

## Parents and Carers Report 2021-2022

Published October 2023



# Introduction

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Diabetes mellitus (diabetes) is a condition where the amount of glucose in your blood is too high because the body cannot use it properly.

There are around 33,000 children and young people with diabetes in England and Wales who receive care from a paediatric diabetes clinic. That’s about 1 in every 500 children. About 95% have Type 1 diabetes, and around 5% have Type 2 diabetes or other rare forms of diabetes.

Type 1 diabetes is an autoimmune condition where the pancreas cannot produce insulin. Type 2 diabetes in children and young people has stronger genetic links, often with a family history, and is also associated with overweight and obesity.

In the 2021-22 audit year, 3,883 children and young people were newly diagnosed with Type 1 diabetes, and 281 were newly diagnosed with Type 2 diabetes and received care from a paediatric diabetes clinic.

These numbers show a continued increase in both types of new diagnoses from previous years. Reasons for the increase in Type 1 diabetes diagnoses are not fully understood and studies are still going on to investigate possible reasons for this increase.

On page 32-33 you will find a glossary of key words and terms used in this report relating to diabetes care.

# Overview

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## The National Paediatric Diabetes Audit (NPDA) takes place annually in England and Wales

The paediatric diabetes clinic you visit participates in the NPDA. This means they send the NPDA team at the Royal College of Paediatrics and Child Health information about the health checks for diabetes that they have carried out in the last year for all children and young people using their service and the results of these checks. The NPDA team uses this information to create reports for parents and carers, paediatric diabetes teams, Trusts, Health Boards and commissioners. The reports show how clinics and regions compare to each other in different areas of care. They also show where local, regional and national improvements in care can be made. This means that diabetes teams can work together with the families using their services as well as their hospital managers and other regional teams to make changes that will lead to better care.

This report covers care provided between April 2021 and March 2022, a year since the COVID-19 pandemic began, which severely disrupted hospital-based care. Information was provided for just over 33,000 children and young people under 25 years-old, being cared for in a paediatric diabetes clinic.

This booklet is based on the information received and gives a summary for parents and carers of the findings from the 2021-22 audit year. It looks at whether children and young people were receiving the recommended diabetes-related health checks, how many had developed or were at greater risk of developing diabetes-related complications, and how many were reaching blood glucose targets.

# Health checks 2021-2022

## The care your child should receive

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The NPDA 2021-22 annual report provides information about the key health checks that your child should receive.

The National Institute for Health and Care Excellence (NICE) recommends several health checks which should be performed at least once a year for children and young people with diabetes.

The NPDA describes six of these to be ‘key’ annual checks for children and young people with Type 1 and Type 2 diabetes in the report.

Previously, the key health checks included an annual eye check for children and young people, but during the COVID-19 pandemic the advice to some hospitals changed. NICE guidance suggests that eye screening is done annually however since 2020 some NHS trusts have moved to screening every two years unless eye disease was found in the previous year.

The tables on the next pages describe the six key annual checks for Type 1 and Type 2 diabetes and tell you when your child should receive them.

# Key health checks your child should receive

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My child has Type 1 diabetes	
Health Check	When?
<b>HbA1c</b> This is a measure of average blood glucose levels in the previous three months	At diagnosis, then every three months*
<b>Height and weight, for calculating Body Mass Index (BMI)</b> This is a check for healthy growth	At diagnosis, then every three months*
<b>Thyroid</b> This is a check for healthy thyroid function	At diagnosis, then annually*
<b>Blood pressure</b> This is a check for healthy blood pressure levels	At 12 years-old, then annually*
<b>Urinary albumin</b> This is a check for healthy kidneys	At 12 years-old, then annually*
<b>Foot examination</b> This is a check for healthy feet	At 12 years-old, then annually*

**\*Your diabetes clinic may choose to do this check more often or start screening at a younger age.**

# Key annual health checks your child should receive

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My child has Type 2 diabetes	
Health Check	When?
<b>HbA1c</b> This is a measure of average blood glucose levels in the previous three months	At diagnosis, then every three months*
<b>Height and weight, for calculating Body Mass Index (BMI)</b> This is a check for healthy growth	At diagnosis, then every three months*
<b>Cholesterol</b> This is a check for cholesterol levels in the blood	At diagnosis, then annually*
<b>Blood pressure</b> This is a check for healthy blood pressure levels	At diagnosis, then annually*
<b>Urinary albumin</b> This is a check for healthy kidneys	At diagnosis, then annually*
<b>Foot examination</b> This is a check for healthy feet	At 12 years-old, then annually*

**\*Your diabetes clinic may choose to do this check more often or start screening at a younger age.**

In addition to the six key annual health checks, your clinic should also:

### At diagnosis:

- **Screen for thyroid and coeliac disease**, as children and young people with Type 1 diabetes have a higher risk of these autoimmune conditions.  
*Type 1*
- **Provide Level 3 carbohydrate counting education** - this allows patients and families to calculate the carbohydrate content in meals, snacks and drinks, and match this to insulin requirements.  
*Type 1*

