Diabetes in Northamptonshire Adults – a local profile

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Executive Summary

Diabetes is an important cause of morbidity and mortality which is more common in deprived populations. People from black and minority ethnic (BME) populations are also more at risk. Obesity is the primary modifiable risk factor for diabetes, which is affected by diet and exercise.

Prevalence

Diabetes can be asymptomatic and so true prevalence is likely to be higher than recorded prevalence. Northamptonshire has a significantly lower recorded prevalence than England. NHS Corby has the lowest prevalence in its comparator group as well as being significantly lower than the prevalence for England. 3Sixty Care Federation has a significantly higher prevalence than England. Prevalence is increasing overtime, and increased significantly in all four federations in the six years between 2009/10 and 2015/16.

Estimated prevalence

Using prevalence models it is estimated that 76.8% of people with diabetes are included on GP registers, estimating nearly 11,000 in the county have not been diagnosed. This is similar to the national rate. It is estimated that 81.3% of people with diabetes are diagnosed in NHS Corby and 79.2% in NHS Nene and both CCGs have significantly higher rates of diagnosis than England. It is estimated that there will be an additional 2100 in NHS Corby and 15,500 in NHS Nene requiring treatment by 2035.

Mortality

Northamptonshire’s diabetes death rates have been similar to the national average over the last decade. Northamptonshire has the highest premature mortality rate in its comparator group, but not significantly so. Northamptonshire has the highest Rate of Years of Life Lost in its comparator group and its rate is significantly higher than England.

Treatment targets

NHS Corby has significantly worse blood sugar control but significantly better blood pressure control than England in diabetes patients. NHS Nene had significantly lower rates of good cholesterol control and significantly lower rates of patients receiving Eight Care Processes than England.

Spend

Elective and non-elective spend on type 2 diabetes is significantly higher in NHS Corby CCGs than the 5 best CCGs in their comparator groups with an opportunity to save of £8k and £26k respectively. Elective and non-elective spend on type 1 diabetes in NHS Nene is similar to the national average but significantly higher than the best 5 CCGs in their comparator group, with an identified opportunity saving of £18k and £41k respectively.
Recommendations

1. Further investment is required in the prevention of diabetes in Northamptonshire. Although the National Diabetes Prevention Programme will go some way in identifying early signs of the disease, public health and the CCGs need to develop further programmes of work to address the risk factors which contribute to the development of diabetes, rather than wait for pre-diabetic symptoms/signs to develop before intervening.

2. CCGs and public health need to work together to develop an agreed approach to identify those patients in Northamptonshire who are diabetic but are currently undiagnosed in order to reduce the long term effects of the disease.

3. Variation on the management of those patients who are known to be diabetic needs to be addressed and the overall quality of care being provided in Northamptonshire must be improved to reduce the rate of Year of Life Lost, specifically relating to:
   a. Rate of structured education uptake
   b. Blood glucose management
   c. Receipt of the eight care processes

4. CCGs, with the support of public health, need to investigate the causes of:
   a. Higher elective and non-elective spend on Type II diabetes care in Corby CCG patients
   b. Higher elective and non-elective spend on Type I diabetes care in Nene CCG patients
Introduction

Diabetes is a long term condition known to affect more than 3 million people in England and an additional ~900,000 potentially undiagnosed. It is an important health issue as it increases risk of heart attack and stroke as well as eye and limb problems.

There are two main types of diabetes: Type 1 where the body is unable to produce insulin (a hormone which reduces blood sugar) and Type 2 (90% of all diabetes) which is caused by a resistance to insulin (usually a consequence of obesity) and/or insufficient insulin production. A third less common type is gestational diabetes. This develops during pregnancy when some women have high levels of blood glucose which their bodies are unable to produce enough insulin to absorb.1

This report aims to provide a profile of diabetes (Type 1 and 2) in Northamptonshire across different geographies providing information on risk factors, prevalence, mortality, clinical indicators, complications, and spend. The focus of this report is on adults only and does not cover gestational diabetes. Where the indicators specifically refer to Type 1 or Type 2 it will be stated in the text, otherwise indicators refer to both types of diabetes.

Who is at risk?

Diabetes does not impact everyone equally and inequalities exist in the risk of developing diabetes, for example, areas with high levels of deprivation are associated with a greater prevalence of diabetes as shown in Figure 1.

![Figure 1: Recorded diabetes by deprivation deciles in England.](Image)

Source: Public Health England
Locally at a federation level (Figure 2), GP Alliance has the most variation within their federation compared to others with some of the most and least deprived practices in the county within the one federation. However, more than 80% (23 out of 28) of their practices fall within the 50% most deprived. PML have more affluent practices compared with the other federations with nearly 90% (14 out of 16) of practices falling within 50% least deprived and more than 70% (12 out of 16) falling within the 20% least deprived. 

