levels and complication rates.

4 Improve data collection on ethnicity and deprivation from Croydon community integrated diabetes service and secondary services.

5 Ensure HbA1c levels for children with diabetes are monitored and develop services to drive improvements.

6 Ensure general practices are supported to improve levels of blood glucose control and identify undiagnosed patients.

### Inequalities

7 Commission interventions targeting local communities with high prevalence and poor levels of blood glucose control, including a specific intervention aimed at Bangladeshi patients.

8 Investigate reasons why mixed ethnicity groups have higher prevalence rates and a lower percentage of patients with an HbA1c of 7% or less, and identify which populations are included in the Other Asian ethnicity category locally.

9 Ensure services are able to meet the needs of people with diabetes in care homes and nursing homes, and those with mental illness and learning disabilities.

### Prevention and awareness

10 Commission a diabetes awareness campaign.

11 Strengthen links between diabetes services and services which deliver preventive activities such as physical activity and healthy eating.

12 Increase the capacity of the voluntary and community sectors to improve diabetes awareness and prevention.

13 Engage with the public and patients to increase awareness of the local diabetes strategy.

### Self management

14 Commission services that support effective patient self management including increasing the availability and uptake of structured education programmes.

15 Collect data on the extent and quality of care planning provided by local diabetes services.

16 Ensure that services that are commissioned are able to respond to and facilitate care planning.

17 Increase the capacity of psychological and emotional support services.

### Secondary care

18 Investigate all aspects of the secondary care pathway in order to improve patient experience and outcomes.

### Expenditure

19 Look at patterns of spend and assess if there are opportunities to re-profile and reinvest in high impact and high priority areas.

# Introduction

Diabetes mellitus is a long term condition in which problems in producing or utilising the hormone insulin result in raised levels of glucose in the bloodstream.[2] This can lead to ill health, disease and premature death. In 2009, there were 2.6 million people diagnosed with diabetes in the UK and this number is expected to rise to more than four million by 2025.[3] Current expenditure on the condition is thought to be 10% of the total NHS budget. In Croydon 16,516, or just over one in 23 of all patients registered with GPs in the borough at the end of March 2010 had been diagnosed with the condition.[4] It is estimated that there are a further 2,666 patients who have either not been diagnosed, or have had their diabetes recorded incorrectly. At least one in 10 hospital inpatients have diabetes at any one time.[5]

The care pathway for diabetes is complex and moves from prevention, through awareness raising and diagnosis to management of complications. Healthcare professionals carrying out diabetes care include general practitioners and practice nurses, district nurses, diabetes specialist nurses, dieticians, podiatrists, consultant diabetologists, and renal, vascular and ophthalmic consultants. There are also implications for local authority social care services, where patients experiencing diabetes related complications may need residential or home care, occupational therapy or disability equipment.[6]

There are numerous voluntary and community sector organisations providing support, information, advice and activities specifically aimed both at people with diabetes and at groups at higher risk of developing the condition such as older people and some Black and minority ethnic communities.

While patient self management is an important aspect of all treatment, it is particularly relevant for diabetes, where lifestyle change, self monitoring, the side effects of therapy and the overall complexities of management give the person with diabetes the central role in treating their condition.[7]

Data on diabetes is collected by NHS Croydon's health intelligence team and comes from five sources:

1 data from Croydon GPs collected using Apollo software
2 quality and outcomes framework
3 the national diabetes audit
4 secondary uses service
5 Office for National Statistics.

It is important to note that there are disparities in the data collected from Croydon GPs due to data capture processes and coding.

2 *Diabetes in the UK 2010: key statistics on diabetes.* London: Diabetes UK; 2010
3 Ibid
4 Data from Croydon GPs, 31/03/2010
5 *Diabetes in the UK 2010: key statistics on diabetes.* London: Diabetes UK; 2010
6 www.croydon.gov.uk and personal communication from head of commissioning (OP/PD), Croydon Council.
7 National Institute for Health and Clinical Excellence. *Type 2 diabetes: the management of type 2 diabetes.* London: NICE; 2009.

# Background

## Diabetes

Diabetes mellitus is a progressive long term condition caused by problems with producing or using insulin resulting in high levels of glucose in the blood.[8] Glucose is a sugar that is found in starch and other carbohydrates and is also produced by the liver. It is a necessary source of energy. The body is able to utilise glucose through the action of a hormone called insulin which is produced by the pancreas. When somebody has diabetes, their body has problems either in producing or using insulin.

Signs and symptoms for diabetes include tiredness, frequent urination, excessive thirst, weight loss, blurred vision, slow healing wounds and genital itching or thrush. It is diagnosed by measuring blood glucose levels, usually after fasting for a specified amount of time or after the oral intake of a standardised amount of glucose.

The aim of therapy for all types of diabetes is to maximise healthy life expectancy and avoid medical complications by normalising blood glucose levels. Treatment includes the use of medicines, predominantly oral agents or insulin by injection, but structured education programmes, lifestyle modification, dietary advice and self management are also important.

Damage to the blood vessels in the body caused by high blood glucose levels can result in a range of complications including eye and foot problems, cardiovascular disease, kidney disease, nerve damage and sexual dysfunction.[9] Damage to the blood vessels supplying the retina, known as retinopathy, is the major cause of adult blindness in the UK. Diabetic foot ulcers and wounds if not effectively treated can lead to amputation, with diabetes being the most common cause of lower limb amputations. Nearly one in three people with type 2 diabetes develop kidney disease and chronic painful nerve damage, known as neuropathy. Neuropathy is thought to affect one in six people with diabetes. While the area of sexual dysfunction is under researched, one study has shown that a third of men newly diagnosed with diabetes have erectile dysfunction and another that 27% of women with type 1 diabetes reported sexual dysfunction. People with diabetes have an increased risk of cardiovascular disease including heart attacks, angina and strokes, with cardiovascular disease being the main cause of mortality for both type 1 and type 2 diabetes.[10] While these complications can take years to develop, there are a range of short term complications with rapid onset that if untreated can result in unconsciousness and coma, for example hypoglycemia which is associated with low blood glucose levels.[11]

More than one in 10 deaths in England can be attributed to diabetes, with life expectancy being reduced on average by more than 20 years for people with type 1 diabetes and up to 10 years for people with type 2.[12]

8 www.croydon.nhs.uk/diabetes

9 *Diabetes in the UK 2010: key statistics on diabetes.* London: Diabetes UK; 2010

10 www.croydon.nhs.uk/diabetes

11 www.diabetes.org.uk

12 *Diabetes in the UK 2010: key statistics on diabetes.* London: Diabetes UK; 2010

### Blood glucose

Glucose in the blood sticks to haemoglobin in red blood cells, resulting in glycosolated haemoglobin which is also known as HbA1c. The more glucose there is in someone's blood, the greater the amount of HbA1c that is present. While blood glucose levels vary continuously, HbA1c provides a measure of an individual's average blood glucose over the previous two to three months. The main aim of diabetes care is to enable a patient to normalise their blood glucose levels.[13] NICE recommends normalising HbA1c levels to above 6.5%, and target levels for most patients in Croydon are between 6.5% and 7%.[14]

HbA1c can also be used to assess the quality of services at population level. HbA1c levels are a performance indicator for NHS Croydon and form one of its 10 priority outcomes in its strategic plan.[15] In 2008/09, NHS Croydon's diabetes target was based on the number of patients with an HbA1c of 7.5% or less. From 2009/10 this has been reduced to 7% or less.

### Types of diabetes

There are different types of diabetes, with type 1 and type 2 diabetes making up the majority of cases. In the UK, type 1 diabetes accounts for around 10% of adult cases, and type 2, 90%. If children are included in these figures then 15% of all cases are type 1 diabetes and 85% type 2.

#### Type 1 diabetes

Type 1 diabetes usually occurs in childhood, develops rapidly and is the result of the body's immune system destroying the cells that produce insulin in the pancreas. The reason why this takes place is not clear, but it may be triggered by a viral infection. There is also a genetic risk. People with type 1 diabetes need to be treated with insulin on a daily basis.

#### Type 2 diabetes

Type 2 diabetes develops more slowly than type 1 and occurs when the body does not produce enough insulin or is not able to utilise it properly. Clinical symptoms are not always present, meaning that many people have the condition but are not aware of it. Half of the people with type 2 diabetes already show signs of complications when diagnosed. Type 2 diabetes can be treated by diet and exercise or with first, second and third line agents, mainly oral medicines. These can be combined with insulin or the patient can be treated with insulin alone.

Risk factors for type 2 diabetes include age, genes, obesity, ethnicity and deprivation. The risk of developing diabetes increases with age. It usually occurs after the age of 40, although in south Asian and African-Caribbean people it can appear after the age of 25. Recently children have been diagnosed with the condition due to the increase in the prevalence of childhood obesity. The risk of developing the condition is 15% if one parent has it and 75% if both do. Diabetes has a strong association with obesity particularly in relation to fat distributed around the waist. Type 2 diabetes is more prevalent in people from certain ethnic groups in the UK, particularly African, Caribbean and south Asian. Genetics, lifestyle, environment, ethnicity and socio economic status are all contributory factors to this. The association between deprivation and higher levels of obesity and smoking, lower levels of physical activity and an unhealthy diet, increases the risk of developing diabetes and of developing complications for those who already have the condition.

13 National Institute for Health and Clinical Excellence. *Type 2 diabetes: the management of type 2 diabetes*. London: NICE; 2009.

14 Senior diabetes specialist nurse, personal communication, 11/11/10.

15 VSC27 Patients with a last HbA1c recording result of 7% or below

### Other types of diabetes

Other types of diabetes include gestational diabetes and maturity onset diabetes of the young (MODY).[16] Gestational diabetes presents in pregnant women usually during the second and third trimesters of pregnancy and is temporary. Women who have gestational diabetes have an increased risk of developing type 2 diabetes later in life. Maturity onset diabetes of the young develops before the patient reaches 25 and accounts for approximately 1% or 2% of people who have diabetes nationally.[17] It has a genetic risk and so has implications for testing other family members, and can usually be treated through lifestyle changes.

