Diabetes Health Needs Assessment 2010 (updated March 2013)

NHS Wandsworth

Department of Public Health
Anupam Garrib and Melissa Cottington

Updated by
Aslam Baig and Melissa Cottington

Contributors to this report:
Nigel Bain
Neil Bamford
Gary Bradley
Lucy Chadder
Melissa Cottington
Nigel Crawford
Vanessa Flagg
Josephine Ruwende

Contents

Table of Figures

Table of Tables

1. Executive summary

Burden of disease

Diabetes is a significant cause of morbidity and premature mortality. In Wandsworth we conservatively estimate that there are just over 13,500 people known to have diabetes at present. A 15% increase in diabetes prevalence is expected over the next 15 years. This will be fuelled by an ageing population and a growing obesity epidemic as well as increasing numbers of paediatric diabetics. This will contribute significantly to the burden diabetes presents on population health, on the health system, and to health inequalities in the borough.

The age and ethnicity profile of the Wandsworth population show that we have concentrations of people at high risk of developing diabetes resident in the borough, in particular in Wandsworth South and in Battersea (Figures 2 & 3). This corresponds closely with estimates that show high prevalence of diabetes in those areas as well as in wards in South Wandsworth (Figure 8). Diabetes should therefore be a health priority in these areas based on its prevalence and its contribution to the burden of disease.

The 33% difference between the expected prevalence of 5.6% based on the Association of Public Health Observatories (APHO) Diabetes Prevalence Model diabetes model and the 4.2% prevalence from the Quality and Outcomes Framework (QOF) data for 2011/12, indicate that there are a large number of undiagnosed diabetics in Wandsworth. In addition, we estimate that there are at least 28,000 people in Wandsworth with potentially modifiable risk factors for developing diabetes in the future. These include patients that are overweight or obese, patients with gestational diabetes and those with impaired glucose tolerance. The newly implemented NHS health checks programme provides an opportunity for both early identification of undiagnosed diabetics and those with modifiable risk factors. A PCT strategy to address obesity also exists however there is a lack of an integrated diabetes prevention strategy to ensure that a comprehensive approach to the prevention of diabetes exists within NHS Wandsworth and is focussed on areas of high prevalence and groups at high risk of developing diabetes. This is a key gap and needs to be addressed.

Quality of care

Over the last five years considerable work has gone into improving primary and secondary care diabetes services in line with the National Service Framework (NSF) for diabetes. An important finding of this needs assessment is that variation in the care provided to diabetics in primary care continues to exist. Our analysis of QOF data shows that while many practices are performing well on indicators of care provided to diabetic patients, some practices perform consistently poorly. Although Wandsworth has low diabetes related mortality we do not perform as well in the incidence of diabetes related complications. In Wandsworth 67.1% of diabetic patients have good diabetes control (an HbA1c level of <7.5%) compared to the England average of 69.9%. We also find that Wandsworth has higher incidence rates of some types of diabetes related complications including minor and major lower limb amputations (Figure 10), and emergency admissions for diabetic ketoacidosis and coma (Figure 20). QOF data show that in Wandsworth we have lower proportions of patients being checked for indicators of these complications than the England average. Further work with commissioners needs to occur to understand the reasons for this variation and to address these as this is likely to have a direct impact on patient outcomes.

Although most diabetes related care occurs in the community, hospitals provide essential management of paediatric diabetics, complex cases and diabetes related emergencies and complications. We find that Wandsworth patients have relatively low emergency hospital admission rates compared to other PCTs in the sector and to London and England; however patients that are admitted stay in hospital significantly longer than in other PCTs or the London and England average. This highlights a potential area for clinical audit to further understand the reasons for this difference.

Retinal screening

There has been success in the retinal screening programme which has consistently seen a high uptake level for screening attendance of over 80%. However, there is no current evidence on the numbers of blind registrations of Wandsworth residents with diabetes to indicate the long term effectiveness of the programme in reducing the number of individuals with diabetes being registered blind due to Diabetic Retinopathy. In order to build on the success of the programme, it is important to address the findings of a recent Did Not Attend (DNA) audit that was conducted in both the Diabetic Eye Screening and Hospital Eye services. The audits illustrated

- uptake of retinal screening is particularly low amongst type 1 diabetics and younger patients,
- there is variation in screening uptake by primary care provider which is particularly important as primary care providers have been shown to have a positive impact on influencing uptake of screening,
- patients of Black African and Black Caribbean ethnicities are less likely to attend for Diabetic Eye Screening which is particularly concerning as these ethnic populations have been shown to have a higher prevalence of diabetic retinopathy.

Cost

The costs of treating diabetes is increasing year on year and a recent analysis has shown that despite the high levels of expenditure, outcomes for diabetics in Wandsworth are not as good as those of our peers. Some of this will be related to the issues discussed above. Major changes in the way care is to be provided to diabetics in Wandsworth are underway, including a shift of care from secondary into primary care services. This provides an opportunity to improve quality of care by creating a more seamless patient pathway and by maximising links with other prevention programmes, however the variations in care discussed above need to be addressed and the impact of the shift of care needs to be prospectively evaluated to assess its effect on patient outcomes.

Although significant improvement has been made in the care of diabetics in Wandsworth, the challenge of managing increasing numbers of patients within a resource constrained environment remains. The core of the approach to addressing this problem should be prevention and at present there is no overall strategy for the prevention of diabetes in Wandsworth.

Recommendations

- Commissioning plans need to take into account the projected increase in numbers as a result of rising incidence and increased patient identification that will arise from the implementation of NHS Health Checks
- Further analysis of QoF data and other data sources is required to assess the reasons for the variation in management of diabetes in primary care. (Diabetes NSF Standards 4 & 10)
- The impact of shifting diabetic care on patient outcomes needs to be closely monitored and evaluated
- Community nurse specialists should be given the necessary IT support to enable an assessment of their effectiveness and impact on patient outcomes

2. Introduction and background

2.1 Aim of a health needs assessment

Health needs assessment is a systematic method for reviewing the health issues facing a population, leading to agreed priorities and resource allocation that will improve health and reduce inequalities. Comprehensive health and social needs assessment is an essential starting point for the development of any intervention strategy, service development or health improvement programme.[1]

Health needs assessment provides a tool that can help meet policy objectives through targeting populations most in need of support. Health needs assessment also provides an opportunity for different agencies to work in partnership to reconfigure services.[2]

2.2 Approach to health needs assessment

The health needs assessment combines epidemiological, corporate and comparative approaches in assessing need. The epidemiological approach to health needs assessment provides an understanding of the make-up of the population in question, risk factors for disease they are likely to encounter, examination of the incidence of disease within a community and how these factors relate to the demand on services. The corporate approach in health needs assessment looks at the perceived major health and healthcare issues from the perspective of professionals and stakeholders. The comparative approach to the needs assessment benchmarks services in question against those for a different provider.

For the health needs assessment of diabetes in Wandsworth epidemiological data were collated from a range of national and local sources. Comparative analysis was undertaken using available national and local data, latest evidence and targets. Semi-structured interviews were undertaken with a range of stakeholders to obtain corporate views.

2.3 What is diabetes?

Diabetes is a chronic condition that occurs when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Hyperglycaemia and other related disturbances in the body's metabolism can lead to serious damage to many of the body's systems, especially the nerves and blood vessels.[3]

Diabetes is the leading cause of blindness in people of working age, the largest single cause of end stage renal failure, and, excluding accidents, the biggest cause of lower limb amputation. Compared with other European countries, Britain has a poor record of blood glucose control and blood pressure control: we have higher rates of heart attacks and strokes, foot ulcers, renal failure and nerve damage.[4]

[1] Rawaf S, Marshall F, Drug misuse: the ten steps for needs assessment, Public Health Medicine 1999; 1:21-26

[2] Health needs assessment: a practical guide, National Institute for Health and Clinical Excellence, 2005

[3] World Health Organisation www.who.int, 2005

[4] National Service framework for diabetes: standards. DH 2001

There are different types of diabetes mellitus, including:

- Type 1: an autoimmune condition whereby insulin-producing cells in the pancreas are destroyed by the body leading to a complete deficiency of insulin.
- Type 2: caused by a shortage of insulin or a fault in the way the body responds to insulin.
- Gestational diabetes: affects women during pregnancy though often disappears after delivery. Women who have had gestational diabetes are at higher risk of developing diabetes later in life than women who have not had gestational diabetes.[5]

Type 1 diabetes is most often diagnosed in children and young people under 15, although it can occur at any age. It is the least common of the two types and accounts for around 10% of all people with diabetes.[6] Symptoms are often marked and diagnosis usually follows quickly.

Type 2 diabetes mainly affects people over the age of 40. The symptoms of Type 2 diabetes are less marked than those for Type 1, with the result that Type 2 diabetes may go undetected for many years. The onset of Type 2 diabetes occurs on average between nine and 12 years before a diagnosis is made, by which time between one-third to around 50 per cent will already have signs of complications.[7] This is the more common of the two types and accounts for 90% of cases of diabetes.

Diabetes is a life-long condition and consequently can have a profound impact on lifestyle, relationships, work, income, health, well-being and life expectancy.[8] Box 1 below shows some facts and figures about diabetes.

Box 1: Diabetes facts

- Life expectancy is reduced, on average, by more than 20 years in people with Type 1 diabetes and by up to 10 years in people with Type 2 diabetes
- Mortality rates from heart disease in adults with diabetes are between two to four times higher than in adults without diabetes, while the risk of stroke is also two to four times higher
- Diabetes is the leading cause of renal failure, accounting for more than one in six people starting renal replacement therapy; the second commonest cause of lower limb amputation; and the leading cause of blindness in people of working age
- Diabetes leads to additional risks in pregnancy: women with diabetes have an increased chance of losing the baby during pregnancy, or at birth; of the baby having a congenital malformation, or of the baby dying in infancy
- Type 2 diabetes incurs significant direct personal costs, for people with diabetes, including costs associated with managing their diabetes. The costs of diabetes are not restricted to health care expenditure, approximately 5,960,000 working days were lost to type 2 diabetes in 1998, valued at £ 256,131,000

Source: National Service framework for diabetes: standards. DH 2001 & Diabetes in England. Yorkshire and Humber Public Health Observatory and the National Diabetes Support Team, November 2008.

[5] Definition, diagnosis and classification of diabetes mellitus and its complications : report of a WHO consultation. Part 1: Diagnosis and classification of diabetes mellitus. World Health Organization, Department of Noncommunicable Disease Surveillance. 1999. Geneva: WHO (WHO/NCD/NCS/99.2)

[6] Diabetes in the UK 2012: Key statistics on diabetes. Diabetes UK, 2012. http://www.diabetes.org.uk/Documents/Reports/Diabetes-in-the-UK-2012.pdf

[7] Diabetes UK factsheet No 2- Diabetes: the figures. Updated September 2000.

[8] National Service framework for diabetes: standards. DH 2001

2.4 Diabetes incidence and prevalence in England

The number of people developing diabetes is increasing around the world. In England, the estimated prevalence of diabetes in 2013 was 7.8% of the population or 3,321,750 people. By 2025, it is estimated that 9.0% of the people 9.0% or 4,189,229 people will have diabetes in the UK (The APHO Diabetes Prevalence Model, November 2012). This rise will be fuelled both by the ageing population and the increasing prevalence of obesity.[9]

In England we know that

- The incidence of Type 1 diabetes is increasing in all age groups but the rise is particularly steep among children under five years old
- The prevalence of Type 2 diabetes is increasing across all age groups and is being diagnosed in children as well; it is likely that this is due to the increase in childhood obesity.[10]

Diabetes prevalence has been increasing in both men and women, and prevalence is higher in men in all adult age groups than women.[11]

2.5 UK policies on diabetes

The Department of Health published the *Diabetes National Service Framework* in 2001 which set out 12 national standards for the care of people with diabetes (Table 1).[12] This was followed in 2003 with a *Delivery Strategy* which set out how the Diabetes NSF could be achieved.[13] In 2010, a six year update on performance on the Diabetes NSF standards was published, which highlighted progress made on each of the 12 standards.[14]

Table 1: National Service Framework Standards for Diabetes

Preventing and identifying diabetes	**Standard 1**	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	The NHS will develop, implement and monitor strategies to identify people who do not know they have diabetes.
Partnership in decision-making	**Standard 3**	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.
Clinical care of adults with diabetes	**Standard 4**	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.

[9] Diabetes in the UK April 2012. Key Statistics on Diabetes. www.diabetes.org.uk/Documents/Reports/Diabetes-in-the-UK-2012.pdf
10 Diabetes Key Facts, Supplement 2007. Yorkshire and Humber Public Health Observatory, 2007.
[11] Diabetes in the UK 2009: Key statistics on diabetes. Diabetes UK, 2009.
[12] National Service framework for diabetes: standards. DH 2001
13 National Service Framework for Diabetes: Delivery strategy. DH 2003
[14] Six years on. Delivering the Diabetes National Service Framework. Department of Health, 2010.

Clinical care of children and young people with diabetes	**Standard 5**	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	All young people with diabetes will experience a smooth transition of care from paediatric diabetes services, whether hospital or community-based, either directly or via a young people's clinic. The transition will be organised in partnership with each individual and at an age appropriate to and agreed with them.
Diabetic emergencies and inpatient care	**Standard 7**	The NHS will develop, implement and monitor agreed protocols for rapid and effective treatment of diabetic emergencies by appropriately trained healthcare professionals. Protocols will include the management of acute complications and procedures to minimise the risk of recurrence.
	Standard 8	All children, young people and adults with diabetes admitted to hospital, for whatever reason, will receive effective care of their diabetes. Whenever possible, they will continue to be involved in decisions concerning the management of their diabetes.
Diabetes and pregnancy	**Standard 9**	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.
Detection and management of long-term complications	**Standard 10**	All young people and adults with diabetes will receive regular surveillance for the long-term complications of diabetes.
	Standard 11	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	All people with diabetes requiring multi-agency support will receive integrated health and social care.

In 2007, *Healthcare for London: A Framework for Action* was published which set out plans to improve the health and healthcare of Londoners. Within the Healthcare for London (HfL) programme, diabetes was selected as the focus of the first long-term conditions project. The case for focussing on diabetes includes the significant inequalities in the way diabetes is prevented, diagnosed and treated across London; prevalence of diabetes is predicted to increase, spending on diabetes now accounts for an estimated 10% of the NHS budget, the standards of service offered in the capital are poor compared with the rest of the country. [15] This is important as poor quality routine care will lead to greater use of the emergency services, poorer outcomes for patients and greater cost to the NHS. A

[15] Diabetes guide for London. Health care for London.

further *Diabetes Guide for London* was published, which outlined a model of care for London as well as made commissioning recommendations.

NICE has developed the following guidance on various aspects of the management of diabetes including:

Clinical guidelines

- Anaemia management in chronic kidney disease Anaemia management in chronic kidney disease (CG39) (replaced by CG114) http://guidance.nice.org.uk/CG114
- Antenatal care http://guidance.nice.org.uk/CG62
- Diabetes in pregnancy http://guidance.nice.org.uk/CG63
- Type 1 diabetes: Diagnosis and management of type 1 diabetes in children, young people and adults http://www.nice.org.uk/guidance/CG15/NICEGuidance
- Type 2 Diabetes - newer agents (partial update of CG66) http://guidance.nice.org.uk/CG87
- Type 2 diabetes (partially updated by CG87) http://guidance.nice.org.uk/CG66
- Type 2 diabetes - foot care http://guidance.nice.org.uk/CG10

Interventional Procedures

- Allogeneic pancreatic islet cell transplantation for type 1 diabetes mellitus http://guidance.nice.org.uk/IPG257
- Autologous pancreatic islet cell transplantation for improved glycaemic control after pancreatectomy http://guidance.nice.org.uk/IPG274

Technical Appraisals

- Diabetes (types 1 and 2) - Guidance on the use of long-acting insulin analogues for the treatment of diabetes – insulin glargine (TA 53) http://publications.nice.org.uk/guidance-on-the-use-of-long-acting-insulin-analogues-for-the-treatment-of-diabetes-insulin-ta53
- Diabetes (types 1 and 2) - Guidance on the use of patient-education models for diabetes (TA 60) http://publications.nice.org.uk/guidance-on-the-use-of-patient-education-models-for-diabetes-ta60
- Diabetes - insulin pump therapy Continuous subcutaneous insulin infusion for the treatment of diabetes mellitus (TA 151) http://publications.nice.org.uk/continuous-subcutaneous-insulin-infusion-for-the-treatment-of-diabetes-mellitus-ta151
- Liraglutide for the treatment of type 2 diabetes mellitus (TA 203) http://publications.nice.org.uk/liraglutide-for-the-treatment-of-type-2-diabetes-mellitus-ta203

In addition, there are several new NICE guidance being developed including the following;

- Diabetic foot problems: inpatient management http://www.nice.org.uk/cg119
- Type 1 diabetes (update TBC)

Public health guidance in development

- Preventing type 2 diabetes: population and community-level interventions (PH35) http://publications.nice.org.uk/preventing-type-2-diabetes-population-and-community-level-interventions-ph35
- Type 2 diabetes: preventing the progression from pre-diabetes Preventing type 2 diabetes: risk identification and interventions for individuals at high risk (PH38) http://publications.nice.org.uk/preventing-type-2-diabetes-risk-identification-and-interventions-for-individuals-at-high-risk-ph38

There is NICE public health guidance currently in development on preventing pre-diabetes in adults and on preventing the progression from pre-diabetes.

Guidance on commissioning services for children and young people with diabetes was provided in *Making Every Young Person with Diabetes Matter: Report of the Children and Young People with Diabetes Working Group* which was published by the Department of Health Diabetes Policy Team in 2007. This document puts forward a number of standards to guide the delivery of care to young people.

2.6 Risk factors for developing diabetes

The risk factors are different for Type 1 and Type 2 diabetes. Whilst the risk of developing diabetes increases with age, anyone can get it. The following groups are identified as being at increased risk of developing diabetes:

Type 1 diabetes

- People with a strong family history of type 1 diabetes
- Although the onset of type 1 diabetes is typically in childhood it also occurs in adults

Type 2 diabetes

- People with a family history of diabetes
- Ethnicity: higher rates of Type 2 diabetes are reported in people of South Asian and African origin, and in indigenous peoples of the Americas and Australasia.
- Adults and children who are overweight or obese and are physically inactive
- Deprivation is strongly linked with higher levels of obesity, physical inactivity, unhealthy diet, smoking and poor blood pressure control, all factors which are linked to the development of diabetes or which increase the risk of developing complications in those who already have the disease[16]. Those in the most deprived fifth of the population are one-and-a-half times more likely than average to have diabetes at any given age. Both mortality and morbidity are increased by socio-economic deprivation.[17]
- People with impaired glucose tolerance
- Women who have had gestational diabetes mellitus

Risk factors for type 1 diabetes are not thought to be modifiable whereas overweight/obesity and physical inactivity are modifiable risk factors for type 2 diabetes.

Why is Diabetes a problem?
Prolonged exposure to raised blood glucose levels damages tissues throughout the body by damaging the small blood vessels. Over time, prolonged raised blood glucose levels can lead to irreversible damage. These micro vascular complications include diseases listed below:

Retinopathy	Damage to the eyes, which can lead to visual impairment and blindness
Ketoacidosis:	A potentially life threatening acute complication of diabetes caused by an inadequate concentration of insulin in the blood for the body's requirements.
Nephropathy:	Damage to the kidney, which can lead to progressive renal failure
Neuropathy	Damage to the nerves including: Loss of sensation in the feet, predisposing to: the development of foot ulcers and lower limb amputation.
Neuropathy	Postural hypotension- feeling faint on standing up
Neuropathy	Gastrointestinal problems- i.e. diarrhoea, difficulties with bladder emptying
Neuropathy	Erectile dysfunction- impotence
Neuropathy	Abnormal sweating

People with diabetes, particularly Type 2, are also at significant risk of developing cardiovascular disease:

[16] Diabetes in the UK 2009: Key statistics on diabetes. Diabetes UK, 2009.

