

NICE impact *diabetes*



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Around **3 million people in England have been diagnosed with diabetes**. This report considers how NICE's evidence-based guidance can contribute to improvements in the prevention and management of diabetes.

This report highlights progress made by the healthcare system in implementing NICE guidance. We recognise that change can sometimes be challenging, and may require additional resources such as training, new equipment or pathway reconfiguration.

We work with partners including NHS England and NHS Improvement to support these changes, and we also look for opportunities to make savings by reducing ineffective practice.

*NICE has produced **resources** for sustainability and transformation partnerships (STP) or integrated care systems (ICS) to help address priority areas identified in the Five Year Forward View. This includes a **resource** on preventing, detecting and managing diabetes.*



Preventing type 2 diabetes p4

Type 2 diabetes can lead to health problems like heart disease, stroke and kidney failure. If people know they are at risk they can often prevent or delay diabetes by making healthy changes to their diet and lifestyle. This is the focus of the NHS Diabetes Prevention Programme (p4). For people from certain ethnic communities the risk increases at an earlier age and at a lower BMI level, so requires particular attention to prevent diabetes (p5).



Managing diabetes p6

Uncontrolled diabetes can lead to serious complications. Structured education (p7) and personalised care planning (p8) enable people to manage their diabetes more effectively. Greater focus is required to target people with severe mental illness and young adults (p13) who have poorer outcomes.



Spotlight on insulin pump therapy p15

Insulin pump therapy is an option for some people with type 1 diabetes. More people are using new, smaller devices and as a result are more likely to achieve their treatment targets.



Commentary p17

Chris Askew from Diabetes UK reviews recent achievements and considers NICE's role in contributing to improvements in the prevention and management of diabetes.

Why focus on diabetes?

Diabetes causes a person's blood sugar level to become too high. There are two main types of diabetes.

Type 1 diabetes is where the body's immune system attacks and destroys the cells that produce insulin. Type 2 diabetes is where the body doesn't produce enough insulin, or the body's cells don't react to insulin.

Type 2 diabetes is far more common than type 1. In the UK, around **90% of all adults with diabetes have type 2.**

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NICE impact reports review how NICE recommendations for evidence-based and cost-effective care are being used in priority areas of the health and care system, helping to improve outcomes where this is needed most.

NICE provides evidence-based guidance and advice to help improve health and social care services. The uptake of NICE guidance is influenced by close relationships with partners in the system, such as NHS England and Public Health England (PHE). [Next steps on the NHS Five Year Forward View](#) was commissioned by NHS England to set out a series of practical and realistic steps to deliver a better, more joined-up and more responsive NHS. It included a focus on prevention and management of diabetes.

Next Steps on the Five Year Forward View highlights that the risk of type 2 diabetes can be reduced through tailored and personalised help and that technology can be used to help people manage and improve their condition. In March 2017, the [NHS transformation fund for diabetes](#) provided around £44 million of funding to support improvement in the treatment and care of people with diabetes. NHS England, PHE, Diabetes UK and other stakeholders have established a [NHS RightCare diabetes pathway](#) and so, in this report, we have focused on what we know about the uptake and impact of our recommendations in this area.

NICE published its first diabetes guideline, on diabetic foot problems, in 2004. Since then we have produced a [suite of guidance and advice on the prevention, diagnosis and management of diabetes](#). As well as the core elements of good diabetes care which underpin the NHS RightCare pathway, our guidance covers medical technologies, surgical interventions, medicines, and the care of particular population groups such as pregnant women and people from black, Asian and minority ethnic communities.

We routinely collect data which give us information about the uptake of our guidance. To produce this report, we have worked with national partners to select data which tell us how NICE guidance can make a difference in priority areas relating to diabetes. The data also highlight areas where there remains room for improvement.

Preventing type 2 diabetes

Most people with high blood sugar, which can lead to diabetes, receive no intervention. The NHS Diabetes Prevention Programme aims to identify these people and refer them to a behaviour change programme to reduce their risk of type 2 diabetes.

People from black, Asian and other minority groups are 2 to 4 times more likely to develop type 2 diabetes, so require increased focus.

Type 2 diabetes can be a lifelong condition. It can also lead to other serious health problems like heart disease, stroke and kidney failure. If people know they are at risk they can often prevent or delay type 2 diabetes by making healthy changes to their diet and lifestyle.