## Strategy, quality standards and clinical guidance

There are many policy documents relevant to diabetes and diabetes care, both local and national. Some of them, such as the *Diabetes guide for London (2009)*[18] are diabetes specific, others relate to conditions associated with diabetes such as the *National stroke strategy (2007)*.[19]

Quality standards and clinical guidance relating to diabetes include the *National service framework for diabetes (2001)*[20] and a range of evidence based guidance from NICE. This is both diabetes specific and covers related areas such as obesity. NICE provide both guidance for commissioners in developing patient education programmes and topic specific information on key clinical and service related issues to consider during the commissioning process. NICE is also currently consulting on a set of quality standards for adults with diabetes.[21] More information about NICE guidance can be found at the end of this chapter.

### National service framework for diabetes

The *National service framework for diabetes* was published by the Department of Health in 2001 and contains 12 standards for diabetes care, the rationales behind them, key interventions to bring them about and an analysis of the implications for planning services.[22]

#### Standard 1: prevention of type 2 diabetes

The NHS will develop, implement and monitor strategies to reduce the risk of developing type 2 diabetes in the population as a whole and to reduce the inequalities in the risk of developing type 2 diabetes.

#### Standard 2: identification of people with type 2 diabetes

The NHS will develop, implement and monitor strategies to identify people who do not know they have diabetes.

#### Standard 3: empowering people with diabetes

All children, young people and adults with diabetes will receive a service which encourages partnership in decision making, supports them in managing their diabetes and helps them to adopt and maintain a healthy lifestyle. This will be reflected in an agreed and shared care plan in an appropriate format and language. Where appropriate, parents and carers should be fully engaged in this process.

#### Standard 4: clinical care of adults with diabetes

All adults with diabetes will receive high quality care throughout their lifetime, including support to optimise the control of their blood glucose, blood pressure and other risk factors for developing the complications of diabetes.

16 www.diabetes.org.uk
17 Ibid
18 www.healthcareforlondon.nhs.uk
19 www.dh.gov.uk
20 www.dh.gov.uk
21 http://www.nice.org.uk/aboutnice/qualitystandards/indevelopment/diabetes.jsp
22 www.dh.gov.uk

Standard 5: clinical care of children and young people with diabetes
All children and young people with diabetes will receive consistently high quality care and they, with their families and others involved in their day to day care, will be supported to optimise the control of their blood glucose and their physical, psychological, intellectual, educational and social development.

Standard 6: transition of young people to adult services
All young people with diabetes will experience a smooth transition of care from paediatric diabetes services to adult diabetes services, whether hospital or community based, either directly or through a young people's clinic. The transition will be agreed in partnership with each individual and at an age appropriate to them.

Standard 7: management of diabetic emergencies
The NHS will develop, implement and monitor agreed protocols for rapid and effective treatment of diabetic emergencies by appropriately trained health care professionals. Protocols will include the management of acute complications and procedures to minimise the risk of recurrence.

Standard 8: care of people with diabetes during admission to hospital
All children, young people and adults with diabetes admitted to hospital, for whatever reason, will receive effective care for their diabetes. Wherever possible, they will continue to be involved in decisions concerning the management of their diabetes.

Standard 9: diabetes and pregnancy
The NHS will develop, implement and monitor policies that seek to empower and support women with pre existing diabetes and those who develop diabetes during pregnancy to optimise the outcomes of their pregnancy.

Standard 10: surveillance for long term complications
All young people and adults with diabetes will receive regular surveillance for the long term complications of diabetes.

Standard 11: clinical care of long term conditions
The NHS will develop, implement and monitor agreed protocols and systems of care to ensure that all people who develop long term complications of diabetes receive timely, appropriate and effective investigation and treatment to reduce their risk of disability and premature death.

Standard 12: provision of integrated health and social care
All people with diabetes requiring multiagency support will receive integrated health and social care.

The National service framework for diabetes (NSF) was later augmented by the NSF diabetes delivery strategy 2007, which set out how the requirements of the NSF could be achieved.[23] Key components of this included setting up a local diabetes network, reviewing baseline data and establishing a trajectory to meet the standards, participating in comparative local and national audits, undertaking a local workforce skills profile and developing education and training programmes to address skills gaps.

### The Diabetes Guide for London

The *Diabetes Guide for London 2009*[24] was produced as part of the *Healthcare for London* programme and outlines a model of care to address London's diabetes related health needs. Particular goals include improving the prevention and early detection of diabetes, preventing complications and offering appropriate acute management. It proposes a model of care at four different levels or tiers: essential care, enhanced essential care, specialist care and hospital based care. Care should be delivered in three settings: primary care, the community and hospital.

23 Department of Health, 2007

24 www.healthcareforlondon.nhs.uk

### Guidelines for the management of diabetes in primary care

In 2006, NHS Croydon issued guidelines for clinical staff working in general practices. These provide information on local services and relevant NICE guidance, detailing agreed local care pathways. These are being updated in 2010 to reflect developments in local diabetes services and clinical guidance.[25]

## Incidence of diabetes in Croydon

In Croydon the annual incidence[26] rate for type 2 diabetes is estimated to be 1.27 per 1,000 population.[27]

The number of GP recorded new diagnoses of diabetes in 2009/10 was 1,754 but this is likely to include people who have already been diagnosed and have moved into the borough or are newly registered with a GP.[28] In 2008/09, 486 patients, predominantly newly diagnosed with type 2 diabetes, were referred to Croydon community integrated diabetes service (CCIDS) for structured education programmes. This figure includes several patients who had been diagnosed previously and it is possible that not every patient was referred. During 2009, there were 12 new cases of type 1 diabetes diagnosed at Croydon University Hospital with an average age of 9.9 years, giving an incidence rate of 0.03 per 1,000 population.[29]

## Prevalence of diabetes in Croydon

The prevalence of diabetes is defined as the rate of existing cases at a point in time.

At 31 March 2010, 16,516 or just over one in 23 of all patients registered with Croydon GPs had been diagnosed with diabetes.[30]

Table 1 shows that 0.34% of all Croydon GP patients have type 1 diabetes and 4.02% have type 2 diabetes. Diabetes prevalence rates in the borough are slightly higher than those for London and England but they are increasing more slowly (table 2). This may indicate that regional and national rates will overtake Croydon's in two to three years' time.

**Table 1 | prevalence of type 1 and type 2 diabetes in Croydon, 2009**

| | Type 1 Number | Type 1 Percentage | Type 2 Number | Type 2 Percentage | Total Number | Total Percentage |
|---|---|---|---|---|---|---|
| Persons | 1,282 | 0.34% | 15,234 | 4.02% | 16,516 | 4.36% |
| Males | 705 | 0.37% | 8,314 | 4.35% | 9,019 | 4.72% |
| Females | 577 | 0.31% | 6,920 | 3.69% | 7,497 | 4.00% |

Source: Data from Croydon general practices 31 March 2010

25 www.croydon.nhs/diabetes

26 Incidence here is defined as the rate of new cases arising in the population over a year

27 486 referrals for patient education; Croydon community integrated diabetes service annual report 2009/10. 381,787 patients registered with Croydon GPs; Data from Croydon general practices, 31 March 2010

28 Data from Croydon general practices, 31 March 2010

29 Paediatric diabetes audit; Croydon University Hospital 2009. 378,636 patients registered with Croydon GPs; Exeter patient register, 31 December 2009

30 NHS *Quality and outcomes framework*, 2010

**Table 2 | prevalence of diabetes in Croydon compared with London and England, 2005/06 to 2009/10**

| | 2005/06 | | 2006/07 | | 2007/08 | | 2008/09 | | 2009/10 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total | % | Total | % | Total | % | Total | % | Total | % |
| Croydon | 13,915 | 3.8% | 14,238 | 3.9% | 15,074 | 4.1% | 15,940 | 4.2% | 16,516 | 4.4% |
| London | 295,877 | 3.5% | 300,567 | 3.6% | 320,577 | 3.8% | 337,561 | 4.0% | 358,400 | 4.1% |
| England | 1,890,663 | 3.6% | 1,961,976 | 3.7% | 2,088,335 | 3.9% | 2,213,138 | 4.1% | 2,338,813 | 4.3% |

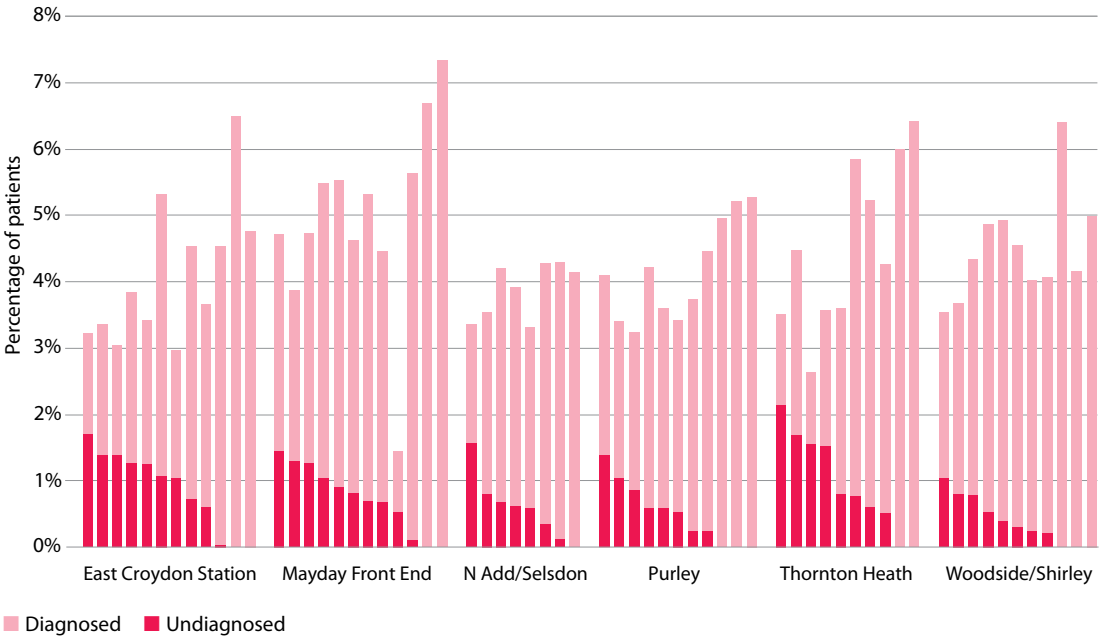
Source: Quality and outcomes framework, 2010

Data from the London Health Observatory provides estimates of the number of cases of diabetes which would be expected at each GP practice.[31] This data can be compared with GP recorded figures to estimate the number of patients whose diabetes has not been diagnosed.