### Each year:

- **Complete a psychological screening assessment** since problems such as anxiety, depression and disordered eating can be more common in children and young people with diabetes.  
*Type 1 & Type 2*
- **Ask about smoking**, so that support for reducing or quitting smoking can be offered if necessary.  
*Type 1 & Type 2*
- **Recommend a flu vaccine** as the risk of serious illness from flu is higher among those with diabetes.  
*Type 1 & Type 2*
- **Provide 'sick-day rules' advice** to allow families to self-manage diabetes during other illness such as coughs and colds.  
*Type 1 & Type 2*
- **Offer at least one additional dietetic appointment** with a registered dietitian.  
*Type 1 & Type 2*
- **Offer training in the use of blood ketone testing strips.**  
Lack of insulin leads to the production of ketones. A build-up of ketones in the blood can lead to a serious condition called diabetic ketoacidosis (DKA). Children and young people with Type 1 diabetes are particularly at risk of DKA at times of other illness when they may need to use 'sick day rules' to prevent this happening. 'Sick day rules' will include information on ketone testing.  
*Type 1*

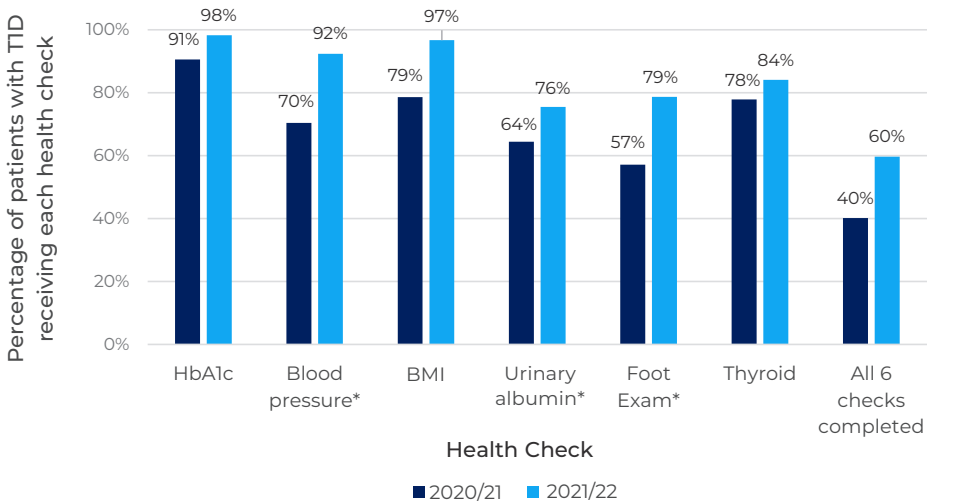
# Completion of health checks

## Type 1 diabetes

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The NPDA team investigated how many children and young people with Type 1 diabetes received their six key health checks (as described on page 5).

The percentages of children and young people with Type 1 diabetes in England and Wales who received each key health check in 2021-22 are shown below, with the results from 2020-21 for comparison.



\*For those age 12 years and older



The results show that more children with Type 1 diabetes received the recommended checks in 2021-22 compared to the previous year, when healthcare was disrupted due to the COVID-19 pandemic.

These checks are important so that any problems related to diabetes can be found and advice and treatment can be provided early.

If you're worried that your child hasn't received one or more of the key checks within the last year, you can ask your diabetes clinic about this. It is important that the diabetes team discuss results with you so you have the best information to help your child manage their diabetes. It is also important that the results of these checks are recorded by your diabetes team and submitted to the NPDA so that your clinic is shown to have provided the recommended care.

## Care at diagnosis

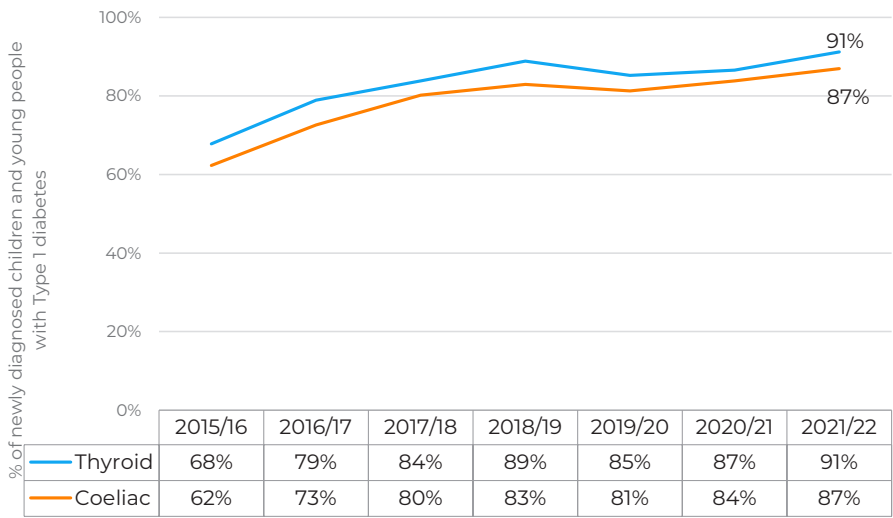
### Thyroid and coeliac disease

Children and young people with Type 1 diabetes are more likely to have other autoimmune conditions than those without. NICE guidance recommends that children and young people newly diagnosed with Type 1 diabetes should also be checked for thyroid and coeliac disease at diagnosis. The 2021-22 audit showed that this was happening for over four out of five children and young people with Type 1 diabetes within 90 days of diagnosis.