[17] National Service framework for diabetes: standards. DH 2001

- Coronary heart disease: angina, acute myocardial infarction (heart attack) and heart failure
- Cerebrovascular disease: Stroke and transient ischaemic attacks
- Peripheral vascular disease: Blockage of the large blood vessels supplying the lower limbs resulting in poor circulation to the legs and feet, which can cause pain in the legs on walking and can also predispose to the development of foot ulcers and amputation.

A number of other conditions also occur more commonly in people with diabetes including:

- Cataracts, are twice as common in people with diabetes and occur about 10 years earlier than in people who do not have diabetes
- Infections, particularly of the urinary tract and the skin
- Soft tissue conditions, such as frozen shoulder and trigger finger
- Skin conditions, some of which are specific to people with diabetes
- Mental health problems, including depression and eating disorders

3. Understanding our population

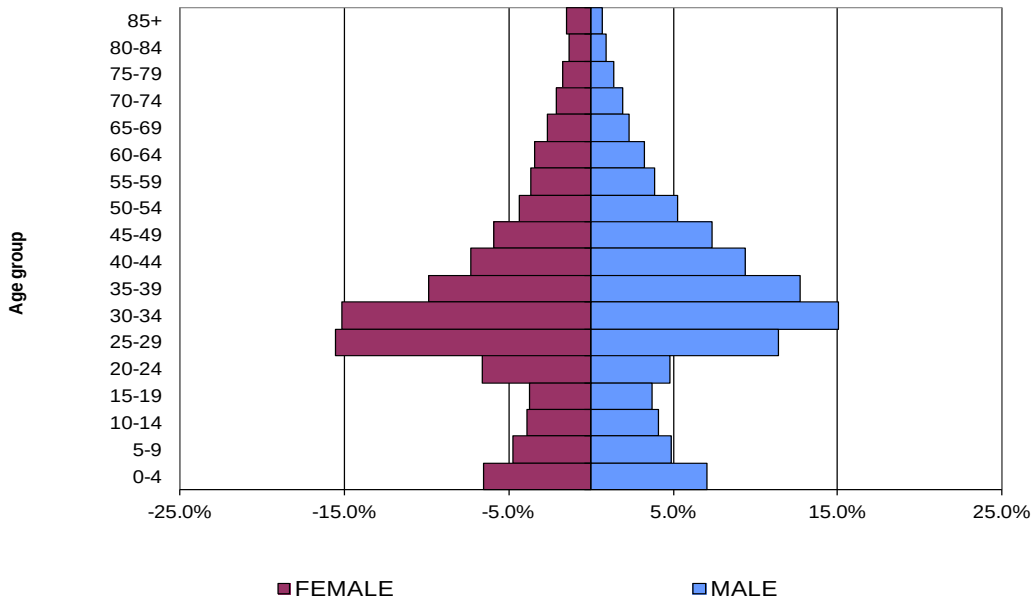
3.1 Prevalence of non-modifiable risk factors for diabetes in Wandsworth

The following sections of this report describe Wandsworth's population in terms of non-modifiable risk factors for diabetes. Non-modifiable risk factors cannot be changed however understanding the distribution of these will highlight groups of the population that are at high risk.

3.1.1 Age

Type 1 diabetes is most often diagnosed in children and young people under 15, although it can occur at any age. Type 2 diabetes mainly affects people over 40. Increasing prevalence of type 2 diabetes is now seen in younger people as a result of changing lifestyle factors such as higher levels of inactivity and the increasing prevalence of overweight and obesity.

Figure 1: Age breakdown for Wandsworth population showing % in each age group for males and females Wandsworth registered population, July 2011



Source: EMISWeb

The population of Wandsworth is young with 40% of the total population falling into the 25-39 year age group. This is a large pool of people at risk of developing type 2 diabetes, who we anticipate will remain in Wandsworth in their 40's, when they are at risk of developing diabetes.

27% of the population are aged between 0-24 years and this group are at risk of developing diabetes at an earlier age than previous generations due to changes in lifestyle. This group are also likely to still be living in Wandsworth when they develop diabetes.

3.1.2 Ethnicity

Prevalence of Type 2 diabetes is up to 6 times higher in people of South Asian decent and up to 3 times higher in African and African-Caribbean populations in the UK. There is also increasing evidence of higher incidence of Type 2 diabetes in South Asian children.

Figure 2: Map of percentage of Asian or Asian British in Wandsworth wards

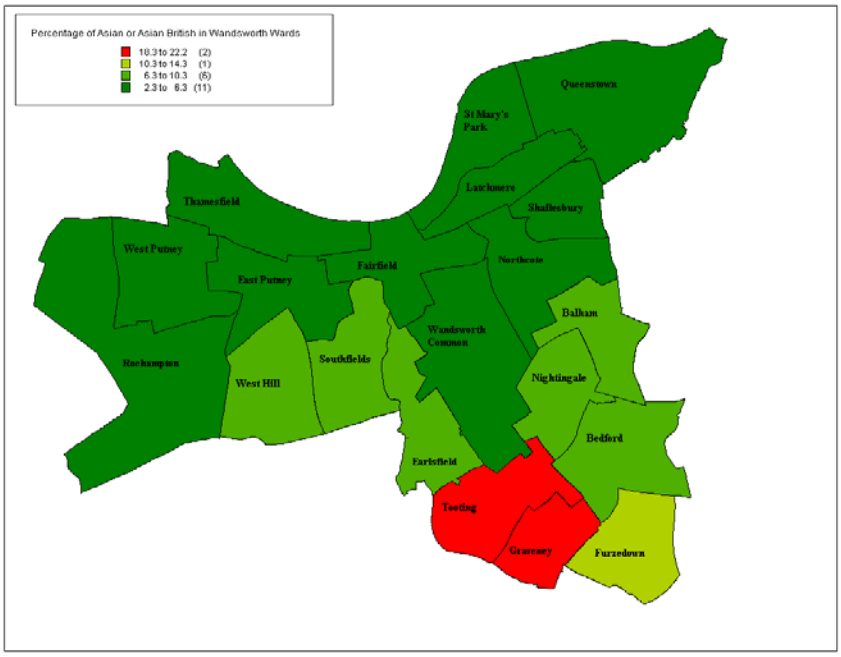


Figure 3: Map of percentage of Black or Black British in Wandsworth Wards

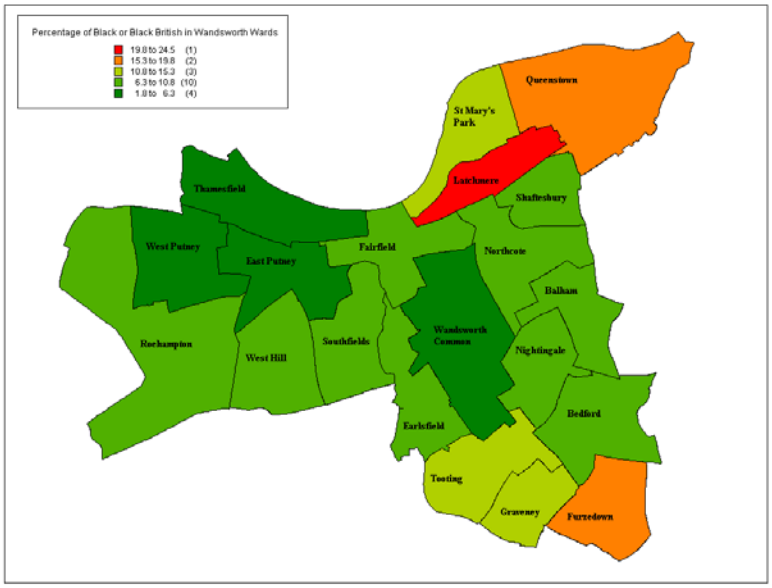


Figure 2 and Figure 3 above show that large parts of Wandsworth - particularly Wandsworth South and Battersea localities have high numbers of people at increased risk of developing diabetes as a result of their ethnicity.

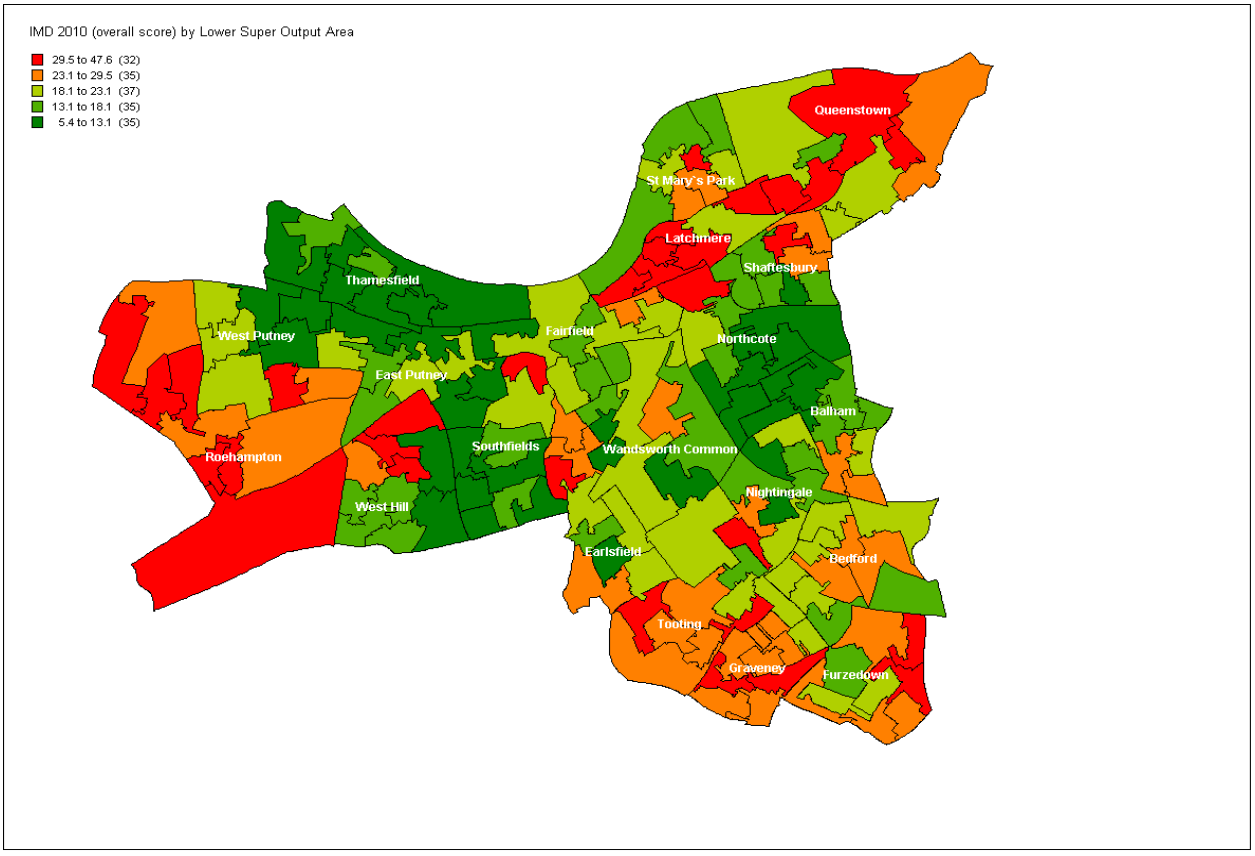
3.2 Prevalence of modifiable risk factors for diabetes in Wandsworth

Modifiable risk factors for diabetes can be reduced or prevented through lifestyle interventions and active management.

3.2.1 Deprivation

Strong links exist between income, attained level of education and poverty. Deprivation is strongly linked with higher levels of obesity, physical inactivity, unhealthy diet, smoking and poor blood pressure control, all factors which are linked to the development of diabetes or which increase the risk of developing complications in those who already have the disease. We would therefore expect to see higher prevalence of diabetes and its risk factors in the wards with highest levels of deprivation. Mortality rates from diabetes for those living in the poorest postcodes are 2.3 times the national average, compared to 1.3 times the national average in wealthier areas.[18]

Figure 4: Map showing deprivation in Wandsworth PCT



Source: IMD 2010

Figure 4 above shows that all localities in Wandsworth have wards of high deprivation with an increased risk of developing ill-health including diabetes.

[18] Diabetes in the UK 2004, A report from Diabetes UK October 2004

3.2.2 Obesity

The risk of developing Type 2 diabetes increases by up to ten times in people with a BMI of more than 30.[19] In Wandsworth, the number of patients aged 16 or over who are registered as obese is 15,542 (QOF 2012). These numbers provided from QOF are likely to be an underestimate of the prevalence of obesity in Wandsworth.

Table 2**:** Number of registered overweight and obese adults 18+ in Wandsworth (with BMI recorded), and the differences between men and women, 2012.

	Males	Females	Person
Overweight	41,273	29,780	71,053
Obese	15,542	20,869	36,411

Table 2a shows the number of overweight and obese adults in Wandsworth and the differences between men and women. *Exclusion criteria: no height and weight recorded, BMI's <10 and >80, height <1.01m and >2m, weight <15kg and >300kg.* Based on these figures there are between 15,000 and 41,000 obese people in Wandsworth who are at increased risk of developing diabetes.

The following table (table 3) shows that the obesity will continue to rise in England as well as in Wandsworth if the rate of increase in obesity continues at the current rate, but this will still continue to rise even if the rate of increase is maintained at the 2010 obesity levels. The data below gives estimates of the number of people age 16 years or older that have diabetes (diagnosed and undiagnosed) adjusted for age, sex, ethnic group and deprivation.

Table 3: Estimated rise in the obesity rates in Wandsworth and England, 2012

	Obesity continues to rise at current rate				2010 obesity levels maintained			
	England		Wandsworth		England		Wandsworth	
Year	Number	Prevalence	Number	Prevalence	Number	Prevalence	Number	Prevalence
2015	3,348,320	7.6%	14,473	5.8%	3,325,769	7.6%	14,370	5.8%
2020	3,745,210	8.2%	15,902	6.2%	3,637,081	7.9%	15,434	6.0%
2025	4,068,458	8.6%	17,577	6.7%	3,864,777	8.2%	16,686	6.4%
2030	4,157,186	8.8%	19,390	7.2%	3,864,777	8.2%	18,012	6.7%

Source: Diabetes Prevalence Model for local authorities in England

3.2.3 Gestational diabetes

Gestational diabetes affects up to 5% of all pregnancies, and women who are overweight or obese are at increased risk of developing it. A study conducted in inner-city London in 1995 revealed an overall prevalence of gestational diabetes of 2%.[20] A higher prevalence of gestational diabetes is seen in women from ethnic minority groups: 2.9% in ethnic groups; 0.4% in the white population.[21]

Type 1 diabetes is more common than type 2 diabetes during the reproductive years, although with increasing levels of obesity and associated increases in type 2 diabetes, this is likely to change. A recent BMA report suggests that 10% of diabetes in pregnancy is pre-gestational and 90% is gestational. The same report estimates a prevalence of gestational diabetes as between 2-5% of all

[19] Diabetes in the UK 2004, A report from Diabetes UK October 2004

[20] Difference in prevalence of gestational diabetes and peri-natal outcome in an innercity mutli-ethnic London population. Koukkou E, Taub N, Jackson P; Euro. J. Obs Gyn Repro Biol 1995 Apr; 59 (2): 153-7

[21] Diabetes medicine 1992, Nov; 9 (9); 820-5. High prevalence of gestational diabetes mellitus in women from ethnic minority groups.

pregnancies.[22] In white Europeans, 20-40% of gestational diabetes will develop in to diabetes type 2 within 20 years.[23]

We estimate that we can expect 93 pregnant women to get gestational diabetes in a year in Wandsworth. Of this group, we can expect between 19 and 37 of these women to go on to develop diabetes within 20 years.

3.2.4 Impaired glucose tolerance

Impaired glucose tolerance is defined as a fasting plasma glucose concentration of less than 7.8 mmol/l and between 7.8 and 11.1 mmol/l two hours after a 75 g oral glucose load. Impaired glucose tolerance is common and is thought to affect 17% of those aged 40-65 years in Britain. Impaired glucose tolerance is a very strong risk factor for type 2 diabetes: between 4% and 9% of people with impaired glucose tolerance develops diabetes each year.[24]

In a 10 year follow up study, 15% of people with impaired glucose tolerance went on to develop non-insulin dependent diabetes, 22% remained glucose intolerant, and the majority (53%) improved. By the time they develop diabetes, 50% will already have established complications, 16% coronary artery disease, and 30% retinopathy.

Evidence shows that intensive courses aimed at modifying diet and increasing physical activity in people with impaired glucose tolerance over a few months followed by sustained, but less frequent reinforcing sessions, reduce the risk of developing type 2 diabetes compared with standard written and oral advice, in China, Finland and the United States. The effect was very strong – about a halving of the risk of diabetes – and consistent, despite the very different settings. This makes it likely that this magnitude of effect could be reproduced in other settings, such as Wandsworth.

If left unchecked, of the 75,000 people in Wandsworth in 2010 aged 40-65 years it was expected that:

- in 10 year's time 12,761 people in Wandsworth will have impaired glucose tolerance
- in 10 year's time 1,972 people of these 12,761 will go on to develop type 2 diabetes
- by the time they develop diabetes 986 will have established complications

The World Health Organisation (WHO) issued guidance in 2011 that HbA1c can be used as an alternative to Fasting Blood Sugar as a diagnostic test for diabetes and to establish those who are at an increased risk of diabetes. The advantage of this additional test is that it can be performed on a random blood sugar and has been shown to be as good as or better than using fasting glucose when used as predictor for those at risk of developing diabetic retinopathy.[25] The Wandsworth Clinical Effectiveness and Medicine Management Group have ratified additional guidance on the diagnosis of diabetes. This allows clinicians to use random HbA1c results as an alternative to fasting plasma glucose.

3.3 Expected prevalence of diabetes in Wandsworth

The Health Survey for England 2006 found that the prevalence of diabetes in males was 5.6% and for females was 4.2%. Data from Quality and Outcomes Framework (QOF) for 2011/12 showed that

[22] Diabetes mellitus: an update for healthcare professionals. BMA, February 2004

[23] BMJ 1997. Should we screen for gestational diabetes. The case for screening for gestational diabetes. Soares et al 315 (7110) 737.

[24] Edelstein SL, Knowler WC, Bain RP, Andres R, Barrett-Connor EL, Dowse GK et al. Predictors of progression from impaired glucose tolerance to NIDDM: an analysis of six prospective studies. Diabetes 1997;46:701-10

[25] Longitudinal Association of Glucose Metabolism With Retinopathy, Results from the Australian Diabetes Obesity and Lifestyle (AusDiab) study Robyn J. Tapp. Diabetes Care July 2008 vol. 31 no. 7 1349-1354

2,566,436 adults (Patients aged 17 years and over with diabetes mellitus which states whether the patient has Type I or Type II diabetes) in England have been diagnosed with diabetes making the prevalence of 5.8%. However, not all diabetes is diagnosed. Studies which have examined the total prevalence of diabetes (both diagnosed and undiagnosed) suggest that as many as half of those with diabetes may go undiagnosed[26] although in more recent publications it has been estimated that 25% of diabetics in London are undiagnosed.[27]

The APHO Diabetes Prevalence Model for England diabetes model is a spread sheet model that generates expected total numbers of persons with Type 1 and Type 2 diabetes mellitus (diagnosed plus undiagnosed combined) in England, Government Office Regions, Strategic Health Authorities, Local Authority Districts, Primary Care Trusts, electoral wards and user-defined populations including GP practices. The model applies age, sex and ethnic group-specific estimates of diabetes prevalence rates, derived from epidemiological population studies, to 2012 mid-year population estimates. The model allows forecasts of diabetes prevalence up to 2030 to be calculated for sub-national areas based on projected population change and current trends in obesity.

Using the APHO Diabetes Prevalence, the following predictions (Table 3) are made for the numbers of people with Type 1 and Type 2 diabetes mellitus in Wandsworth based on 2012 population data.

