Kent Joint Strategic Needs Assessment (Kent JSNA)

Kent ‘Diabetes’ JSNA Chapter Summary Update ‘2013-14’

Contact: Val.Miller@kent.gov.uk

Website: www.kpho.org.uk

Diabetes JSNA – 2013/14

Introduction

Diabetes is a chronic and progressive disease that has an impact on every aspect of life of an individual with additional effects on the surrounding family and local community. It is a growing problem that is certain to play a significant role in contributing to the overall health burden and inequalities within any community across the UK. For many people diabetes is a preventable condition.

Diabetes is major public health challenge. It is a significant cause of mortality and morbidity. Diabetes reduces the life expectancy of people with type 1 by about 15 years and type 2 by about 10 years. Diabetes causes many complications. It causes two categories of complications:

- **Diabetic emergencies:** Hypoglycaemia, diabetic ketoacidosis, other diabetic comas
- **Chronic complications:** blindness, kidney disease, coronary heart disease, foot ulcers, amputations, and neuropathy.

Nationally 4,200 people are blind through preventable retinopathy, kidney failure accounts for the deaths of 21% of patients with Type 1 diabetes and 11% of Type 2 and people with diabetes have a three-fold risk of heart attack.

The complex needs of people with diabetes places a heavy burden on health services as they seldom suffer from a single disease. This has a large impact on social care with a range of specific age-related needs. The occurrence and progression of complications is known to be reduced by effective care provided in an integrated, appropriately structured services with a strong focus on patients involvement, 'no decision about me, without me'.

It is currently estimated that about £10 billion is spent by the NHS on diabetes. 10 per cent of the NHS budget is spent on diabetes. The total cost (direct care and indirect costs) associated with diabetes in the UK currently stands at £23.7 billion and is predicted to rise to £39.8 billion by 2035/6.

This works out at around 10 per cent of the NHS budget (with a 2010/2011 budget for the NHS of approximately £103 billion). One in ten people admitted to hospital has diabetes. In some age groups, it is as many as one in five. This could be one in three coronary care admissions.

Also see the long term condtions chapter.

Key Issues and Gaps

The majority of cases of type 2 diabetes are preventable as diabetes is strongly associated with both child and adult obesity. There are services and activities provided for children, families and adults in Kent. A lack of confidence often prevents professionals signposting and making referrals to appropriate services.

Social deprivation and ethnicity is very strongly linked to both the risk of diabetes and the complexity of the outcomes of having diabetes, the management of co-morbidities is challenging, particularly for those with fewer resources.

The commissioning spend on diabetes is unsustainable as the prevalence of obesity and diabetes are rising, there is a need for more cost effective interventions locally.

The requirement of health services to provide more patient choice and control in line with the principle of 'no decisions about me without me'.