Artwork by E. Tomlin

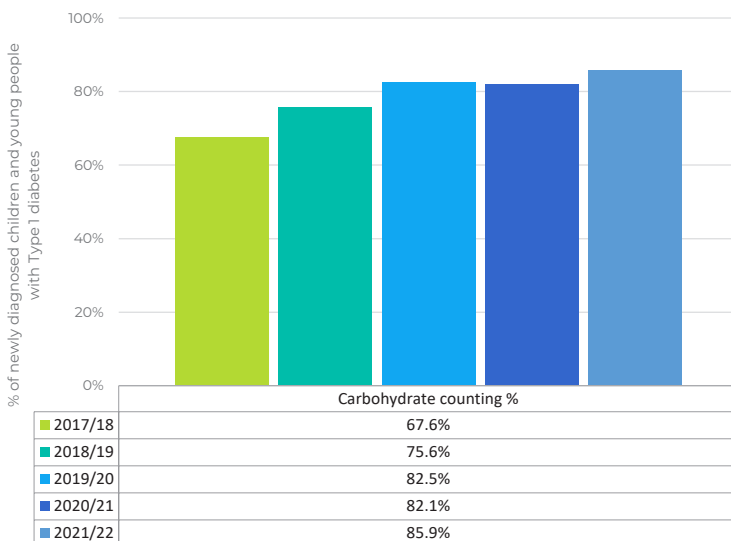
There was a small increase in the percentage of children and young people with Type 1 diabetes being screened for thyroid and coeliac disease when compared to the previous year's audit.



## Carbohydrate counting education

NICE guidance states that children and young people with Type 1 diabetes should also receive education on carbohydrate counting from diagnosis. This is to help them achieve blood glucose targets from the start.

Percentages of children and young people with Type 1 diabetes receiving carbohydrate counting education within two weeks of their diagnosis in 2021-22 compared to the previous three years are shown below.



The graph shows that the percentage of children and young people receiving their carbohydrate counting education in 2021-22 was better than all previous years. This means that more children and their families have the information to manage their diabetes.

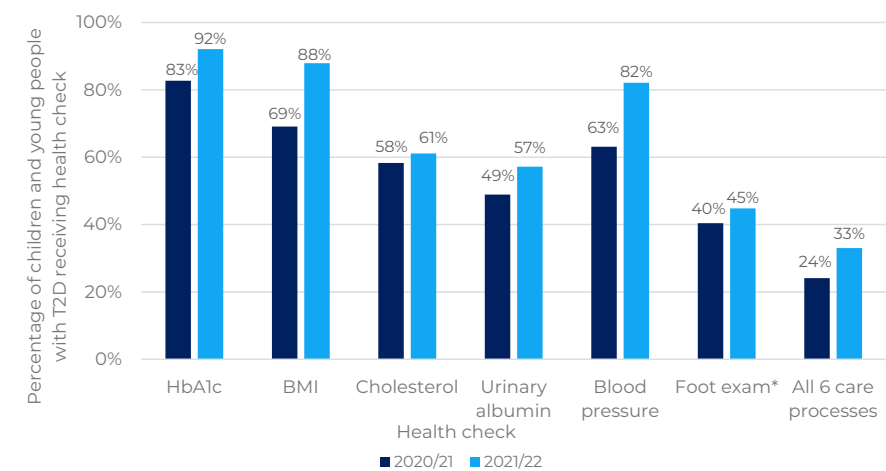
The NPDA also collects information on additional checks and specialist appointments attended (see page 7) that are important to support good diabetes management. Percentages of children and young people with Type 1 diabetes who received these are shown in the table below. The percentages of children and young people with Type 1 diabetes receiving these checks and advice have nearly returned to pre-pandemic (2019-20) levels.

	Psychological assessment	Flu vaccine recommended	'Sick-day rules' advice given	Blood Ketone Testing check	Additional dietetic appointment offered
2019-20	84%	88%	89%	92%	89%
2020-21	72%	80%	82%	86%	83%
2021-22	80%	87%	88%	91%	88%

# Completion of health checks

## Type 2 diabetes

The percentages of children and young people with Type 2 diabetes in England and Wales who received each key health check (as described on page 6) in the 2021-22 audit year are shown below, with the results from 2019-20 for comparison.



\* For those aged 12 years and over

The graph above shows that there was an increase in children and young people with Type 2 diabetes receiving all recommended health checks, with 33% receiving all six, since 2020-21. However, these are still lower than the percentages of children and young people with Type 2 diabetes receiving these checks before the COVID-19 pandemic. It is also lower than the number of children and young people with Type 1 diabetes receiving these checks. It is just as important that children and young people with Type 2 diabetes receive all recommended checks every year as those with Type 1 diabetes. Type 2 diabetes in the young is an aggressive form of the condition. Regular health checks can help ensure that any health problems linked to Type 2 diabetes are caught early and managed well.

# Other checks and specialist appointments

For the 2021-22 audit year, the NPDA collected information on additional checks and specialist appointments (see page 7). Percentages of children and young people with Type 2 diabetes who received these are shown in the table below. These have all recovered to pre-pandemic (2019-20) levels.

Health checks	England and Wales		
	2019-20	2020-21	2021-22
Assessment for need of psychological support	71%	60%	70%
Flu vaccine recommendation	68%	63%	70%
'Sick day rules' advice	53%	48%	53%
Smoking status check*	85%	84%	86%

\*over 12 years old only



Artwork by A. Palmer

# Completion of health checks

## Understanding the results

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The percentages of children and young people with diabetes receiving their recommended health checks have improved since the previous audit year, when the COVID-19 pandemic interrupted care being delivered. While there is still room for improvement, health check completion is almost back to pre-pandemic 2019-20 levels.

It is very important that all children and young people with diabetes are being checked every year for the warning signs of diabetes related complications (see pages 27-28).