The estimated total number of Croydon GP patients with diabetes in 2009 is 19,182.[32] This gives an estimated prevalence rate of 5%.[33] If the number of patients with diabetes recorded by Croydon GPs (16,516) is subtracted from this figure, this indicates that there are 2,666 people registered with Croydon GPs who have diabetes but who have not been diagnosed. Undiagnosed cases make up 14% of the estimated total diabetes population.

There is variation in the number of estimated undiagnosed cases between general practices, ranging from 0% to 2.2% of the total number of registered patients per practice (figure 1).

**Figure 1 | diagnosed and undiagnosed diabetes prevalence by percentage of patients, Croydon general practices by cluster, 2008/09**




Source: Data from Croydon general practices 2008/09

## Age and gender

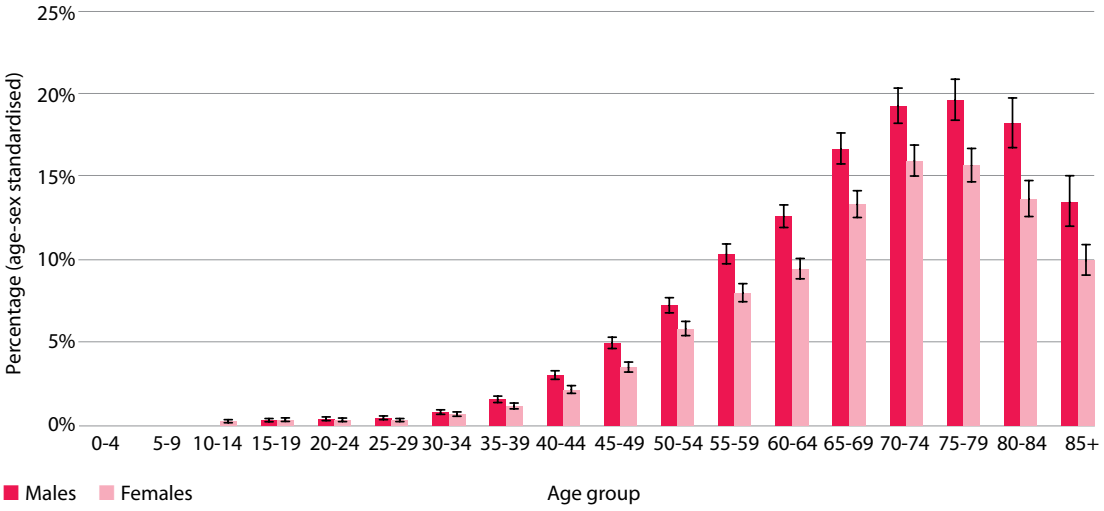
The prevalence of diabetes increases with age (figure 2). There are higher rates of diabetes amongst men compared with women at all ages. Rates are highest amongst women in the 70 to 74 age band (16%) and men in the 75 to 79 age band (19.7%).

31 http://www.lho.org.uk/commissioning/PracticeProfiles.aspx

32 Ibid

33 Prevalence models are published by public health observatories based on national published rates applied to local populations, with adjustments for factors such as age, sex, ethnicity and deprivation. The methodology used for calculating prevalence estimates and the definition used may change over time. The estimates used in this chapter are from the London Health Observatory *Practice Profiles* and are based on the *PBS Diabetes Prevalence Model (Phase 2)* published by Yorkshire and Humber Public Health Observatory.

**Figure 2 | diabetes prevalence rates by age and gender, December 2009**[34,35]



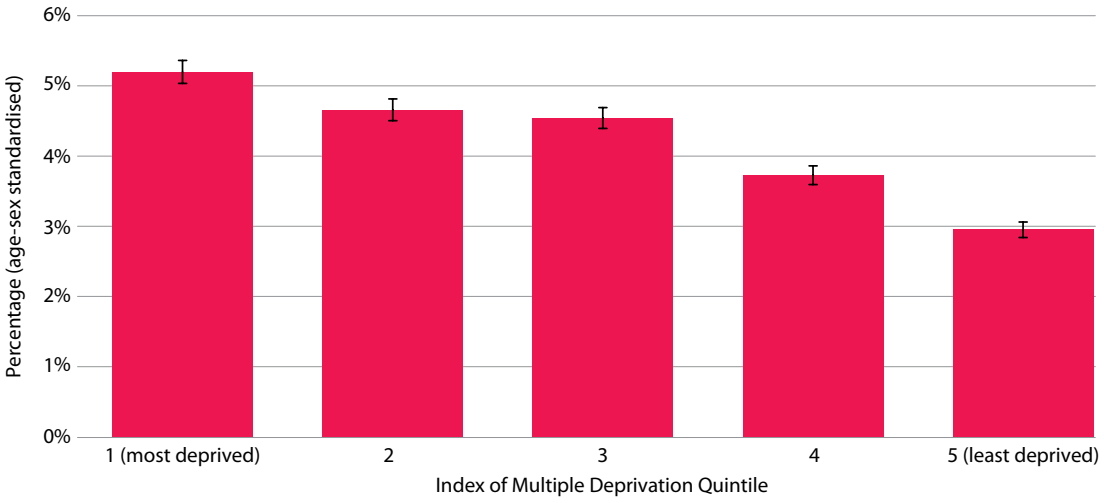

Source: Data from Croydon general practices, 31 December 2009

## Deprivation

Output areas are geographical areas defined for the distribution and collection of census forms, with lower super output areas (LSOAs) having a mean population of 1,500. Croydon's 220 lower super output areas have been grouped by their index of multiple deprivation scores into quintiles (fifths), from the least deprived to the most deprived quintile.

Figure 3 shows that diabetes is 70% more prevalent in the more deprived areas of the borough, with 5.2% prevalence in the most deprived fifth of areas in the borough and 2.9% prevalence in the least deprived fifth of areas. This is in part due to the links between higher levels of obesity and lower rates of physical activity and deprivation in the more deprived areas of Croydon.[36] Examining the relationship between diabetes and deprivation has implications for the geographical areas in which services and interventions are targeted.

**Figure 3 | diabetes prevalence rates by quintile of deprivation, December 2009**




Source: Data from Croydon general practices, 31 December 2009

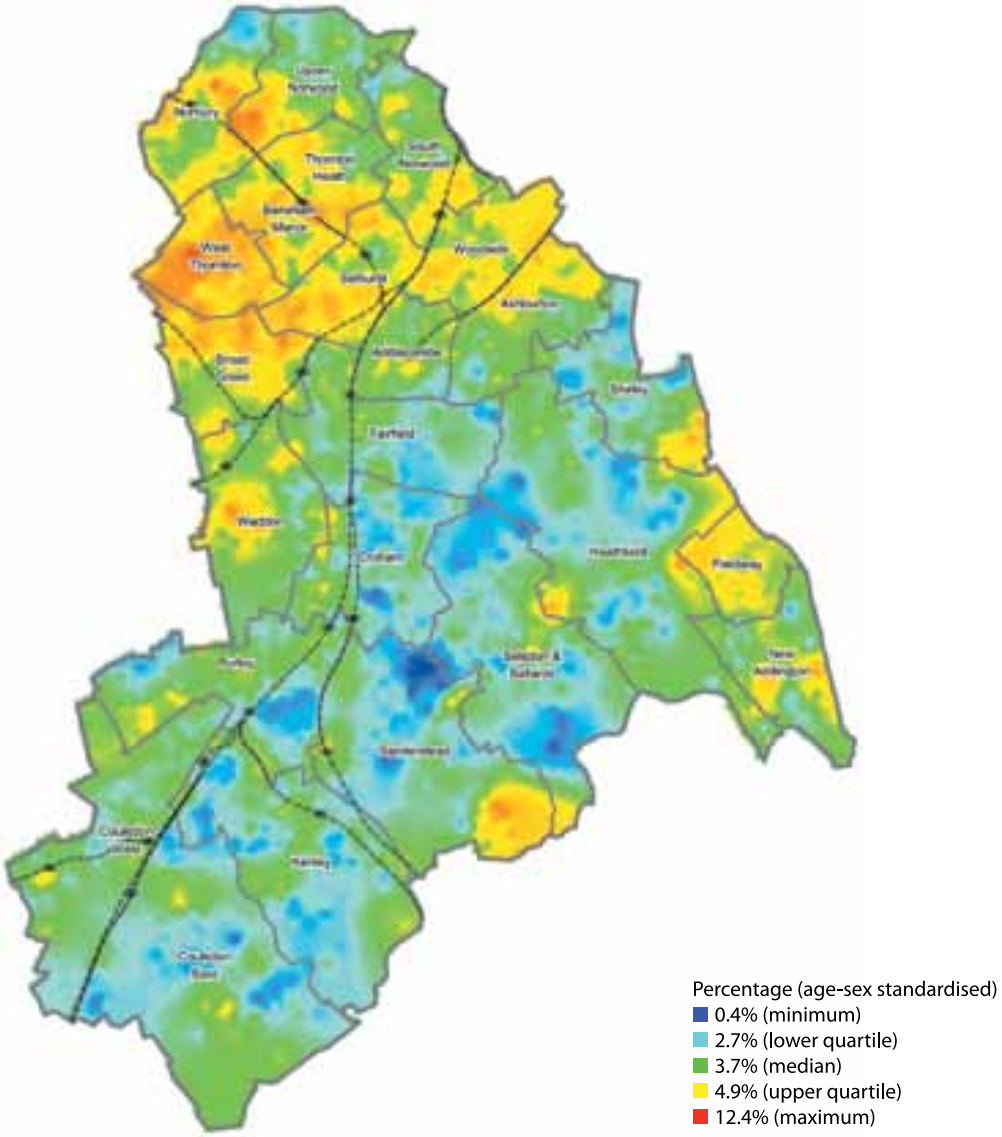
34 Percentages have been age sex standardised in 10 year age bands (0-4, 5-14 … 85+) to the overall Croydon GP registered population.