Table 4: Estimated prevalence of diabetes 2013

Persons	**Number**	**Rate**
Wandsworth	13,777	5.6%
London	491,741	7.9%
England	3,321,750	7.8%

Source: APHO Diabetes Prevalence Model for England, 2009. http://www.yhpho.org.uk/default.aspx?RID=81090

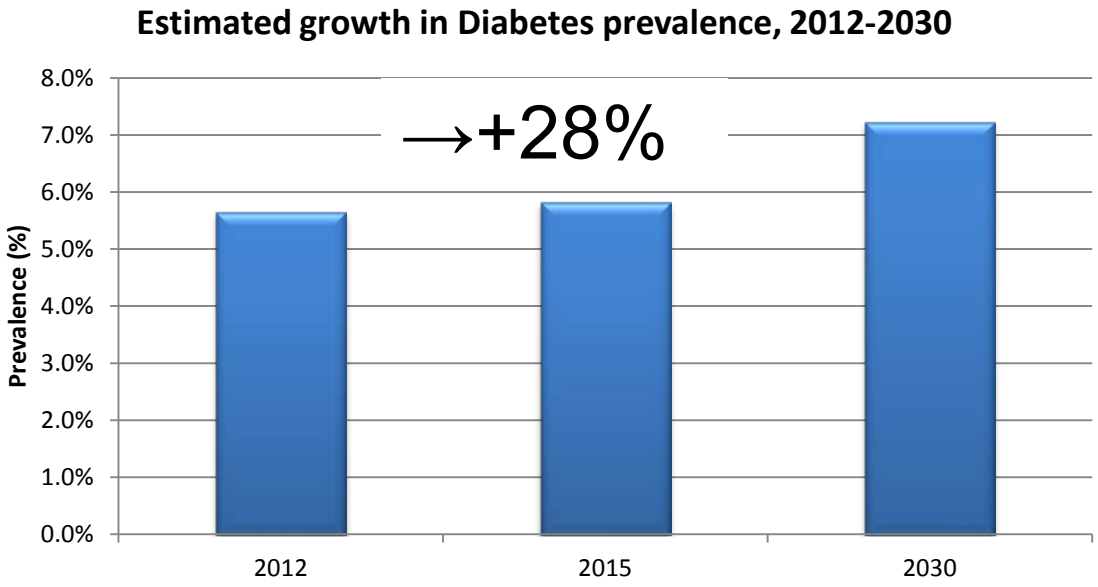
The model shows that Wandsworth has an overall expected prevalence rate of 5.6% for diabetes mellitus in 2013. This is a lower rate than for London and England, which have prevalence rates of 7.9% and 7.8% respectively.

Forecasts of diabetes prevalence are also presented for sub-national areas based on projected population change and trends in obesity. Figure 5 below illustrates how the diabetes prevalence is predicted to increase in Wandsworth from 2012–2025.

[26] Yudkin JS, Forrest RD, Jackson CA, Burnett SD, Gould MM (1993) The prevalence of diabetes and impaired glucose tolerance in a British population. Diabetes Care 16:1530

[27] Diabetes guide for London. Health care for London.

Figure 5: Estimated growth in diabetes prevalence in Wandsworth, 2012-2030



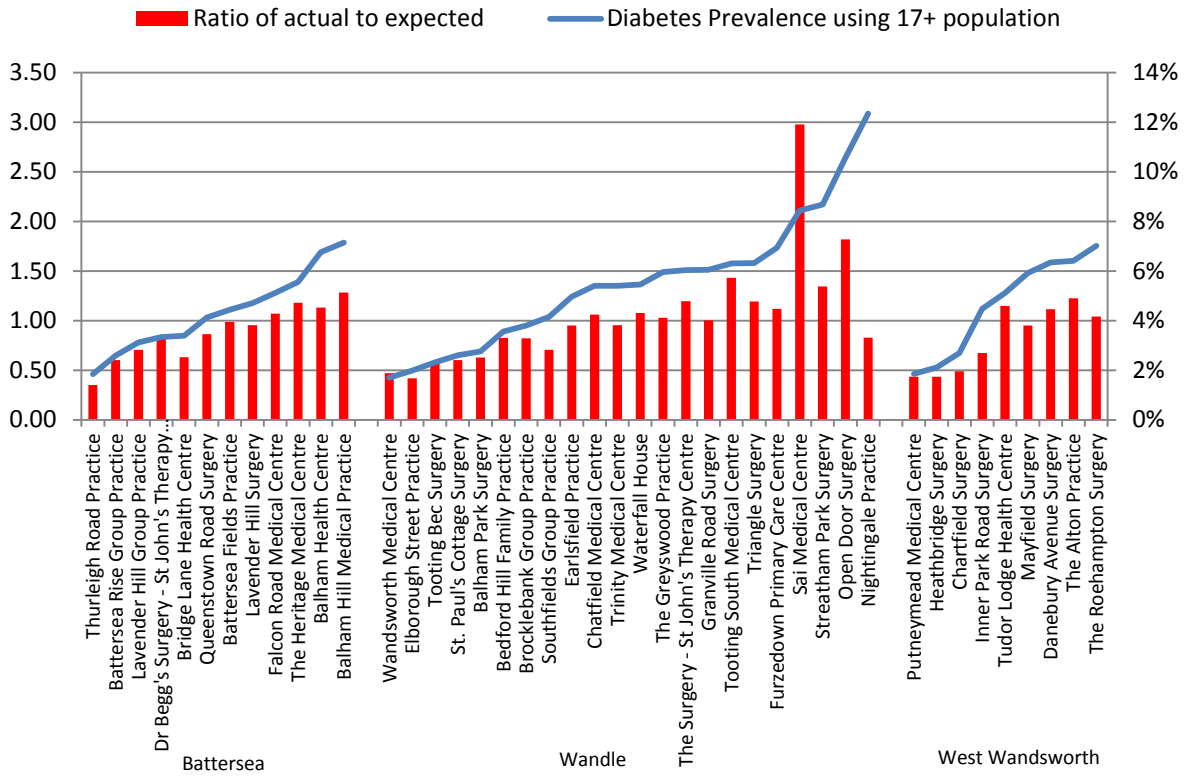
Source: APHO Diabetes Prevalence Model 2012

3.4 Actual prevalence of types 1 and 2 diabetes mellitus in Wandsworth

There is now a requirement as part of the new GMS contract for all GPs to maintain disease registers for certain conditions including diabetes. Out of a total of 353,385 people registered with a GP practice in Wandsworth, 12,211 people are registered as having diabetes and are on a "diabetes register" within their practice. This represents a diabetes (Types 1 and 2) prevalence rate of 4.2% within Wandsworth PCT. These data relate to the financial year 2011/12. The local prevalence of diabetes based on the Quality and Outcomes Framework data is likely to be an underestimate as a large number of diabetes may go undiagnosed as well as due to under-reporting. In addition, the Quality and Outcomes Framework data are not age-standardised and so Wandsworth's high proportion of residents aged below 40 years, is likely to "dilute" higher prevalence rates in the over 40's age group.

Figure 6 shows the diabetes prevalence for the population aged 17+ by GP Practice based on QoF data for 2011/12 as well as the ratio of actual to expected numbers of diabetes patients by practice. This shows that practices that have a low prevalence of diabetes generally also have a ratio of actual to expected numbers of diabetic patients of <1, implying that fewer numbers of diabetics than expected are being identified in these practices. This should be interpreted with caution however as ethnicity and deprivation are not controlled for in the estimates of expected numbers of diabetic patients.

Figure 6: Diabetes prevalence by practice and ratio of actual to expected numbers of diabetic patients



Source: Diabetes prevalence by practice based on QOF 2011/12. Ratio of actual to expected numbers of diabetic patients is from NHS Comparators.

Using GP data we have been able to estimate diabetes prevalence at ward level. The diabetes register data at practice level has been applied to the ward breakdown of registered patients. For this reason, the figures should be treated with caution. The following table shows that prevalence of diabetes is higher in the more deprived wards and wards with a higher proportion of Asian and Black residents.

Table 5: Diabetes prevalence by ward based on EMIS data, 2013

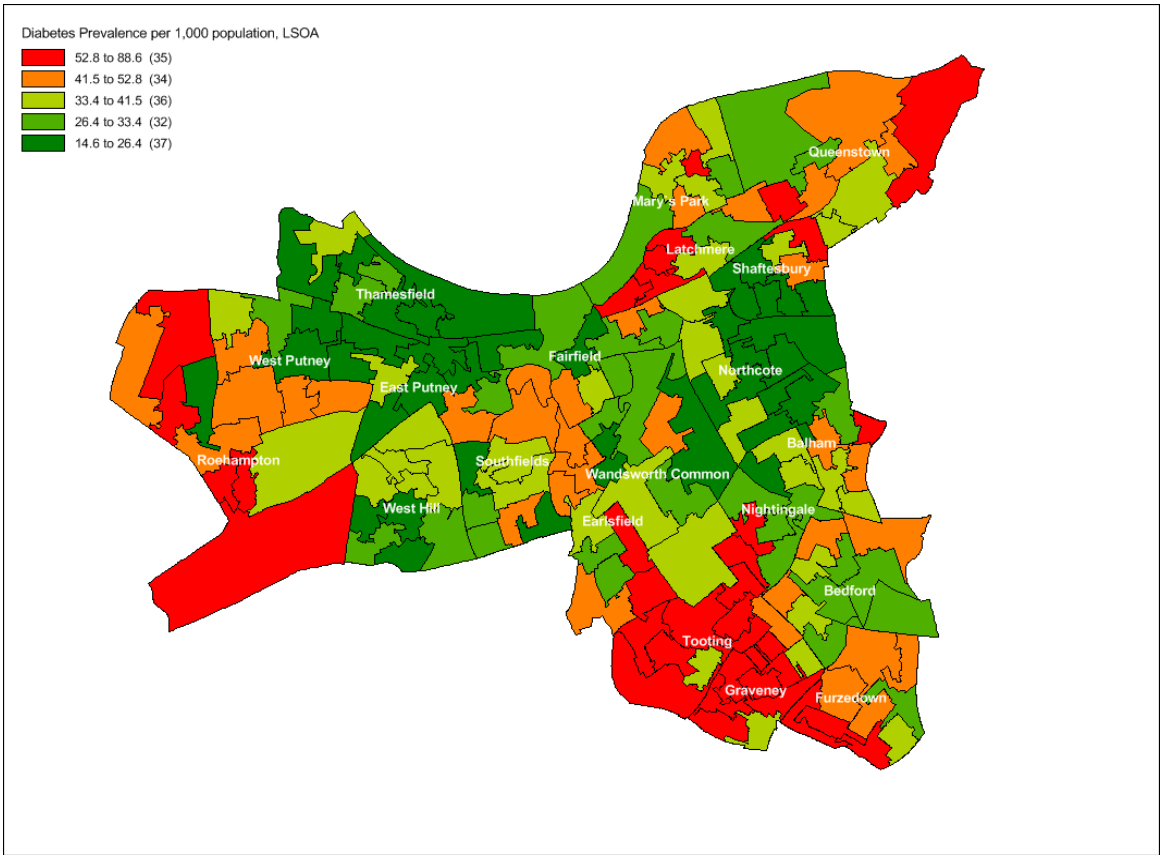
Ward	Diabetes register >17	Reg Pop>17	Rate per 1,000 pop
Balham	411	11408	36.03
Bedford	523	13790	37.93
Earlsfield	566	13215	42.83
East Putney	433	15650	27.67
Fairfield	440	13363	32.93
Furzedown	585	11667	50.14
Graveney	718	13100	54.81
Latchmere	780	14256	54.71
Nightingale	475	12978	36.60
Northcote	366	12221	29.95
Queenstown	491	11844	41.46
Roehampton	671	13068	51.35
Shaftesbury	404	12523	32.26
Southfields	503	14059	35.78

Ward	Diabetes register >17	Reg Pop>17	Rate per 1,000 pop
St Mary's Park	561	14219	39.45
Thamesfield	309	14162	21.82
Tooting	823	11943	68.91
Wandsworth Common	348	11314	30.76
West Hill	435	13937	31.21
West Putney	501	13522	37.05
Outside Wandsworth	1823	22009	82.83
Total	**12166**	**284248**	**42.80**

Source: Diabetes register - EMISweb Jan 2013
Pop extract - PCSS Aug 2012

The following figure shows diabetes prevalence per 1,000 populations based on Lower Layer Super Output Area (LSOA) shows largely a similar distribution of high prevalence areas.

Figure 7: Diabetes prevalence per 1,000 populations based on Lower Layer Super Output Area



Source: Diabetes register - EMISweb Jan 2013
Pop extract - PCSS Aug 2012

3.5 Comparison of expected and recorded prevalence of diabetes

The 33% difference between the expected prevalence of 5.6% from the APHO Diabetes Prevalence Model and the 4.2% prevalence from the 2011/12 QOF data, which is likely to be an underestimate, indicate that there are potentially a number of undiagnosed patients in Wandsworth, and this is little below the 25% undiagnosed estimate suggested in the literature. In 2011-12, there were 12,211 people aged 17 years and older diagnosed with diabetes in Wandsworth (QOF, 2011-12). However,

APHO Diabetes Prevalence Model estimates that there would be 13,555 people aged 17 years and older diagnosed with diabetes in NHS Wandsworth. There are an estimated 1,344 adults with undiagnosed cases of diabetes in Wandsworth (i.e. 10% of diabetics aged >17 years). An estimated 850,000 people in England may have diabetes but have not been diagnosed (Diabetes UK 2012). The potential reasons for this could include: inaccuracies in the GP practice lists, that the model has underestimated the number of diabetics in the area, or potentially that most cases of diabetes in Wandsworth have actually been diagnosed. There are many people in Wandsworth who are at risk of developing diabetes in the future. Many risk factors for diabetes are modifiable i.e. the development of diabetes can be prevented or reduced. Table below shows a summary of the number of people estimated to be at risk of developing diabetes in Wandsworth in the future.

Table 6: Summary of numbers of people in Wandsworth with modifiable risk factors for developing diabetes

Modifiable risk factor	Estimated number of people with risk factors for developing diabetes in Wandsworth
Obese register	19,437*
Gestational Diabetes	103**
Impaired Glucose Tolerance	16,235***

* QOF 2011/12
** NHS Comparators 2010/11 [2% of 5,129 pregnancies will have gestational diabetes - 20-40% of these cases will go on to develop diabetes within 20 years (21-41 individuals)[28]]
*** PCSS Sept 2012 (17% of registered population from 40-65 years age group will develop diabetes[29])

This estimate shows that there are potentially at least 35,775 people in Wandsworth with modifiable risk factors for developing diabetes i.e. with suitable interventions, we can influence and help prevent 35,775 people in Wandsworth from developing diabetes. It is expected that prevalence will increase by 15% in Wandsworth over the next 15 years.

3.6 Diabetes in children and young people

As already discussed, the incidence of type 1 diabetes is known to be increasing in the UK and across Europe, particularly in the under 5 age group; and the incidence of type 2 diabetes is increasing in children as a result of the obesity epidemic.[30] Much of the attention in the UK has been focused on the anticipated growth of Type 2 diabetes however, there is a significant increase in the number of children and young people diagnosed with all types of diabetes. These increases have significant implications for the development of services in order to meet the needs of this group of patients. In the UK we have the both the highest number of children diagnosed with diabetes in Europe and the lowest number of children attaining good diabetes control.[31]

3.6.1 Type 1 diabetes

Recent literature suggests that there will be a doubling of new cases of type 1 diabetes in European children young than 5 years between 2005 and 2020 and that prevalent case will increase by 70%.[32] The peak age for diagnosis of type 1 diabetes in the UK is 10-14 years but is becoming younger with a steep rise in under 5's. The current estimate of prevalence of Type 1 diabetes in children in the UK is one per 700–1,000 children.

[28] BMJ 1997. Should we screen for gestational diabetes. The case for screening for gestational diabetes. Soares et al 315 (7110) 737.
[29] Edelstein SL, Knowler WC, Bain RP, Andres R, Barrett-Connor EL, Dowse GK et al. Predictors of progression from impaired glucose tolerance to NIDDM: an analysis of six prospective studies. Diabetes 1997;46:701-10
[30] Diabetes in the UK 2004. Diabetes UK, October 2004.
[31] Making every young person with Diabetes matter. DH Diabetes Policy Team, London 2007.
[32] Patterson CC, Dahlquist GG, Gyurus E et al. Incidence trends for childhood type 1 diabetes in Europe during 1989-2003 and predicted new cases 2005-2020: a multicentre prospective registration study. Lancet 2009; 373: 2027-33

3.6.2 Type 2 diabetes

The prevalence figures for children are limited but as many as 1,400 children may have Type 2 diabetes in the UK. In the last five years there has been a significant increase in the number of diagnosed cases. There is an ethnic component to this as well with children of South Asian origin found to be 13 times more likely to have Type 2 diabetes than white children. If the current trends of increased childhood obesity continue and follow the pattern seen in North America, the UK will develop similar rates of Type 2 diabetes in children over the next ten to 15 years.

The following data from St Georges Hospital illustrate the increasing numbers of paediatric patients with type1 diabetes. The numbers of patients with type 2 diabetes have remained fairly constant. A detailed activity audit for paediatric diabetes at St Georges Hospital Trust is currently underway.

Table 7: Caseload of paediatric diabetic patients, 2002-2009

Year (to March)	2002	2003	2004	2005	2006	2007
Type 1	71	83	89	95	97	103
Type 2	*	*	*	*	*	*
Maturity Onset Diabetes in the Young (MODY)			*	*	*	*

*Numbers suppressed as are <5

3.7 Diabetes prevention

Primary prevention of diabetes (the prevention of onset of diabetes) protects susceptible individuals i.e. those with risk factors as discussed above, from developing diabetes. It reduces or delays both the need for diabetes care and the need to treat diabetes complications.

Lifestyle modifications in several different settings: intensive courses over a few months followed by sustained but less frequent reinforcing sessions aimed at modifying diet and increasing physical activity in people with impaired glucose tolerance reduce the risk of developing type 2 diabetes compared with standard written and verbal advice.[33] This is an area that will be further addressed in the forthcoming NICE public health guidance on prevention of pre-diabetes.

The newly implemented NHS Health Check programme is a universal and systematic programme for everyone between the ages of 40 and 74 that will assess people's risk of heart disease, stroke, kidney disease and type 2 diabetes, and will support people to reduce or manage that risk through individually tailored advice. This programme commenced in 2009 and it is anticipated that it will help identify those with modifiable risk factors in Wandsworth. There are in addition ongoing activities in the borough to address rising obesity and to improve physical activity of Wandsworth residents. The impact of these programmes however will only be realised in the long term.

Secondary prevention of diabetes includes early detection, prevention of disease progression, and appropriate treatment. Early identification of diabetes can be increased by:

- Raising both public and professional awareness of the signs of diabetes
- Regular testing of anyone known to be at risk
- Targeted and opportunistic screening of individuals with multiple risk factors

[33] Lifestyle interventions for preventing type 2 diabetes mellitus, Wandsworth PCT, Clinical Effectiveness Group Evidence Review, March 2005

3.8 Complications of diabetes

By the time they are diagnosed with Type 2 diabetes, 50 per cent of people have evidence of complications. Complications from diabetes result in morbidity, hospital admissions, and in many cases premature death for many people with diabetes:

- Between 50% and 80% of people with diabetes will die from cardiovascular disease
- people with diabetes are 2-3 times more likely to have a stroke compared to those without the condition
- 1,000 people with diabetes start kidney dialysis every year in the UK
- diabetes is the leading cause of blindness in people of working age in the UK
- The rate of lower limb amputation in people with diabetes is 15 times higher in people with diabetes than without diabetes. [34]

Primary prevention of diabetes, prompt diagnosis and good control of diabetes can prevent and reduce the incidence of complications of diabetes, thus reducing hospital admissions and saving money. It is the complications directly linked to diabetes that are leading to the increased need to access healthcare services and thus the increased expenditure. The table[35] below provides an insight into what other services diabetic patients in Wandsworth also need to access.