### What can I do to help as a parent or carer?

- Ask your diabetes team about your child's health checks as part of an annual assessment. Identifying problems early can reduce the risk of complications later. If your child misses any key checks at annual review, talk to your diabetes team about this at their next appointment.
- If you are unable to attend any scheduled appointments, let your team know in advance and book in again to make sure no checks are missed.

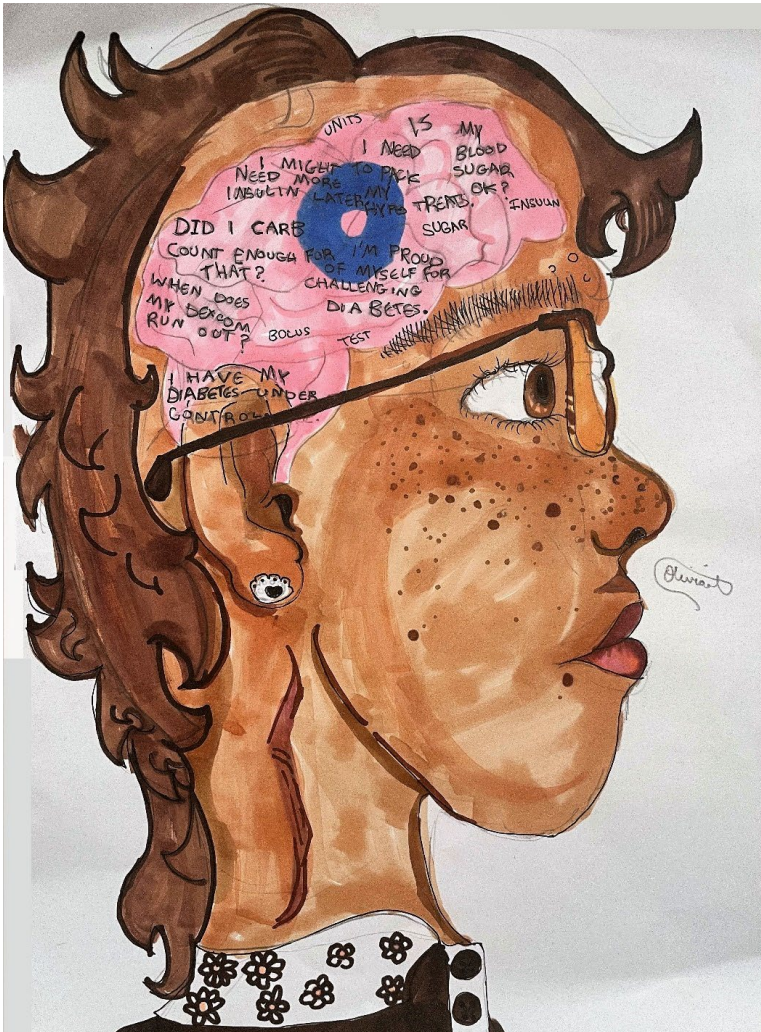
### Why is it that some checks aren't completed or are missed?

There are various reasons why health checks aren't always completed. For example:

- Parents being unable to bring their child to all their clinic appointments
- Missing annual review appointments

- Fear of blood tests (speak with your clinic if you need help with this)
- Lack of resource and staffing within diabetes teams

These possibilities should not stop your child receiving the recommended health checks. Health checks are part of nationally agreed guidance and are essential to keep children and young people with diabetes in good health.



Artwork by O. Chatfield

# Outcomes - HbA1c

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HbA1c is a measure of average blood glucose levels over the previous two to three months before testing and gives a picture of overall diabetes management in these months. It is often discussed during your clinic appointment. An HbA1c level higher than 80 mmol/mol (9.5%) indicates very high blood glucose levels and increases the risk of developing diabetes related complications (see pages 27-28).

It is recommended that all children and young people with diabetes should aim for as low an HbA1c level as possible, with a target of 48 mmol/mol (6.5%) or lower to reduce this risk.

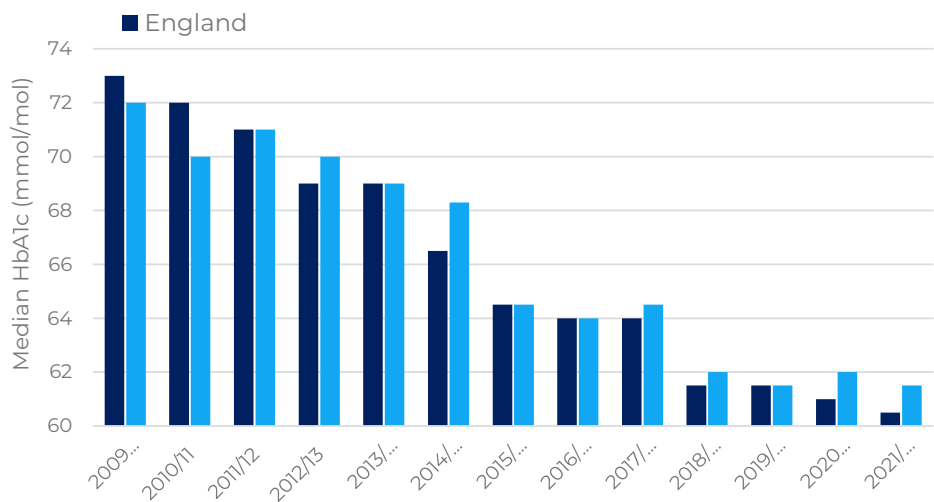
Low numbers of children and young people are meeting this target in England and Wales, although the numbers are increasing every year.