35 T bars on graphs represent the lower and upper limits of the confidence interval. Confidence intervals help the reader gauge how reliable the findings are and give a range within which we can be reasonably sure that the true figure falls. A 95% confidence interval means that we can be reasonably sure that 19 times out of 20 the true figure lies somewhere within the range indicated.

36 Healthy weight, healthy lives, *Croydon joint strategic needs assessment* 2009/10

Figure 4 shows the prevalence of diabetes on a map of the borough. It indicates that the higher rates of diabetes are in the north and east of Croydon and the lowest rates are in the centre and south.

**Figure 4 | map of Croydon showing prevalence of diabetes, September 2009**




Source: Data from Croydon general practices, 30 September 2009


## Ethnicity

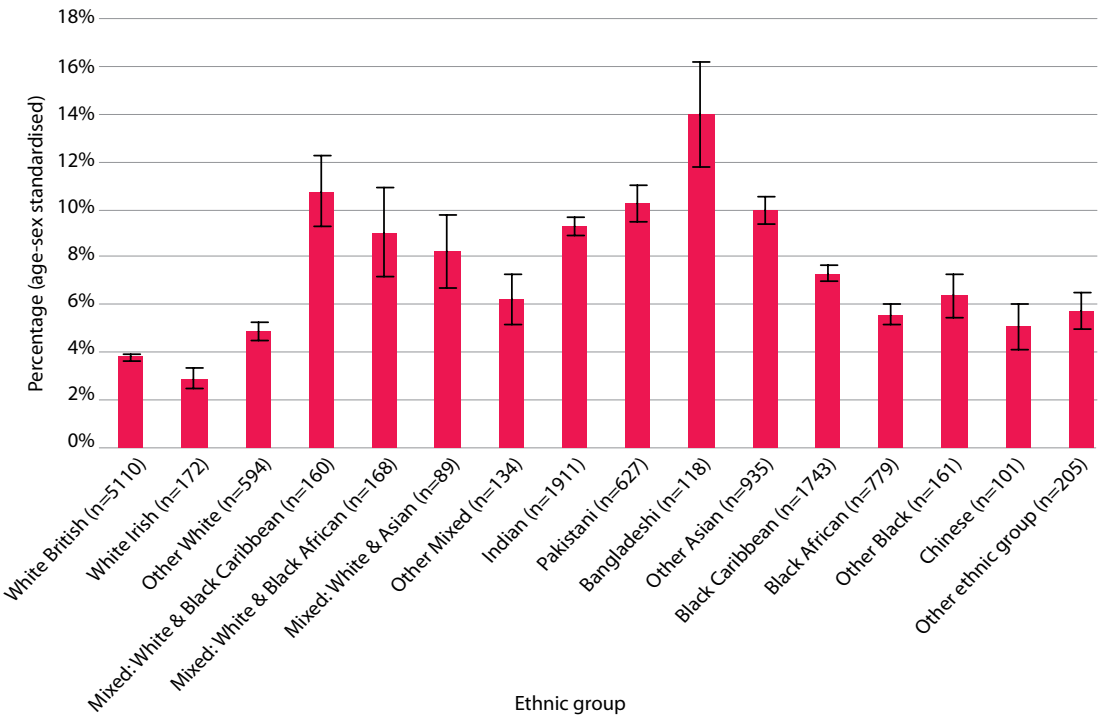
There are differences in diabetes prevalence rates between people of different ethnicities in Croydon (table 3 and figure 5). These range from 2.9% for White Irish to 14% for Bangladeshis. Amongst the higher order ethnicity categories, Mixed and Asian groups have the highest prevalence rates at 8.4% and 9.8% respectively. It is also important to look at the numbers of recorded cases amongst different groups; White British have a relatively low prevalence rate of 3.8% but 5,110 cases, while Bangladeshi rates are high but number only 118. There are a large number (935) of diabetics in the Other Asian category, with a relatively high prevalence rate of 10%. Anecdotal evidence from Croydon GPs suggests that a significant number of members of this group might be Tamils. This data has implications for providing culturally appropriate interventions and services.

**Table 3 | number and prevalence of diabetes by ethnicity, December 2009**

| | Number | Prevalence |
|---|---|---|
| White British | 5110 | 3.8% |
| White Irish or White Other | 766 | 4.2% |
| Mixed | 451 | 8.4% |
| Asian | 3591 | 9.8% |
| Black | 2683 | 6.9% |
| Other ethnic groups | 306 | 5.5% |

Source: Data from Croydon general practices, 31 December 2009

**Figure 5 | prevalence of diabetes by ethnicity, December 2009**




Source: Data from Croydon general practices, 31 December 2009

## Care homes

In 2009, 6.5% (168) of those aged 15 and over living in care homes providing nursing care in Croydon had diabetes. The prevalence in care homes without nursing care was 6.6% (142). These populations contain larger amounts of older people than the general population, so prevalence rates would be expected to be higher.[37]

## People with mental illness and learning disabilities

People with severe mental illness are at risk of developing diabetes because they are less able to engage with self care and antipsychotic medication causes weight gain. In 2009, 328 of the 2,486 patients on the mental health register in Croydon were diagnosed with diabetes, giving a high prevalence rate of 13.1%.[38]

The prevalence rate for patients aged over 16 with a learning disability was 5.2% (69) on 31 March 2010.[39]

37 Data from Croydon general practices, 31 December 2009
38 Data from Croydon general practices, 31 March 2010
39 Data from Croydon general practices, 31 March 2010

## Key findings

In 2009, 16,516 or one in 23 of all patients registered with Croydon GPs had been diagnosed with diabetes. It is estimated that there are 2,666 patients registered with Croydon GPs who have diabetes but have either not been diagnosed or have been coded incorrectly. This is 14% of the estimated total diabetes population.

Prevalence rates for diabetes increase with age and are highest amongst women aged 70 to 74 years and men aged 75 to 79 years. There are higher rates amongst men compared with women at all ages.

Diabetes prevalence is 70% greater amongst people in the most deprived areas of Croydon than in the least deprived areas.

There are differences in prevalence rates between people of different ethnicities. Mixed White and Black Caribbean (10.7%), Pakistani (10.3%), Bangladeshi (14.0%) and Asian Other (10.0%) groups all have prevalence rates of 10% or over compared with 3.8% for White British.

# Modifiable risk factors

Obesity is a risk factor for type 2 diabetes, particularly weight carried around the waist.[40] A healthy diet and adequate physical activity help to prevent obesity and therefore reduce the risk of developing type 2 diabetes.

In 2009, 90% of patients with diabetes in Croydon had their body mass index (BMI) recorded. This is a measure that relates height to weight. Within this group 36.7% of males and 48.4% of females were obese, with a BMI equivalent to or greater than 30.[41] This is compared with obesity rates of 19.2% for males and 24.5% for females in the general population of Croydon.[41] Obesity in patients with diabetes also has implications for their treatment, particularly in the medicines that they will be prescribed.[43]

While smoking is not a risk factor for developing diabetes, it increases the risk of developing complications.[44] The smoking prevalence amongst GP patients with diabetes in 2009 was 12.8% compared with 21.2% for Croydon's general population.[45]

## Key findings

There is a strong association between diabetes and obesity in Croydon; 36.7% of male and 48.4% of female diabetes patients are obese.

Smoking rates for people diagnosed with diabetes are significantly lower than those for Croydon's general population.

# Blood glucose control

One of the key goals of diabetes treatment is to enable patients to avoid complications by normalising blood glucose levels. The percentage of patients with blood glucose levels equal to or less than the target levels of HbA1c (7.5% in 2008/09 and 7% in 2009/10) is one of NHS Croydon's 10 priority outcomes as part of its strategic plan.[46] As of 31 March 2010, 47.1% of patients with diabetes in Croydon had an HbA1c of 7% or under, exceeding the target figure of 42%. Because the target level for HbA1c changed in 2009 from 7.5% to 7%, data is not yet available to enable a comparison with similar Primary Care Trusts (PCTs) in London or nationally.

However, figures from the national diabetes audit (table 4) for the years 2006/07 and 2007/08 show that Croydon had a lower percentage of patients with an HbA1c of 7.5% than London and England.

40 www.diabetes.org.uk
41 Data from Croydon general practices, 30 September 2009
42 Data from Croydon general practices, 31 March 2010
43 National Institute for Health and Clinical Excellence. *Type 2 diabetes: the management of type 2 diabetes.* London: NICE; 2009.
44 http://www.diabetes.org.uk/Guide-to-diabetes/Healthy_lifestyle/Smoking/Smoking_and_Diabetes/
45 Data from Croydon general practices, 31 December 2009
46 http://www.croydon.nhs.uk/aboutus/ourpriorities/Documents/commisioningstrategyplan.pdf

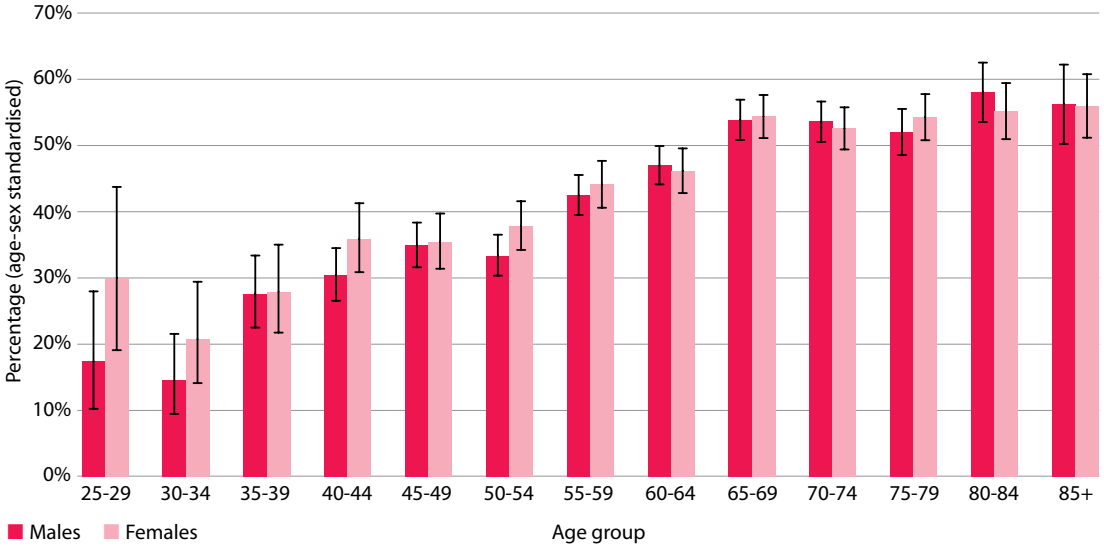
**Table 4 | percentage of patients with an HbA1c of 7.5% or less for Croydon, London and England, 2006/07 and 2007/08**

| | 2006/07 | 2007/08 |
|---|---|---|
| Croydon | 52.2% | 57.4% |
| London | 59.9% | 59.5% |
| England | 62.6% | 62.9% |

Source: National diabetes audits 2006/07, 2007/08

From the 30 to 34 age group, the percentage of patients with lower HbA1c levels increases with age (figure 6).