**Figure 2: Indices of Multiple Deprivation 2015 in deciles (where 1 is the most deprived)**

In addition, those who are overweight, physically inactive or have a family history of diabetes are at increased risk of developing diabetes. There is also a higher prevalence amongst south Asian and black populations whom also develop diabetes at a younger age. The frequency of diabetes in England is higher in men than in women; however, women with diabetes are at relatively greater risk of dying than men. This is possibly due to gender inequality including social-economic differences in the prevalence of diabetes and obesity. Age is a key factor in diabetes prevalence. Type 1 diabetes tends to be diagnosed in childhood but the prevalence of Type 2 diabetes increases steadily after the age of 45 years.

Obesity is the primary modifiable risk factor for diabetes. Diabetes can develop quickly in those who are obese without the intervention of healthy diet and exercise. The increasing prevalence of obesity in the population means there is an increasing prevalence of type 2 diabetes in the younger population.

Excess weight is an indicator in the Public Health Outcomes Framework (PHOF) and Figure 3 shows the variation across the county with significantly higher than England excess weight in Corby, East Northants and Wellingborough.
Figure 4 shows a risk profile for obesity across Northamptonshire at a smaller geography. It identifies, using ACORN segmentation, the smaller geographic areas with the population groups most likely to be obese, such as areas smaller areas within Northampton, Wellingborough, Kettering and Corby.

Ensuring a healthy diet is therefore important and the PHOF indicators on eating five portions of fruit and vegetables a day show significantly lower rates in Corby and Northampton and significantly higher rates in South Northants, compared to the England average (Figure 5).

Figure 6 shows a risk profile for healthy eating across Northamptonshire at a smaller geography within the county. It identifies, using ACORN segmentation, the smaller geographic areas with the population groups least likely to be eating 5 portions of fruit and vegetables a day. Including areas, such as those within Northampton, Wellingborough, Kettering and Corby.

In addition, Figure 7 shows adult participation in sport across the county. The lowest participation is in areas in Corby, Wellingborough, Northampton and Daventry.

In addition to obesity, smoking and poor control of diabetes are risk factors for complications in people with diabetes. More detail on the latter can be found in later in this report (see Complications). Deprivation is also strongly associated with higher levels of all these risk factors with are linked to the risk of diabetes or complications.\(^5\)
Figure 4: ACORN Risk profile - Obesity

Source: CACI Limited 1979-2016. ©CACI Ltd [1979] – [2018]. This report shall be used solely for academic, personal and/or non-commercial purposes.

Figure 5: Proportion of population eating recommended 5 a day, 2015.

Source: Public Health England, PHOF
Figure 6: ACORN Risk profile – Healthy Eating

Source: CACI Limited 1979-2016. ©CACI Ltd [1979] – [2018]. This report shall be used solely for academic, personal and/or non-commercial purposes.

Figure 7: Adult participation in Sport across Northamptonshire, 2011-12

Produced by Public Health and Wellbeing and BIPI, NCC
Local Picture

Prevalence

As diabetes can be asymptomatic it is difficult to estimate an exact prevalence. Therefore, the section below outlines both modelled and recorded prevalence for the county. The 2015/16 QOF release has not yet been made available at district and county level, so these geographical areas still show data based on the 2014/15 QOF release, while data for the CCGs and federations in based on the 2015/16 QOF release.

Recorded prevalence

Figure 8 shows the recorded prevalence of diabetes (in people age 17+) in Northamptonshire is significantly lower than the national average. Within Northamptonshire, both Wellingborough and East Northants have significantly higher recorded prevalence. In addition, the recent trend is upwards for all districts, which highlights the significantly increasing trend in recorded diabetes prevalence not only in Northamptonshire but across the country as a whole. It is difficult to determine the extent to which differences are due to higher prevalence and to what extent practice and systems in primary care have resulted in better identification and hence higher diagnosed prevalence.

![Figure 8: Recorded diabetes prevalence aged 17+ in Northamptonshire, 2014/15](source: QOF)

Figure 9 shows Northamptonshire and comparator areas for 2014/15 and Figure 10 and Figure 11 show 2015/16 data for both CCGs. Northamptonshire and Nene CCG are similar to the average for their comparators groups. NHS Corby CCG has one of the lowest recorded prevalence of its comparator group. Both CCGs recorded prevalence fall within lowest 40% in the country. Figure 12 shows the same data (recorded prevalence) at a federation level and the variation for each federation is shown in Appendix B: Diabetes prevalence.