Recommendations for Commissioning

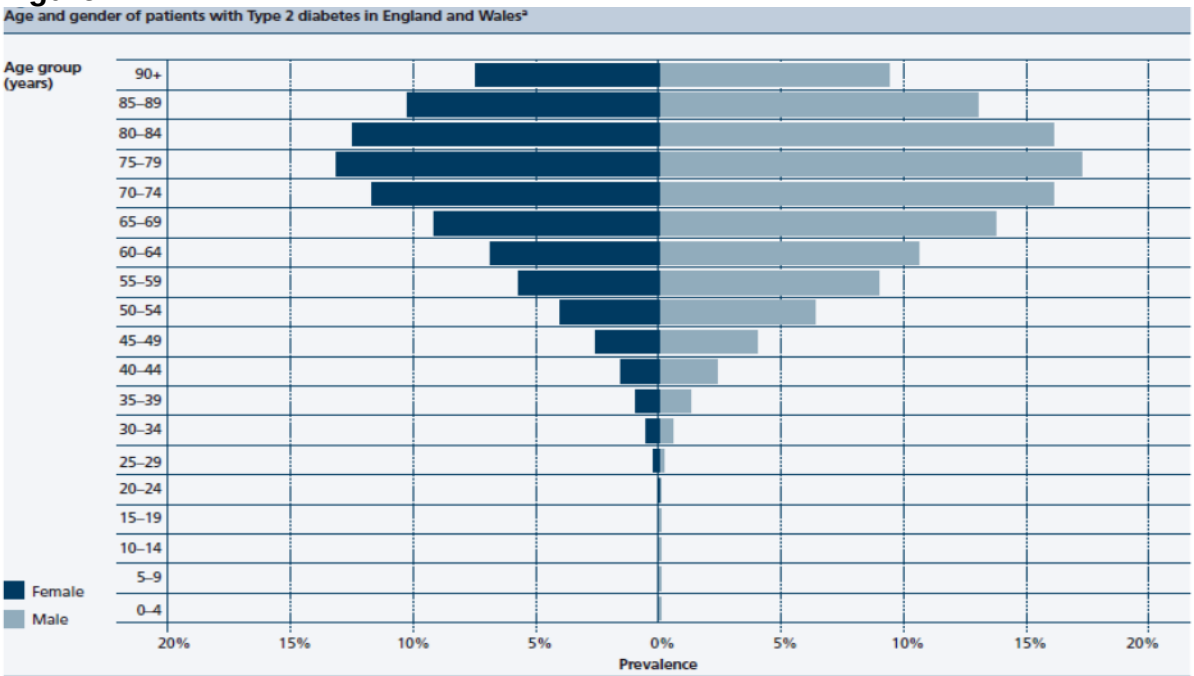
- There is a real variation in the uptake of primary prevention and in the quality of care for diabetes across Kent. Given that social deprivation is very strongly linked to both the causes of type-2 diabetes and the complexity of the outcome resulting from diabetes, more detailed local profiles including health equity audits need to be available for decision makers. This has already been actioned for retinal screening.
- There needs to be greater activity with respect to prevention which needs to be grounded in local interventions rather than just advice giving. Service level agreements for weight management programmes now require providers to administer a diabetes risk assessment and signpost individuals to general practice where necessary.
- There needs to be greater emphasis on obesity given the relationship BMI shares with diabetes. There needs to be greater integration with the Kent Healthy Weight Pathway for Adults particularly at Tiers 2, 3 and 4. Tier 3 services are now provided across Kent from 1st April 2013 and are now the gateway to bariatric surgery.
- The Children and Young People's Healthy Weight Pathway needs to be reviewed and service level agreements/contracts need to quantify and specify the resources needed to reduce the prevalence of childhood obesity.
- Other Kent Paediatric Diabetes Units may wish to look at the practice of Maidstone and Tunbridge Wells NHS Trust when considering how to reduce admissions related to children with diabetes.
- Optimising health checks to find the 'missing thousands' and for referral into lifestyle programmes to recuse risks continues to be a priority for public health.
- Increasing patient's choice and control in line with the principle 'no decision about me without me' is key. Care planning needs be a partnership between clinicians and patients with patients feeling empowered to take more responsibility for their health.
- If Clinical Commissioning Groups are in the bottom 25% for achieving care processes as reported in the National Diabetes Audit they should find out from those in the top 25% how they have achieved their results. (NDA recommendation)
- CCGs should consider investing in support to practices who are unable to automatically upload data to the National Diabetes Audit to maintain the high participation rate.
- CCGs should review and improve the current system for providing and recording structured education and improve delivery and access to NICE evidence programmes.
- Current practice is variable and there needs to be more consistency of evidence based practice across practices. A commitment to increase the number of patients who have all their care processes met should be adopted by all Clinical Commissioning Groups, paying particular attention to ethnic minority groups.
- Specialised services such as education, podiatry, dietetic and psychology require additional support to ensure equitable access across the whole of Kent and in anticipation of the rising number of people who will be diagnosed with diabetes.
- Further work is needed to improve admissions rates for adults, children and young people with diabetes, other Paediatric Diabetes Units might learn from Maidstone and Tunbridge Wells NHS Trust.

- Diabetes care in children and adolescents needs further review to ensure that the appropriate care processes are agreed upon and are carried out across Kent and that specialist paediatric services are readily accessible.
- Adequate awareness and screening of gestational diabetes is required to ensure that the best care is provided during pregnancy. Adequate specialist support is also required for women who are planning to conceive.
- Further consideration should be given to achieving better outcomes for less cost but as prevalence rises an investment to save approach should be explored.

Who's at Risk and Why

Type 2 diabetes is strongly associated with ethnicity, social deprivation and age. Prevalence increases with age with the highest percentages of people over 70 years.

Figure 1:



Ethnicity is poorly recorded across England and Wales with 595,514 (32.6%) of records where ethnicity is not known/not stated. Of the remaining records 79% are white, 12.4% are asian, 4.3% are black and 3.3% are other ethnic group. People whose ethnicity is recorded as being white are most likely to have all their care processes and people whose ethnicity is recorded as black are least likely to achieve their treatment targets.

The findings of the National Diabetes Audit show that diabetes prevalence rose higher in the most deprived quintile. Deprivation is most pronounced in ages 16-55 and prevalence of people under 25 more than doubles (1.3%) from quintile 5 to quintile1 (3.0%).

There is a higher prevalence of diagnosed non-insulin dependent diabetes among Asians and a raised rate among Black Caribbean's. In addition several studies report inadequate quality of health care for Asian, Black African and Black Caribbean diabetics and poor treatment compliance, which may therefore result in a higher than average number of hospital admissions.