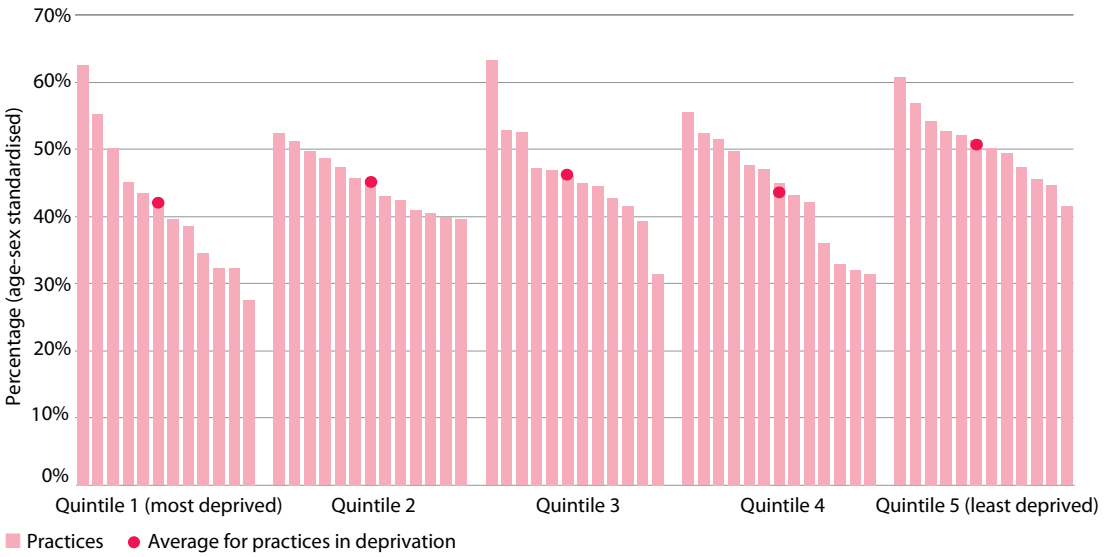
**Figure 6 | percentage of Croydon patients with last HbA1c less than 7%, by age and sex, December 2009**




Source: Data from Croydon general practices, 31 December 2009

There are unexplained variations in blood glucose control between patients at different general practices in Croydon, even when demographics and deprivation have been taken into account (figure 7).

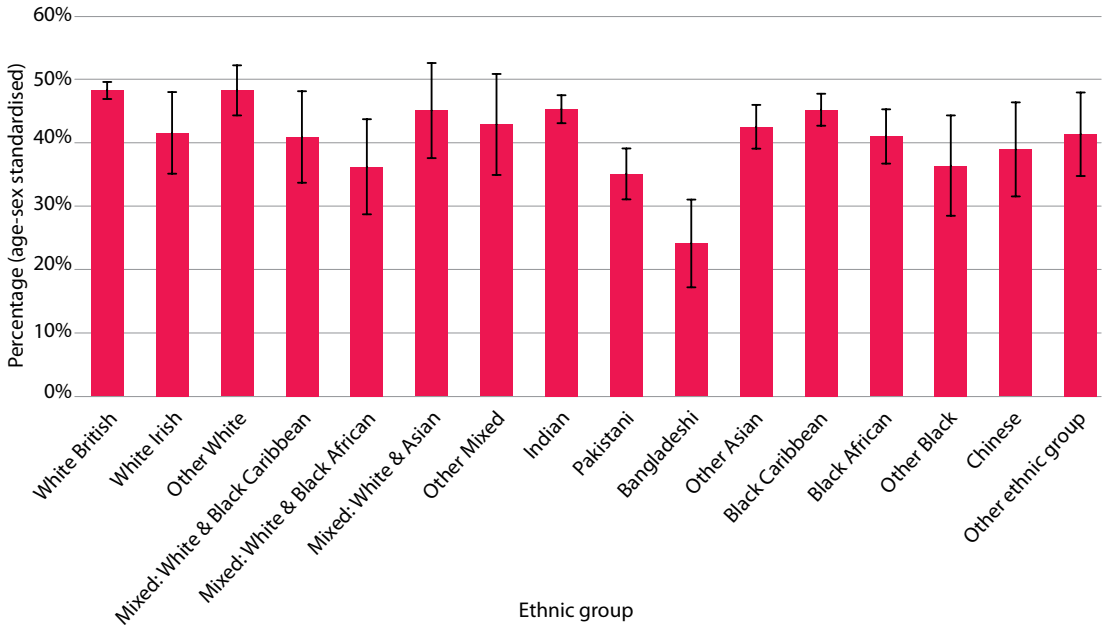
**Figure 7 | percentage of patients with last HbA1c less than 7% in Croydon general practices, grouped by index of multiple deprivation 2007 population quintile, December 2009**




Source: Data from Croydon general practices, 31 December 2009 Note: Patients who had HbA1c<7 recorded in the previous 15 months.

There are also differences between the percentages of patients from different ethnic groups with an HbA1c equivalent to or less than 7%. Mixed White and Black African (36.2%), Pakistani (35.1%), Bangladeshi (24.1%) and Other Black (36.4%) all have low levels of blood glucose control compared with White British (48.2%) (figure 8).

**Figure 8 | percentage of Croydon patients with last HbA1c less than 7% by ethnic group, December 2009**




Source: Data from Croydon general practices, 31 December 2009

The percentage of children and young people aged 18 or under with an HbA1c of 7.5% or less is low and has been below national levels for the last five years (table 5).

**Table 5 | percentage of Croydon children and young people aged 18 and under with HbA1c of 7.5% or less 2005-09**

| HbA1c | 2005 | 2006 | 2007 | 2008 | 2009 | England 2007/08 |
|---|---|---|---|---|---|---|
| <7.5% | 11% | 12% | 8% | 10% | 4% | 17.7% |

Source: Croydon University Hospital paediatric diabetes service 2009, national paediatric diabetes audit 2007/08

## Key findings

NHS Croydon exceeded its 2009/10 target for the percentage of patients with an HbA1c of 7% or less by just over 5% (47.1%).

There are unexplained differences in blood glucose control between different general practices, even when demography and deprivation are taken into account.

There are differences in HbA1c between people of different ethnicities with Mixed White and Black African, Pakistani, Bangladeshi, and Other Black categories having lower percentages of patients with HbA1c equal to or less than 7% than other groups.

The percentage of children and young people aged 18 or under with an HbA1c of 7.5% or less is below the national average and has been for the last five years.

## Complications, inpatient care and mortality

Diabetes is associated with a range of complications including eye and foot problems, kidney disease, heart attacks, strokes and angina, nerve damage, and sexual dysfunction as well as short term complications such as hypoglycemia[47] or diabetic ketoacidosis.[48] These complications can lead to increased demand for secondary and emergency services.

There are two main limitations with diabetes data in this area. Firstly, as the patient's primary diagnosis or cause of mortality is a complication caused by diabetes, it is likely that diabetes will not be diagnosed or coded. Secondly, as there are only a small number of recorded cases of complications with a primary diagnosis of diabetes, much of the data at PCT level is not statistically significant. In 2007/08, rates for complications with a primary diagnosis of diabetes in Croydon were broadly comparable to London and England although amputation rates were higher than the London average (table 6).

**Table 6 | diabetes complication rates per 100,000 population for Croydon, London and England, 2007/08**

| Complication | Croydon | London | England |
|---|---|---|---|
| Ketoacidosis | 0.44 | 0.42 | 0.48 |
| Angina | 1.56 | 1.66 | 2.81 |
| Myocardial infarction (heart attack) | 0.46 | 0.50 | 0.60 |
| Stroke | 0.51 | 0.45 | 0.59 |
| Renal failure | 0.40 | 0.50 | 0.34 |
| Amputation minor | 0.14 | 0.10 | 0.13 |
| Amputation major | 0.07 | 0.05 | 0.07 |

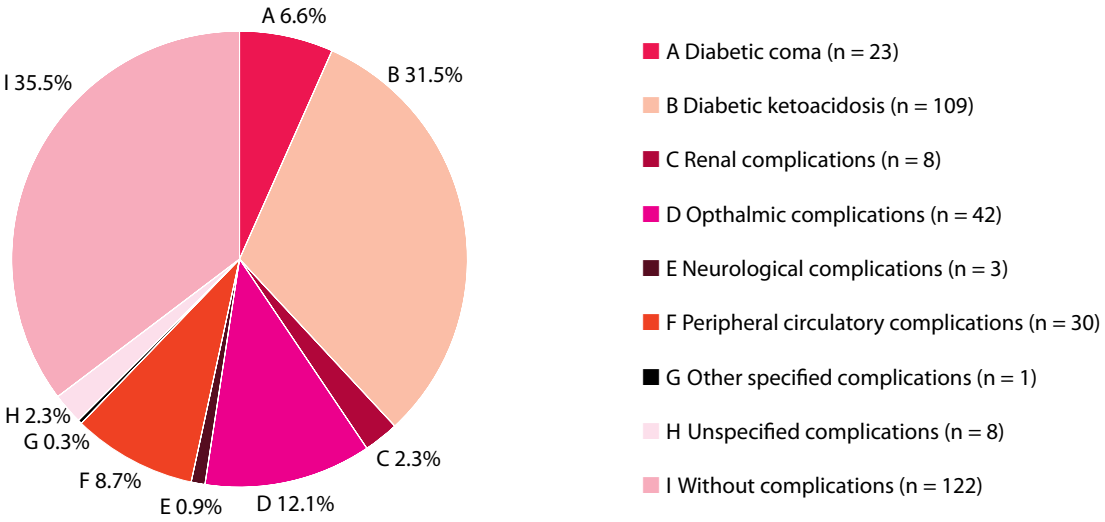
Source: National diabetes audit 2007/08

The most frequent diagnosis on admission is diabetic ketoacidosis, making up 31.5% of all cases (figure 9). Hypoglycemia does not possess an admission code and may be recorded under the category of *without complications* or *diabetic coma* (figure 9).