3sixty Care Ltd had a significantly higher, and PML and GP alliance have significantly lower prevalence than England. 3sixty Care Ltd had a significantly higher prevalence and PML a significantly lower prevalence than the other two federations. This pattern has mostly remained throughout the time period (see figure 13). In comparison with England, PML is
significant lower for the whole period and 3sixty Care Ltd significantly higher since 2010/11.
GP Alliance has a significantly lower prevalence rate than England since 2014/15.

Figure 9: Recorded diabetes prevalence, 2014/15, Northamptonshire and CIPFA comparators

Source: QOF

Figure 10: Recorded Prevalence by Nene CCG and 10 most similar CCGs, 2015/16

Source: QOF
Figure 11: Recorded Prevalence by Corby CCG and 10 most similar CCGs, 2015/16

Figure 12: Recorded Diabetes Prevalence, 2015/16 by Federation

Produced by Public Health and Wellbeing and BIPI, NCC
All four federations have a significantly higher prevalence in 2015/16 than they did at the start of the period. Differences over time are likely to be as a result of improved recording as well as an increase in true prevalence. The trend over time can be seen in Figure 13.

**Figure 13: Recorded Diabetes prevalence (aged 17+) by GP Federation**

It is important to reiterate that this prevalence data represents recorded prevalence only, and therefore differences between federations may be due to recording rate, and socio economic differences within populations, and this needs to be taken into account when interpreting.

**Estimated prevalence**

To gain a better understanding of total prevalence (diagnosed and undiagnosed) Public Health England have developed a diabetes prevalence model. This model estimates that 8.2% of the adult population (16 years and over) of Northamptonshire have diabetes compared to 6.2% recorded on the diabetes registers for 2014/15. Therefore estimating that nearly 11,000 people have not had their condition diagnosed in the county. Overall the prevalence model estimates 76.8% of people with diabetes have been diagnosed and included on GP registers in the county, similar to the national average (76.5%) and comparator areas (Figure 14). These differences with recorded diabetes cannot be explained by differences in population structure as the model takes into account age, gender, ethnicity and deprivation.
At a CCG level the prevalence model estimates 7.6% and 8.0% of the population in NHS Corby and NHS Nene CCGs respectively have diabetes, which is higher than the 2015/16 QOF recorded prevalence of 6.2% and 6.3% on the diabetes registers. Therefore estimating a possible 835 people in Corby and 8777 in Nene to be undiagnosed. Overall the model estimates that 81% and 79% of people with diabetes have been diagnosed on GP registers in NHS Corby and Nene CCGs respectively, and both have significantly higher diagnosis rates than England.

The charts below (Figure 15 and Figure 16) compare the estimated prevalence of diabetes in the CCGs with their comparator groups and England as a whole, as well as the ratio between observed and expected prevalence (which is the proportion of the estimated population which appear on the diabetes register). NHS Corby CCG has the lowest estimated prevalence of diabetes in the comparator group and this falls in the lowest quintile nationally. The ratio of observed versus expected prevalence is similar to the average for the group (but is higher than NHS Nene). NHS Nene CCG has a similar to group average expected prevalence and one of the higher ratio’s of observed versus expected in its group (but lower than NHS Corby). Both CCGs have
Figure 15: Prevalence estimates of diabetes, Corby CCG and comparators 2015 Vs Recorded prevalence on practice registers, 2015/16

Source: PHE, NHS Digital and NCC Public Health

Figure 16: Prevalence estimates of diabetes, Nene CCG and comparators 2015 Vs Recorded prevalence on practice registers, 2015/6

Source: PHE, NHS Digital and NCC Public Health
Figure 17 shows a risk profile for diabetes based on ACORN segmentation, identifying the areas across the county with population groups more likely to have diabetes, areas mainly in Northampton, Wellingborough, Kettering, Corby and south of East Northants.

Projected service use and prevalence in 3-5 years and 5-10 years

The diabetes prevalence model also estimates that in five years the prevalence will have increased to 8.6% (an additional 4,600~ people) and by 2035 will increase to 9.6% (an additional 18,000~ people) in the county as a whole. In NHS Corby CCG the expected rise in the next 5 years is a prevalence of 8% (an additional 500~ people) and by 2035 to 8.8% (an additional 2100~ people). In NHS Nene CCG the expected rise in the next 5 years is 8.4% (an additional 4000~ people) and by 2035 to 9.4% (an additional 15,500~ people).

This predicted rise (Figure 18) is greater than for England as a whole because the proportion of older people in the population in the county is rising faster than is seen nationally. In addition, to an increasing ethnic mix in the population and therefore greater risk and expected increases in the number of people with excess weight.
Mortality

Death rates from diabetes as a primary or underlying cause of death are low and small numbers result in fluctuating rates over time. Despite fluctuations, Northamptonshire diabetes death rates have generally been similar to the national average over the last decade. Between 2002 and 2014 the number of deaths have fluctuated between 53 and 81. In 2012-14 the standardised mortality rate for diabetes was 10.34 per 100,000, similar to the national average (Figure 19).