The NHS RightCare diabetes pathway highlights that 5 million people have high blood sugar (pre-diabetes) which puts them at greater risk of developing diabetes, yet at present most receive no intervention. Reaching these 5 million people, and supporting them to reduce their risk of diabetes, is a key element of NHS England's [mandate from government for 2018/19](#).

NICE's guideline on [type 2 diabetes prevention](#) covers adult populations and communities who are at high risk. It aims to promote a healthy diet and physical activity at community and population level, and recommends how to tailor services for people in minority ethnic communities and other groups who are particularly at risk of type 2 diabetes.

This guideline is complemented by guidance on [type 2 diabetes prevention in people at high risk](#), which covers how to identify adults at high risk of type 2 diabetes. It aims to remind practitioners that age is no barrier to being at high risk of, or developing, the condition. It also aims to help them provide those at high risk with an effective and appropriate behaviour change programme to prevent or delay the onset of type 2 diabetes.

Healthier You: NHS Diabetes Prevention Programme (NHS DPP)

The [NHS DPP](#) identifies those at high risk of diabetes due to high blood sugar (pre-diabetes) through the NHS Health Check, and refers them onto a behaviour change programme as recommended by NICE. The programme was launched in 2016; by 2017 it had reached 75% of the population of England and continues to be rolled out. It represents a joint commitment from NHS England, PHE and Diabetes UK.

Some people have blood sugar levels above the normal range, but not high enough to be diagnosed as having diabetes. This is sometimes known as pre-diabetes or non-diabetic hyperglycaemia. If your blood sugar level is above the normal range, your risk of developing full-blown type 2 diabetes is increased.

People who attend receive tailored, personalised help to reduce their risk of type 2 diabetes including education on healthy eating and lifestyle, help to lose weight and bespoke physical exercise programmes. This has been proven to reduce the risk of developing diabetes. People at high risk are offered at least 13 education and exercise sessions of 1 to 2 hours and at least 16 hours contact time in total, over a minimum of 9 months.

‘It has opened my eyes. I learnt how to make changes, I’ve made changes to my diet. I have learnt a lot of information I didn’t know.’ NHS DPP participant

Early evaluation of the pilot sites and first wave areas of the NHS DPP has been positive. Between June 2016 and March 2017 nearly 44,000 referrals were

made and 49% of those referred attended at least the first session. By March 2018, 4,500 people had completed the programme. A new data collection on high blood sugar (pre-diabetes) as part of the **National Diabetes Audit** will allow the long term impact to be assessed.

Preventing diabetes in black, Asian and other minority groups

Becoming older, being overweight, a family history of diabetes and high blood pressure are all risk factors for developing type 2 diabetes. However, for people from certain ethnic communities, the risk increases at an earlier age and at a lower BMI level. Diabetes UK highlight that type 2 diabetes is **2 to 4 times more likely** in people of South Asian, African-Caribbean or black African family origin.

NICE’s guideline on type 2 diabetes prevention makes recommendations which recognise this increased risk. NICE’s recommendation that all people over 40 should be encouraged to have a diabetes risk assessment is extended to people aged 25 to 39 in South Asian, Chinese, African-Caribbean, black African and other high-risk black and minority ethnic groups.

The guideline also recommends that a lower BMI threshold should be used for people of South Asian or

Chinese family origin when assessing risk and deciding whether to offer a blood glucose test.

In May 2018, NICE published a new quality standard on **promoting health and preventing premature mortality in black, Asian and other minority ethnic groups**. It highlights areas of inequality such as increased health risks, poor access to and experience of services, and worse health outcomes for people from these groups. It includes a quality statement recommending that people from black, Asian and other minority ethnic groups at high risk of type 2 diabetes are referred to an intensive lifestyle change programme.

It is hoped that, by highlighting the potential benefits of intensive lifestyle change programmes for people in these higher risk groups, the risk of developing type 2 diabetes could be reduced.

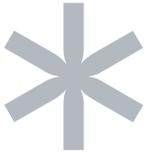
Managing diabetes

Good management of diabetes reduces risk and serious complications. However most people do not receive structured education or all 9 care processes recommended by NICE.

The average age of people with SMI and type 2 diabetes is lower than those with type 2 diabetes alone. People with both conditions are less likely to receive all care processes. Only a quarter of young adults receive the same care as those in their early 70s.