47 Hypoglycemia or 'hypos' occur when blood glucose levels are very low. They can come about from not eating enough or missing a meal, from taking more insulin or tablets than usual, exercising more than usual, drinking too much alcohol or drinking alcohol on an empty stomach. Symptoms include dizziness, trembling, tingling hands, feet, lips or tongue, dry mouth, anxiety, nausea, sleepiness and eventually unconsciousness. www.croydon.nhs.uk/diabetes - *About diabetes section*

48 Diabetic ketoacidosis mainly happens to people with type 1 diabetes and occurs when the body starts using fat as an energy source as it is unable to use glucose, producing harmful ketones. Symptoms include nausea, vomiting, dry skin, blurred vision, deep rapid breathing and eventually coma. www.croydon.nhs.uk/diabetes - *About diabetes section*

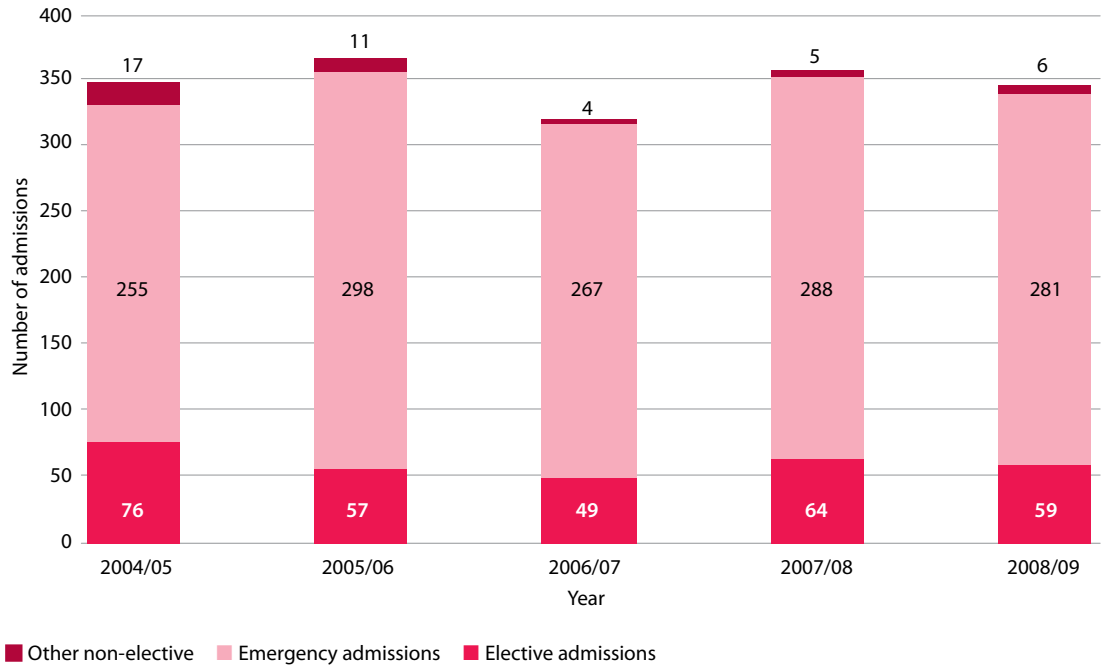
**Figure 9 | Croydon patients' diagnosis on admission to hospital, 2008/09**




Source: Secondary Uses Service 2008/09

The number of hospital admissions for complications with diabetes as a primary diagnosis has remained at around the same level for the last five years (figure 10) despite increases in the number of patients (see table 2). This could be due to improved quality of care. There are a high number of emergency admissions compared with elective admissions for diabetes complications (figure 10). This is because most admissions are for short term complications such as diabetic ketoacidosis and hypoglycemia.

**Figure 10 | elective and emergency admissions for diabetes in Croydon, 2004/05 to 2008/09**




Source: Secondary Uses Service Note: Other non-elective admissions include unplanned admissions that are not emergency admissions, for example transfer from another hospital provider.

For treatments occurring in the category of diabetic medicine in 2008/09, there was an admission rate of 17.1 per 1,000 patients diagnosed with diabetes in Croydon with an average length of stay of 5.8 days at a cost of £1,821.[49] There are currently no robust data comparing the length of stay for patients with and without diabetes for similar conditions.

49 Healthcare Resource Group 4 data, 2008/09, Secondary Uses Service

People with diabetes have significantly higher mortality rates than those without the disease but diabetes or diabetes related complications are not necessarily recorded on the death certificate.[50] This means that only a minority of deaths amongst people with diabetes, from causes associated with the disease, have diabetes identified as the primary cause of death. As a result it is not possible to get an accurate picture of the number of deaths attributable to diabetes from existing data sources. It is estimated that the percentage of diabetes attributable deaths in 2008 for Croydon residents aged between 22 and 79 was 167 or 13.64%.[51] However, figures based on death certificate information from the Office for National Statistics 2008, state that diabetes was the primary cause of death for only seven people.[52]

## Key findings

There are limitations with local data on complications, inpatient care and mortality related to diabetes.

The number of hospital admissions for complications with diabetes as a primary diagnosis has remained at around the same level for the last five years.

## Diabetes services

Croydon diabetes model of care provides care on four tiers and in community, primary and secondary settings (figure 11).

General community care includes voluntary and community sector activity and preventative services such as physical activity. Primary care includes essential care provided by general practices with some providing enhanced care such as insulin initiation and management. It also includes other primary care services such as pharmacies and diabetic retinopathy screening.

The most significant recent development in Croydon's diabetes services has been the setting up of a community based integrated intermediate service in April 2009. Croydon community integrated diabetes service (CCIDS) provides a range of services including the delivery of structured education programmes to people newly diagnosed with diabetes, dietetics and care for patients with more complex needs. A significant aspect of CCIDS's role is to provide support to general practices around diabetes care. In its first year, it received a total of 2,749 referrals with 486 of these being for patient education and 761 for dietetic support and advice.[53]

There is a range of consultant led secondary care at Croydon University Hospital including care for people with type 1 diabetes, pregnant women and patients with complex needs and comorbidities. There are also renal, vascular and ophthalmic consultant led clinics in which a significant number of patients have diabetes.

In April 2009, Croydon Diabetes Network was launched to connect diabetes healthcare professionals, people with diabetes and their families and carers, and people working in related fields, in order to support the development of diabetes services and improve health outcomes at a borough wide level. Based at NHS Croydon, it is guided by a leadership team with representation from clinicians, service users and local government. It has quarterly network meetings to allow key people interested in diabetes issues to come together and has a range of subgroups carrying out work reflecting current priorities. These include revising the primary care diabetes guidelines, developing guidance for schools and ensuring that effective user involvement is taking place. It publishes a newsletter and maintains a diabetes microsite at www.croydon.nhs.uk/diabetes.

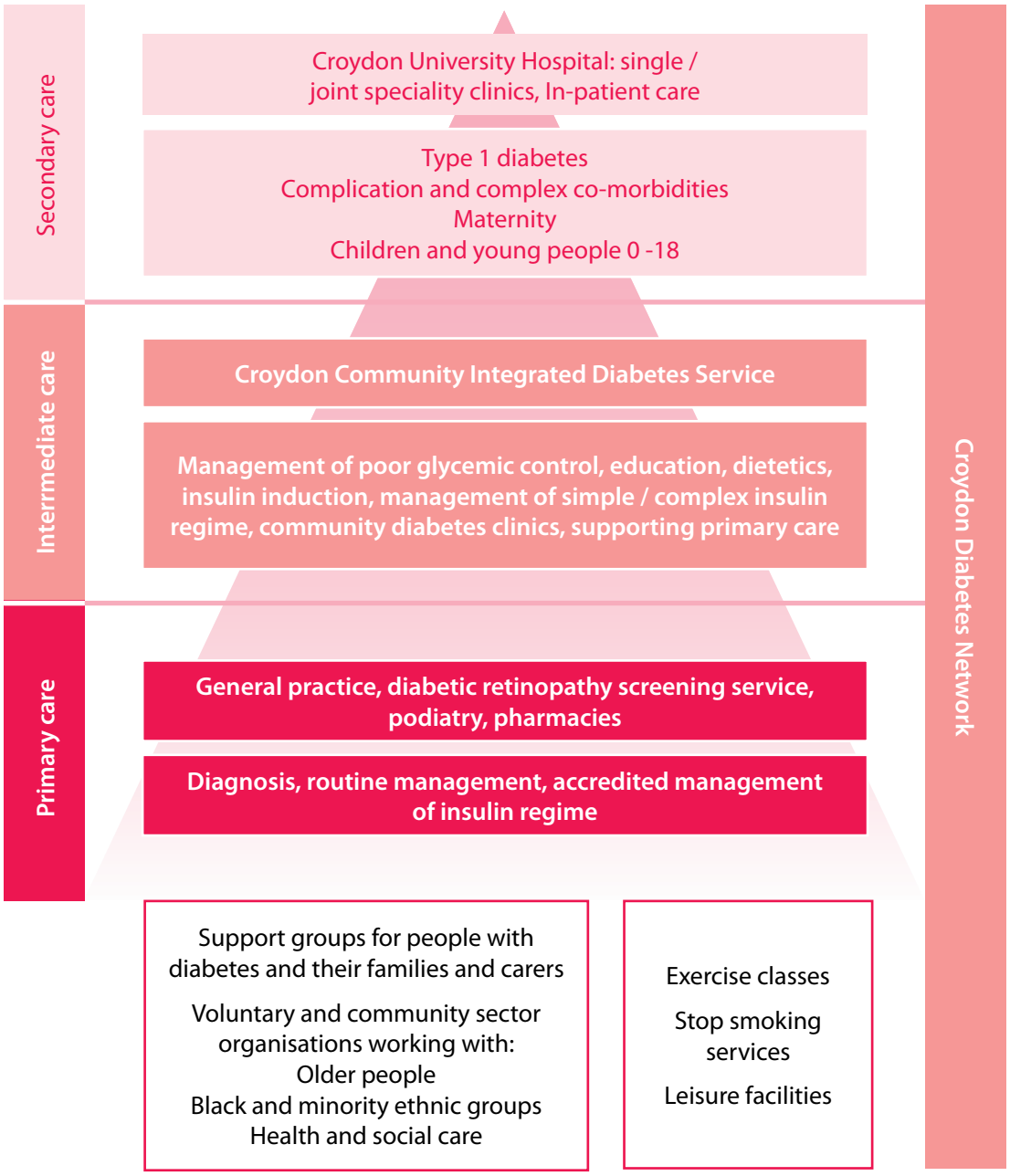
50 Yorkshire and Humber Public Health Observatory *Diabetes attributable deaths: estimating the excess deaths among people with diabetes.* YHPHO; 2008