Figure 20 shows Northamptonshire has the highest premature mortality rate in its comparator group, although differences are not significant between areas. Within Northamptonshire Corby and Wellingborough have the highest rates but again differences are not significant between areas. All age mortality shows similar pattern, see Appendix C: Mortality. Figure 21 maps mortality rates from diabetes by smaller areas (Middle Super Output Areas, MSOAs)

Years of life lost due to diabetes for people aged under 75 years (figure 22) was 5.3 per 100,000 population, significantly higher than England as a whole (3.9 per 100,000) and the highest compared to comparator areas. Northamptonshire has the highest premature mortality rate in its comparator group, although differences are not significant between areas. Within Northamptonshire Corby and Wellingborough have the highest rates but again differences are not significant between areas. All age mortality shows similar pattern, see Appendix C: Mortality.
Figure 19: Diabetes mortality, all ages, 2002-2014

Source: NHS Digital and NCC

Figure 20: Mortality from diabetes under 75 years 2012-2014, Directly age standardised rates per 100,000, Northamptonshire and CIPFA comparators

(Green = CIPFA comparators, Blue= Northamptonshire Districts)
Source: NHS Digital, 2016 and NCC

Produced by Public Health and Wellbeing and BIPI, NCC
Figure 21: Mortality from diabetes, Northamptonshire (2012-14).

Source: NHS Digital, 2016
Whilst mortality has been decreasing, this is based on diabetes measured as an underlying cause of death. Diabetes will have been an indirect cause to many more deaths such as stroke, heart attack and kidney failure. It is a risk factor for cardiovascular disease which is the second biggest killer locally, and there are also significant implications for quality of life. The Global Burden of Disease study has found that although diabetes mortality has fallen in the UK by more than 50%, the burden of ill health has increased with illness and disability associated with diabetes increasing by 75% over the last 23 years.
Clinical indicators – treatment and complications

This section provides a picture of key aspects of clinical management of patients with diabetes, including blood sugar control (HbA1c), blood pressure and cholesterol, as identified in the RightCare Diabetes pathways (Figure 23 and Figure 24) and within the Public Health England Diabetes Profile (Table 1 and 2).

Figure 23: NHS Corby CCG RightCare Diabetes pathway, October 2016

Table 1: Diabetes treatment targets, NHS Corby CCG and 10 most similar CCGs, 2014/15

Source: PHE. Diabetes profile
Figure 24: NHS Nene CCG RightCare Diabetes pathway, October 2016

Table 2: Diabetes treatment targets, NHS Nene CCG and 10 most similar CCGs, 2014/15

Source: PHE. Diabetes profile 2016

Please note that in the tables the red, amber green colouring relates to difference from England as the benchmark, whereas Figures 23 and 24 the colouring relates to the peer average, this is why the colour coding may disagree despite being based on the same year and same peer group.)
Treatment targets

Intervention rates have been used in this section following the guidance provided by Public Health England and NHS Digital. Intervention rates look at the proportion of all patients with the condition who were treated. Looking at the percentage of patients receiving an intervention gives more accuracy around the rate of provision of intervention as the denominator used is irrespective of exceptions. This is regarded as a better comparable indicator, as although there are good reasons why a patient may not be treated there can also be variation in interpretation of exception rules at a practice level. This data highlights variation and is the starting point in trying to understand this. Correlations with NDA data have also shown intervention rates to be a better measure of true performance compared to achievement scores. The three treatments shown in this report are blood sugar control, blood pressure control and cholesterol control. Table 1 and Table 2 show NHS Corby CCG and NHS Nene CCG and their comparators across all three treatment indicators.

Blood sugar control

The charts 23 and 24 above show, for both CCGs, blood sugar control in 2014/15 was worse than the average of ten similar CCGs, and that NHS Corby CCG was significantly worse than its peers. Table 1 show the variation within the 10 most similar CCGs to NHS Corby and Table 2 the 10 most similar CCGs to NHS Nene.

Figure 25 shows that in 2015/16 NHS Corby had significantly worse blood sugar control than the England average while NHS Nene was not significantly different. Figure 25 also shows that NHS Corby is significantly worse than the 5 best CCGs in its comparator group, while NHS Nene is not significantly different (2015/16 data). Figure 26 shows that in 2015/16 3Sixty Care and Lakeside Healthcare federations had significantly lower rates than England and NHS Nene, but 3Sixty Care had a significantly higher rate than NHS Corby, and Lakeside was not significantly different from Corby. Doc Med federation had a significantly higher rate of good blood sugar control than England and both CCGS. The variation by practice can be seen in Appendix D: Treatment targets – Blood sugar.