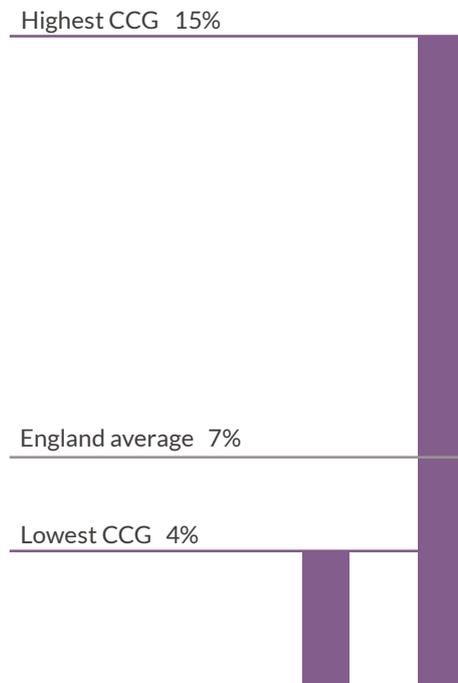
Uncontrolled diabetes can lead to serious complications. However, through structured education and receiving NICE recommended care, people can manage their diabetes more effectively.

NICE's guidelines on [type 1](#) and [type 2](#) diabetes in adults set out the care that people with diabetes should be given to help them manage their condition. Our guideline for [children and young people with diabetes](#) covers the care of people under 18 with either type of diabetes. These guidelines are complemented by quality standards for [adults](#) and for [children and young people](#).



The NHS RightCare diabetes pathway highlights that most people with diabetes do not receive structured education or all of the NICE recommended care processes

Proportion of people with diabetes who have experienced diabetic complications in England, 2015/16



NICE guidance recommends that all people with diabetes should receive structured education soon after diagnosis to help them manage their diabetes. It identifies the important care processes which people with diabetes should be able to access and recommends targets for key measurements.

The [CCG outcomes indicator set](#) records the rates of complications associated with diabetes, including emergency admissions for diabetic ketoacidosis (a serious problem that can occur in people with diabetes if their body starts to run out of insulin) and lower limb amputation, and shows wide variation across England. These data suggest that many more people could be helped to manage their diabetes and reduce their risk of complications.

Because good diabetes care is so important, in this section of the report we look at what we know about the delivery of NICE's evidence-based recommendations.

Structured education

NICE recommends structured education because it can help people with diabetes to improve their knowledge and skills. It can also help motivate people to take control of their condition and self-manage it effectively.

This is measured in the National Diabetes Audit. It looks at people diagnosed within a calendar year and identifies whether structured education was offered and if they attended in the 12 months afterwards. In order to improve quality the data is re-extracted annually by NHS Digital. However, it is believed that recording of attendance at courses is still relatively poor and the data may be an underestimation.

NICE recommends that adults with type 1 diabetes are offered a structured education programme 6 to 12 months after diagnosis and those with type 2 diabetes are offered a structured education programme at diagnosis. Data from the National Diabetes Audit show that fewer people of all ages with type 1 diabetes are offered structured education compared to those with type 2 diabetes. In addition, recorded attendance for both types of diabetes was particularly low.

Proportion of people of all ages diagnosed with diabetes in 2015 that were offered and attended a structured education programme within a year of diagnosis

Type 1



Type 2



NICE recommends that children and young people with diabetes should be offered a continuing programme of education from diagnosis. Data from the [National Paediatric Diabetes Audit](#) suggest that uptake of this recommendation is better, with 71.0% of children and young people with type 1 diabetes and 57.8% of those with type 2 receiving structured education in 2015/16.

Overall, these data suggest that there are opportunities to improve self-management of diabetes through structured education, particularly in adults.

Previous NICE impact reports have also looked at diabetes care and can be downloaded from our website.

[NICE impact cardiovascular disease prevention](#) considered how effective management of diabetes and pre-diabetes could contribute to reducing cardiovascular events and improving outcomes.

[NICE impact maternity](#) looked at the care of women with pre-existing diabetes before and during pregnancy, and reviewed how NICE's recommendations for additional care were being delivered in practice.

Personalised care planning

NICE recommends that adults with diabetes should participate in annual care planning which leads to documented agreed goals and an action plan. This enables them to take control and actively manage their condition. The basis of this care plan is 9 care processes which are considered in this report. However, not all people with diabetes receive all of these care processes and wide variation exists.