Table 1: National Ethnicity Profile for Diabetes (% diabetes) (NDA)

- White - 77.7%
- Asian - 13.2%
- Black - 4.3%
- Other - 4.8%.

Children

Childhood obesity is a well-known risk factor for developing diabetes as an adult, however there is a small but rising number of children who are developing Type 2 diabetes at a very early age due to their weight.

The maps below are from the National Child Measurement Programme findings 2011/12 and show the areas in red where children are above the south east coast average for risk of overweight and obesity.

The results for the National Child Measurement Programme (published 11 December 2013) show that across England prevalence of overweight in Year R is unchanged but there have been small reductions in overweight in Year 6 and in obesity in both Year R and Year 6 cohorts. The results for Kent are unchanged from 2011/12. Year R results in Kent are not different to the England average and Year 6 results are lower than the England average, although this masks local variation.

However, the proportion of overweight and obese children in Year R in Kent on average is 22.3%, which is nearly a quarter of all children in this age group. The proportion of overweight and obese children in Year 6 on average is 33.3%, which is a third of all children in this age group. The prevalence of obesity continues to show a doubling between Year R and Year 6. These are the children who are most likely to become obese adults and risk being diagnosed with diabetes and other preventable chronic conditions.

Figure 2: Proportion of pupils in reception year classified as 'Obese or Overweight' in National Child Measurement Programme 2011/12 by electoral ward in Kent and Medway compared with south east region average

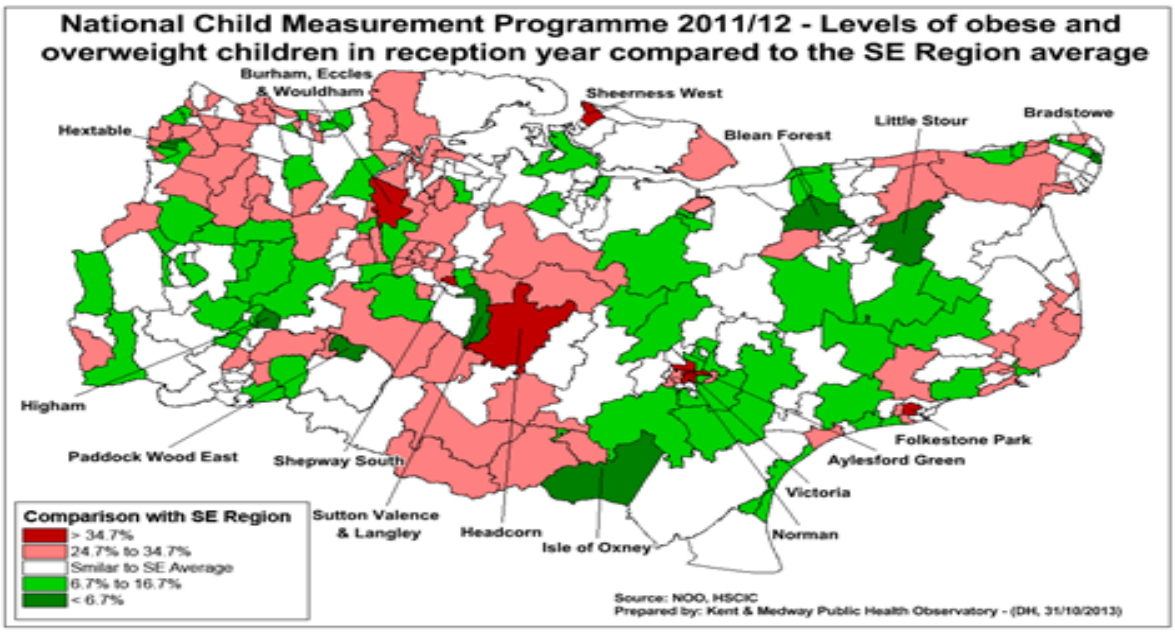
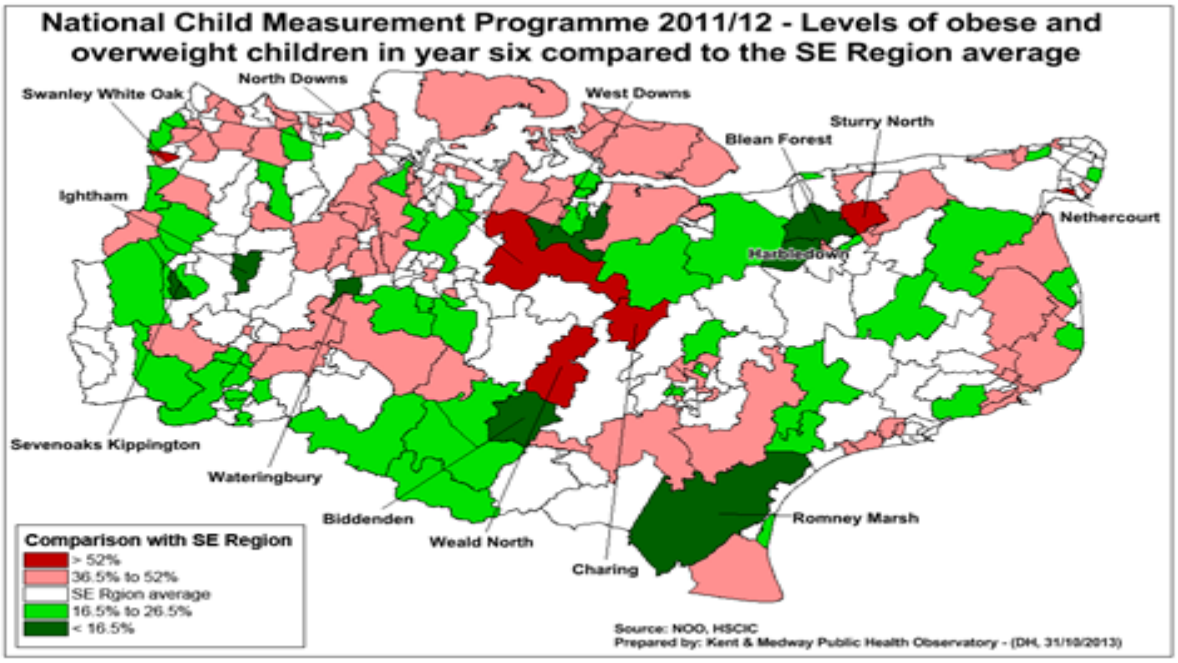


