



NDA Type 1

2020–21

DiABETES UK
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National Type 1 Diabetes Audit:
**Are services providing effective
type 1 diabetes care?**

nda
NATIONAL DIABETES AUDIT

Summary report 2020-21

The National Type 1 Diabetes Audit measures the effectiveness of care provided to people with type 1 diabetes. The information in the audit is collected and submitted by GP practices and specialist diabetes services in England and Wales.

**This report includes information on
223,600 adults with type 1 diabetes.**

223,600
type 1 diabetes



Key findings

What care should people with type 1 diabetes receive?










Having diabetes can lead to health complications such as blindness, kidney failure, heart disease and stroke. It is essential that everyone with diabetes receives healthcare checks every year. The results of the checks can show whether someone is at risk of developing health complications.

This report only refers to 8 care processes as the eye screening data was not available.

➔ 8 Care processes results

- 🌐 In England only **29%** of people with type 1 diabetes received 8 care processes.
- 🌐 In Wales only **12%** of people with type 1 diabetes received 8 care processes.
- 🌐 The percentage of people receiving all their care processes **fell** during the **COVID-19** pandemic. Care processes requiring face to face contact such as foot examination and eye screening were reduced the most.
- 🌐 There is a **massive difference** in completion of health care checks between **different areas** of the country. During the COVID-19 pandemic, completion of health care checks declined everywhere but there was greater geographical variation than usual. Despite the pandemic, some areas achieved over **90%** completion for some health care checks.

To find out more about the audit results for your local service please click [here](#).

1		HbA1c test to measure overall blood glucose levels over the past 8 to 12 weeks
2		Blood pressure measurement
3		Cholesterol test to check for levels of harmful fats in the blood
4		Eye screening (retinal screening) using a special, digital camera to look for any changes to the back of the eye (retina)
5		Foot examination – to check the skin, circulation and nerve supply of legs and feet
6		Kidney function (blood creatinine) – a blood test to measure how well the kidneys are working
7		Urinary albumin – a urine test to check for protein, which may be a sign of kidney problems
8		BMI (body mass index) measurement, to see if you are a healthy weight
9		Smoking review , including advice and support if you are a current smoker

What treatment targets should people with diabetes be supported to achieve?

[Nice Guidelines](#) recommend treatment targets for **glucose control**, **blood pressure** and **cardiovascular disease** (CVD) risk reduction.

- ➊ **Having HbA1c of 58mmol/mol or less.** This reduces the risk of all diabetes complication (eyes, kidney and nerve damage) and reduces cardiovascular risk.
- ➋ **Having blood pressure below 140/80.** This reduces cardiovascular risk and the progression of eye and kidney disease.
- ➌ **Being prescribed statins.** This reduces cholesterol and cardiovascular risk.

In England only **20%** of people with type 1 diabetes met all three treatment targets.

In Wales only **14%** of people with type 1 diabetes met all three treatment targets.

This report concentrates on the achievement of HbA1c targets.

➔ HbA1c achievement targets

- ➊ **1 in 10** people with type 1 diabetes who had a HbA1c reading in the audit period **achieved** the NICE HbA1c target of **48 mmol/mol** or lower.
- ➋ Almost **1 in 5** had an HbA1c result of **53 mmol/mol** or lower. Almost **1 in 3 achieved** the HbA1c treatment target of **58 mmol/mol** or lower.
- ➌ Over **1 in 6** people with type 1 diabetes had a very high risk HbA1c result of **above 86 mmol/mol** in 2020-21. This has **fallen slightly** compared to 2019-20.
- ➍ It is usually more **difficult to achieve** glucose control targets after having type 1 diabetes for **longer than five to ten years**.
- ➎ **3 in 4** of people with type 1 diabetes have had diabetes for **more than 10 years**.

This table shows the individual patient factors associated with the likelihood of having a HbA1c of 58mmol/mol or below. The factors that are associated with a reduced likelihood of an HbA1c in this range are shown in red and the factors associated with an increased likelihood of an HbA1c in this range are shown in green. If a factor is in bold these are lifestyle and treatment target factors that are considered to be potentially modifiable with lifestyle or treatment changes.