In this section, we focus on the 8 care processes reported in the National Diabetes Audit. The audit records the proportion of people aged 12 and over who receive each care process, with the exception of HbA1c where people of all ages are considered. We have also looked at the 9th care process, eye screening, which is [reported by PHE](#). While some of the care processes are delivered routinely, in others there is room for improvement.

1 Cholesterol measurement

Cholesterol measurement is a blood test which is important for assessing CVD risk in relation to diabetes. High cholesterol can also lead to diabetic complications. NICE recommends that this is measured annually.

Proportion of people aged 12 or over with diabetes who had a cholesterol measurement within the last year



2 Serum creatinine measurement

Serum creatinine is a blood test which checks for kidney function. Because kidney disease can be a diabetic complication it requires regular monitoring. NICE recommends that this should also be measured annually.

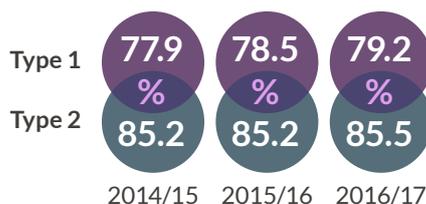
Proportion of people with diabetes aged 12 and over who had a serum creatinine measurement within the last year



3 Smoking status

Smoking increases the risk of diabetic complications and in people with type 2 diabetes CVD is a major cause of death. Recording smoking status annually, as recommended by NICE, allows people to be fully assessed for cardiovascular risk and offered the most appropriate treatment.

Proportion of people with diabetes aged 12 and over who had their smoking status checked within the last year



4 BMI

BMI is a simple measure which allows a quick assessment of people into a weight category (underweight, normal, overweight or obese). Obesity is linked with an increased risk of diabetic complications. Therefore by measuring BMI, it allows people at risk to be identified and offered appropriate interventions.

Proportion of people aged 12 or over with diabetes who had a BMI measurement within the last year



5 Foot examination

High blood sugar can lead to damage of nerves in the feet and to circulation problems. Untreated, this leads to foot ulcers, which may require amputation if left unchecked. NICE recommends that someone's risk of developing a diabetic foot problem should be checked at diagnosis and at least annually thereafter.

Proportion of people with diabetes aged 12 and over who had a foot examination within the last year



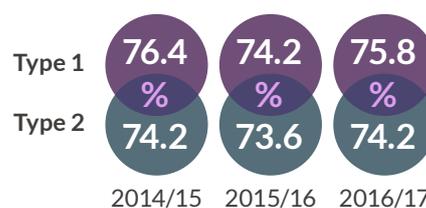
6 Blood pressure measurement

Blood pressure measurement is important as high blood pressure (hypertension) is common in people with diabetes. If poorly managed this can lead to an increase in diabetic complications. To assess cardiovascular disease (CVD) risk, NICE recommends blood pressure is measured every 1 to 2 months if uncontrolled and annually once consistently below 140/80 mmHg.

Proportion of people with diabetes aged 12 and over who had a blood pressure measurement within the last year



Proportion of people with diabetes aged 12 and over who met the blood pressure target of 140/80mmHg or less within the last year



7 HbA1c measurement

HbA1c gives an indication of average blood sugar levels over a longer period of time (weeks or months). A high level of HbA1c increases the risk of diabetic complications.

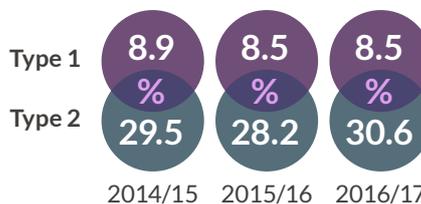
NICE recommends that people's HbA1c levels should be measured at least every 6 months once stable in people with type 2 diabetes and more regularly, every 3 to 6 months, for people with type 1 diabetes or type 2 diabetes if HbA1c levels are unstable. It is also recommended that people aim for an HbA1c level of 48mmol/mol or lower.

NICE has produced a [patient decision aid](#) to help people with type 2 diabetes think about their options for controlling their blood glucose to try to reduce the long-term risks of diabetes.