Figure 3: Proportion of pupils in year 6 classified as 'Obese or Overweight' in National Child Measurement Programme 2011/12 by electoral ward in Kent and Medway compared with south east region average



Most children diagnosed with diabetes have Type 1 diabetes and are under the care of the Paediatric Diabetes Units within the Kent Hospital Trusts because of the specialist care this condition requires.

The National Paediatric Diabetes Audit (NPDA) for 2011/13 published in December 2013 includes some detail of the achievement of HbA1c control along with the other care processes for every child experiencing a year of care under a Paediatric Unit.

The NPDA measures the percentage of children and young people with diabetes who are receiving the key processes of care which include:

Glycated Haemoglobin A1c (HbA1c)
Body Mass Index (BMI) (from 2011-12 both height and weight were recorded and BMI calculated)
Blood pressure
Urinary albumin
Cholesterol
Eye screening
Foot examination

Key care processes are recorded to monitor diabetes management and detect long-term complications at the earliest treatable stage. Guidelines specify a starting age of 12 years for commencing all care processes with the exception of HbA1c, which should be recorded in children and young people of all ages with diabetes.

The most recent audit report indicates that only 16.7% of boys and 18.1% of girls achieve a target HbA1c of <58 mmol/mol (7.5%) nationally. The greatest number of patients have their HbA1c recorded as between 58 mmol/mol (7.5%) and 80 mmol/mol (9.5%).

Around one quarter of children and young people with diabetes have an HbA1c of >80 mmol/mol (9.5%). The audit collects information on the key care processes, recommended by the National Institute for Health and Care Excellence (NICE), for children and young people with diabetes.