Characteristics associated with a reduced likelihood of having an HbA1c of 58mmol/mol or lower	Characteristics associated with an increased likelihood of having an HbA1c of 58mmol/mol or lower
Having diabetes for between 10–19 years Being female Being of Black or Asian ethnicity Living in poverty Aged 19-24 years old Living with overweight, obesity or underweight	Being a healthy weight Being on an insulin pump Not being a current smoker




This table shows the individual patient factors associated with the likelihood of having an HbA1c of 86mmol/mol or above. The factors that are associated with an increased likelihood of an HbA1c in this range are shown in red and the factors associated with a reduced likelihood of an HbA1c in this range are shown in green. If a factor is in bold these are lifestyle and treatment target factors that are considered to be potentially modifiable with lifestyle or treatment changes.

Characteristics associated with a reduced likelihood of having an HbA1c of 86mmol/mol or higher	Characteristics associated with an increased likelihood of having an HbA1c of 86mmol/mol or higher
Being on an insulin pump	Younger age Having diabetes for less than 10 years Female Black or mixed ethnicity Living in poverty

Treatment

NICE guidelines advise that there is no one insulin regimen that is suitable for all people with type 1 diabetes. Treatment should be individualized for each person. This should take account of lifestyle and cultural aspects of insulin therapy, including diet and exercise, alcohol intake, driving, holiday and travel, insurance, fasting, and shift work. Treatment should also aim to reduce the short term risks of hypoglycaemia and the long term risks of eye, kidney and foot complications and of cardiovascular disease.

Types of insulin regimen

-  **Basal-bolus insulin** treatment comprises background, slow acting (basal) insulin, self-injected once or twice daily, plus rapid acting (bolus) insulin at mealtimes.
-  **Pump or Continuous Insulin** Infusion therapy uses rapid acting insulin delivered under the control of a 'pump'. Background rates are programmed and mealtime boluses are added manually.
-  **'Fixed Mix' insulin** combines rapid and longer acting insulin at a fixed ratio. It is usually self-injected twice daily.

People with type 1 diabetes can be prescribed a flash glucose monitor or continuous glucose monitor (CGM) to help manage their diabetes. Flash glucose monitors and continuous glucose monitors let you check your blood sugar levels without you having to prick your fingers.

Closed loop insulin infusion ('artificial pancreas') combines Continuous Glucose Monitoring with an insulin pump. Currently not many people use closed loops but this is increasing. Closed looping may be included in the 2021-22 NDA type 1 report.

The use of CGM and insulin pumps are more likely in younger people, people who are White and who do not live in poverty. Insulin pumps are less likely to be used by older people, Black or Asian people and those living in poverty.

There is considerable geographical variation in the percentages of type 1 adults who are using insulin pump technology, and flash glucose monitoring.

The percentage using insulin pump technology ranged from **4%** in Mid Essex CCG to **30%** in Cwm Taf Morgannwg ULHB.

The percentage using flash glucose monitoring ranged from 13% in Bolton CCG to **55%** in Morecambe Bay CCG.

To find out more about the audit results for your local service please click [here](#).

Structured education

[NICE Guidelines](#) recommend that people with diabetes are offered a structured education course to help improve their understanding of diabetes and how to manage it in everyday life. The guidelines recommend that a structured education course should be offered to people with diabetes within a year of diagnosis. The course for people with type 1 diabetes is called DAFNE.

Diabetes structured education courses make living with diabetes easier. The courses provide support and information to help people manage their diabetes well. People who have been on a course feel more confident about looking after their condition and are less likely to develop health complications.




[NICE](#) recommends that people with type 1 diabetes should be offered structured education 6 to 12 months after diagnosis. If this has not been undertaken within 12 months, it should be offered at any time that is clinically appropriate and suitable for the person, regardless of duration of type 1 diabetes.

There seems to be a link between attending structured education and achieving HbA1c targets. Higher proportions of adults who had a record of attending structured education can be seen in the low (up to 53 mmol/mol) and medium (54-69 mmol/mol) HbA1c groups.

Attendance at structured education is more common amongst adults who are White and who do not live in poverty.

What difference does glucose control, structured education, continuous glucose monitoring and insulin regimen have on HbA1c?

Comparing the group of adults with the lowest levels of HbA1c (up to 53 mmol/mol) with the group who had the highest HbA1c (>69 mmol/mol):

-  a significantly higher proportion were on **CGMs**
-  a significantly higher proportion were using an **insulin pump**
-  a significantly higher proportion had a record of attending **structured education**

A total of **58,810** adults with type 1 diabetes were on basal bolus insulin treatment and had an HbA1c higher than 69 mmol/mol. This makes them eligible for an insulin pump.

FIND OUT MORE

For more information on the National Diabetes Audit 2020-21, you can download the [full report](#).

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