Proportion of people with diabetes who had an HbA1c measurement recorded within the last year



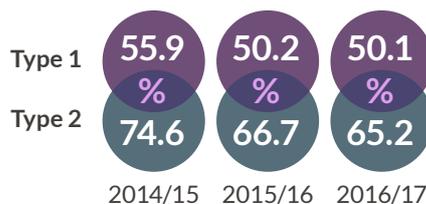
Proportion of people with diabetes who achieved an HbA1c target of 48mmol/mol or less within the last year



8 Urine albumin measurement

Urine albumin is a test which detects early signs of kidney disease. NICE recommends this is measured once a year for those with diabetes because kidney disease can occur as a complication of diabetes. However, if diagnosed early, treatment can be given and people's symptoms can be closely monitored.

Proportion of people with diabetes aged 12 and over who had a urine albumin measurement within the last year



9 Eye screening

Diabetes affects small blood vessels in the eye, damaging the retina. This is called diabetic retinopathy and can lead to sight loss. If detected early enough, treatment can stop it getting worse. On diagnosis of diabetes, NICE recommends that people be immediately referred to a local eye screening service. Screening should be repeated at least annually.

Proportion of people with type 1 and 2 diabetes taking up routine digital eye screening



Overall, since peaking in 2013/14, there has been a reduction in people with diabetes receiving all 8 of the NICE recommended care processes measured in the National Diabetes Audit. In particular there has been a 30% decrease amongst those who have type 2 diabetes.

Proportion of people with diabetes receiving all 8 of the NICE recommended care processes recorded in the National Diabetes Audit



Data show that care processes such as blood pressure and HbA1c measurement appear to have been delivered consistently well. However there is low achievement of HbA1c targets, especially for people with type 1 diabetes. There have also been further decreases in the percentage of people receiving the 2 least regularly delivered care processes.



The percentage of people having an annual foot examination has decreased, as has the percentage of people having a urine albumin measurement

Urine albumin measurement is the least well delivered care process and has reduced by a further 13% for people with type 2 diabetes in the last 3 years. Even fewer people with type 1 diabetes receive this care process, with only around half having it measured in 2016/17. Possible reasons for the relatively poor delivery of this care process include people not bringing a urine sample and its use in a smaller number of conditions, meaning it is less routinely used by GPs.

Data from PHE show routine eye screening, the ninth care process, is received by over 80% of people with diabetes. However the uptake has not further increased in recent years.

Supporting the delivery of NICE recommended care for people with type 2 diabetes

NICE works with a community of [medicines and prescribing associates](#) to support and promote high quality, safe, cost-effective prescribing and medicines optimisation in their local health economies. One of these associates supported a project aimed at improving type 2 diabetes management with pharmacist-led reviews, which is described in a [NICE shared learning example](#).

The project aimed to increase the number of people receiving the NICE recommended 9 key care processes, and the proportion who achieved their HbA1c, blood pressure or total cholesterol readings targets. A pharmacist team worked with GP practices in Slough CCG to identify people missing any of the care

processes, or whose care processes indicated poor type 2 diabetes control.

During the project, pharmacists reviewed 5,910 people identified with type 2 diabetes. They worked with general practice teams to schedule any of the 9 key care processes which had not taken place, to optimise medication and to make other interventions such as providing structured education as recommended by NICE.

As a result, the proportion of people receiving all of the NICE recommended 9 key care processes increased from 46% at project outset to 58% a year later. The percentage of people achieving HbA1c, blood pressure and cholesterol targets all increased.

Diabetes care for people with severe mental illness (SMI)

The [Five Year Forward View for Mental Health taskforce report](#) highlights that people with severe and prolonged mental illness are at risk of dying on average 15 to 20 years earlier than other people. Two thirds of these deaths are from avoidable physical illnesses. From 2016/17, the National Diabetes Audit has looked at the care of people with SMI and diabetes, and compared this to the care received by the whole population of people with diabetes.



The average age of people with SMI and type 2 diabetes is lower than those with type 2 diabetes alone

People with SMI and type 2 diabetes are, on average, younger than those with type 2 diabetes who do not have SMI. This suggests that medical professionals should be alert to the risk of developing type 2 diabetes at an earlier age in people with SMI.

For people with type 1 diabetes, there is very little difference in the proportion of people with and without SMI who receive the NICE recommended care processes. However, for people with type 2 diabetes, these care processes are delivered less regularly for people with SMI. Overall, 47.6% of all people with type 2 diabetes received the 8 care processes in 2016/17, while only 40.6% of people with type 2 diabetes and SMI received the same care.