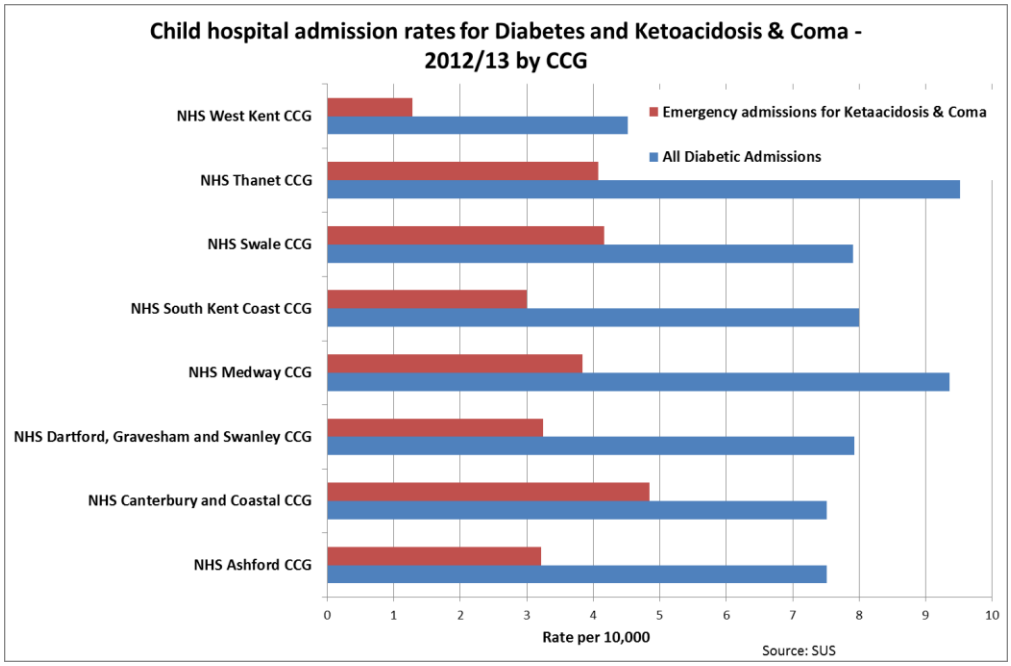
The chart below shows the variation in achievement of HbA1c and other care processes of Paediatric Diabetes Units in Kent.

Table 2: National Paediatric Diabetes Audit Processes of Care 2011/12

Paediatric Diabetes Unit name	Total no. of patients submit-ted	Total no. of patients used for HbA1c outcome analysis	Total no. of patients excluded from HbA1c outcome analysis*	% of patients excluded from HbA1c outcome analysis*	% with HbA1c <58 mmol/ mol (7.5%)	Mean HbA1c (mmol/ mol)	Mean HbA1c (%)	Median HbA1c (mmol/ mol)	Median HbA1c (%)	% of incomplete records of care processes except HbA1c
East Kent Hospitals University Foundation NHS Trust	317	298	19	6.0	16.1	74	8.9	75	8.7	34.0
Maidstone & Tunbridge Wells NHS Trust	106	97	9	8.5	10.3	72	8.7	69	8.5	63.3
Dartford and Gravesham NHS Trust	101	89	12	11.9	23.6	69	8.5	67	8.3	50.4
Medway Maritime NHS Trust	224	215	9	4.0	18.1	70	8.6	69	8.5	70.2

It is thought that the development of the Regional Networks and the introduction of the Best Practice Tariff in England will contribute towards delivery of a high-quality service to children and young people with diabetes. The NPDA will continue to monitor this process by mapping the recording of care processes and clinical outcomes.

Figure 4: Hospital Admissions for Children



Source:Hospital Episode Statistics (HES)The National Information Centre for Health and Social Care, 2012/13 and RCPCH data

Across Kent and Medway West Kent CCG has by far the lowest rates for all child admissions and emergency admissions with ketoacidosis and coma. The highest rates for admissions are in Thanet CCG and Medway CCG with Canterbury and Coastal CCG having the highest rates for emergency admissions. It was previously reported that Maidstone and Tunbridge Wells NHS Trust were the only Trust with rates below the national average and this difference appears to continue to be the case, although there is no national comparator.

Benchmarking spend and outcomes for diabetes

Table 3: Total Spend on Prescribing 2011/12

CCG	Total spend (m)	Spend per adult	Cluster average
Ashford	£1.8	£302.46	£427.86
Canterbury and Coastal	£4.4	£453.85	£396.95
Dartford Gravesham and Swanley	£5.3	£476.74	£427.86
Swale	£2.5	£433.26	£427.86
Thanet	£3.3	£435.69	£396.95
West Kent	£8.5	£450.07	£436.33
South Coast Kent	£4.8	£462.64	£396.95
TOTAL	**£30.6**		

Source: the DOVE tool (Diabetes Outcomes versus Expenditure)

With the exception of Ashford all Kent CCGs spend more than similar CCGs on their total prescribing budget. Dartford, Gravesham and Swanley spend the most

Across Kent this is an increase of £ 5.6m (22.4%) from 2009/10.

Table 4: Percentage of CCGs achievement of HbA1c of 59mmols/mol or less 2011/12

CCG	% achieved	Cluster Average
Ashford	72.3	70.9
Canterbury and Coastal	72.1	71.7
Dartford Gravesham and Swanley	68.3	70.9
Swale	67.1	70.9
Thanet	70.6	71.7
West Kent	72.3	70.9
South Coast Kent	73.3	71.7

Source: the DOVE tool (Diabetes Outcomes versus Expenditure)

South Kent Coast has the best outcomes for controlling HbA1c and Ashford, Canterbury and Coastal, West Kent and South Kent Coast CCGs all have better outcomes than the Cluster average.