This section looks at the HbA1c results of children and young people with diabetes in England and Wales in 2021-22.



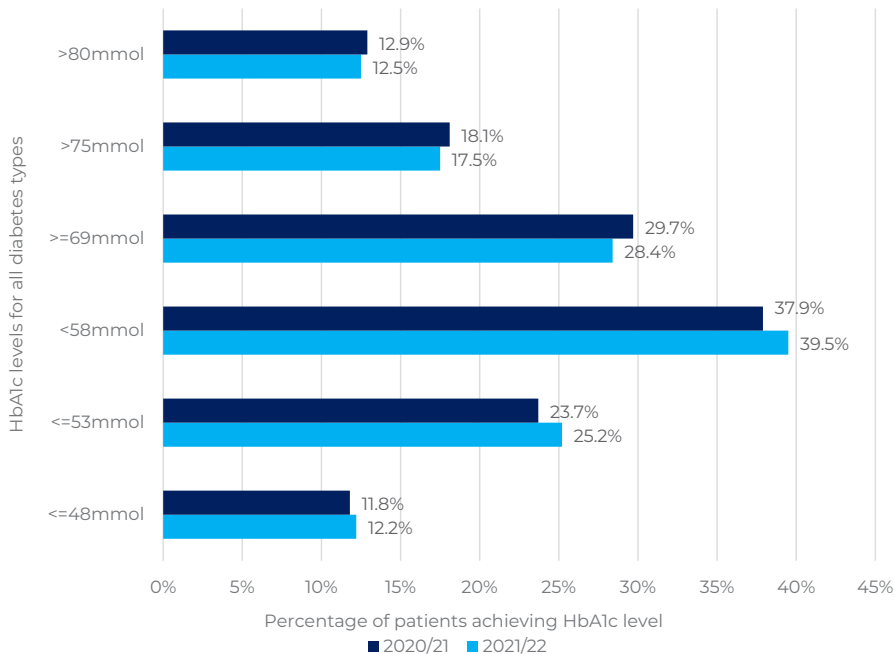
# HbA1c results

The average (median) HbA1c level in children and young people with all types of diabetes in England and Wales was 60.5 mmol/mol in 2021-22. The graph below shows that average HbA1c fell (improved) between 2020-21 and 2021-22, continuing improvements shown in previous years.



Median HbA1c for children and young people with all types of diabetes in England and Wales 2009/10 to 2021-22

The percentages of children and young people with all types of diabetes in England and Wales in 2019-20 and 2021-22 with HbA1c in different categories are shown below:



The graph shows that overall, slightly more children and young people achieved lower HbA1c targets and lower percentages had HbA1c in the higher level categories in 2021-22 compared to the previous year. This means that more children and young people are at lower risk of developing diabetes-related complications. This reflects the engagement and efforts of families and healthcare professionals to improve diabetes care for children and young people.

Quality improvement activities of the National Children and Young People's Diabetes Network and the National Children and Young People's Diabetes Quality Programme have also contributed to these results.

**Ask your diabetes clinic about how they are using information from the National Paediatric Diabetes Audit to help them improve the quality of care they provide.**

# Diabetes-related technologies

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Technologies are available for supporting the management of diabetes. They can monitor current blood glucose levels, alert you to highs/ lows, show blood glucose trends over time, and/or help deliver insulin automatically. In March 2022 NICE issued new guidance stating everyone with Type 1 diabetes should have access to a continuous glucose monitor (CGM) and that people with Type 2 diabetes who use intensive insulin therapy should have access to Flash glucose monitors. The NPDA collects information on the diabetes-related technologies used in England and Wales, including:

- Insulin pump therapy - attaching a small electronic device to the body, which continuously delivers insulin beneath the skin.
- Continuous glucose monitors (CGM) – Small devices worn on your skin. They measure your glucose levels continuously throughout the day and night, let you see trends in your levels and can alert you to highs and lows. The audit collects data on use of real time continuous glucose monitors (rtCGM) with alarms.

# Use of diabetes-related technologies

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## In the 2021-22 audit year, in England and Wales:

- Nearly two fifths (40%) of children and young people with Type 1 diabetes were using an insulin pump, an increase of 1.5 percent on 2020-21 data.
- Almost a third (30%) of children and young people with Type 1 diabetes were using real time continuous glucose monitor (rtCGM) with alarms. This is around a two percent increase on the previous year. This is likely due to a change in the NICE guidelines that now recommends all children with Type 1 diabetes should be offered a rtCGM whereas previously it was only recommended to children and young people with a higher risk of hypoglycaemia.
- Younger children, those living in the least deprived areas and those of White ethnicity were more likely to use insulin pump therapy than other groups. The same was found for rtCGM use. There was a small increase in the use of rtCGM for those with Black ethnicity between 2020-21 and the 2021-22 audit year, although this group still had the lowest usage.