The opportunity calculated in the RightCare CVD Focus pack (using 2014/15 data) is that a further 342 and 614 patients would need to be treated in NHS Corby and Nene CCGs respectively in order to have the same rates for blood sugar control as the best 5 CCGs in their comparator groups (see Appendix D: Clinical Indicators)
Figure 25: Good blood sugar control\(^1\) in people with diabetes, 2015/16, CCGs

Source: QOF, PHE, NCC PH

Diabetes patients whose last IFCC-HbA1c was 59mmol/mol or less in the previous 12 months

Figure 26: Good blood sugar control in people with diabetes, 2015/16, Federations

Source: QOF, PHE, NCC PH

\(^1\) Diabetes patients whose last IFCC-HbA1c was 59mmol/mol or less in the previous 12 months

Produced by Public Health and Wellbeing and BIPI, NCC
Blood pressure control

Both CCGs blood pressure control was significantly better than the 10 similar CCGs in 2014/15 (Figure 23 and Figure 24 above). Table 1 show the variation within the peer groups for NHS Corby and Table 2 the peer groups of NHS Nene. The Diabetes profile (Table 2) showed NHS Nene as similar to England.

Figure 27 shows the intervention rate for NHS Corby in 2015/16 is significantly higher than the national average while NHS Nene CCG is not significantly different. NHS Corby CCG had a significantly higher percentage than the 5 best comparator areas, however NHS Nene CCG was not significantly different to the average for the best 5 CCGs in their comparator group (as shown in Figure 27). Figure 28 shows that DocMed and GP Alliance both have significantly lower rates of blood pressure control than England and both CCGs. 3Sixty Care and Lakeside Healthcare federations have significantly higher rates than England and NHS Nene but significantly lower than NHS Corby. Variation by GP practice within the federations is shown in Appendix D Treatment targets Blood Pressure.

The RightCare CVD Focus pack identified that in 2014/15, 195 more patients would need to be treated in NHS Nene CCG to get the same rates for blood pressure control as the best 5 CCGs in its comparator group (see Appendix D: Clinical Indicators). This increase would also increase their rate to the next highest quintile nationally.

Figure 27: Good blood pressure control in people with diabetes, 2015/16, CCGs

Source: QOF, PHE, NCC PH

2 Last BP is <=140/80 mmHg (diabetes)
**Figure 28: Good blood pressure control[^3] in people with diabetes, 2015/16, Federations**

**Cholesterol control**

Good cholesterol control in 2014/15 was identified for both CCGs as worse than the average for similar CCGs, significantly worse for NHS Corby CCG (Figure 23 and Figure 24 above). Table 1 show the variation within the 10 most similar CCGs to NHS Corby and Table 2 the 10 most similar CCGs to NHS Nene.

Figure 29 shows the intervention rates in 2015/16, and that NHS Nene had a significantly lower rate than England while Corby though lower was not significantly so. Both CCGs had significantly lower rates than their comparator groups. Figure 30 shows that 3Sixty Care and GP Alliance federations have significantly lower rates than England and NHS Corby. DocMed federation has a significantly higher rate than NHS Nene. Details of variation by practice can be found in Appendix D, Treatment targets, Cholesterol.

The [RightCare CVD Focus pack](#) identified that both CCGs were significantly worse than the average for the best 5 CCGs in their comparator groups in 2014/15 with an opportunity calculated that a further 119 and 592 patients should be treated in NHS Corby and Nene CCGs respectively to achieve the same rates for cholesterol control as the best 5 CCGs in their comparator groups (see Appendix D: Clinical Indicators). This increase would also increase their rates to the top 40% nationally, as shown in Figure 29.

[^3]: Last BP is <=140/80 mmHg (diabetes)
Figure 29: Good cholesterol control in people with diabetes, 2015/16

Figure 30: Good cholesterol control in people with diabetes, 2015/16

4 Last measured total cholesterol within last 12 mths is <=5mmol/l (diabetes)

Produced by Public Health and Wellbeing and BIPI, NCC
Eight care processes

The RightCare CVD Focus packs look at patients receiving 8 care processes. The 8 care processes are:

- BMI measurement (weight/height)
- BP measurement
- HbA1c measurement (blood sugar)
- Cholesterol measurement
- Record of smoking status
- Foot examination
- Albumin: creatinine ratio
- Serum creatinine measurement

The RightCare data refers to 2012/13 and highlights although NHS Corby CCG was significantly better than the national average for the percentage of patients receiving the 8 care processes, it was significantly below the 5 best in the comparator group (Figure 31). Therefore calculating an opportunity that an additional 138 patients would need to be treated for Corby to have the same rate as the best 5. More recent National Diabetes Audit data for Type 2 diabetes in 2014/15 shows that Corby’s percentage has decreased slightly to 62.3% and remained higher than national average (59%). The same is seen for Type 1 diabetes patients.