Table 8: Services diabetic patients need to access in Wandsworth

Long term condition: Diabetes	Number of patients	% of Diabetes patients
Diabetes patients	11972	100%
Diabetes patients with Hypertension	6997	58.44%
Diabetes patients with Ischaemic Heart Disease	1692	14.13%
Diabetes patients with Chronic Kidney Disease	1602	13.38%
Diabetes patients with Depression	1506	12.58%
Diabetes patients with Hypertension + Chronic Kidney Disease	1371	11.45%
Diabetes patients with Hypertension + Ischaemic Heart Disease	1267	10.58%
Diabetes patients with Hypertension + Depression	851	7.11%
Diabetes patients with Cancer	782	6.53%
Diabetes patients with Stroke / TIA	760	6.35%
Diabetes patients with COPD	553	4.62%
Diabetes patients with Atrial fibrillation	515	4.30%
Diabetes patients with + Ischaemic Heart Disease + Chronic Kidney Disease	449	3.75%
Diabetes patients with Heart failure	381	3.18%
Diabetes patients with + Ischaemic Heart disease + Depression	233	1.95%
Diabetes patients with Dementia	193	1.61%

4. Provision of Service and Care

Several indicators are used to monitor the quality of prevention, diagnostic and care services provided to diabetics in Wandsworth. National and local data are also available on diabetes related mortality, hospital admissions and prescribing practices and costs. GP's record data relating to disease management using the QOF system. There are sixteen QOF indicators relating to the ongoing

[34] Diabetes in the UK 2004, A report from Diabates UK October 2004
[35] http://www.southwestlondon.nhs.uk/About/NHSWandsworth/NHS%20Wandsworth%20board%20papers/Attach%2002%20-%20Diabetes%20CCG%20Paper%20Nov%202012.pdf

management of diabetes, which are a useful indicator of the quality of care provided to diabetic patients as well. There are however several caveats to acknowledge with respect to the use of QoF data. These include: there may be inconsistencies in the diagnosing and coding of diseases between clinicians, practice disease registers may be incomplete, the clinical indicators that relate to each chronic condition are measures of process rather than outcome for patients with chronic conditions, exception reporting may be used inappropriately to exclude patients from the denominator,

The following sections will discuss Wandsworth PCTs performance with respect to diabetes indicators related to screening for, preventing and treating complications of diabetes.

4.1 Description of service delivery in Wandsworth

There are significant changes anticipated in the way services to diabetic patients are to be provided in Wandsworth. Key changes include the integration of community based services into the St Georges Hospital Trust and a redesign of the care pathway that will be associated with that change; and the proposal to shift some care for diabetic patients from secondary into primary care. As these developments are already underway any description of how services are currently provided is likely to be outdated in the near future.

4.1.1 Primary care

The majority of care to patients with diabetes is delivered in primary care, and much of this is done by practice nurses. The community diabetes specialist nurses are now in place to support practice nurses. There has been a gap in the past in the delivery of care to housebound patients or those in care homes, however this should now be covered by the community specialist nurses. Section 4.2 describes in greater detail some of the process measures that are used to monitor the quality of care delivered.

4.1.2 Community diabetes specialist nursing service

This service has been in place for more than 2 years and is aimed at improving the quality and cost-effectiveness of community diabetes services, and improving the health outcomes of all diabetic patients through improving access to care. The nurses support diabetics to develop capacity for self-management; they are involved in identifying potential undiagnosed patients and also provide a service to those patients who through reduced mobility are unable to access care.

Patients are referred by either GPs, community nurses or from secondary care. When patients are referred to the service they are offered a comprehensive assessment and screening for their diabetes management needs. Patients are offered a programme of education and 1:1 support until the management of their diabetes is optimised. Access is then provided according to need and a further referral from primary care may be made if needed. The service is provided in various locations according to patient need including GP practices, the patient's home, community clinics, Wandsworth prison or Springfield hospital.

4.1.3 Secondary care

Specialist diabetes care is provided by various hospital trusts in SWL, predominantly St Georges Hospital for patients in Wandsworth. Paediatric patients, patients with gestational diabetes, management of complications and acute illnesses are all managed within secondary care, as is the provision of retinal screening.

A transition programme is available for paediatric to adult care however, at the main provider St Georges Hospital Trust; this is currently being revised in order to improve it. Paediatric diabetes nurse specialists works across health, social and educational boundaries to integrate diabetes care in to the patient's life; and care may be provided in the home (aim for 2 home visits per year), school, GP practices etc.

Measures of activity in secondary care are included in section 4.9.

4.2 Monitoring of diabetic control

There are several indicators in QOF relating to the quality of diabetes control, which are focussed on the HbA_{1c} level.[36] Patients who have an HbA1c level of 7.5% or less have a good level of diabetes control (Figure 8). The Wandsworth average for this indicator was 67.1% compared to an England average of 69.9%. Under the current QOF 2011/12 guidance, three target levels for HbA1c (7.5%, 8% and 9% or 59 mmol/mol, 64 mmol/mol and 75 mmol/mol respectively) are included to provide an incentive to improve glycaemic control across the distribution of HbA1c values, recognising however that the lower level may not be achievable for all patients.[37]

Figure 8: The percentage of patients with diabetes in whom the last HbA1c is 7.5% or less in the previous 15 months, QOF 2011/12

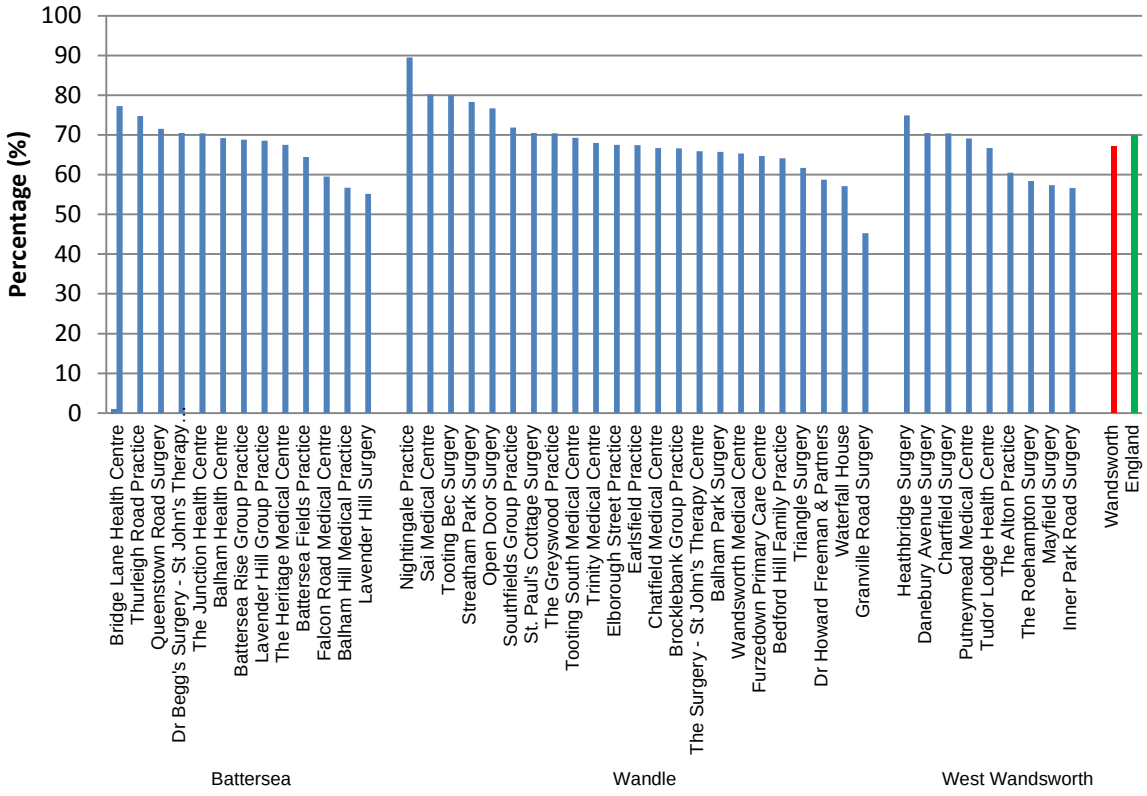
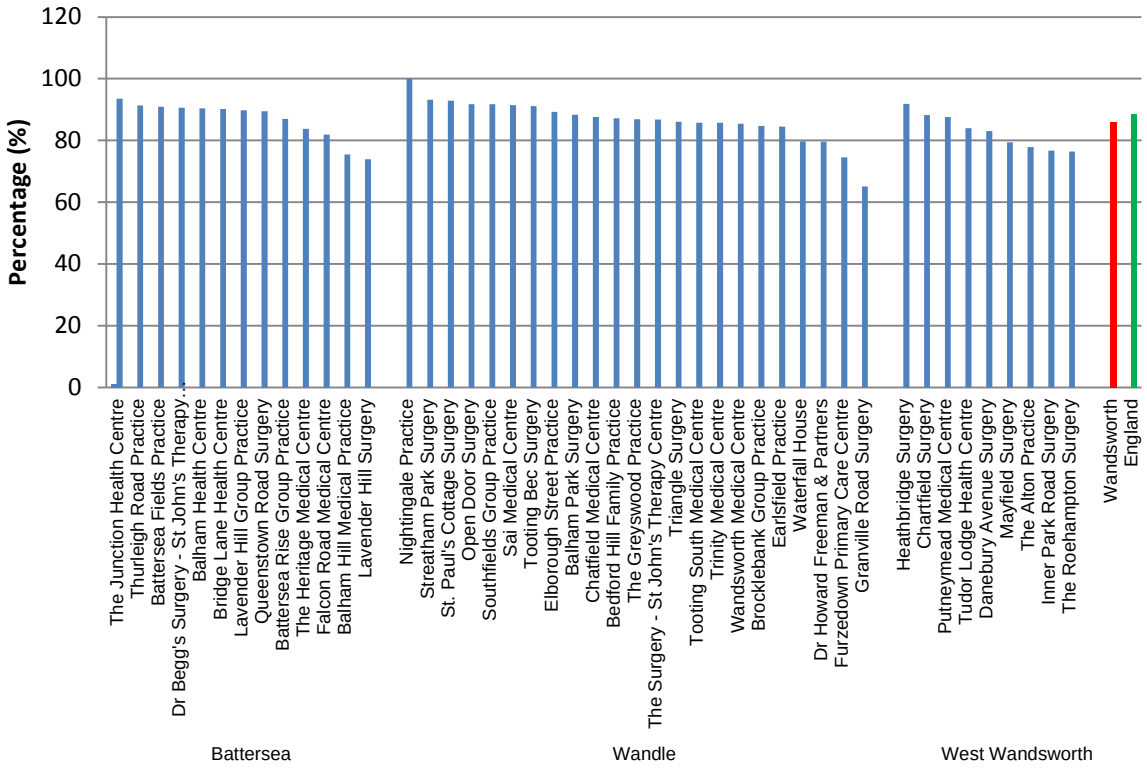


Figure 9 is the equivalent picture for patients who have an HbA_{1c} level of 9% or less.

[36] Following discussions with the diabetes community, the International Federation of Clinical Chemistry (IFCC) decided to introduce a new reference measurement for HbA1c. From June 2011 HbA1c will be reported in millimoles per mol (mmol/mol) instead of percentage (%). In this report the % values are used.

[37] BMA and NHS Employers. Quality and Outcomes Framework Guidance for GMS contract 2009/10. Delivering investment in general practice. March 2009.

Figure 9: The percentage of patients with diabetes in whom the last HbA1c is 9% or less in the previous 15 months, QOF 2011/12



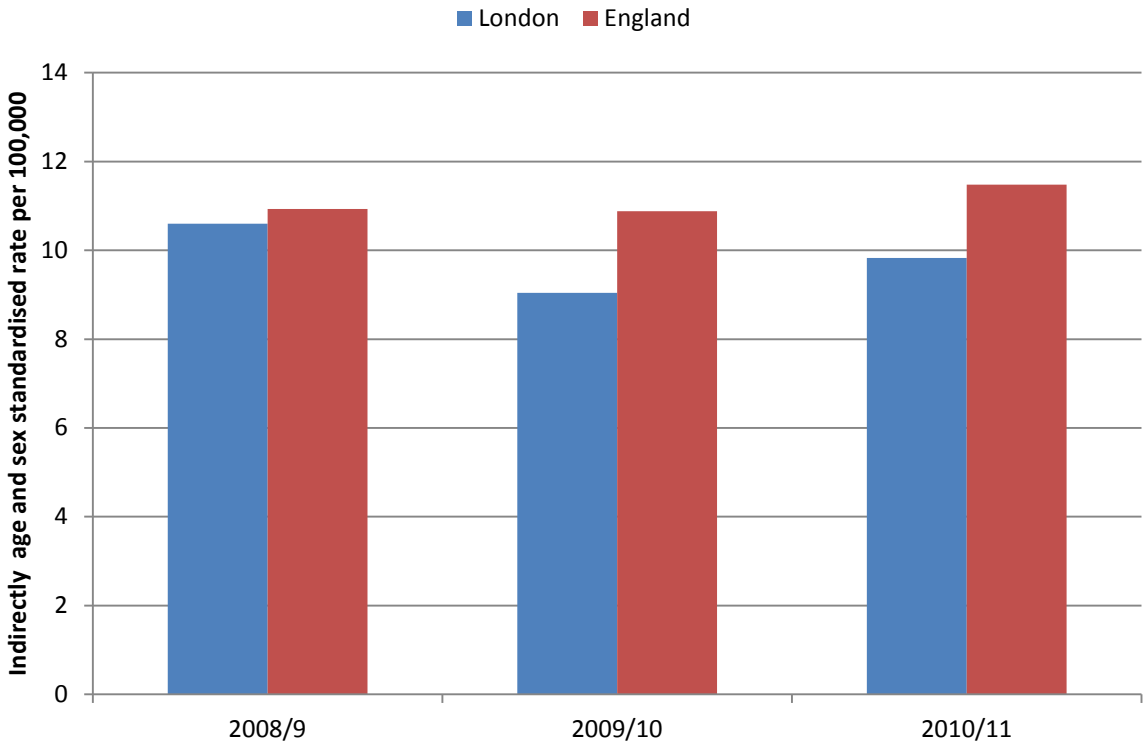
4.3 Lower limb amputation

In the UK, diabetes is the second most common cause of lower-limb amputation and the most common cause of non-traumatic amputation. The rate of lower limb amputation in diabetics is 15 times higher than in people without diabetes. Five per cent of diabetics may develop a foot ulcer in one year, with 15% of foot ulcers resulting in amputation.[38]

The following figure compares rates of lower limb amputation in people with diabetes per 100,000 populations for London and England. The rates for London and England are very similar and have increased in 2007/8.

[38] Diabetes in the UK 2004, A report from Diabetes UK October 2004

Figure 10: Lower limb amputation in people with diabetes



Source: NCHOD

An analysis of Hospital Episode Statistics (HES) data by the YHPHO for 2007/8 had shown that NHS Wandsworth has higher incidence rates of minor and major lower limb amputations than a group of PCTs with similar diabetes related characteristics (including age profile, ethnicity, obesity prevalence and deprivation) and higher rates than England.[39] However, in the recent years, the rate of amputations in Wandsworth has lowered than England.

In order to prevent the occurrence of this complication, diabetics are regularly checked for the presence of peripheral neuropathy and peripheral vascular disease. Figure 11 shows the percentage of patients with diabetes with a record of a foot examination and risk classification within the preceding 15 months:

1) low risk (normal sensation, palpable pulses),

2) increased risk (neuropathy or absent pulses),

3) high risk (neuropathy or absent pulses plus deformity or skin changes in previous ulcer) or

4) ulcerated foot

In Wandsworth overall 89.3% patients with diabetes had a record of a foot examination and risk classification had a record of the presence or absence of peripheral pulses in the previous 15 months against 89.6% for England. About 65% of Wandsworth practices has more than 90% patients with diabetes had a foot examination done in the previous 15 months. Figure 12 shows the percentage of patients with diabetes with a record of neuropathy testing in the previous 15 months. For Wandsworth PCT overall 89.7% of patients against 91.9% in England had a record of neuropathy testing in the

[39] Yorkshire and Humber Public Health Observatory and Diabetes Health Intelligence, 2009. Diabetes Community Health Profile – An overview. Wandsworth PCT. Accessed March 2010 at http://yhpho.york.ac.uk/diabetesprofiles/default.aspx

previous 15 months. In 70% of Wandsworth practices 90% or more of patients had a record of neuropathy testing in the previous 15 months.

Figure 11: The percentage of patients with diabetes with a record of a foot examination and risk classification within the preceding 15 months, QOF 2011/12

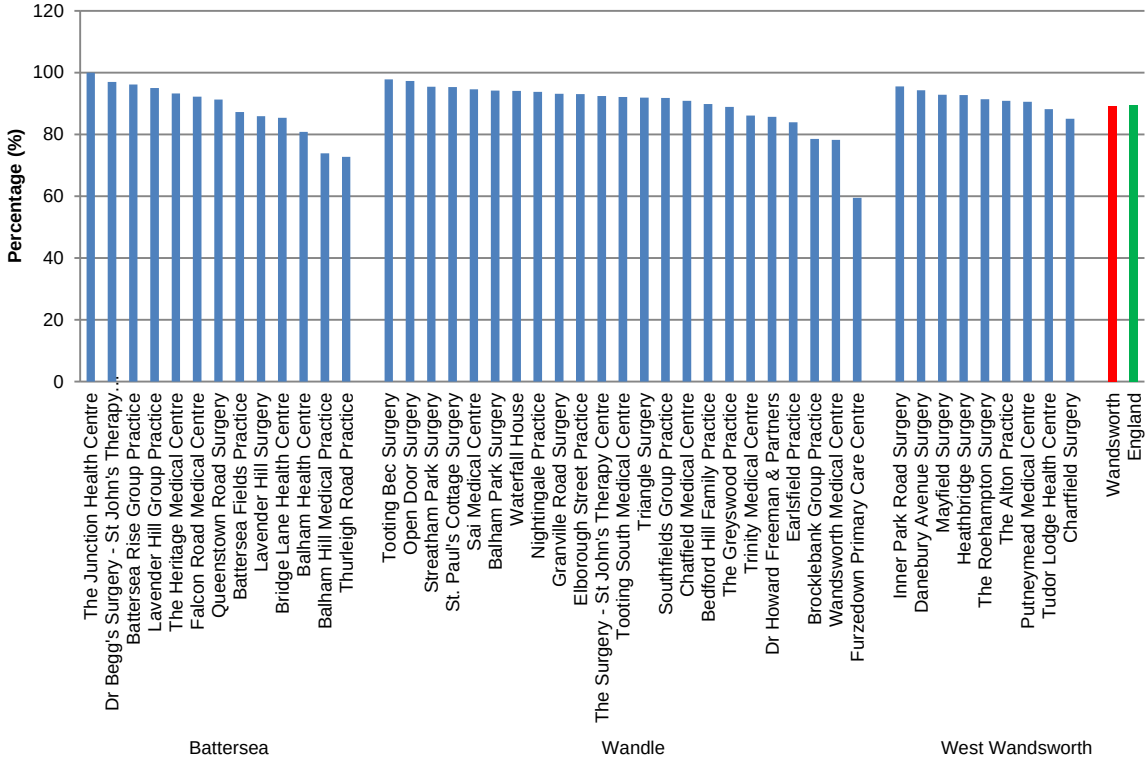
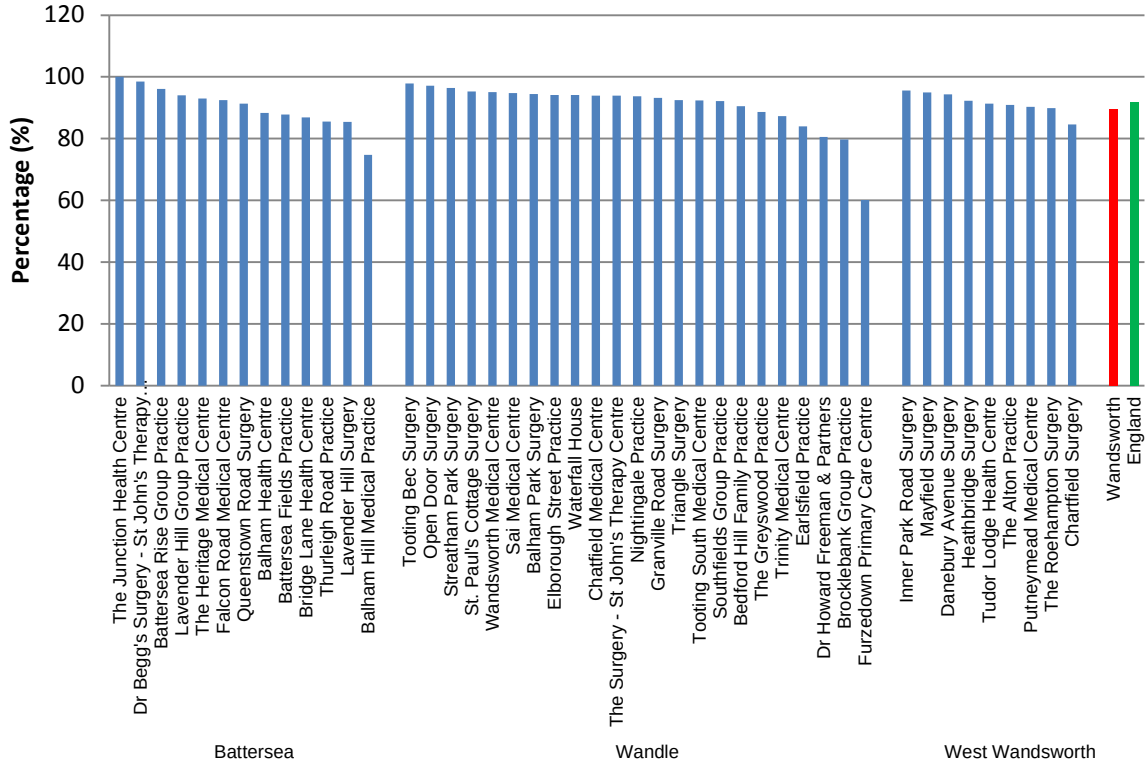


Figure 12: The percentage of patients with diabetes with a record of neuropathy testing in the previous 15 months, QOF 2011/12



4.4 Renal disease

Nephropathy is one of the most serious microvascular complications of diabetes and is a major cause of kidney failure and death. Diabetic nephropathy is a clinical syndrome characterised by albuminuria on at least two occasions separated by 3–6 months, in people with diabetes. It can progress to end-stage renal failure.