Swale, Thanet and Dartford, Gravesham and Swanley CCGs have worse outcomes than similar CCGs.

Detailed reports on individual CCGs which include other indicators and allow comparisons with other Clinical Commissioning Groups can be found at http://www.yhpho.org.uk/default.aspx?RID=88739

The Level of Need in the Population

Table 5:

Level of need in the population

Clinical Commissioning Group	Sum of Diabetes Mellitus (Diabetes) Register (ages 17+)	Sum of Estimated number 17+	Diabetes prevalence	Expected prevalence	Expected number on register	Difference
NHS Ashford CCG	5,515	97,243	5.7%	7.1%	6,867	1,352
NHS Canterbury and Coastal CCG	9,609	173,320	5.5%	7.2%	12,437	2,828
NHS Dartford, Gravesham and Swanley CCG	11,207	197,828	5.7%	7.2%	14,208	3,001
NHS South Kent Coast CCG	10,446	162,546	6.4%	7.9%	12,846	2,400
NHS Swale CCG	5,632	84,019	6.7%	7.1%	5,946	314
NHS Thanet CCG	7,662	113,335	6.8%	8.2%	9,307	1,645
NHS West Kent CCG	18,990	371,801	5.1%	6.7%	24,946	5,956
Kent	**69,061**	**1,200,092**			**86,558**	**17,497**

Source: QoF; APHO prevalence model

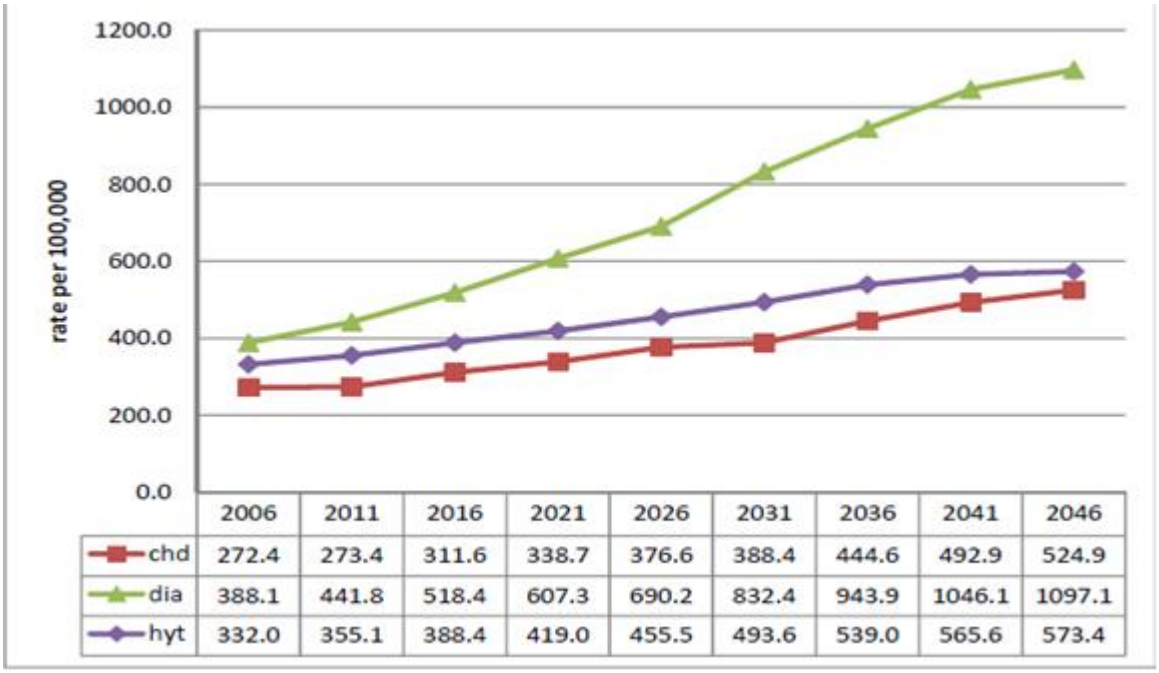
There are 69,061 people in Kent aged 17 or over on a diabetes register. In March 2011 there were 66,290. This is an increase of 2,771 (4.2%). The CCGs with the highest prevalence of recorded diabetes are Thanet and Swale CCGs and those with the lowest are West Kent and Canterbury and Coastal CCGs.

It is estimated that 17,497 people in Kent have diabetes and are not diagnosed, which is approximately 20% additionally. The risk of not being diagnosed is that no treatment can be started and the risk of complications increases. The national Health Checks programme is designed to identify those at most risk. Canterbury Coastal and West Kent CCGs have the highest number of undiagnosed patients.