51 Yorkshire and Humber Public Health Observatory *Diabetes attributable deaths for Primary Care Trusts.* YHPHO; 2008

52 Office for National Statistics annual death extracts www.statistics.gov.uk

53 Croydon community integrated diabetes service annual report 2009/10, www.croydon.nhs.uk/diabetes - 'Resources' section

**Figure 11 | Croydon diabetes model of care**




There are two major gaps in Croydon's diabetes healthcare system.

Firstly, there is little work being explicitly carried out by local diabetes services on diabetes prevention and awareness, although there are other local services providing related preventative activities such as physical activity and healthy eating. NICE is currently developing public health guidance on the prevention of type 2 diabetes among high risk groups. This will include advice on how to support behaviour change and how to prevent the progression of pre diabetes to type 2 diabetes at the individual level.[54]

54 National Institute for Health and Clinical Excellence. *Type 2 diabetes: preventing pre diabetes among adults in high risk groups.* Publication due May 2011; National Institute for Health and Clinical Excellence. *Type 2 diabetes: preventing the progression from pre diabetes.* Publication due 2012.

Secondly, there are currently no mental health professionals in Croydon providing diabetes specific psychological support for either adults or children. Children and young people with type 1 diabetes may experience psychological disturbances such as anxiety, depression, behavioural and conduct disorders and family conflict. These can impact on the management of diabetes and wellbeing. NICE recommends that diabetes care teams should have appropriate access to mental health professionals to support them in the assessment of psychological dysfunction and the delivery of psychosocial support.[55] NICE also recommends psychological support for type 2 diabetes, particularly for some of the complications such as diabetic neuropathy and erectile dysfunction.[56]

Other service issues include the limited data on ethnicity and deprivation available from CCIDS and secondary care. Detailed data would help with targeting services to ensure that they were meeting the needs of high risk groups.

There is also limited information on the extent and quality of care planning around diabetes in Croydon. Care planning is a process where clinicians and patients work together to support self management of a condition.[57] This might include sending a patient's test results out to them in advance of an annual review meeting with a GP so that they have time to consider them and prepare questions. While it is not currently explicitly mentioned in clinical guidance it is considered best practice.[58]

Some newly diagnosed diabetes patients in Croydon are undertaking structured education programmes (135 in 2009/10), but only a very small percentage of all diabetes patients have been on a programme.[59] NICE recommends offering structured education to every person and their carer around the time of diagnosis, with annual reinforcement and review.[60]

## Key findings

There was a major restructuring of Croydon diabetes services in 2009 involving delivery of an integrated intermediate tier service, Croydon community integrated diabetes service (CCIDS) and Croydon Diabetes Network.

There are only limited data on ethnicity and deprivation available from CCIDS and secondary care.

There is currently no provision of psychological support for people with diabetes.

There are currently very few diabetes services explicitly engaged in prevention.

There are numerous voluntary and community sector organisations that, while not having a diabetes focus, are working with populations affected by the condition such as Black and minority ethnic groups and older people.

There are currently limited data being collected monitoring the extent and quality of care planning around diabetes in general practices.

While a percentage of newly diagnosed patients are undertaking structured education programmes, only a very small percentage of all diabetes patients have been on a programme.

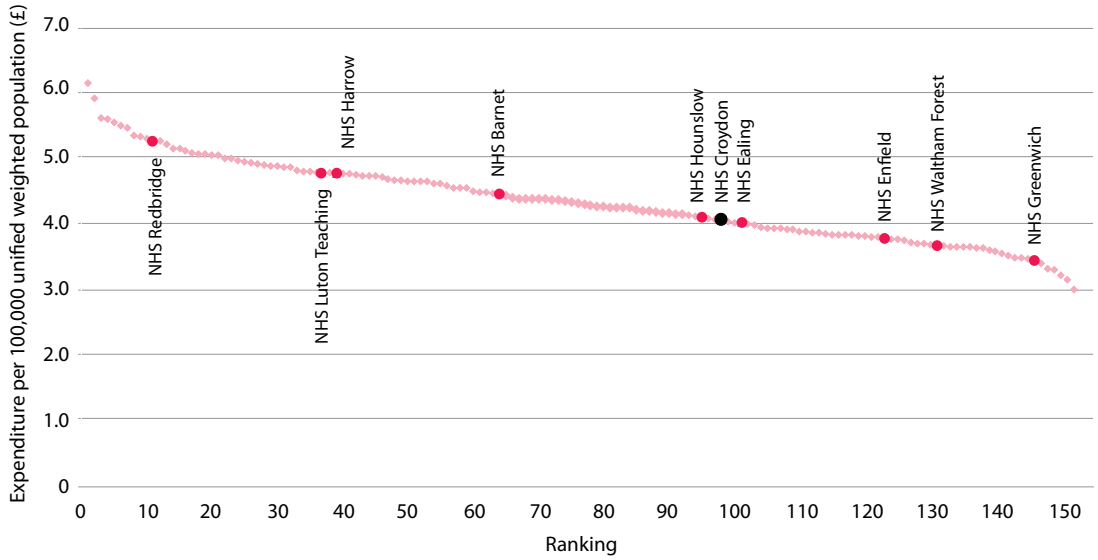
55 National Institute for Health and Clinical Excellence. *Diagnosis and management of type 1 diabetes in children, young people and adults.* London: NICE; 2004.
56 National Institute for Health and Clinical Excellence. *Type 2 diabetes: the management of type 2 diabetes.* London: NICE; 2009.
57 Katharine Dell. *Self management / care planning for diabetes: a commissioning guide.* London: Commissioning Support for London; 2010
58 Healthcare for London *Diabetes Guide for London*. London: 2009
59 Croydon community integrated diabetes service annual report 2009/10; www.croydon.nhs.uk/diabetes - Resources section
60 National Institute for Health and Clinical Excellence. *Guidance on the use of patient education models for diabetes.* London: NICE; 2003.

# Expenditure

Programme budgeting is a method of looking at how resources are spent in different areas (or programmes) of healthcare, aiming to track and influence future spending. Programme budgeting data on diabetes is recorded under programme 4: endocrine, nutritional and metabolic. As diabetes complications have an impact on other programmes such as the circulatory system (programme 10), kidneys (programme 17) and eyes (programme 8), the data does not capture the full financial impact of diabetes.

NHS Croydon estimated spending on diabetes in 2008/09 was £2,085,460 per 100,000 population, where diabetes was the main presenting complaint.[61] This placed Croydon 84 out of 152 PCTs in 2008/09 (figure 12). Croydon's spend per 100,000 of population is comparable with similar PCTs in the London Suburbs cluster (table 7).

**Figure 12 | ranking of expenditure on diabetes per 100,000 population across PCTs in the London Suburbs cluster, 2008-09**




- Expenditure per 100,000 unified weighted population
- Expenditure per 100,000 unified weighted population for NHS Croydon
- Expenditure per 100,000 unified weighted population for London Suburbs PCTs

Source: Department of Health, 2008-09 Programme budgeting PCT benchmark tool 1.3

**Table 7 | Croydon, London Suburbs cluster and England spend on diabetes per 100,000 population in 2007/8 and 2008/09**

| | 2007/08 | 2008/09 | % change |
|---|---|---|---|
| NHS Croydon | £1,946,995 | £2,085,460 | 7% |
| Cluster average | £1,886,415 | £2,059,867 | 9% |
| London average | £1,773,325 | £1,981,159 | 12% |
| England average | £1,943,582 | £2,173,423 | 12% |