- Diabetic nephropathy develops in about one third of people with diabetes
- Diabetes is now the leading cause of end-stage renal failure in the UK accounting for 20% of all cases
- Kidney disease accounts for 21% of deaths in Type 1 diabetes and 11% in Type 2[40]
- The risk of kidney damage increases with the duration of diabetes. 25 years following diagnosis the risk is 40-50% for both Type 1 and Type 2 diabetes.[41]

The NEOERICA[42] study provides estimates of chronic kidney disease (CKD) stages 3-5 for the population aged 18+ at borough level. These estimates suggest that in Wandsworth there are 12,636 individuals with end stage CKD. The estimated prevalence is 5.4%. This is lower than the estimated prevalence for London (6.8%) and England (8.8%).

End-stage renal failure resulting from diabetes is more common in Black and Asian people than Caucasian. Prevalence of end-stage renal disease in the Thames region is estimated at 409 / 1,000,000 people (all causes of end-stage renal failure) with higher rates among black and Asian populations. [43]

Tight control of hyperglycaemia and blood pressure can slow the progression to nephropathy, however once nephropathy is established blood glucose control is ineffective in reversing the process.

The average proportions of patients tested for microalbuminuria in the previous 15 months in Wandsworth primary care practices was 84.2% for 2011/12, compared to 88.9% for England. Approximately 41% of practices fall below the Wandsworth average (Figure 13). The average proportion of patients who have had an eGFR or serum creatinine test (
Figure 14) was 94.9% for Wandsworth and 96.9% for England. Approximately 43% of Wandsworth practices achieved below the Wandsworth average for this indicator.

[40] Diabetes in the UK 2012: Key statistics on diabetes. Diabetes UK, 2012.

[41] Diabetes in the UK 2004, A report from Diabates UK October 2004

[42] Stephens et al, Chronic Kidney disease management in the United Kingdom: NEOERICA project results. Kidney International (2007) 72, 92–99

[43] Population need for renal replacement therapy in Thames regions: ethnic dimension *BMJ* 1994;309:1111-1114, Roderick et al

Figure 13: The percentage of patients with diabetes who have a record of micro-albuminuria testing in the previous 15 months, QOF 2011/12

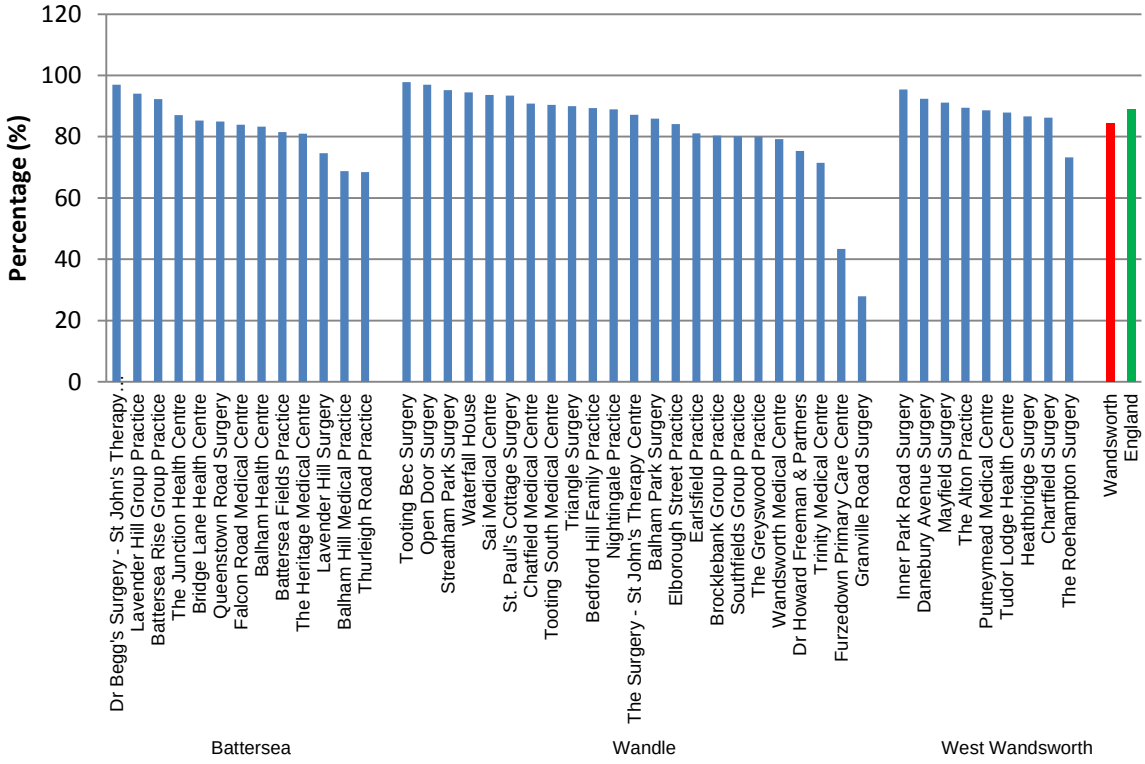
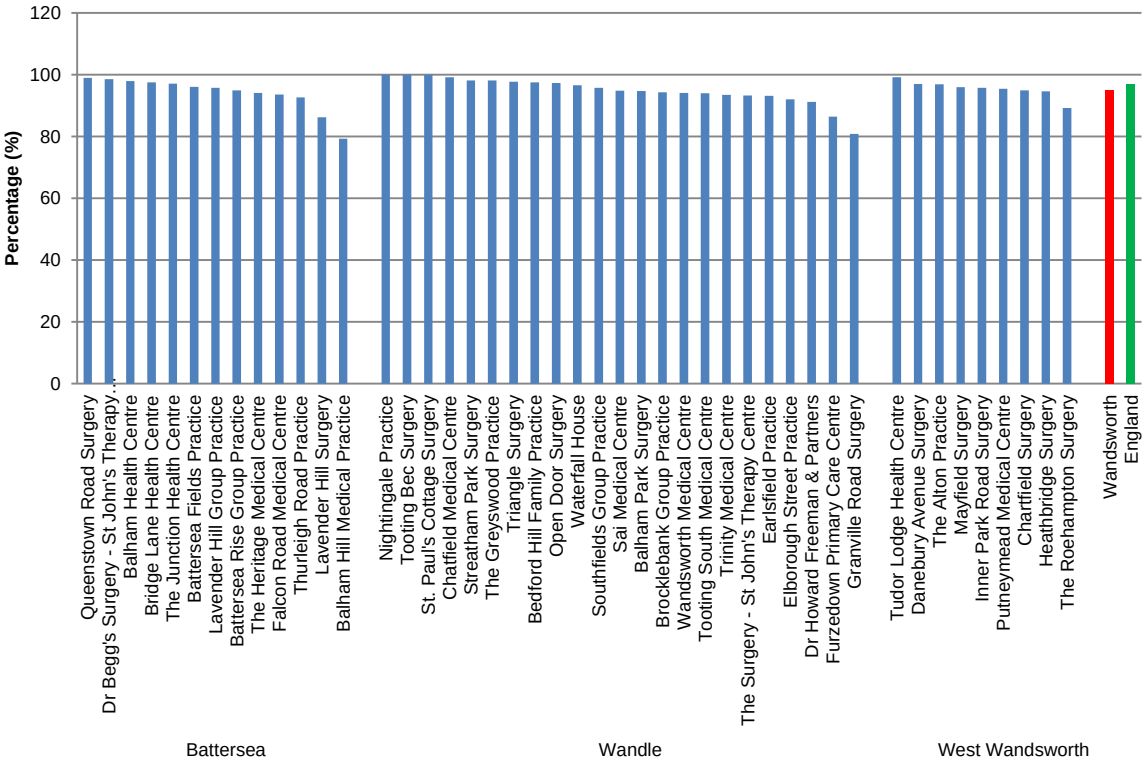


Figure 14: The percentage of patients with diabetes who have a record of estimated glomerular filtration rate (eGFR) or serum creatinine testing in the previous 15 months, QOF 2011/12



4.5 Cardiovascular disease

Cardiovascular disease (CVD) includes both stroke and coronary heart disease (CHD) and is the most common microvascular complication of diabetes. 50% of type 2 diabetes will have evidence of CVD at diagnosis. Between 50% and 80% of people with diabetes will die from cardiovascular complications.

Diabetes substantially increases the risk of CHD.[44] Men with Type 2 diabetes have a two to fourfold greater annual risk of CHD, with an even higher (three to fivefold) risk in women with Type 2 diabetes.[45] Diabetes not only increases the risk of CHD but also magnifies the effect of other risk factors for CHD such as raised cholesterol levels, raised blood pressure, smoking and obesity.

Diabetics are also at two to three times increased risk of having a stroke compared to those without the condition. At least 15% of deaths in people with type 2 diabetes are the result of a stroke. African-Caribbean and South Asian men with diabetes have a 40% and 70% respectively, higher risk of stroke than the general population.[46]

In Wandsworth 8,560 people with diabetes at the moment are likely to die from CVD complications in the future. Blood pressure lowering in people with diabetes reduces the risk of macrovascular and microvascular disease. Hypertension in people with diabetes should be treated aggressively with lifestyle modification and drug therapy. Monitoring of blood pressure (BP), cholesterol and BMI are covered in the QOF data. The most commonly identified target level for blood pressure in patients with diabetes is 140/80, which is the level that health professionals should aim for. A slightly higher level (145/85) is used as the audit standard in common with other indicators.

Figure 15 shows the indicator of BP control. Overall in Wandsworth practices 67.0% of diabetic patients had a last blood pressure reading of 145/85 or less. The England average was 70.7%.

Overall in Wandsworth though, premature cardiovascular disease related mortality as reflected by directly age-standardised annual mortality rates in those aged under 75 years, has been decreasing year on year. The QOF indicators reported on in this section are referred to as process indicators in that they measure the number of patients checked for a variety of risk factors, however there is currently no outcome indicator on the incidence of cardiovascular related mortality amongst diabetics in Wandsworth.

[44] British Heart Foundation, Coronary Heart Disease Statistics, 2004
[45] Garcia MJ, McNamara PM, Gordon T, Kannell WB. Morbidity and mortality in the Framingham population. Sixteen year follow-up. Diabetes 1974; 23:105-111.
[46] Diabetes in the UK 2004, A report from Diabetes UK October 2004

Figure 15: Proportion of diabetic patients with a last blood pressure reading of 140/80 or less by GP practice, QOF 2011/12

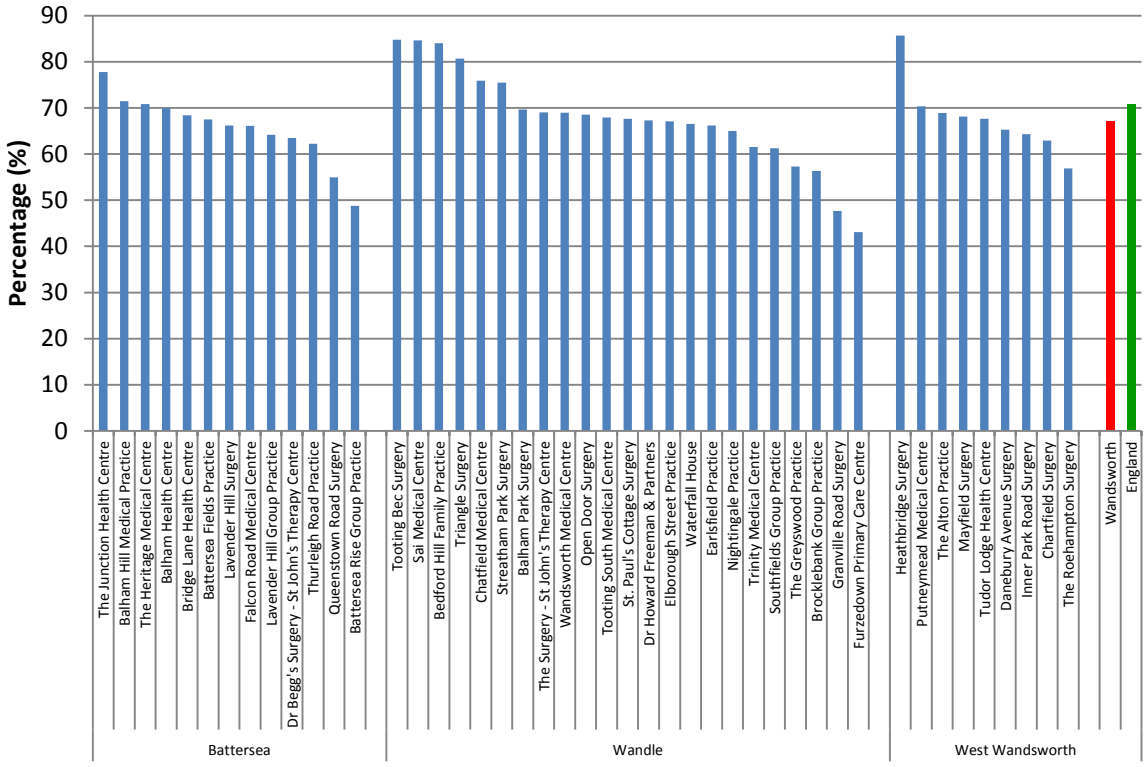
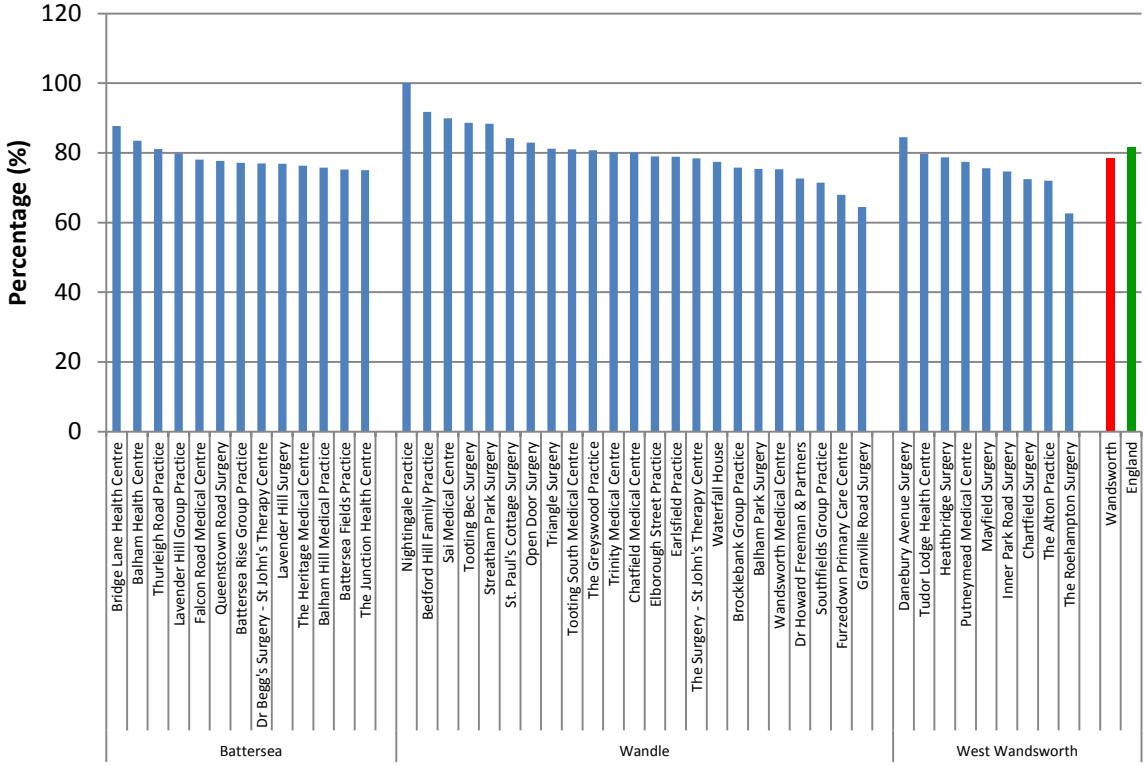


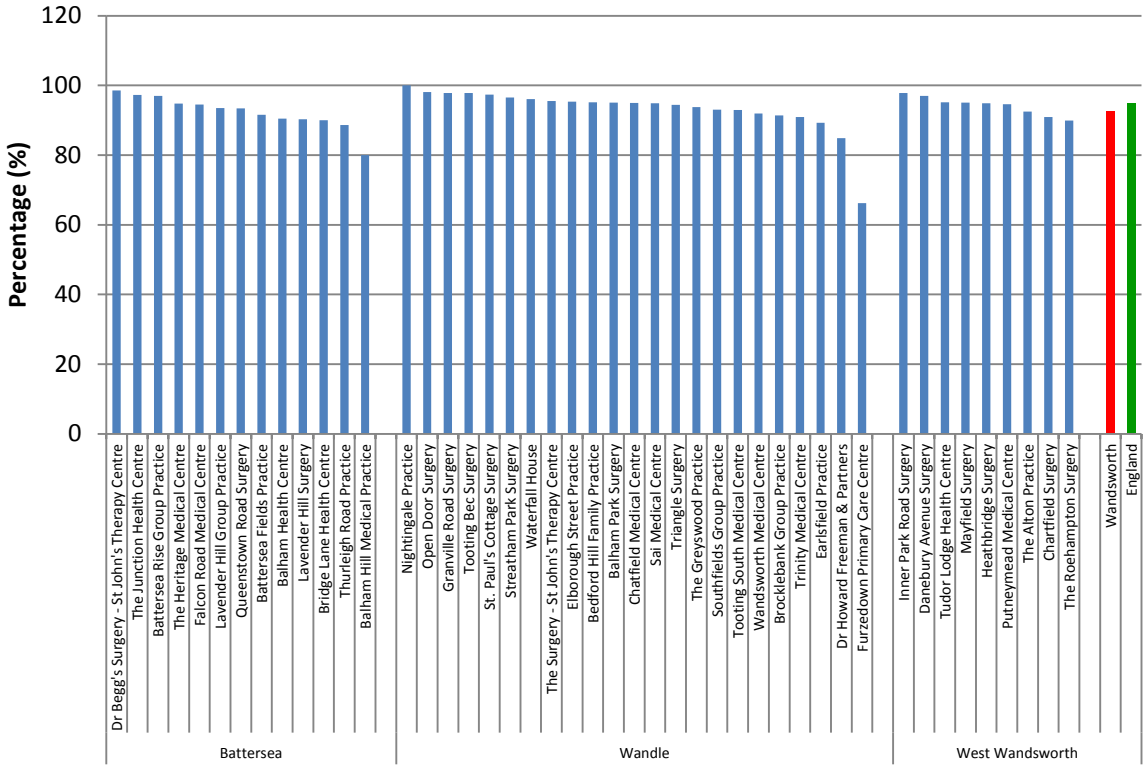
Figure 16: The percentage of patients with diabetes whose last measured total cholesterol within previous 15 months is 5 mmol/l or less, QOF 2011/12



An indicator of how well cholesterol is controlled in diabetic patients is the proportion of patients whose last cholesterol measurement was 5 mmol/l or less in Wandsworth practices Figure 16. The average in Wandsworth practices was 78.3% for this indicator, compared to the England average of 81.7%. Almost 80% of Wandsworth practices fall below the England average for this indicator.