Projected Service Use and Outcomes

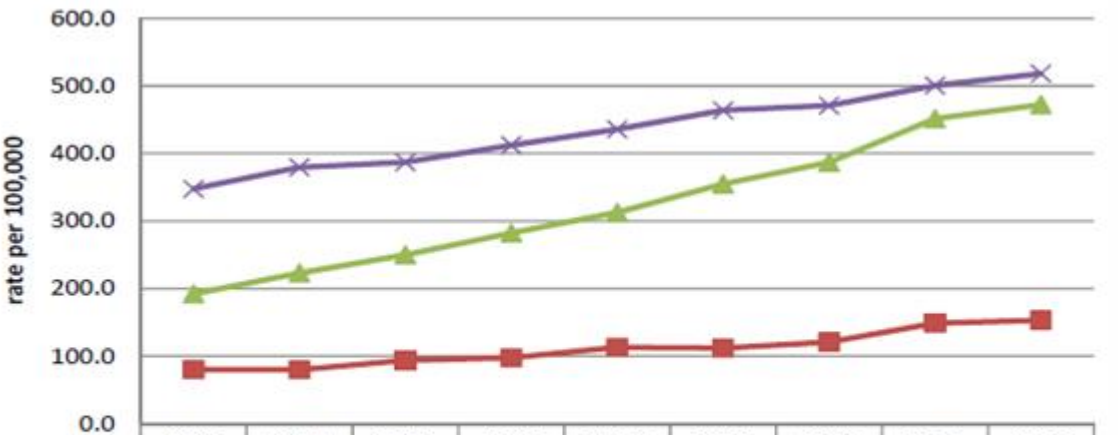
The prevalence of obesity and diabetes are growing annually. This will put more pressure on costs as greater levels of service will be required. The graphs below show the expected rise in diabetes and other conditions in line with the increase in predicted obesity levels if these are left unchecked.

Figure 5: Disease incidence rate per 100,000 for males aged 40-60 by year



	2006	2011	2016	2021	2026	2031	2036	2041	2046
chd	272.4	273.4	311.6	338.7	376.6	388.4	444.6	492.9	524.9
dia	388.1	441.8	518.4	607.3	690.2	832.4	943.9	1046.1	1097.1
hyt	332.0	355.1	388.4	419.0	455.5	493.6	539.0	565.6	573.4

Figure 6: Disease incidence rate per 100,000 for females aged 40-60 by year



	2006	2011	2016	2021	2026	2031	2036	2041	2046
chd	80.5	79.9	93.9	97.6	113.2	111.9	120.8	148.8	153.2
dia	192.1	223.0	250.0	282.2	312.8	354.8	386.8	451.4	472.2
hyt	347.5	379.4	387.2	412.2	435.9	463.8	471.0	500.5	518.1

Evidence of What Works

It is clear that reducing the burden of ill-health caused by diabetes will require an industrial scale effort to reduce obesity and that this starts at an earlier age. Evidence reviewed by NICE indicates that there is no single intervention that will reduce obesity and they recommend a multi-factoral approach[1]. This includes increasing physical activity, adopting healthier eating behaviours including portion control and accessing psychological support[2].

National Evidence

There is good evidence to suggest[3] that a weight loss of 5-10% of body weight in obese adults is associated with important health benefits, particularly in the reduction of blood pressure and reduced risk of developing type 2 diabetes and coronary heart disease.

Specific guidance for BME groups and pre diabetes prevention is being produced to account for the different factors that affect people from particularly black and asian communities[4].

NICE guidance for diagnosis and management of Type 1 diabetes was published in 2004[5] and guidance for Type 2 diabetes was updated in 2008[6].

Secondary prevention for people with diabetes is important to prevent complications. It is recommended that people with diabetes should have a care plan that is annually reviewed which include undertaking specific care processes to reduce the risks of ketoacidosis and coma, renal disease, retinopathy, amputation, heart disease and stroke. All diabetes patients except those with existing eye conditions and under the care of a specialist should attend annual screening to prevent retinopathy.
NICE guidance that addresses specific areas of treatment and care is available at www.nice.org.uk/guidance.

The Department of Health released the National Service Framework (NSF) for Diabetes[7] in 2001, this was followed by NSFs for Long Term Conditions, Coronary Heart Disease and Renal Services.

My Diabetes My Voice, a Children's Charter for Diabetes was published by Diabetes UK in response to poor management and care provided for children with diabetes in a range of settings[8].

NICE Diabetes Standards were published earlier this year and are one of the first 150 standards to be released. These are aspirational and are intended to be used by local health economies to drive improvement, Commissioners can use these as indicators in contracts and agreements with service providers.

Additional information and guidance on diabetes can be found on the NICE evidence search website[9].