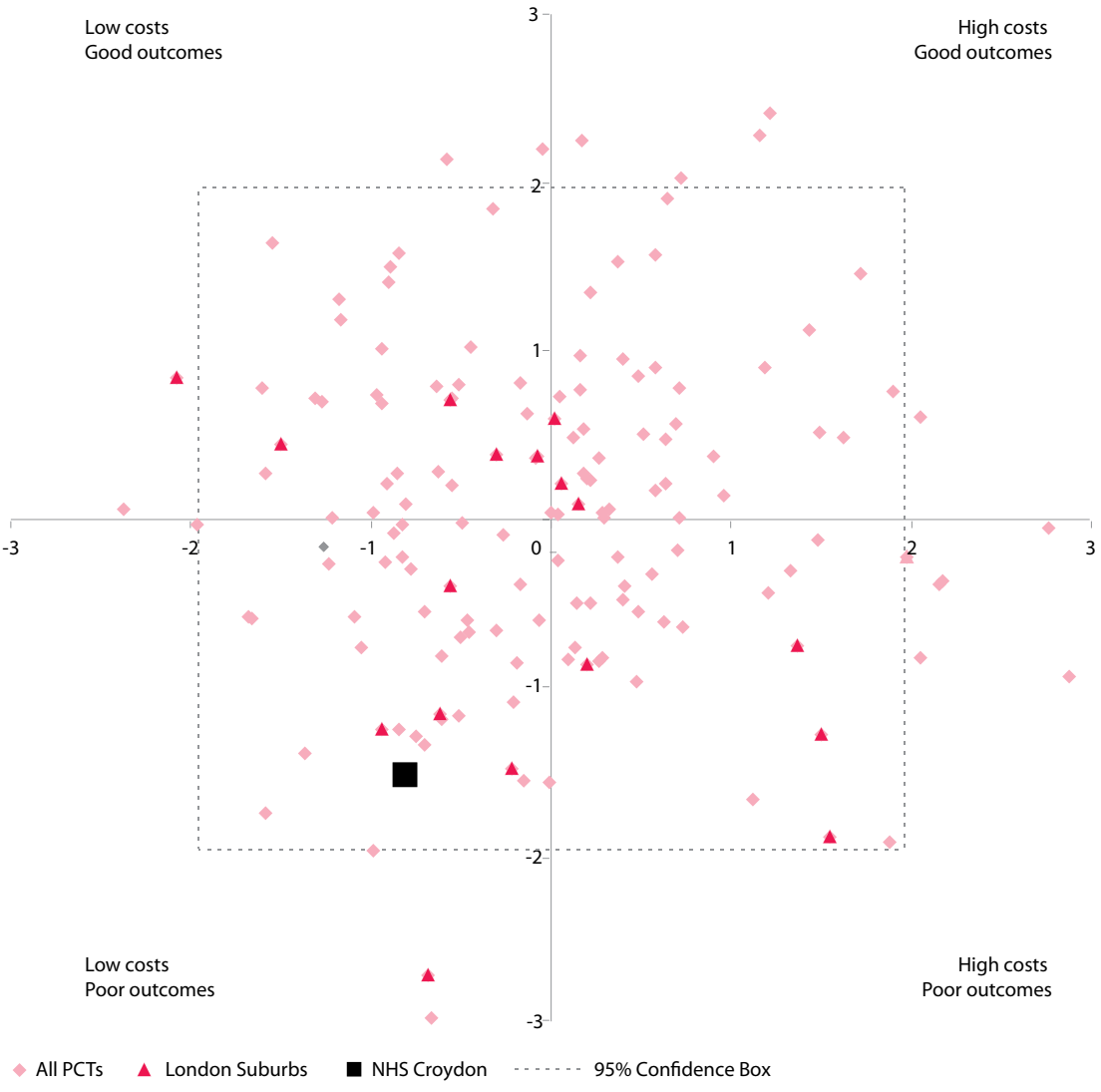
Source: Department of Health, 2008/09 Programme budgeting PCT benchmark tool 1.3

61 Department of Health. Programme budgeting PCT benchmark tool 1.3. London: Department of Health; 2008/09

In 2008/09, primary care accounted for 62% of diabetes expenditure, secondary care 30% and other expenditure, 8%. Expenditure on community diabetes services such as diabetes specialist nurses is included under primary care and accounts for 9.7% of total spend. It is worth noting that secondary care includes treatment of people with type 1 diabetes whose care is managed by consultants and the care of pregnant women with diabetes.

Looking at the relationship between expenditure and the number of people with diabetes who have an HbA1c of 7.5% or less, Croydon is situated in the bottom left quadrant (figure 13). This indicates that we have low expenditure and poor outcomes. It is worth noting that these data were collected in 2008/09 and so will not show any improved health outcomes arising from the restructuring of Croydon's diabetes services in 2009.

**Figure 13 | NHS Croydon's total spend on diabetes compared with people with HbA1c of 7.5% or less, 2008/09**[62]




62 Department of Health. Programme budgeting PCT benchmark tool 1.3. London: Department of Health; 2008/09

NHS Croydon's total spend for diabetes prescribing in 2008/09 was £3,654,539, 9.7% of the total prescribing budget. 22.8% of the diabetes prescribing spend went on diagnostic and monitoring agents (table 8).

**Table 8 | breakdown of NHS Croydon diabetes prescribing budget 2008/09**

| British National Formulary name | Total items | Total cost |
|---|---|---|
| Insulin | 36,688 | £1,803,479 |
| Antidiabetic drugs | 150,909 | £1,006,464 |
| Treatment of hypoglycemia | 803 | £12,293 |
| Diabetic diagnostic and monitoring agents | 37,887 | £832,303 |
| Total | 228,227 | £3,654,539 |

Source: EPACT

## Key findings

Expenditure for diabetes in Croydon is around the average for similar PCTs and roughly similar to London and England's.

When comparing expenditure with health outcomes, NHS Croydon is positioned in the quadrant for low spend and poor outcomes. Changes resulting from the restructuring of diabetes services in 2009 will not yet be apparent.

9.7% of NHS Croydon's prescribing costs in 2008/09 went on diabetes related medicines and agents.

22.8% of the diabetes prescribing budget in 2008/09 was spent on diagnostic and monitoring agents.

## Patient and public involvement

In June 2010, Croydon Diabetes Network organised five focus groups to obtain views on diabetes and local diabetes care in Croydon. Participants included people with diabetes, their carers and family members. The groups were held at Parchmore Methodist Church, Purley United Reformed Church, Croydon Voluntary Association for the Blind and Croydon University Hospital (two groups). Attendance was low with three, six, six, two and six participants respectively. One of the focus groups at Croydon University Hospital was organised by Asian Resource Centre with participants from the Pakistani community. This was carried out in response to data indicating high levels of prevalence amongst members of this community.

On the whole, participants were happy with the care that they received for their diabetes. Negative comments included lengthy waits at hospital clinics, significant amounts of time spent on multiple tests for different clinics, a lack of continuity in secondary care staff, and problems with lengthy journeys to access secondary care. The themes that emerged are outlined below.

Several participants saw diabetes care as something primarily to be directed by healthcare professionals rather than involving self management.

*"You can't have too much navel gazing, they're experienced, they tell you what to do, you do your best. If you think about these things then you let them spoil your life."*

Some participants stated that diabetes was a 'mild' condition or that there were 'mild' and 'serious' types of diabetes, which shows a lack of understanding of the disease.

*"I've only got it mild."*

*"At the moment I am not a serious diabetic."*

Very few participants knew what HbA1c was and why it was important. Anecdotal reports from healthcare professionals suggest that HbA1c may be more widely understood by patients as 'long term glucose'.

*"HbA1c, I don't want to know what it is, it's just one more thing to worry about."*

No participants had been on structured education programmes, although several were waiting to attend one. Few participants knew of their existence or how they might get a place on a course. Those that knew about them thought that attending one would be a valuable experience.

*"My daughter used to have big swings in her blood glucose until she went on an education programme. I think they should be available to more people. I'd like to go on one, you can control your diabetes, you are so much better."*

Participants in the focus group organised by the Asian Resource Centre stated that diabetes is considered to be a normal condition within the Pakistani community but at the same time there is stigma around younger family members who develop the condition.

*"Diabetes is not a big deal in Asian communities. Yet it's a killer. It's not a big deal. It's just a normal thing you know. So and so has got it. Oh yeah so and so is diabetic."*

*"The parents tell young people not to talk about it... they say you're abnormal at such a young age."*

Female participants in this focus group identified the lack of female only exercise opportunities as a barrier to access. High fat levels in the diet were also mentioned:

*"I used to go to the gym but it's mixed and I don't really like it... I don't feel comfortable there to be honest."*

*"Use less oil and only heat it up once and twice (and) after that then throw it away."*

Participants in this group suggested possible ways of increasing diabetes awareness in the Pakistani community, for example use of DVDs and by holding seminars in the mosque.

## Key findings from focus groups

Some participants reported diabetes as being a condition to be treated by healthcare professionals rather than self managed.

Some participants saw diabetes as having mild and serious forms.

There were low levels of awareness amongst participants of HbA1c and why it is important.

Participants reported little awareness of structured education programmes.

Participants from the Pakistani focus group reported that the Pakistani community views diabetes as a common condition, but there is stigma around young people who develop the disease.

# NICE guidance

**Guidance from the National Institute for Health and Clinical Excellence relevant to diabetes:**

NICE CG87, *Management of type 2 diabetes (Update)*. May 2009

NICE CG15, *Diagnosis and management of type 1 diabetes in children, young people & adults.* July 2004

Patient information leaflet on NICE CG87 type 2 diabetes. 2009

NICE CG15, *Type 1 diabetes in adults: information for the public.* 2004

NICE TA60, *Guidance on the use of patient-education models for diabetes.* April 2003

NICE TA151, *Diabetes – insulin pump therapy.* July 2008

NICE CG67, *Lipid modification.* May 2008

NICE CG63, *Diabetes in pregnancy.* July 2008

NICE CG63, *Understanding NICE guidance.* March 2008

NICE CG10, *Type 2 diabetes – footcare.* Jan 2004

NICE CG73, *Chronic kidney disease.* Sept 2008

NICE TA123, *Varenicline for smoking cessation.* July 2007

NICE PH1, *Brief Interventions and referral for smoking cessation.* March 2006

NICE PH10, *Smoking cessation services.* Feb 2008

NICE CG43, *Guidance on the prevention, identification, assessment & management of overweight and obesity in adults & children.* Dec 2006

NICE PH2, *Four commonly used methods to increase physical activity.* March 2006

NICE TA203, *Diabetes type 2 - liraglutide (technology appraisal).* Oct 2010

**NICE guidance relating to diabetes in development:**

*Type 2 diabetes: preventing pre-diabetes among adults in high-risk groups.* Due May 2011

*Type 2 diabetes - preventing the progression from pre diabetes (public health guidance).* Publication expected May 2012

*Diabetic foot problems - inpatient management (clinical guideline).* Date to be confirmed