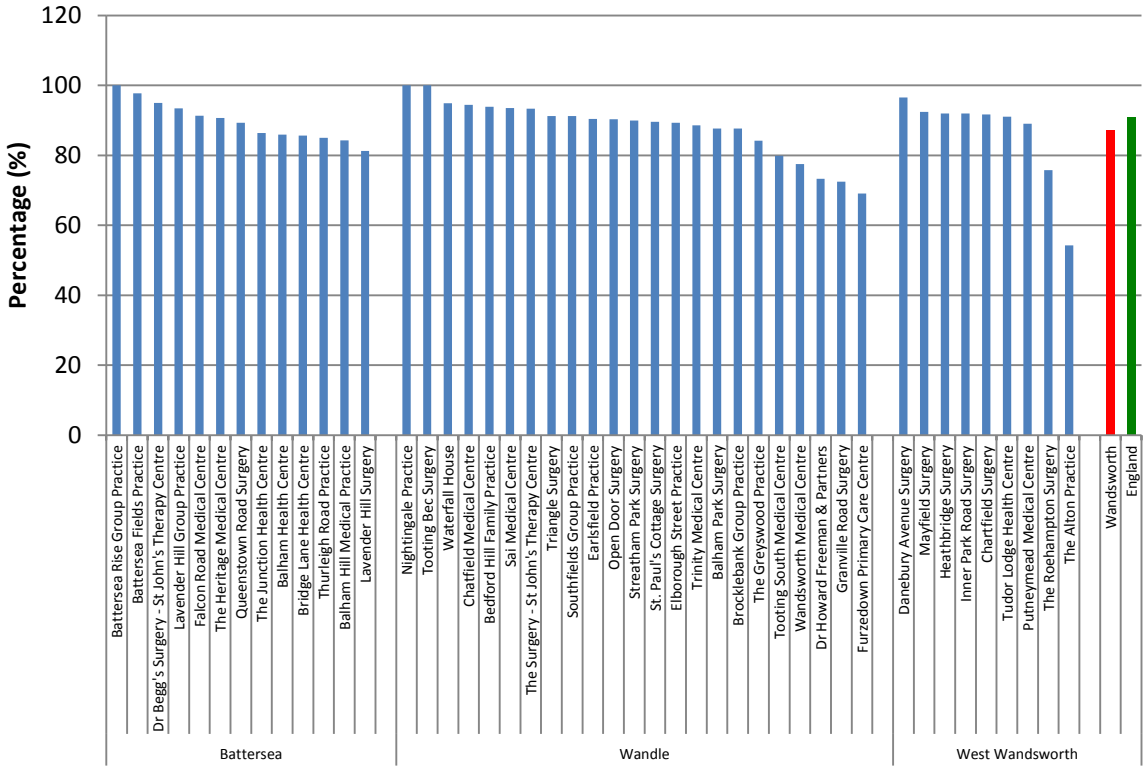
A further measure of cardiovascular risk is the BMI. In Wandsworth practices an average of 92.5% of patients had a record of BMI in the previous 15 months, compared to an England average of 94.9%. 40% of Wandsworth practices had ≥ 95% of patients with a record of BMI.

Figure 17: The percentage of patients with diabetes whose notes record BMI in the previous 15 months, QOF 2011/12

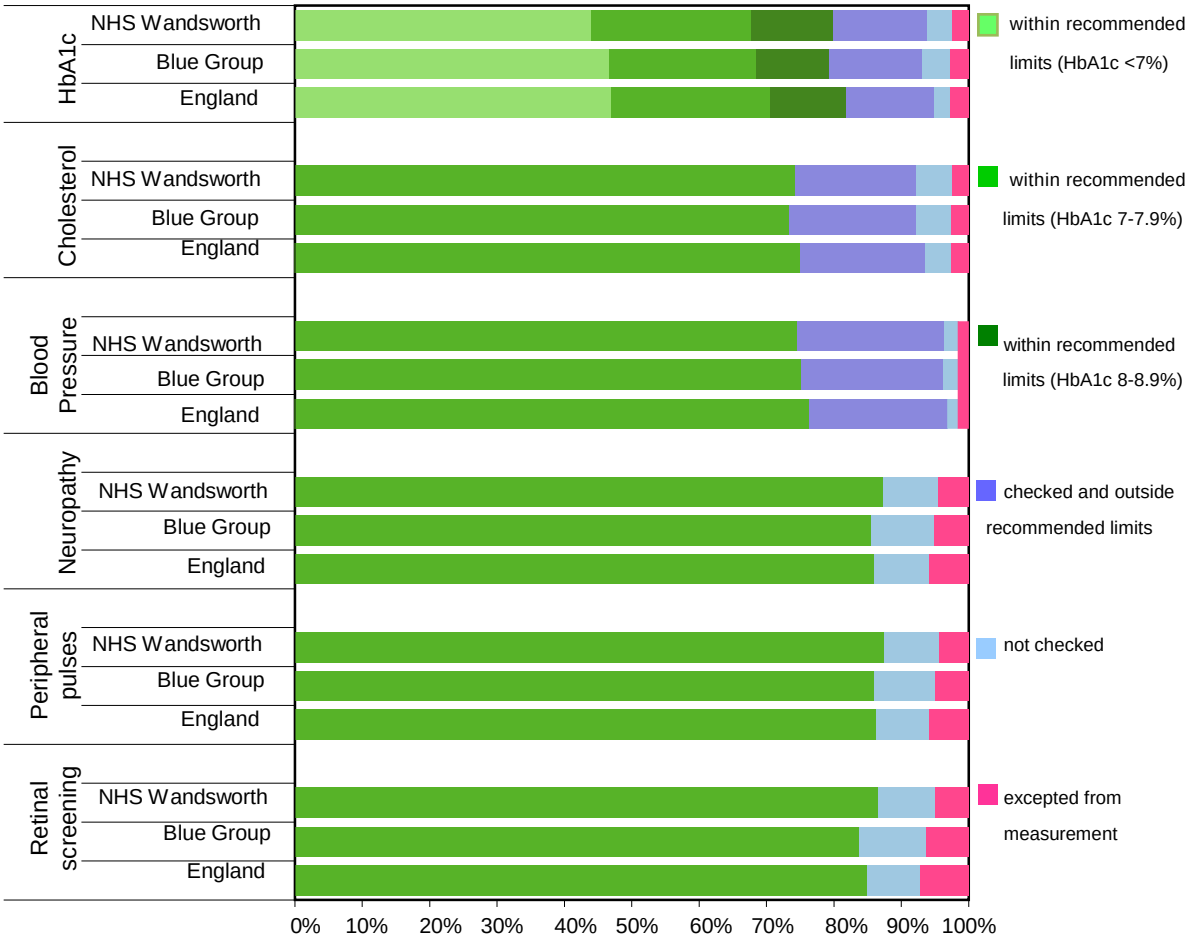


In Wandsworth practices an average of 87.1% of patients with diabetes have had influenza immunisation in the preceding 1 September to 31 March, compared to an England average of 90.7%. About 32% of practices had less than Wandsworth average percentage of patients immunised.

Figure 18: The percentage of patients with diabetes who have had influenza immunisation in the preceding 1 September to 31 March



The figure below provides a breakdown of the key aspects of clinical management of patients with diabetes and highlights the measurement and attainment of HbA1c, blood pressure, cholesterol, retinal screening, peripheral pulses and neuropathy testing in the 15 months ending 1st April 2011. This is also comparing NHS Wandsworth to a group of PCTs that have similar diabetes related characteristics (including age profile, ethnicity, deprivation and obesity levels) and to England. This shows that the care processes in Wandsworth are worse than that of peer PCTs and England averages.



Source: Quality and Outcomes Framework, 2010/11

Adopted from Yorkshire and Humber Public Health Observatory and Diabetes Health Intelligence, updated on 19th March 2012. Diabetes Community Health Profile – An overview. Wandsworth PCT.

4.6 Diabetic retinopathy

Prolonged exposure to raised blood glucose levels can result in visual impairment and blindness (diabetic retinopathy). The Diabetes National Service Framework Delivery Strategy set a challenging target that by the end of 2007, 100% of people with diabetes would be offered screening, and treatment if needed, of diabetic retinopathy as part of a systematic screening programme. The Department of Health has included this target in the Operating Framework 2008/9. This target has been under review by the National Screening Committee and National Diabetic Eye Screening programme due to recognition that some patients with diabetes will be unable to benefit from screening, if for example, they lack perception of light in both eyes. Exclusions to screening offers are nationally mandated and are monitored at programme, local and national levels to ensure the highest percentage of the eligible diabetic population receive an eye screening invitation annually.

Table 9: DES Reasons for exclusions for 2011/12

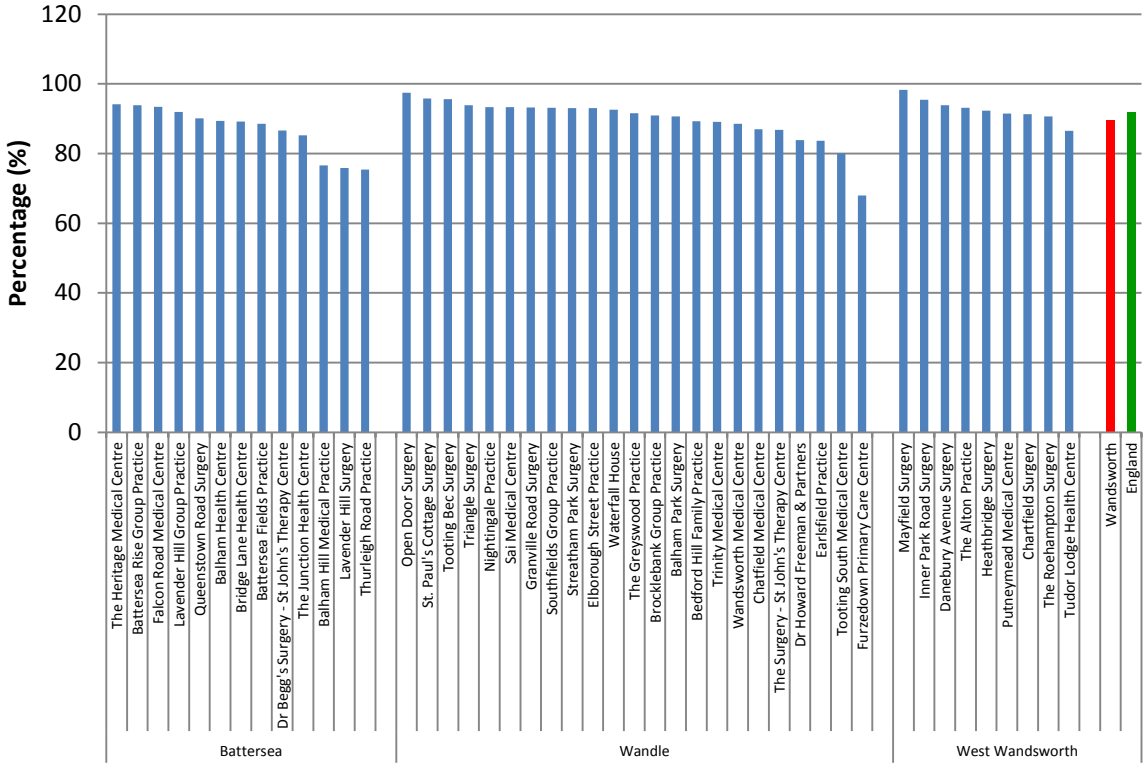
1. Reasons for exclusion	2. Numbers
3. Patients marked inactive (Blind in both eyes)	4. 10
5. Informed opt-out	6. 190
7. Physical disability	8. 63
9. Learning or mental disability	10. 42
11. Under ophthalmology (diabetic retinopathy)	12. 2053
13. Under ophthalmology (other)	14. 334
15. Other	16. 648

Data for QOF 2011/12 shows that in Wandsworth 89.6% of eligible people with diabetes were offered screening for retinopathy in the previous 15 months, compared to 91.9% of people with Diabetes in England offered screening in the previous 15 months. Figure 19 shows for each GP practice the proportion of patients on diabetes registers who have a record of retinal screening during the past 15 months. 90% of Wandsworth GP's have screened 80% or more of patients who are on the diabetes register; however 10% have screened fewer than 80% of patients.

Pregnancy and Diabetic Retinopathy

Women with pre-existing diabetes who fall pregnant are offered additional screening in the first and 3rd trimester in accordance with National DES guidelines due to the small but significant risk of a rapid deterioration or development of diabetic retinopathy. Dependant on the outcome of the first trimester screen, the woman may require a further review in the second trimester.

Figure 19: The percentage of patients who have a record of retinal screening in the previous 15 months, QOF 2011/12



Wandsworth and Richmond PCT's have jointly commissioned the Diabetic Eye Screening Programme from St Georges Hospital. A multidisciplinary board meets on a quarterly basis to advance the strategic development and quality improvement of the programme. A Did Not Attend (DNA) audit has been conducted to further understand the factors associated with failure to attend For Diabetic Eye Screening and associated Hospital Eye Services appointments following Eye Screening referral. This document is attached as appendix 3. Briefly the key findings were:

Patients' type of diabetes, gender, transport or translation services were not associated with DNA. Patients over 60 years of age represented the highest proportion of patients and 32% were over 70 years old.

Ethnicity was recorded in 346 of the 467 patients, with patients of black ethnicities (African, Caribbean, any other black background) over represented compared to other ethnicities (26% (90/346). Patients from the Indian Sub-Continent and China were less commonly represented at 22% (77/346).

Having already received screening (N=122, 26.12%) was the most commonly reported reason for DNA, although this may represent confusion between the appointment in question due to the time between the DNA'd appointment and the audit interview.

The invitation letter not received was reported by 80 patients (17.12%) and 58 patients (12.41%) stated the appointment was at an unsuitable time or date, although they did not contact the DES office to re-arrange the appointment. Due to the small numbers present, some of the categories have been aggregated.

Table 10: Reasons for DNA

Reason for DNA	Number of patients	(%)
Already Had Screening	122	26.12%
Did Not Receive Appointment Letter	80	17.13%
Forgot	38	8.14%
Medical Reasons (self-reported)	36	7.71%
Unsuitable date or time*	58	12.41
Under Care	17	3.64%
Does Not Want to Attend Eye Clinic	11	2.36%
Personal/family issues	8	1.71%
Patient deceased	6	1.28%
Language Difficulties	5	1.07%
Moved address	5	1.07%
Appointment cancelled by patient/provider	5	1.1%
Not living in the UK/not diabetic/transport issues	6	1.3%
Other	70	14.99%
Total	**467**	

The *Moorfields Eye Hospital (MEH) DNA audit* was conducted to appreciate patients' reasons to DNA ophthalmology appointments following Diabetic Eye Screening referral to improve the service or introduce interventions to improve ophthalmology attendance rates.

Gender and type of diabetes were not associated with MEH DNA. Patients aged over 70 years (15/58, 26%) and those between 30-39 years were the highest proportions by age.

Patients of black ethnicities (N=16/47, 34%) were more likely to DNA compared to other ethnic groups. Patients from the Indian sub continent (N=10, 21%) were less represented.

Patients most commonly stated they had already attended ophthalmology appointment at other trusts or departments (N=16, 24%). Transport difficulties were stated by seven patients (10%) with other patients stating they had not DNA'd any appointments or not received the appointment letter (N= 8, 11.9%). Seven patients (10.4%) stated they forgot, did not want to attend ophthalmology, already seeing an ophthalmologist or language difficulties as reasons for DNA. Due to small numbers the categories have been aggregated.

Table 11: Reasons for DNA at Moorfields Eye Hospital (MEH)

Reason for DNA	Number of patients
Already had appointment	16
Transport Issues	7
Never missed appointment/ did not receive appointment letter	8
Under care	5
Forgot/not want to attend ophthalmology/already under ophthalmologist/language difficulties	7
Other	24

Conclusions and Recommendations following DNA audit

Both audits illustrate some patients appear confused between the various eye checks offered in diabetes and may need clarity at their diabetes reviews within primary care.

Due to the 20% mobility of the general population in and around Wandsworth borough may mean demographic records held within primary care may not be accurate or contemporaneous, which; with the 1% of Royal mail letters mis-delivered may explain why patients did not receive the screening or ophthalmology appointment.

Patients' reported difficulties with transport or the travelling distance to the hospital as reasons for DNA ophthalmology appointments (10%), despite all appointment letters advising patients to contact the department to request transport.

- Further qualitative work is required to explore the reasons behind low uptake amongst younger patients and type 1 diabetic and to inform an intervention strategy.
- Young adults aged between 30-38 were also over represented in the MEH audit with health promotion work under way to improve uptake in this group and service improvements to improve appointment times and availability with MEH to accommodate this age group.
- The variation in screening uptake by primary care provider is particularly worrying and a targeted intervention focussed on poorly performing practices is needed.
- The prevalence of diabetes by ward needs to be taken into account in any decisions regarding siting of retinal screening services.
- The provision of information on retinal screening for diabetes should be part of other general health promotion activities undertaken by NHS Wandsworth.
- Other interventions that have been used across the country to increase uptake of retinal screening have included measures to improve accessibility including increased numbers of weekend and evening clinics, more screening locations and increasing transport options; improved communication and advertising of the screening programme, and the use of primary care providers to promote the uptake of screening.

Transition

Transfer of the commissioning of the DES programme to the NHS Commissioning Board may present organisational and monitoring challenges, although this will be mitigated with transfer to the Local Area Teams (LAT) as intended. The integration of the new common surveillance DES pathway will be undertaken during 2012-13. The W & R DES programme is on course to implement the new pathway from 1st June 2013.

Prisoners and DES.

DES has been performed within HMP Wandsworth since 2012 on a quarterly basis. All eligible inmates both sentenced and on remand reside at in the prison at the DES clinics are offered screening. 56 prisoners were offered screening and 34 attended with an uptake figure of 60.7%. Further work between the DES providers and the prison health team are progressing to improve access and uptake levels within this population. The prison health team are introducing the DESMOND programme into the prison and a peer support system to improve uptake.

4.7 Diabetic ketoacidosis and coma

Diabetic ketoacidosis (DKA) occurs almost exclusively in Type I diabetes, and is stimulated by severe insulin deficiency coupled with absolute or relative increases in glucagon. The EURODIAB study found that 8.6% of 3250 insulin - dependent diabetic patients in Europe had been admitted to hospital with a DKA one or more times in the previous 12 months.