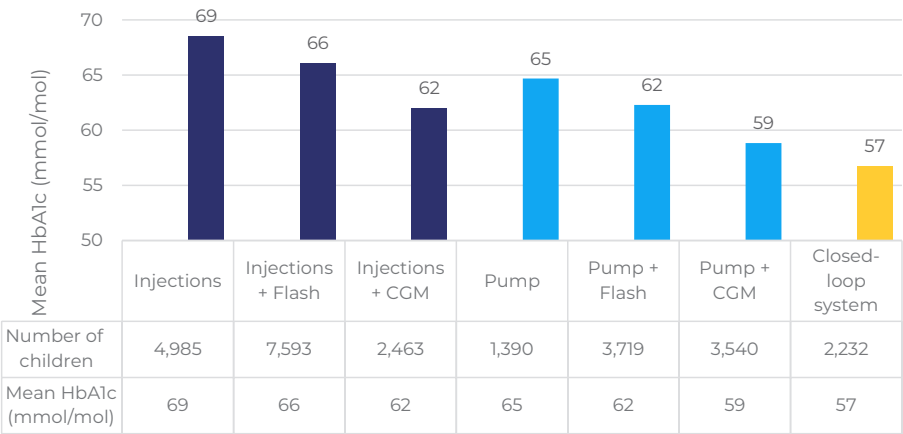
Artwork by A. Royle

# HbA1c and diabetes-related technologies

Children and young people with Type 1 diabetes using rtCGM were more likely to be achieving lower HbA1c levels than those not:

	Percentage of children and young people with Type 1 diabetes achieving HbA1c targets by CGM use					
	≤48 mmol/mol	≤53 mmol/mol	≤58 mmol/mol	≥69 mmol/mol	>76 mmol/mol	>80 mmol/mol
Using CGM	15%	33%	51%	17%	9%	5%
Not using CGM	11%	22%	35%	34%	21%	16%

The graph below shows that using a rtCGM, with injections or an insulin pump, is linked to lower HbA1c, and that those using a closed-loop system had the lowest average HbA1c.



## Patient story: Using a closed loop system

The 2021-22 report has demonstrated that use of a closed loop system is associated with the lowest average HbA1c compared to other insulin delivery and glucose monitoring combinations. Here, Katie L, aged 17 shares her experience of using this technology.



### **Katie L, aged 17:**

I was diagnosed with Type 1 diabetes aged 13.

I moved relatively quickly from multiple daily injections to an insulin pump including access to a Freestyle Libre from early on following the diagnosis.

I did not anticipate that diabetes would change my life as much as it would and that participating in all the sport I had before was a lot harder than expected. Staying in sport was initially the most important thing for me, however, I've learnt that staying active is also a huge part of living well with diabetes and controlling blood sugars. Participation in sport is not easy with Type 1 diabetes. Despite frequent testing and careful planning of meals and snacks, it was difficult to avoid hypoglycaemia during and after exercise, or to manage the pre-race hyperglycaemic nerves. My sugar was frequently low overnight after particularly active days.

My diabetes team suggested that I try a closed loop system. With their help, I began using one.

This has been a fantastic step forward for me. My HbA1c has improved a little but, more importantly, my time in target has significantly improved. This is because I am having less hypoglycaemic episodes, during the day and overnight. In fact, my overnight blood sugar readings are commonly a completely straight line – previously unheard of!

This gives me the confidence to remain active during the day and I rarely worry about my blood sugar overnight.

My experience of closed loop systems is that they require considerable confidence and motivation to use, and consistent access to Bluetooth wireless technology. The systems are not yet familiar to the wider population so can require quite extensive explanations.

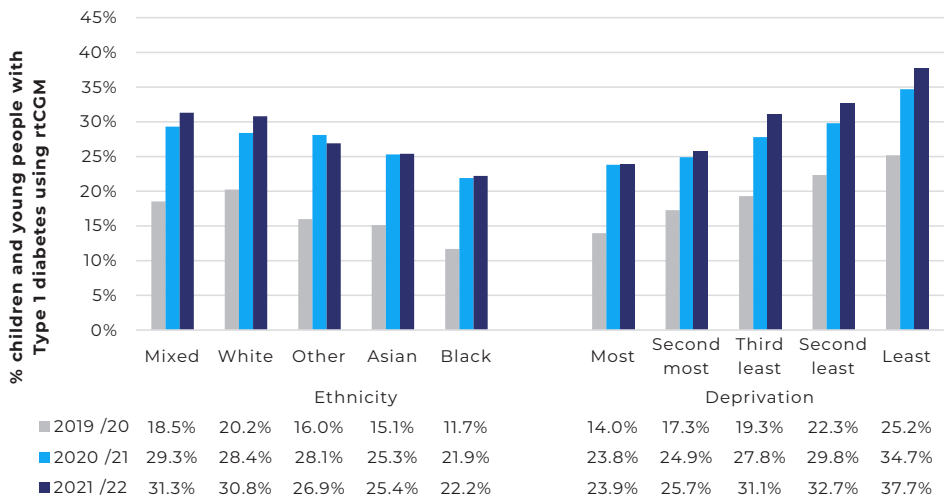
I would like diabetes teams and policy makers to work with young people and families to develop better education and support for families new to these devices. I am sure that there is a growing number of young people familiar and confident with closed loop systems who would be keen to share their experiences and expertise with others, perhaps with the support of the diabetes charities.