This difference is particularly noticeable for urine albumin measurement, where only 55.2% of people with type 2 diabetes and SMI received this check, compared to 65.2% of all people with type 2 diabetes. However, when people with SMI do receive the care processes, they are no less likely to achieve the treatment targets than all people with diabetes. This suggests that there is room for healthcare providers to improve the care offered to people with SMI and type 2 diabetes.

Proportion of people with type 2 diabetes who received a urine albumin measurement

55.2%
with SMI

65.2%
all people

Diabetes care for young adults

Data from the National Diabetes Audit show that the delivery of NICE recommended care processes varies widely by age. More than half of people in their early 70s with either type 1 or 2 diabetes received all 8 care processes in 2016/17. However, for 20 year olds, only around a quarter received the same care.

The Royal Liverpool and Broadgreen University Hospitals NHS Trust recognised that young adult engagement was poor, with high non-attendance in clinics. A tiny proportion of 19 to 25 year olds achieved HbA1c targets and diabetes-related emergency admissions were high.



Only around a quarter of 20 year olds receive the same care as people in their early 70s

The 'did not attend' rate for the diabetes clinics at the Royal Liverpool and Broadgreen University Hospitals:

47%

before service redesign

32%

after service redesign

To improve this situation they made a number of changes, which are described in a [NICE shared learning example](#).

These included a clinic restructure with flexible drop-in sessions and establishment of the first peer-support group for type 1 diabetes in Liverpool. All people now follow a structured care pathway and data is recorded in a new clinic spreadsheet for analysis.

Following the service redesign, the 'did not attend' rate for the clinic dropped from 47% to 32%. In addition, more people met HbA1c targets and emergency admission rates for diabetic ketoacidosis and severe hypoglycaemia in this age group reduced. Feedback from service users showed they would all recommend it to others.

Spotlight on insulin pump therapy

NICE recommends continuous subcutaneous insulin infusion, often called insulin pump therapy, as an option for some people with type 1 diabetes. Audit data show that more people are using this treatment and those who do are more likely to achieve their treatment targets.

NICE first recommended the use of [continuous subcutaneous insulin infusion for the treatment of type 1 diabetes](#) in 2003. The current guidance states that an insulin pump is recommended as an option for people with type 1 diabetes who have poorly controlled or persistently high HbA1c levels despite multiple daily injections. NICE has more recently recommended devices which combine a glucose monitor with an insulin pump.

The pump is a small device, worn outside the body, which continuously delivers insulin into the body through a very thin tube or needle inserted under the skin. The insulin can be delivered at a set rate throughout the day which can be increased when it is needed, such as at meal times.



There has been an increase in people with type 1 diabetes starting to use insulin pumps

The proportion of people with type 1 diabetes achieving an HbA1c target below 58mmol/mol.

34.8%

with a pump

29.0%

without a pump

In 2003, when NICE first recommended this treatment, data from the [National Diabetes Audit Insulin Pump Report](#) show that 50 people in England started using insulin pumps. The most recent report shows that over 9,000 people with type 1 diabetes are now using an insulin pump. This is more than 15% of all people with type 1 diabetes. However, this varies widely by specialist diabetes centre. In some centres almost half of people with type 1 diabetes are using insulin pumps, while in others it is less than 1%.

The audit records how many people achieve HbA1c below 58 mmol/mol and found that 34.8% of people using a pump achieved this target, compared to 29.0% of people not using a pump.

NICE has produced an [adoption support resource](#) to provide practical information and advice to support the adoption of the MiniMed Paradigm Veo system.

A new trend in insulin pump technology is for pumps to directly interact with continuous glucose monitors. These systems are designed to measure glucose levels every few minutes and allow immediate real-time adjustment of insulin therapy. NICE has recommended the [MiniMed Paradigm Veo](#) system. This produces an alarm sound if glucose levels become too high or low, if levels are rapidly changing, or if the system predicts that levels will be too high or too low in the near future.

'I've used an insulin pump for about 8 years now.

I had lost all hypoglycaemic awareness and was suffering from severe hypos that required third party help. These were happening without any warning signs and didn't give me any time to react and save myself.