A wealth of tools and supporting information to inform commissioning are available from the National Diabetes Information Service, Public Health England www.diabetes-ndis.org[10].

User Engagement

Introduction

There is clearly a need to increase the opportunities that the public and service users have for influencing the design and delivery of local services 'no decisions about me, without me'. There is a particular need to have this information in areas where there are poorer reported outcomes and higher prevalence of diabetes

An example of engagement in East Kent

In February 2013 five public engagement events were organised in the east of the County to start a dialogue with people diagnosed with diabetes, to understand patient's views about current service provision and management of diabetes. The events gathered the views of over 50 patients from across east Kent.

This report acknowledges that these views are not representative of the current number of people living with diabetes in east Kent which is 41,358 as of 11/12, based on data from Association of Public Health Observatories (APHO) and Kent & Medway Public Health Observatory (KMPHO) 2011-12) but that the events enabled the CCGs in east Kent to begin the process of working with patients to improve service provision.

Further work will need to be undertaken to enable a larger percentage of patients with both type 1 and 2 diabetes to have the opportunity to be involved in service re-design.

Methodology

The public engagement sessions were very informal in structure with participants involved in small table discussions. A health professional sat at each table to act as facilitator and to record the comments and views of the patients. All the health professionals involved in these events currently provide services for people with diabetes in east Kent. Participants were also invited to record their thoughts and opinions on paper table cloths to ensure comments were captured accurately.

Participants were first asked to discuss positive aspects of current provision and then what they thought could be improved or where they felt that service was inadequate or poorly provided.

All comments were then collated and analysed for emergent themes.

The next section provides the emergent themes with the corresponding issues that were discussed by those who attended one of the five sessions that were held.

Results

After collating all the comments that were captured thirteen themes emerged, which have been taken into account in informing the next engagement process about the proposed new pathway in 2014;

1. Children's services
2. Dietetics
3. Education
4. First diagnosed
5. General awareness
6. Hospital Care
7. Medicines Management
8. Paula Carr
9. Peer support
10. Pharmacists
11. Podiatry
12. Primary Care
13. Psychological Services
14. Other observations

In-patient Perspective-A National Survey

At and time 15% of acute beds are occupied by people with diabetes. A survey, undertaken using a validated survey tool was published in 2013. It reported on the responses of 1319 mainly white insulin dependent patients in 58 acute hospitals.

The survey found that meal choices were not as patients would have chosen at home and that insulin delivery was not well co-ordinated with meal times. Patients who had more access to respiratory nurses reported better satisfaction and shorter hospital stays.
Source: Determining inpatient diabetes treatment satisfaction in the UK – the DIPSat study.. */ Rutter, Claire; Jones, C; Dhatariya, KK; James, J; Irvine, L; Wilson, ECF; Singh, H; Walden, E; Holland, R; Harvey, I; Bradley, Clare; Sampson, MJ. In: Diabetic Medicine, Vol. 30, No. 6, 2013, p. 731-738*

It is intended that the National Diabetes Audit will include patient satisfaction indicators by 2014.

Local Support Groups

Diabetes UK run patient support groups in the following areas:-

Ashford, Canterbury and Coastal, Maidstone as well as a Maidstone area parent's support group, Thanet, Tunbridge Wells as well as a Tunbridge Wells area parents support group

Recommendations for Needs Assessment Work

- The 2009 Diabetes Needs Assessment in west Kent, and the eastern and coastal Kent Needs Assessments need to be reviewed
- Social Marketing work in areas of social deprivation to gain insight into population needs
- Detailed local information to provide a baseline for planning and prioritizing areas for improvement related to practices within Clinical Care Groups
- Specific work with children, families and carers to develop a baseline
- Prescribing profiles by practices and Clinical Care Groups and Hospital Trusts
- Audit of hospital admissions for children and adults

References

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[2] Kent County Council, NHS West Kent NHS Eastern Coastal Kent Evaluation of the Kent Healthy Early Years Pilot 2009 – 2010 Penny Crouzet and Emma Thorne 2010

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[5] NICE, diagnosis and management of Type 1 diabetes in children, young people and adults, http://publications.nice.org.uk/type-1-diabetes-cg15 - Issued 2004, modified 2011.

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[9] NICE Evidence Search http://www.evidence.nhs.uk/search?q=Diabetes

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National Diabetes Audit 2009/2010

Children and Young Peoples Diabetes Community Health Profile YHPHO 2011

YHPHO Diabetes Community Health Profile 2011

Quality and Outcomes Framework, 2009/10 and APHO Diabetes Prevalence Model

The NHS Information Centre National Diabetes Audit Executive Summary 2009-2010 June 2011