# Spotlight on inequalities

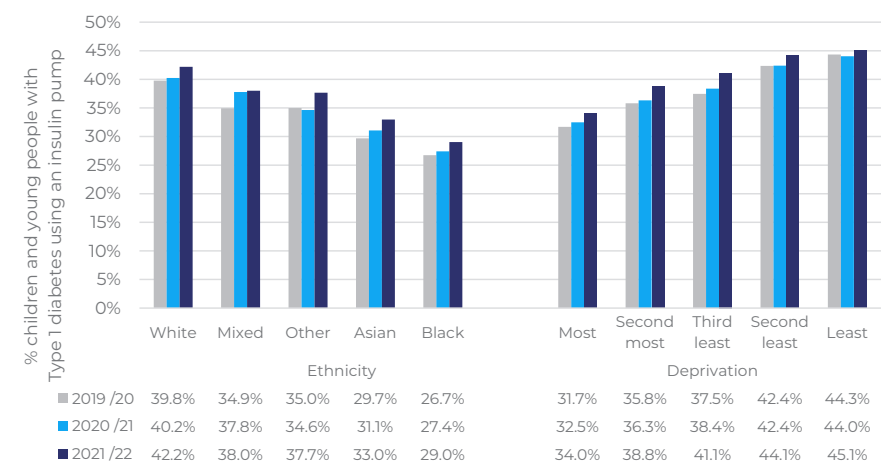
NPDA results have shown that use of diabetes-related technologies is lowest among Black children, and those living in more deprived areas. The NPDA has also shown that HbA1c is higher, on average, within these children and young people. It is important that all children and young people with diabetes are supported to access and use the diabetes-related technologies of their choice, and to achieve the best possible HbA1c. Paediatric diabetes teams in England and Wales and national policy makers have been working to close the gaps between different patient groups.

The graphs below show that in 2021-22, Black children and young people were least likely to be using a rtCGM or an insulin pump, however this group had the biggest increases in use of these technologies since 2019-20, suggesting that the gap is closing.





The next graph shows similar usage variation for insulin pumps between different ethnic groups and areas of deprivation.



All children and young people with Type 1 diabetes are entitled to rtCGM. Some children with Type 2 diabetes are entitled to a flash glucose monitor.

If you would like to find out more about diabetes-related technologies, speak to your diabetes teams about the options available to you.

# Complications of diabetes

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Children and young people with diabetes are at risk of complications affecting their blood vessels. The NPDA looks at the percentage of children and young people with diabetes who have already started to show signs of developing these problems. To reduce the risk of developing diabetes-related complications it is important to aim for the lowest possible HbA1c level, eat a healthy diet, and exercise regularly. You can discuss these things with your diabetes team.



Artwork by S. Jones

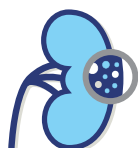
# Type 1 diabetes

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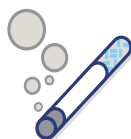
## Eye disease

Early signs of increased risk of sight problems caused by damage to blood vessels in the eye were found in 11% of young people (12 years and over). This is 6% lower than in 2020-21.



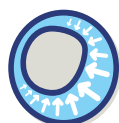
## Albuminuria (warning sign for kidney disease)

This was found in 11% of young people (12 years and over). This is 1% higher than the previous year.



## Smoking

A small number (2%) of children and young people said they were a smoker, putting them at higher risk of complications.



## High cholesterol

Was found in 19% of young people (12 years and over). This is 1% lower than 2020-21.



## High blood pressure

Was found in 30% of young people (12 years and over). This is a 1% decrease from 2020-21.



## Overweight (having a BMI of 25 or over)

Two fifths (42%) were over the recommended weight for their age and height. This is 1% lower than in 2020-21.

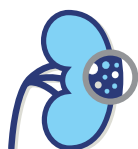
# Type 2 diabetes

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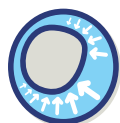
## Eye disease

Early signs of increased risk of sight problems caused by damage to blood vessels in the eye were found in 8% of young people (12 years and over). This is 5% higher than 2020-21.



## Albuminuria (warning sign for kidney disease)

Was found in just over a fifth (21%) of young people (12 years and over). This is 2% lower than 2020-21.



## High cholesterol

Was found in nearly two thirds (28%) of young people (12 years and over). This is 1% higher than 2020-21.



## High blood pressure

Was found in just under half (46%) of young people (12 years and over). This is about 3% lower than 2020-21.



## Overweight (having a BMI of 25 or over)

Almost all (93%) of children and young people were over the recommended weight for their height and age. This is 1% higher than 2020-21.

# Key conclusions

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- The increase in the number of children and young people diagnosed with Type 1 diabetes reported in 2020-21 compared to previous years was sustained in 2021-22, with 3,883 new diagnoses between April 2021 and March 2022.
- The percentages of children and young people with diabetes receiving key annual health checks for diabetes were significantly higher (better) in 2021-22 compared to the previous audit year (2020-21) when the COVID-19 pandemic severely disrupted healthcare. The trend for lower (improved) national average HbA1c has continued.
- Children and young people living in more deprived areas and those of non-White ethnicity may need more support to take up use of diabetes-related technologies.
- Almost all (98%) of those with Type 2 diabetes were overweight or obese, and almost half (46%) had high blood pressure. Two fifths (42%) of those with Type 1 diabetes were also overweight or obese, with a third (30%) having high blood pressure.

Parents and carers of children and young people with diabetes should:

- Talk to their teams about receiving the health checks recommended for their child's age and discuss their results.
- Work with their diabetes teams to achieve the best HbA1c level possible for their child, by aiming for blood glucose levels within targets set by their clinics.
- Continue to participate in local and national satisfaction and experience surveys such as Parent and Patient Reported Experience Measure (PREM) surveys run by the NPDA, to make sure views are captured for service improvement.