My life had become so frightening and I had lost confidence to go far from home and was only going out for short times. Until I lost all my inbuilt early warning hypo signals I did not realise how precious they were in helping me to remain safe and take timely action.

Being able to use continuous glucose monitors with my pump has restored my confidence and given me reassurance that the system is guarding me against severe hypoglycaemia.

I still have hypos but I haven't had a serious hypo for a long time. The system has provided me with a safety net so that I can feel safe in myself through the day and especially through the night.

To me it is invaluable and has given me back the reassurance and confidence to get on with my life without being so fearful and has also opened up the world of my blood sugar enabling me to improve my control and HbA1c results.' Insulin pump user

Commentary

Chris Askew, July 2018

DIABETES UK
KNOW DIABETES. FIGHT DIABETES.

Chris Askew is Chief Executive of
Diabetes UK

NICE guidance is like a foundation stone in the diabetes system. Clinical audits, the Quality and Outcomes Framework, the diabetes part of the [CCG Improvement and Assessment Framework](#), the NHS RightCare diabetes pathway all build upon NICE's trusted guidance.

The report highlights what has been achieved in key areas of diabetes care – as well as where we need to make progress. The fantastic progress in the 2000s in the numbers of people receiving their basic checks has stalled in the last few years. This comes despite last year's report from the National Diabetes Audit showing that people with diabetes who have had annual diabetes checks regularly in the preceding seven years have a mortality rate which is half the rate of those who have not.



Annual checks can halve the mortality rate from diabetic complications if attended regularly over several years

Effective diabetes care needs to reach everyone with diabetes. The NHS has done a good job in some ways – people in the most deprived fifth of the population receive similar care to the least deprived. But we need to understand how to do better for some key groups. People of working age are less likely to receive good care – particularly the youngest. Meanwhile, people with serious mental illness are twice as likely to have Type 2 diabetes – partly due to the effects of their medication – but are not receiving as many of the vital checks as other people.

The report rightly highlights the centrality in diabetes care of people understanding their condition through structured education programmes. People with diabetes are constantly managing their condition and they tell us that this is a real burden in itself. When people have been on a programme the results can be life-changing. Not just because it helps them know more about diabetes but because they get support from connecting to other people in the same position.

Structured education has been one of the hardest parts of NICE guidance for the NHS to turn into reality for everyone with diabetes. It needs to be seen as being as essential to their

diabetes care as medication. This is why we chose this as being a key measure in the CCG Improvement and Assessment Framework and why it is the largest component of the diabetes transformation funding.

One of the most heartening parts of diabetes in the last few years has been the extraordinary progress of the NHS Diabetes Prevention Programme. This is on course to reach 100,000 people a year by 2020 and early results show that it is having the effects on weight loss and take-up that we hoped for at the outset. Meanwhile the programme is reaching more men than weight loss programmes normally reach and reflects the ethnic make-up of the population. As a full partner in the programme we are not complacent but the evidence so far is encouraging.



The NHS Diabetes Prevention Programme is on course to reach 100,000 people a year by 2020

As well as being important for the NHS, NICE guidance has had a big effect on the work of Diabetes UK. Over the years, most of our biggest campaigns have been about helping people with diabetes get the care that NICE says they need. We encourage people to ask for the [‘15 Healthcare Essentials’](#) or to [‘Fight for Flash’](#). Flash glucose monitoring is a new technology for measuring blood glucose levels that was the subject of a recent [NICE medtech innovation briefing](#). [‘Putting Feet First’](#) halved the number of hospitals who did not have the multidisciplinary foot care teams that NICE recommends to reduce foot amputations.

In the near future diabetes care will be different. We now know that it is possible to put Type 2 diabetes into remission through intensive lifestyle interventions as well as bariatric surgery.

In Type 1 diabetes, ‘artificial pancreases’ that connect a continuous glucose monitor to a pump and use an algorithm to balance insulin and blood glucose levels with much less input from the person with diabetes are imminent. Indeed, people are already using their own DIY systems. For all types of diabetes, the digital revolution will create new ways for people to learn about their diabetes and connect to healthcare professionals. People with diabetes will need NICE guidelines to help them benefit from these developments as soon as possible.

We would like to thank Professor Jonathan Valabhji MD FRCP, National Clinical Director for Obesity and Diabetes, for his input. We would also like to thank Diabetes UK for their contributions to this report.

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