Figure 31: The percentage of patients receiving 8 care processes in Corby CCG

Source: NHS Rightcare CVD Focus pack.
For NHS Nene CCG the RightCare CVD Focus packs shows the proportion of patients receiving 8 care processes was significantly below the 5 best CCGs in the comparator group and national average in 2012/13 (figure 32). Therefore with an opportunity that an additional 5,279 patients would need to be treated for Nene CCG to have the same rate as the 5 best in their group. However, more recent data from the National Diabetes Audit has shown the rate in Nene CCG has increased to 60% for Type 2 diabetes, and was similar to national average (59%) in 2014/15.

Figure 32: The percentage of patients receiving 8 care processes

![Chart showing percentage of patients receiving 8 care processes](chart.png)

Source: NHS Rightcare CVD focus pack.

Practice variation by federation is shown in Figure 33 for type 2 diabetes, data for Type 1 diabetes is shown in Appendix D: Eight care processes.
Flu vaccination
The RightCare CVD Focus packs shows the flu vaccination in diabetic patients to be just below the national average for both NHS Corby (Figure 34) and Nene CCGs (Figure 35). However, both are significantly below the 5 best CCGs in their comparator groups with an opportunity of treating an additional 151 patients and 938 patients respectively if had the same rate. The more recent data for 2015/16 is shown in figure 36. In both cases the vaccination rate has decreased from 76.6 to 74.6% for NHS Corby and from 76.3 to 74.5% for NHS Nene. Both of the CCGs have significantly lower rates of vaccination than their comparator groups and NHS Nene has a significantly lower rate than England
Figure 34: Patients with diabetes who have had a flu vaccination in 2014/15 (%), NHS Corby CCG

Figure 35: Patients with diabetes who have had a flu vaccination in 2014/15 (%), NHS Nene CCG

Source: NHS Rightcare CVD focus pack.
Structured education

The [RightCare CVD Focus packs](#) shows diabetic patients receiving structured education was similar to the national average in both CCG. However, both are significantly below the 5 best CCGs in their comparator groups with an opportunity of treating an additional 26 patients in NHS Corby and 121 patients NHS Nene if they had the same rate (Figure 37 and Figure 38).

Figure 39 shows the situation in 2015/16, both the CCGs continue to have similar rates to England, but both have significantly lower rates than their comparators (the five best CCGs).
Figure 37: Patients with diabetes attending structured education (%), 2014/15 NHS Corby CCG

Source: NHS Rightcare CVD focus pack.

Figure 38: Patients with diabetes attending structured education (%), 2014/15 NHS Nene CCG

Source: NHS Rightcare CVD focus pack.
Complications

People with diabetes have a higher risk of certain conditions, such as myocardial infarction (MI), heart failure, angina, stroke and higher risk of needed renal replacement therapy, and amputations, than those without diabetes. This has significant health and financial implications. The indicators in the PHE diabetes profile and RightCare CVD Focus packs (taken from the NDA, 2011/12) identify the additional risk of someone with diabetes over a three year period compared to the population without diabetes.

Risk of MI

The risk of MI in NHS Corby (64.2%) and NHS Nene CCGs (57.2%) are slightly above the national average (55.4%) but not significantly different. They are also, as identified in the RightCare CVD Focus packs, similar to comparator areas (see Appendix D: Complications).

Risk of heart failure

The risk of heart failure in NHS Corby (73.4%) and NHS Nene CCGs (77.1%) are not significantly different to the national average (73.7%). They are also, as identified in the RightCare CVD Focus packs, similar to comparator areas (see Appendix D: Complications).
Risk of stroke
The risk of stroke in NHS Corby (24.2%) and NHS Nene CCGs (35%) are not significantly different to the national average (34.3%). They are also, as identified in the RightCare CVD Focus packs, similar to comparator areas, NHS Corby CCG has the lowest identified risk of the comparator group (see Appendix D: Complications).

Other risks
Additional risks, as identified in the PHE Diabetes Profile, of angina, renal replacement therapy and amputation are also all not significantly different to the England average and similar to comparator areas (see Appendix D: Complications).

Foot check
Patients with diabetes are at high risk of foot complications. According to QOF 2015/16, the percentage of patients with diabetes, on the register, with a record of a foot examination and risk classification in NHS Nene CCG was 78.9% which is significantly lower than the national rate of 81.4% and also significantly lower than its comparators (the five best of the 10 most similar CCGs). NHS Corby has a rate of 81.6% which is not significantly different to the national rate or to its comparators (Figure 40).