Common causes of DKA are:

- infections (30%)
- non-compliance with treatment (20%)
- newly diagnosed diabetes (25%)

The following graph below compares rates of admissions (per 100,000 people) in London Strategic Health Authority for DKA and coma compared to England. The graph shows that admission rates for DKA and coma during the period 2005/6 to 2007/8 have decreased in London but increased in England. 2007/8 was the first period in these 3 years where the London rate was lower than the rate for England.

Figure 20: Emergency hospital admissions: diabetic ketoacidosis and coma

Source: NCHOD

Table 12:: Incidence of diabetes related complications

	Rate per 1000		
	Wandsworth PCT	Blue Group*	England
Emergency admissions for ketoacidosis and coma	6.1	1.8	1.1
Minor lower limb amputations	5.6	1.3	0.7
Major lower limb amputations	5.1	1.5	1.0

*A comparative group of PCTs that have similar diabetes related characteristics including age profile, ethnicity, deprivation and obesity levels.
Source: Hospital Episode Statistics (HES) The NHS Information Centre for Health and Social Care, 2007/08 and 2008/09 (provisional). Taken from Yorkshire and Humber Public Health Observatory and Diabetes Health Intelligence, 2009. Diabetes Community Health Profile – An overview. Wandsworth PCT.

However Hospital Episode Statistics (HES) data from 2007/08 and 2008/09 (provisional) analysed by the YHPHO (Table 8), show that NHS Wandsworth has higher rates of emergency admissions for ketoacidosis and coma, than a group of PCTs that have similar diabetes related characteristics (including age profile, ethnicity, deprivation and obesity levels) and higher rates than England.[47]

4.8 Deaths from diabetes

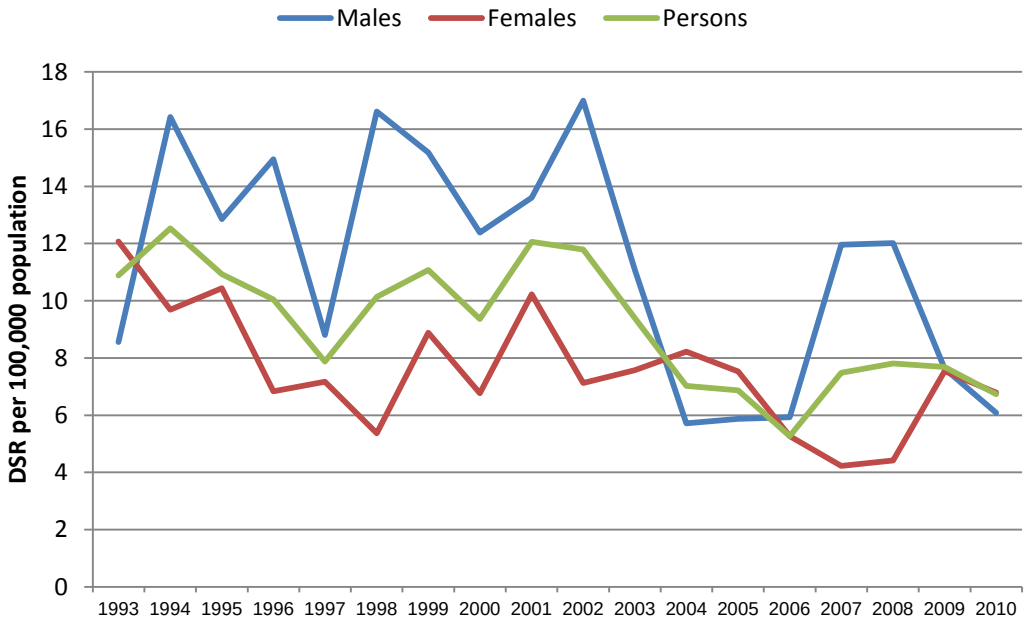
Life expectancy is reduced on average by more than 20 years in type 1 diabetes and up to 10 years in type 2 diabetes. Mortality rates are up to five times higher for people with diabetes compared to those without the disease. It is estimated that diabetes accounts for one in seven deaths in the UK from

[47] Yorkshire and Humber Public Health Observatory and Diabetes Health Intelligence, 2009. Diabetes Community Health Profile – An overview. Wandsworth PCT. Accessed March 2010 at http://yhpho.york.ac.uk/diabetesprofiles/default.aspx

diabetes.[48] Although diabetes is listed as an official cause of death for approximately 7000 people each year in the UK, death certificates often fail to take diabetes as an underlying cause into account.

Figure 21 shows that there have been significant fluctuations in deaths from diabetes during the past 15 years. Mortality rates for males peaked in 2002. Although they dropped to their lowest point in 2004, they have steadily increased since this point in time. Diabetes mortality for females has decreased steadily between 2004 and 2007. Diabetes mortality overall has decreased between 2001 and 2006, but increased between 2006 and 2007.

Figure 21: Trends in diabetes mortality in Wandsworth, MFP All Ages, 1993-2010



Source: NCHOD

The table 12 shows that Wandsworth has the highest standardised mortality ratios compared to England, London and other PCTs in the South West London Sector.

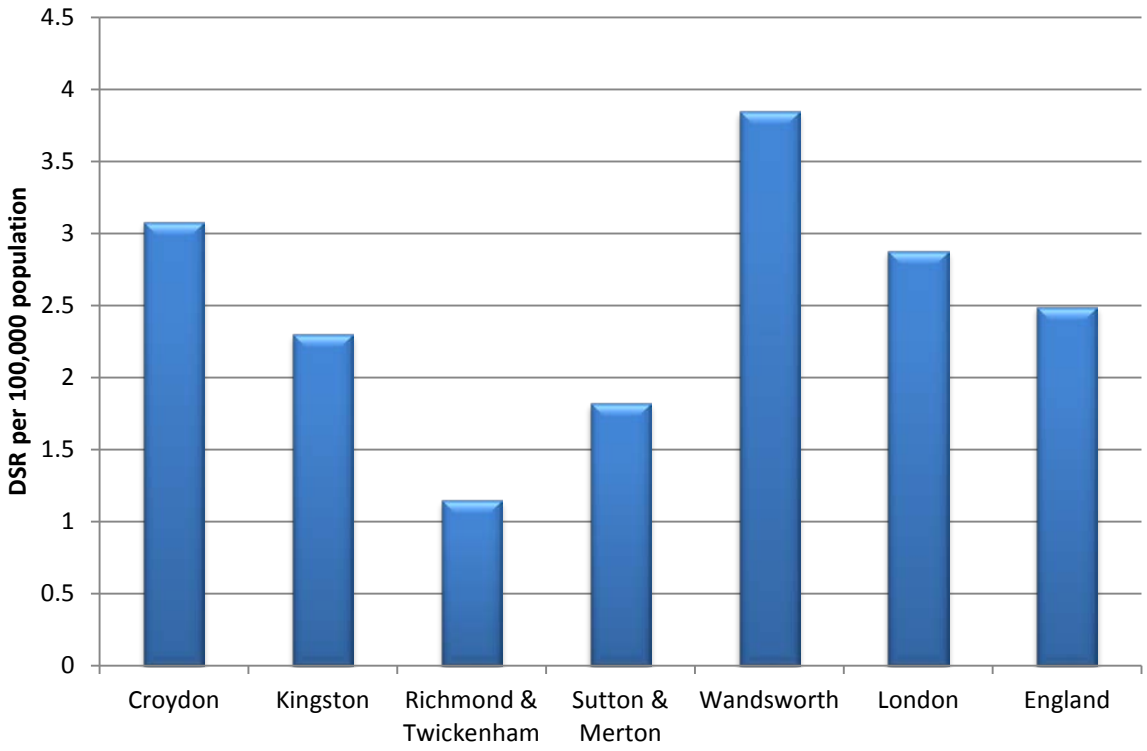
Table 13: Diabetes Standardised Mortality Ratios, <75, 2005-2007, MFP

	Male	Female	Persons
England	100	100	100
London	114	115	115
Wandsworth	154	125	142
Croydon	126	121	124
Kingston	77	116	93
Richmond & Twickenham	51	38	46
Sutton & Merton	75	64	71

Source: NCHOD

[48] Diabetes in the UK 2004, A report from Diabetes UK October 2004

Figure 22: Directly standardised mortality rates from diabetes, persons, <75, 2008-2010



Source: NCHOD

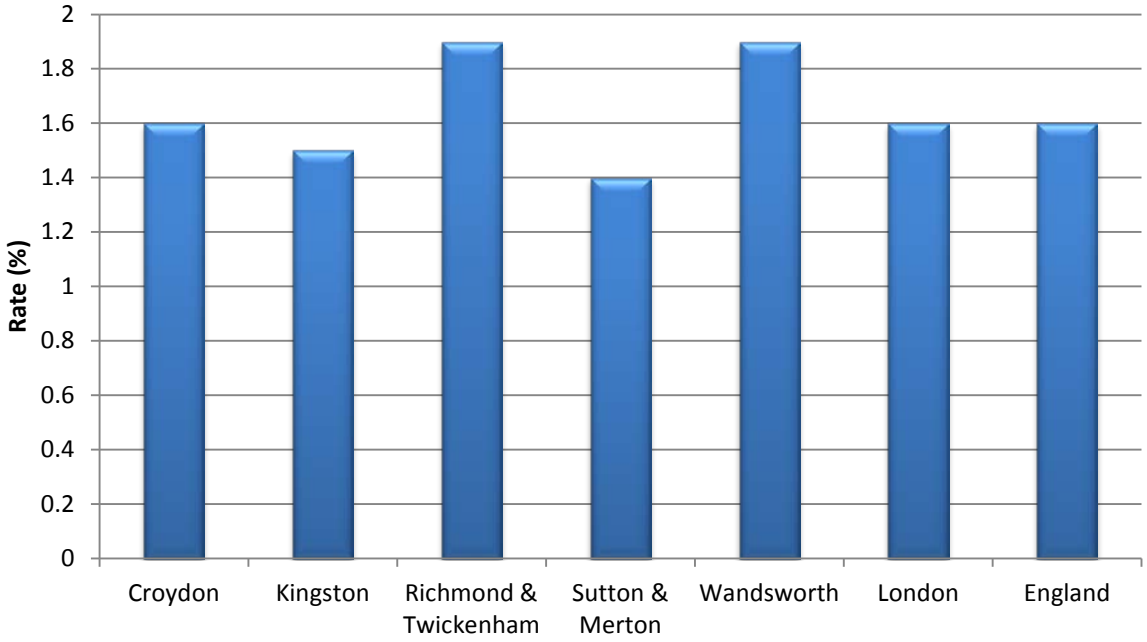
In Wandsworth, between 2008-2010, there were 62 deaths due to diabetes and in 2010 alone, there were 21 deaths from diabetes. Between 2008 and 2010, 272 years of life were lost due to diabetes (crude rate of 3.38 years of life lost per 10,000 people <75 years).[49]

4.9 Hospital admissions

Hospital admission rates show patterns of demand and of events. Figure 26 shows emergency hospital admission rates for diabetes across all South West London boroughs, compared with London and England. Data is only available at borough level as opposed to PCT level. The rate for South West London SHA is higher or equal to the rates for London and England. Wandsworth and Richmond & Twickenham has the highest rate for diabetes admissions, followed by Croydon.

[49] Mortality from diabetes ICD10 E10-E14, Compendium of clinical health indicators

Figure 23: Emergency Diabetes Admissions per 100 patients on Diabetes register, 2010/11



Source: NHS Comparators

There were a numbers of hospital activities in terms elective or emergency hospital admission from Diabetes. Table below shows number of elective or emergency admissions for diabetes. The Sutton and Merton had the highest elective admission followed by Croydon, however, Croydon had the highest emergency admission rates followed by Sutton & Merton and Wandsworth indicating the services for diabetics so that they can control their diabetes need to be improved to avoid hospital admissions.

Table 14: Hospital admissions for Diabetes, 2010/11

	Elective admissions	Emergency admissions
England	23,527	38,810
London	2,971	6,027
Wandsworth	49	227
Croydon	63	273
Kingston	27	100
Richmond & Twickenham	24	98
Sutton & Merton	84	228

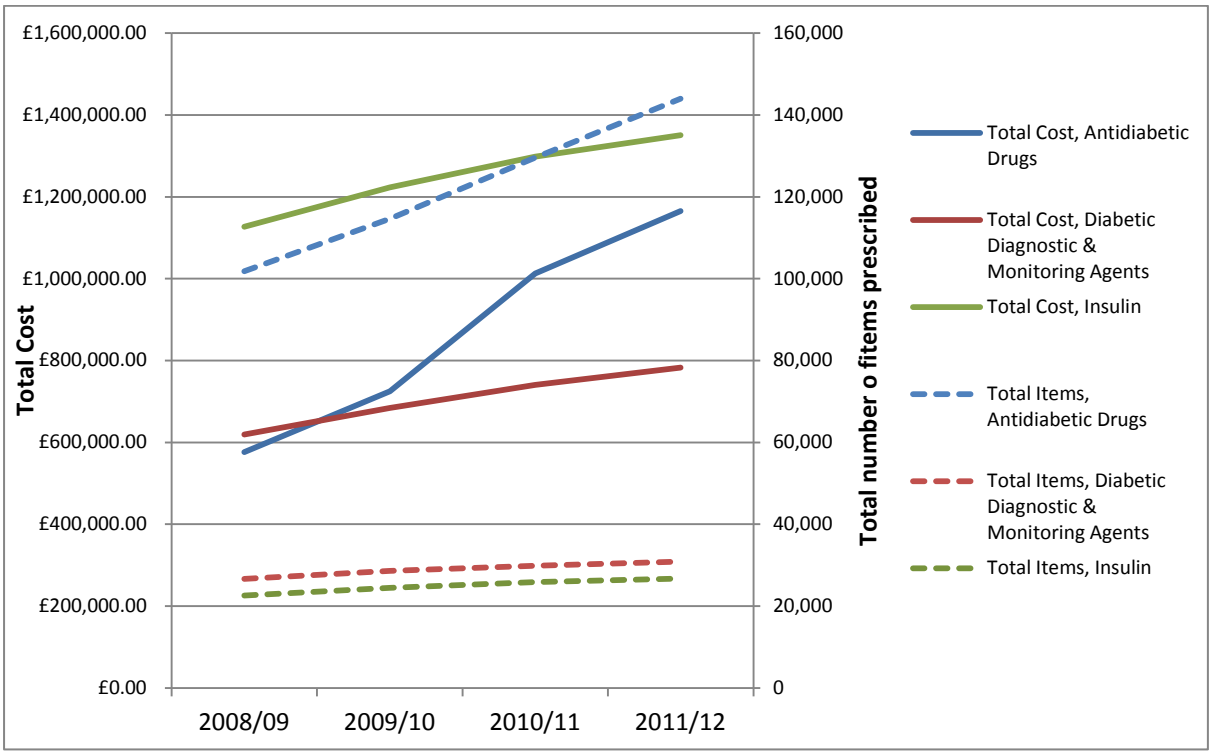
Source: NHS Comparators

4.10 Prescriptions for people with diabetes

The total number of items prescribed in primary care for diabetes management in NHS Wandsworth has increased by 33% over the last three financial years. In 2008/9, 151,035 items were prescribed increasing to 201,362 in 2011/12. Figure 24 below shows the breakdown of items prescribed for diabetes management in Wandsworth over the last five years and the associated changed in cost. The graph reflects an upward trend in prescriptions of insulin and oral anti-diabetic drugs during this period. However, despite the relatively small increase in the number of prescriptions of insulin, the

cost of insulin has increased substantially. Prescriptions of Antidiabetic drugs have also increased. Prescriptions for screening and monitoring agents have also been increasing.

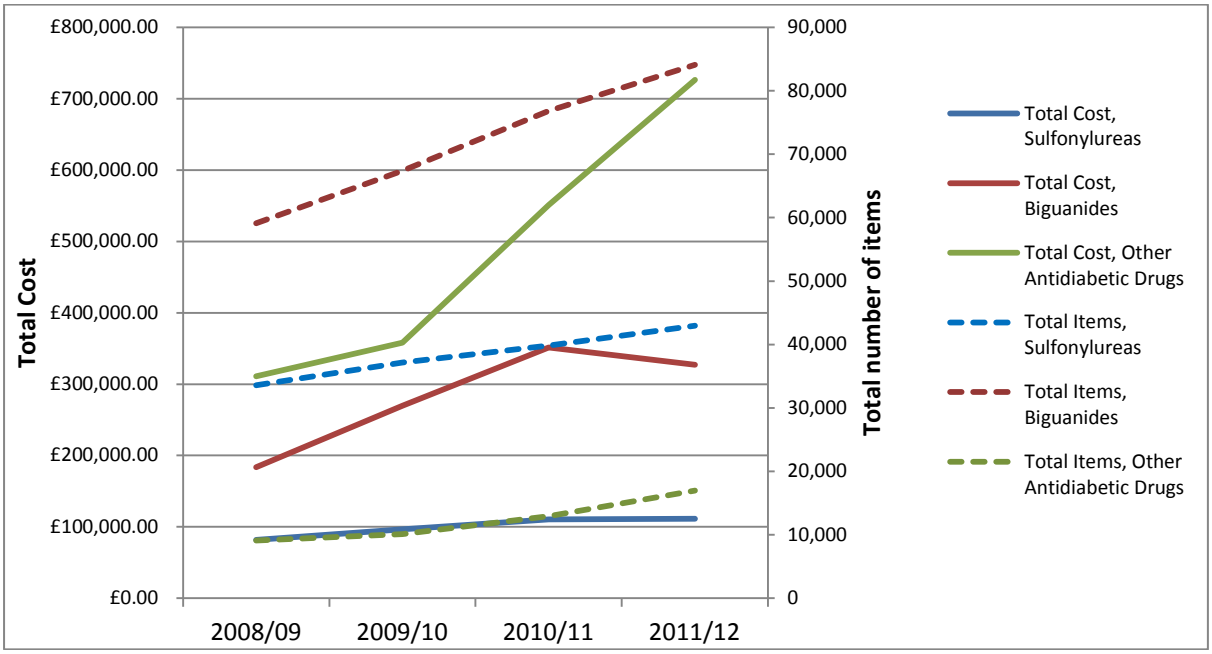
Figure 24: Total costs and number of items prescribed for diabetes in primary care



Source: Medicines Management Team, Feb 2013

The total spend on items for the management of diabetes in primary care has increased over the last three years from just over £2.3 million in 2008/09 to over £3.2 million in 2011/12. Looking in further detail in where the spending has occurred, the costs of newer oral anti-diabetic agents has contributed significantly to the increased drug costs relative to the number of items prescribed (Figure 25).

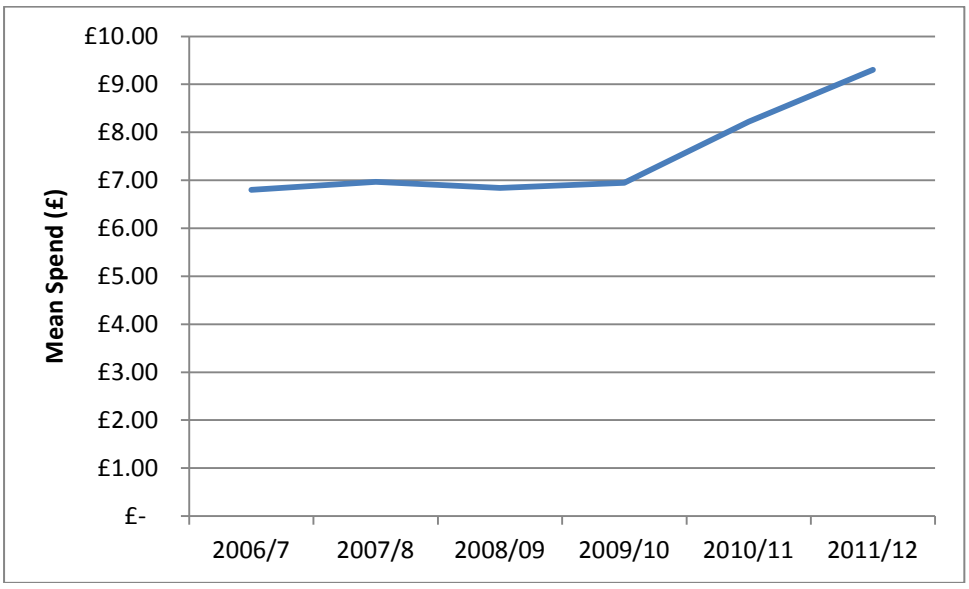
Figure 25: Number of prescriptions and total costs of oral anti-diabetic drugs



Source: Medicines Management Team, Feb 2013

The figures above do not take into account changes in the population in Wandsworth over the last three years. The mean spend on diabetes drugs per person registered with a GP in Wandsworth (with or without diabetes) was stabilised over past few years, however, trend in the recent years is increasing as shown in Figure 26 below.