# How does the audit support improvements in diabetes care for children and young people?

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## In the 2021-22 audit year, the NPDA has:

- Published the [results of our 2021 PREM survey](#). This gives paediatric diabetes teams feedback that will help them to identify areas where they can improve the clinic experience for patients.
- Hosted a national conference attended by over 400 paediatric diabetes professionals, to support them to continue improving the care they provide.
- Created video animations of NPDA report results so that families can access audit information easily.
- Published national, regional, clinic, Clinical Commissioning Group (CCG, England only) and Local Health Board (LHB, Wales only) reports to allow comparison of diabetes care and encourage improvements.
- Hosted a range of webinars to support diabetes teams to understand the key findings and recommendations from our reports.
- Worked with Digibete to produce educational materials to help children and young people with Type 2 diabetes and their families understand and manage their condition.
- Collaborated with international researchers to compare how different countries are collecting data to support improvements to diabetes care.
- Worked with the National Diabetes Audit to produce reports on the care of young adults with diabetes.

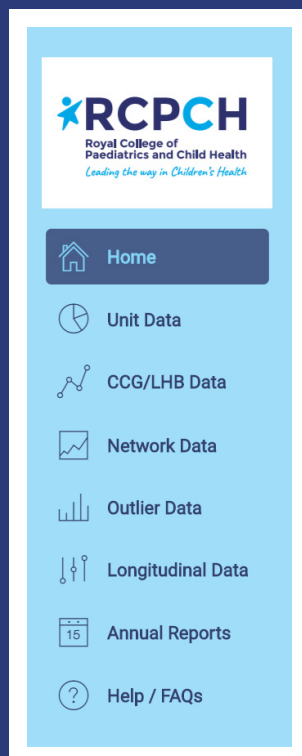
# NPDA Results Online

<https://npda-results.rcpch.ac.uk>

NPDA Results Online is the NPDA's online reporting tool. This tool makes it easier for parents and carers, young people with diabetes, and clinicians to compare the care provided by their clinic to others in the region or country.

NPDA Results Online allows you to:

- Read background information about the NPDA and access annual reports from 2014-15 to 2021-22
- View and compare the results for specific NPDA audit measures such as HbA1c outcomes, and health check completion rates.
- View how your clinic or region performs against others.
- Alternatively, you can download a pdf of your local clinic's results from the reports page on the NPDA website: <https://www.rcpch.ac.uk/resources/npda-annual-reports>



# Glossary

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## **Albuminuria**

\*See Urinary albumin

## **Body Mass Index (BMI)**

A measure of someone's size based on their weight and height. It is used to determine if someone is a healthy weight for their height.

$BMI = \text{weight} / \text{height}^2$

## **Care process**

A care process is an essential healthcare check that should be performed at least once per year e.g. HbA1c or height and weight check. There are some healthcare checks which only start once your child reaches 12 years, such as eye screening. Please ask your clinic for further details or see [pages 5 and 6](#).

## **Cholesterol**

A fatty substance which is vital for the normal functioning of the body. Excessively high levels of cholesterol can have an adverse effect on health.

## **Clinical Commissioning Groups (CCGs)**

Clinical Commissioning Groups are clinically-led NHS bodies responsible for the planning and commissioning of health care services for their local area in England.

## **Coeliac disease**

An autoimmune disease (meaning that the immune system mistakenly attacks healthy tissue in the body) caused by the gut's reaction to gluten.

## **Continuous glucose monitor (CGM) / real time continuous glucose monitor (rtCGM)**

A small device that you wear just under your skin. It measures your glucose levels continuously throughout the day and night, letting you see trends in your levels and alerts you to highs and lows.

## **Diabetic ketoacidosis (DKA)**

A serious condition that can occur in people with diabetes, indicating a severe lack of insulin. This can occur if insulin is not given when needed or during episodes of other illnesses. \*See Ketones.

## **Glucose**

A blood sugar which acts as a major source of energy for the body.



## **Healthcare Quality Improvement Partnership (HQIP)**

An independent established organisation to promote quality in healthcare, to increase the impact that clinical audit has on healthcare quality improvement.

## **Ketones**

A ketone is a chemical substance that the body makes when it does not have enough insulin in the blood. It comes from the breakdown of fat.

## **Key health checks**

These are the various measures that health care professionals should take as part of looking after those with diabetes.

## **Level 3 carbohydrate counting**

A method of calculating how much insulin a person needs to take based on their carbohydrate consumption.

## **Local Health Boards (LHBs)**

Local Health Boards are part of the National Health Service in Wales. They are responsible for planning, funding and delivering healthcare services within their local areas.

## **NICE**

The National Institute for Health and Care Excellence (NICE) provides national guidance and advice to improve health and social care.

## **Pump (Insulin pump)**

A small electronic device that gives your body the regular insulin it needs throughout the day and night.

## **Structured education programme**

A programme of self-management education, tailored to the child or young person's and their family's needs, both at the time of initial diagnosis and on an on-going basis throughout the child's or young person's attendance at the diabetes clinic. This is a programme offered in addition to the education provided at routine outpatient consultations.

## **Thyroid disease**

A disease which causes the thyroid gland in the neck to produce either too much or too little hormone.

## **Urinary albumin**

A test to check urine for the presence of a protein called albumin. Albumin can leak into the urine when the kidney is damaged – this is known as albuminuria.

# Fair processing

To learn more about the NPDA, compare clinic results, read the privacy notice and understand how your child's data is being used to drive national improvements in diabetes care, please visit

[www.rcpch.ac.uk/npda](http://www.rcpch.ac.uk/npda)

## Images

Drawings and illustrations within this report have been designed by children and young people with diabetes, attending a clinic in England or Wales. Their designs are submissions to the 2022 NPDA art competition asking children and young people to design an image based on either 'a good diabetes clinic visit' or 'living healthily with diabetes'.



Artwork by C. Dimmock

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