Figure 40: The percentage of patients with diabetes, on the register, with a record of a foot examination and risk classification, 2015/6

Source: QOF
Spend

Primary care prescribing

As identified in the RightCare CVD Focus packs, NHS Corby spend on primary care prescribing is higher than the 5 best in their comparator group in two areas, Biphasic Insulin Aspart and Glucose Blood Testing Reagents. These present a potential £13k and £29k of savings respectively, as shown in Figure 41. In NHS Nene CCG, the spend is higher in most areas with a potential saving of nearly £2m, see Figure 42.

Elective and non-elective

Elective and non-elective spend on type 2 diabetes is significantly higher in NHS Corby CCGs than the 5 best CCGs in their comparator groups. The RightCare CVD Focus packs identify an opportunity to save of £8k and £26k respectively. Spend on type 1 diabetes in NHS Corby is significantly below comparators.

Non-elective spend on type 2 diabetes in NHS Nene CCG is not significantly different to comparator areas and significantly below the national average. However, elective spend on type 2 diabetes is significantly higher than the 5 best CCGs in their comparator group with an opportunity saving of £47k. Elective and non-elective spend on type 1 diabetes in NHS Nene is similar to the national average but significantly higher than the best 5 CCGs in their comparator group, with an identified opportunity saving of £18k and £41k respectively.

See Appendix E: Spend for the RightCare CVD Focus packs charts.

Figure 41: Diabetes Primary Care Prescribing, NHS Corby CCG

Source: NHS RightCare CFV Cardiovascular disease focus pack

Produced by Public Health and Wellbeing and BIPI, NCC
Figure 42: Diabetes Primary Care Prescribing, NHS Nene CCG

Diabetes Primary Care Prescribing

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<th>Nene</th>
<th>Best 5</th>
<th>How different are we?</th>
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<td>£222</td>
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Source: NHS RightCare CFV Cardiovascular disease focus pack
Recommendations

1. Further investment is required in the prevention of diabetes in Northamptonshire. Although the National Diabetes Prevention Programme will go some way in identifying early signs of the disease, public health and the CCGs need to develop further programmes of work to address the risk factors which contribute to the development of diabetes, rather than wait for pre-diabetic symptoms/signs to develop before intervening.

2. CCGs and public health need to work together to develop an agreed approach to identify those patients in Northamptonshire who are diabetic but are currently undiagnosed in order to reduce the long term effects of the disease.

3. Variation on the management of those patients who are known to be diabetic needs to be address and the overall quality of care being provided in Northamptonshire must be improved to reduce the rate of Year of Life Lost, specifically relating to:
   a. Rate of structured education uptake
   b. Blood glucose management
   c. Receipt of the eight care processes

4. CCGs, with the support of public health, need to investigate the causes of:
   a. Higher elective and non-elective spend on Type II diabetes care in Corby CCG patients
   b. Higher elective and non-elective spend on Type I diabetes care in Nene CCG patients
Appendices
Appendix A: Federations
Appendix B: Diabetes prevalence

### Recorded prevalence - federation variation – GP level

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### DocMed (PML) recorded prevalence of diabetes by practice, 2015/16

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Produced by Public Health and Wellbeing and BIPI, NCC
GP Alliance, recorded prevalence of diabetes by practice, 2015/16

Lakeside, recorded prevalence of diabetes by practice, 2015/16

Source: QOF
## Appendix C: Mortality

### Mortality from diabetes, all ages, 2012-14, Directly age standardised rates per 100,000, Northamptonshire and CIPFA comparators

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**Source:** NHS Digital, 2016 and NCC
Appendix D: Clinical Indicators

Treatment targets – Blood sugar

Diabetes patients HbA1c <59mmol (%), NHS Corby CCG

RightCare CVD Focus Pack, April 2016

Diabetes patients HbA1c <59mmol (%), NHS Nene CCG

RightCare CVD Focus Pack, April 2016

Produced by Public Health and Wellbeing and BIPI, NCC
Source: QOF
Treatment targets Blood Pressure

Diabetes patients whose Blood Pressure <140/80 (%), NHS Corby CCG

RightCare CVD Focus Pack, April 2016

Diabetes patients whose Blood Pressure <140/80 (%), NHS Nene CCG

RightCare CVD Focus Pack, April 2016

Produced by Public Health and Wellbeing and BIPI, NCC
Diabetes patients whose Blood Pressure <140/80 (%) by federation and practice.
Treatment targets, Cholesterol