Figure 26: Mean spend on diabetes drugs in Wandsworth PCT per person

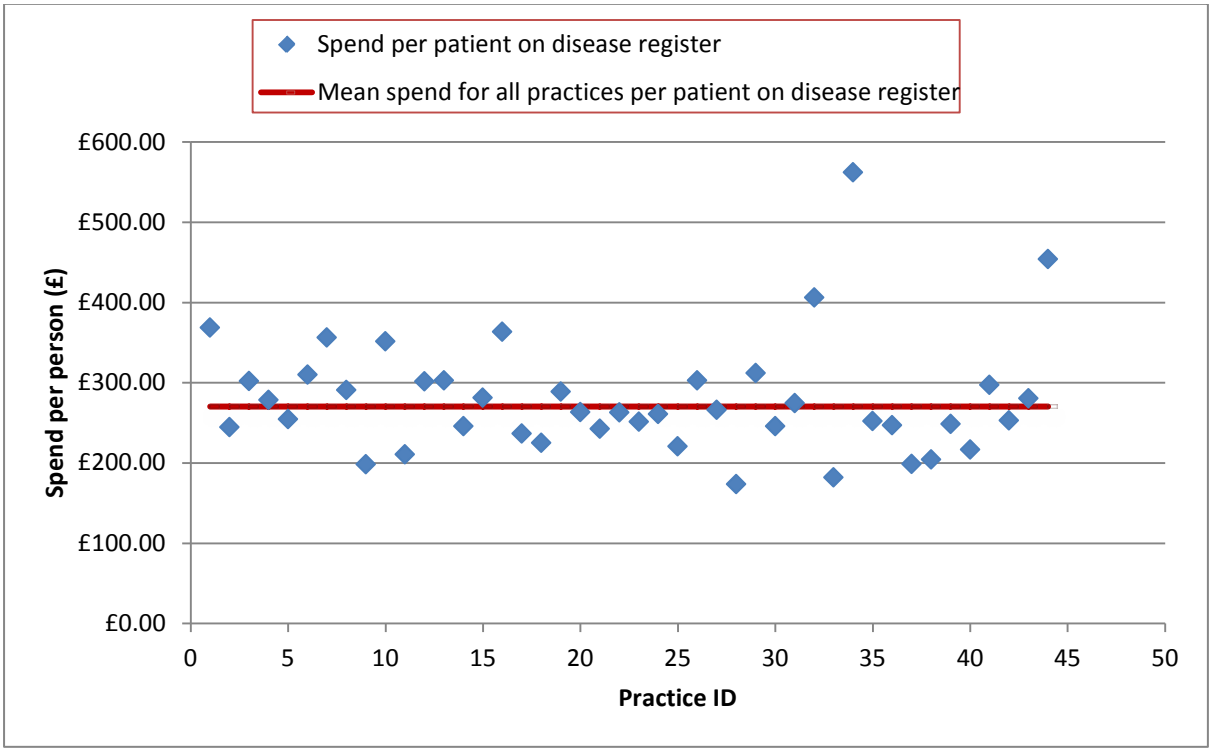


Source: Medicines Management Team, Feb 2013

Mean spend on diabetes drugs per person can be broken down further to look at mean spend by GP practice for each person with diabetes on a practice's diabetes register.

Figure 27 below compares drug spend per person on diabetes registers at each practice with an average for all GP practices in Wandsworth.

Figure 27: Spend per person on diabetes register by practice versus average spend for all practices



Source: Medicines Management Team, Feb 2013

Figure 27 highlights the variation in spend per person with diabetes at each practice (in 2011/12 range of spend per person was £173 - £562). These data are not adjusted for the type of diabetes or the complexity of case management. The variation seen may therefore result from genuine differences in spend per person with diabetes which could be due to the complexity of individual cases, or may be due to inaccuracies in diabetes registers at practices. One of the outliers seen on the graph above is a practice that has now closed and this is therefore difficult to interpret. The mean spend per person on diabetes register (for all practices) for 2011/12 is approximately £270.

4.11 Programme budgeting

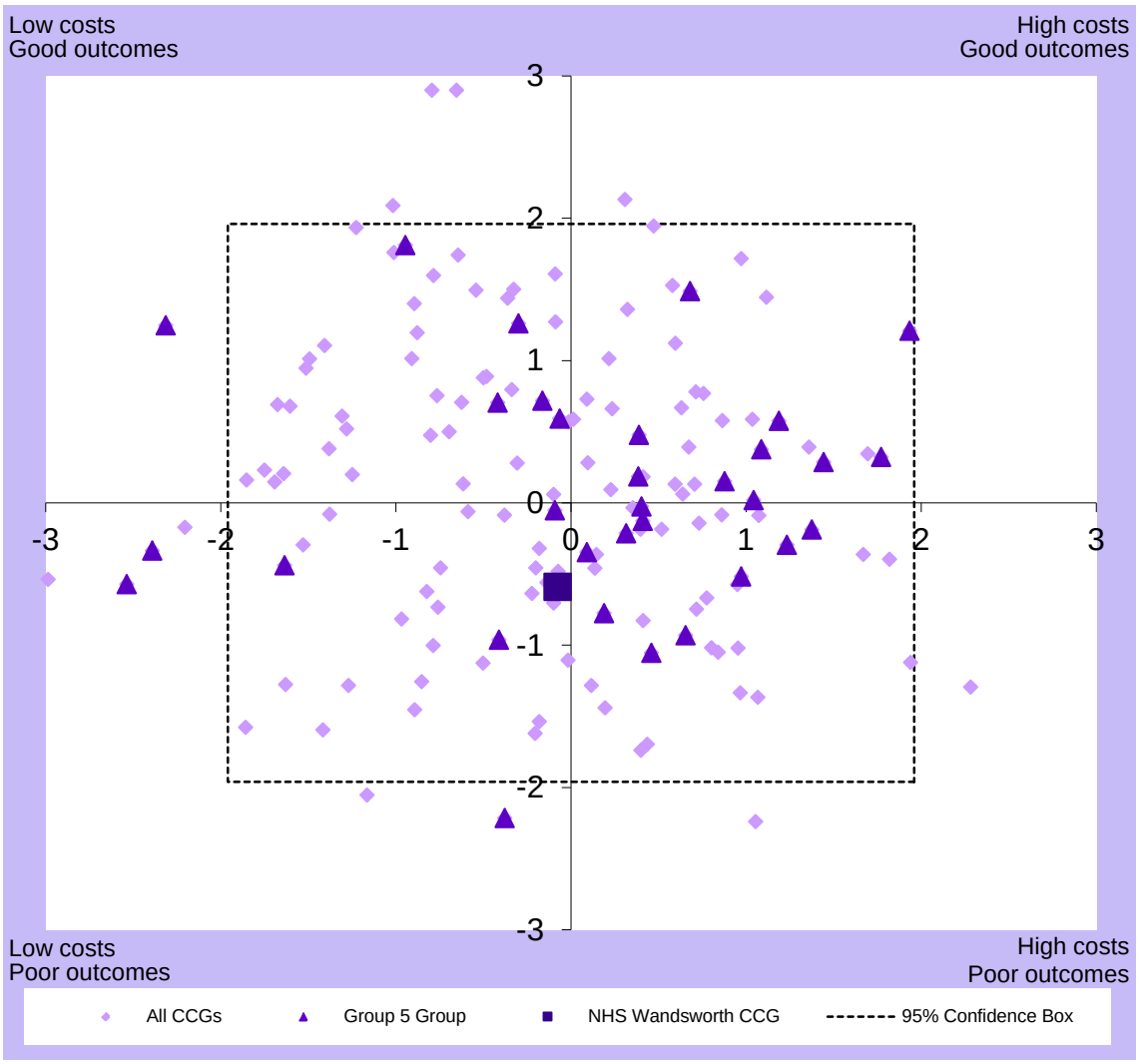
Programme budgeting is a retrospective appraisal of where money has been invested in health programmes and allows this expenditure to be compared with clinical outcomes achieved. Programme budgeting enables commissioners to look at activity and outcomes that have been generated in programmes, to monitor investments and to link expenditures with local and national objectives. It also allows commissioners to readjust investment to meet local need and to reduce health inequalities. This should lead to improvements in efficiency, effectiveness and equity.

Expenditure and outcomes in Wandsworth were compared for 23 programme budgeting categories with six demographically similar PCTs in London (Tower Hamlets, Hammersmith and Fulham, Kensington and Chelsea, Camden, Islington and Westminster). Programme budgeting category 4 represents a group of illnesses relating to endocrine dysfunction (including diabetes, thyroid disease

and disease of the adrenal glands), vitamin deficiencies, and metabolic disease (including cystic fibrosis). Diabetes accounts for more than 50% of the expenditure in this category.

A diagrammatic representation of outcomes and expenditures for the 23 categories is included below. This shows that a combination of high expenditure and poor outcomes is seen for endocrine disease. A further analysis by the Yorkshire and Humber Public Health Observatory, found a similar picture for Wandsworth.[50]

Figure 28: showing Total spend on prescribing compared to people with diabetes with a HbA1c of 59mmol/mol or less for NHS Wandsworth CCG



This chart shows the total spend on prescribing compared to people with diabetes with a HbA1c of 59mmol/mol or less for Wandsworth CCG. The data has been converted in to z-scores to allow comparisons to be made across indicators measured on different scales. A z-score of less than -1.96 indicates that we can be 95% certain that the measure is significantly lower than the England average. A z-score of more than 1.96 shows that we can be 95% certain that the measure is significantly greater than the England average. This boundary is shown as a dotted line on the chart.

[50] Yorkshire and Humber Public Health Observatory and Diabetes Health Intelligence, 2009. Diabetes Community Health Profile – An overview. Wandsworth PCT. Accessed March 2010 at http://yhpho.york.ac.uk/diabetesprofiles/default.aspx

If the marker for the CCG is outside the dotted box they are statistically significantly different from the England average. England as a whole is at the intersection of the axis.

Benchmarking

In this category Wandsworth spends more than the other PCTs in its cluster, £38 per head, as opposed to £34 (a difference of 12%), and slightly less than the national average (£39). Expenditure in this area has risen by 0.17% compared to the previous year. Forty six per cent (46%) of the diabetes expenditure is spent within primary care through QoF payments for diabetes care and the prescribing costs.

Table 15: Expenditure and outcomes in the endocrine category

	Expenditure (£ per person) (2007/8)	Diabetes Prevalence (%) (2008/9)	Controlled blood glucose levels in patients with diabetes mellitus (%) (2007/8)	Emergency hospital admissions for diabetes (Rate per 1,000) (2008/9)	Percentage of diabetics screened for diabetic retinopathy (%) (2008/9)	Mortality from diabetes (2005-7)
ENGLAND	39.39	5.10	66.80	0.6	89.74	6.29
London	36.42	5.00	63.34	0.6	86.60	6.39
Cluster	34.25	4.71	63.57	0.5	83.67	6.11
Tower Hamlets	45.12	6.00	58.85	0.5	74.90	10.43
Hammersmith and Fulham	32.21	3.82	65.66	0.5	83.40	7.23
Camden	23.79	3.64	64.90	0.5	79.60	6.27
Islington	30.13	4.40	67.91	0.6	84.40	7.47
Kensington and Chelsea	25.05	3.29	64.25	0.5	89.20	4.13
Westminster	41.48	3.45	62.74	0.4	86.40	3.02
Wandsworth	38.30	3.63	60.67	0.7	87.80	6.53 (95% CI: 4.73-8.34)

The prevalence of diabetes in Wandsworth is lower than the national, London and cluster average. This is to be expected as a result of the younger age profile of the population. Clinical outcomes in Wandsworth are distributed around the cluster average. The coverage of retinal screening is higher than average. On the other hand, mortality from diabetes is just below the cluster average, the proportion of diabetic patients with controlled blood sugar levels is slightly lower than average and rates of emergency admissions to hospital with diabetic conditions are higher than average.

4.12 Stakeholder analysis

Discussions were held with a variety of stakeholders including hospital staff, commissioners, primary care staff, community-based specialist nurses and patient representatives. The following key messages have emerged from these discussions.

- An integrated prevention strategy for diabetes was not developed in Wandsworth following recommendations from the last needs assessment and this is recognised as a gap in the response to diabetes.
    - Education and health promotion work in the community has occurred in the past but not consistently. There is a need to have a more consistent way of identifying education or health promotion opportunities with high risk groups and educating those with modifiable risk factors for diabetes on how to avoid developing the disease.
    - There is a need to develop more ways of identifying undiagnosed diabetics. Although there is much focus on the Health Checks vascular risk assessment programme as a means for doing this, there is recognition that this may not reach all those at risk of developing diabetes.

- The availability of a risk assessment tool for diabetes, as is available for vascular disease, would be useful and this will be looked into.

- The Diabetes Reference Group has been an important mechanism for the delivery of the interventions to support the Diabetes NSF standards, and also provides a forum for those working in diabetes across community, primary and secondary care to meet and share experiences and discuss problems.

- As the delivery of care to diabetic patients in primary care is very dependent on practice nurses, practices are vulnerable to staff turnover and this has an impact on care provided to patients.

- A need was expressed for the availability of specialist skills in diabetes management in primary care for Wandsworth. Attempts to recruit a GP with a special interest in diabetes have however been unsuccessful and although the availability of a community diabetologist has been discussed, this not occurred as there are concerns around clinical governance.

- There is a lot of support for moving more diabetes care from secondary into primary care however there are concerns that the impact of this shift on patient outcomes should be appropriately monitored.

- There is a gap in the provision of psychological services to diabetic patients.

- There is insufficient IT capability to support some of the work in the community; in particular community specialist nurses are not able to access EMIS remotely. The available systems also do not allow sufficient capture of data needed to be able to assess their effectiveness and monitor the operational aspects of their work.

In 2009, a series of focus groups were held under the title ‘What is it like being a patient with diabetes in Wandsworth?’ Seventeen people with diabetes participated in these discussions. All the patients except one had type II diabetes and ranged from being newly diagnosed to having had the disease for over twenty years.

The following key points emerged from the discussions held:

- A need was expressed for more information on diabetes to be made available to the general public and to diabetes patients, including general information on the signs and symptoms of diabetes and contributory factors like family history etc.

- There is also a need to improve awareness of services and their availability, including greater access to self management programmes and support with self management.
- The quality of care experienced across the borough was variable.
- The patients would also like to have a support group based in Wandsworth, which is currently being taken forward by PALS at NHS Wandsworth.
- Patients were very supportive of the idea of a handheld patient record (HHR). A previous small audit of the HHR had suggested that this resource was not required.

4.13 Diabetes E

NHS Wandsworth has participated in the Diabetes E a web-based, self-assessment, diabetes care performance improvement tool that supports the implementation of the Diabetes NSF. DiabetesE measures and benchmarks the performance of all aspects of a system of diabetes care and actively encourages continuous improvement to meet and surpass the Diabetes NSF standards. Results of the assessment are presented below.

Table 16: Diabetes E Results Dashboard for PCT

Leadership, Policy and Strategy	Productivity and Contracting	Health Promotion and Prevention
94	88	70

Legend:

Top 25% of scores nationally	Middle 50% scores nationally	Bottom 25% of scores nationally

Source:http://www.innove.co.uk/Assets/Files/Services/DiabetesE/Eighth-National-Report-National-Dashboards/All%20PCTs.pdf

The PCT performed better than before worst in this assessment particularly, in Leadership, policy and strategy and Productivity and contracting, however, did reasonably well in Health promotion and prevention.

Diabetes E Top 5 Priority Recommendations

1. The PCT should consider giving the diabetes service leaders (clinical and managerial) the authority to manage and control resources in such a way that the diabetes service/network can be organised to deliver the structured programme of care effectively and efficiently.
2. The PCT's structured programme of care should require that all staff involved in the diabetes service/network are trained in the assessment of individual patient learning needs.
3. The diabetes specialist team should work towards introducing patient held records.
4. The PCT's structured programme of care should require that all staff involved in the diabetes service/network are trained in the use of a variety of teaching techniques to meet the different needs personal choices and learning styles of people with diabetes.
5. The PCT should have guidelines that require the agreement of personal care plans with people with newly diagnosed diabetes.

5. Discussion and recommendations

The needs assessment highlights the rising diabetes prevalence in the borough and the cost implications of this, as well as inequalities in the way the disease is diagnosed and treated; as is seen across London. As expected ethnic minority populations are particularly affected, contributing to health inequalities in the borough.

The anticipated 15% increase in the prevalence of diabetes over the next 15 years, expected as a result of increases in the incidence of type 1 diabetes, population ageing, population growth and the obesity epidemic will create a substantial health burden for Wandsworth. Increases in the costs of diabetes to the PCT are already evident.

Recently a Diabetes Consensus Panel[51] called for greater leadership in tackling obesity and advised that structural changes were needed to address the epidemic and produce radical lifestyle changes in those affected. While the PCT can certainly contribute to the structural changes, these are likely to need to occur at a national level. Locally however innovative approaches are needed to induce behaviour change in diabetics and those at risk of developing the disease.

The needs assessment has identified a large number of people with modifiable risk factors for the development of diabetes. There are a number of activities ongoing within the PCT that will address these risk factors including a strategy to address obesity, and the recent NHS health checks programme.

An integrated diabetes prevention strategy is required to ensure that a comprehensive approach to the prevention of diabetes is adopted within the PCT. This strategy should include education and awareness raising activities. (Diabetes NSF Standards 1 & 2)

As diabetes incidence is increasing and programmes like the NHS health checks begin to identify increasing numbers of people with diabetes, commissioners need to ensure that increased capacity within the health service to cater for these patients is available.

On a range of indicators related to diabetes control as well as the control of other risk factors including cholesterol and BP, Wandsworth performed consistently poorer than the England average as well as the average for a group of PCTs with similar diabetes related characteristics as identified by the YHPHO.[52]

The review of QoF data suggests that there is unacceptable variation in the quality of care provided to diabetic patients within Wandsworth, with some practices consistently performing worse than others. This is linked to other variations in for example the average spend on diabetes per practice.

Patients have also highlighted the variability in the quality of care provided across the borough, and differences in the availability of services within primary care.

Further analysis of QoF data and other data sources is required to assess the reasons for this variation, and practices that are underperforming need to be performance managed via commissioning. (Diabetes NSF Standards 4 & 10)

The shift of care from secondary into primary care services is a major development in the delivery of health care to diabetic patients in the borough with the potential to significantly improve the quality of care provided.

The impact of these changes on patient outcomes needs to be prospectively evaluated within a monitoring and evaluation framework.

[51] BMJ 2010;340:c2670
[52] Yorkshire and Humber Public Health Observatory and Diabetes Health Intelligence, 2009. Diabetes Community Health Profile – An overview. Wandsworth PCT. Accessed March 2010 at http://yhpho.york.ac.uk/diabetesprofiles/default.aspx

To improve patient outcomes and to support the shift of care, access to and attendance at structured patient education programmes (DESMOND, DAFNE and BERTIE) should be improved. (NICE guidance)

Community specialist nurses should be given the necessary IT support to enable an assessment of their effectiveness and impact on patient outcomes. The development of this service is important to the expansion of care for diabetics in the community and the service may need to be expanded in the future to respond to increasing demand and changes in the service organisation.