Diabetes patients whose cholesterol <5 mmol/l (%), NHS Corby CCG

Source: RightCare CVD Focus Pack, April 2016

Diabetes patients whose cholesterol <5 mmol/l (%), NHS Nene CCG

Source: RightCare CVD Focus Pack, April 2016

Produced by Public Health and Wellbeing and BIPI, NCC
Diabetes patients whose cholesterol <5 mmol/l (%), by Federation showing practice variation

3Sixty Care, good cholesterol control, 2015/16

DocMed, good cholesterol control, 2015/16

Percentage of patients
Source: QOF
Eight care processes

Percentage of people with Type 1 diabetes receiving the All Eight Care Processes in NHS Nene and Corby CCG, 2014/15

Source: National Diabetes Audit 2014/15 and NCC PH
Complications

Risk of myocardial infarction (MI)

Risk of myocardial infarction (MI) in NHS Corby (top) and NHS Nene (bottom)

Source RightCare and National Diabetes Audit 2014/15

Produced by Public Health and Wellbeing and BIPI, NCC
Risk of heart failure in NHS Corby (top) and NHS Nene (bottom)

Risk of heart failure in people with diabetes (%)

Source RightCare and National Diabetes Audit 2014/15
Risk of stroke

Risk of stroke in NHS Corby (top) and NHS Nene (bottom)

Source RightCare and National Diabetes Audit 2014/15
## PHE Diabetes Profile – complications NHS Corby (top) and NHS Nene (bottom)

| Indicator                                                                 | Period   | England | NHS Corby CGS | 1 - NHS Hatfield CGS | 2 - NHS Bury CGS | 3 - NHS Tameside And Glossop CGS | 4 - NHS Telford And Wrekin CGS | 5 - NHS Vale Royal CGS | 6 - NHS St Helens CGS | 7 - NHS Rochdale CGS | 8 - NHS Harrogate CGS | 9 - NHS Trafford CGS | 10 - NHS Barrow And Furness CGS |
|---------------------------------------------------------------------------|----------|---------|---------------|---------------------|-----------------|----------------------------------|-------------------------------|---------------------|----------------------|--------------------|---------------------|---------------------|----------------------|------------------------|
| Additional risk of myocardial infarction among people with diabetes       | 2010/11  | 108.6   | 104.9         | 149.8               | 110.0           | 133.9               | 90.5                          | 127.0               | 74.7                 | 115.2              | 132.1              | 113.9               | 106.9               |
| Additional risk of heart failure among people with diabetes               | 2010/11  | 150.0   | 159.7         | 178.4               | 144.1           | 168.1               | 173.2                         | 178.6               | 128.3                | 171.2              | 136.2              | 136.3               | 172.6               |
| Additional risk of angina among people with diabetes                     | 2010/11  | 136.8   | 121.4         | 118.5               | 135.5           | 152.0               | 144.1                         | 170.8               | 119.7                | 153.3              | 141.3              | 132.0               | 147.1               |
| Additional risk of stroke among people with diabetes                      | 2010/11  | 81.3    | 71.0          | 41.3                | 80.4            | 91.0                | 90.0                          | 99.6                | 64.9                 | 73.3               | 97.9               | 82.6                | 106.1               |
| Additional risk of renal replacement therapy among people with diabetes   | 2010/11  | 293.0   | 156.1         | 325.2               | 208.2           | 225.0               | 349.7                         | 262.0               | 296.5                | 278.3              | 216.2              | 255.4               | 321.6               |
| Additional risk of minor amputation among people with diabetes            | 2010/11  | 753.5   | 564.7         | 602.2               | 886.5           | 500.3               | 641.0                         | 565.6               | 662.9                | 1104.3             | 677.5              | 751.4               | 687.7               |
| Additional risk of major amputation among people with diabetes            | 2010/11  | 445.8   | 315.9         |                      | 267.9           | 398.9               | 252.0                         | 357.9               | 216.6                | 672.5              | 355.6              | 541.1               | 840.2               |

Source: PHE

Produced by Public Health and Wellbeing and BIPI, NCC
Appendix E: Spend

Elective spend – NHS Corby (top) and NHS Nene (bottom)

Source: NHS RightCare CFV Cardiovascular disease focus pack

Produced by Public Health and Wellbeing and BIPI, NCC
Non-elective spend – NHS Corby (top) and NHS Nene (bottom)

Diabetes - non-elective spend

Type 1 diabetes

£360

£261

Type 2 diabetes

£209

£334

Source: NHS RightCare CFV Cardiovascular disease focus pack

Produced by Public Health and Wellbeing and BIPI, NCC
Type 2 diabetes – non elective spend – NHS Corby (top) and NHS Nene (bottom)

**Source:** NHS RightCare CFV Cardiovascular disease focus pack
References


8 Longer Lives http://healthierlives.phe.org.uk/topic/mortality

9 Longer Lives http://healthierlives.phe.org.uk/topic/mortality
