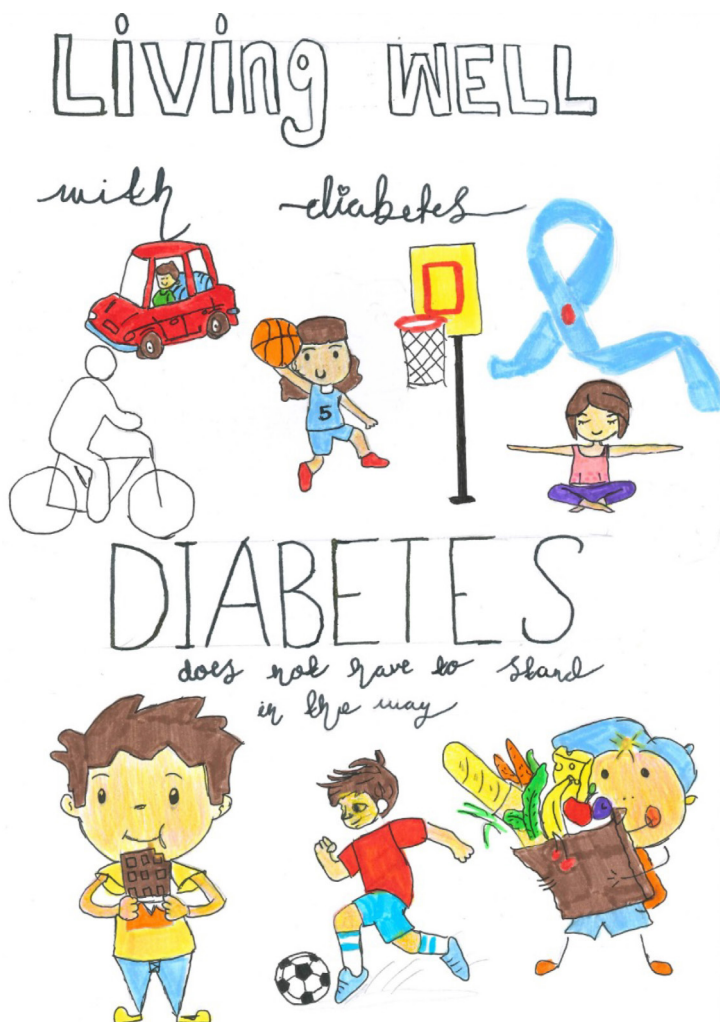


Type 2 Diabetes Spotlight Audit 2023/24

Published April 2025



The National Paediatric Diabetes Audit (NPDA) is commissioned by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP).

HQIP is led by a consortium of the Academy of Medical Royal Colleges, and the Royal College of Nursing. Its aim is to promote quality improvement in patient outcomes, and in particular, to increase the impact that clinical audit, outcome review programmes and registries have on healthcare quality in England and Wales.

HQIP holds the contract to commission, manage, and develop the National Clinical Audit and Patient Outcomes Programme (NCAPOP), comprising around 40 projects covering care provided to people with a wide range of medical, surgical and mental health conditions. The programme is funded by NHS England, the Welsh Government and, with some individual projects, other devolved administrations and crown dependencies.

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Further information:

Further information on the background, aims, and scope of the NPDA is available at:

www.rcpch.ac.uk/npda

Extended analysis:

Extended analyses of the 2023/24 Type 2 Spotlight Audit, a glossary of terms used in this report and a Line of Sight table are available on our [spotlight reports page](#).

CYP Diabetes Network, NHS England Region, NHS Wales Local Health Board and country-level results are also available and can be downloaded on our [data files page](#).

Front cover art competition winner:

Faatimah V.



Introduction

The NPDA was established in 2003 to monitor the prevalence and incidence of diabetes amongst children and young people in England and Wales.

Over **35,000 children** and young people (CYP) with diabetes are receiving care from paediatric diabetes units (PDUs) across England and Wales (RCPCH, 2025), with the majority having Type 1 diabetes and around 4% having Type 2 diabetes.

Despite the small numbers, the NPDA has identified year on year increases in the number of CYP with Type 2 diabetes being managed by PDUs. The condition also carries a high risk of complications. For these reasons, the spotlight audit was designed to assess variation in current practice in paediatric Type 2 diabetes management and outcomes.

Scope of the Type 2 Diabetes Spotlight Audit

This national report covers the care provided to children and young people (CYP) with Type 2 diabetes by paediatric diabetes units (PDU) in England and Wales between 1st April 2023 and 31st March 2024.

This spotlight audit aimed to build upon the reporting for the core NPDA audit by looking in greater detail at the care processes, treatment, and comorbidities of CYP living with Type 2 diabetes, some of which reached beyond the scope of the NICE guidelines for the diagnosis and management of Type 1 and Type 2 diabetes (NG18, 2023).

The data received was linked to the data for CYP with Type 2 diabetes included in the [2023/24 NPDA Report on Care and Outcomes](#), published in March 2024 (referred to as the '2023/24 core audit').

All PDUs in England and Wales were asked to submit information on CYP with Type 2 diabetes being managed by their service. This included information on:

1 The characteristics of CYP with Type 2 diabetes and,

2 The care received within the 2023/24 audit year

PDUs were also asked about the care CYP received at diagnosis, irrespective of the year in which they were diagnosed. This data will be included in the extended analysis.

Key Messages

The number of CYP with Type 2 diabetes receiving care from a PDU in England and Wales has increased by 88%, from 810 in 2019/20, to 1,521 in 2023/24.

- The prevalence of Type 2 diabetes (0-15 years) has increased to **7.7 per 100,000**, from 4.5 per 100,000 in 2019/20.
- The incidence of Type 2 diabetes (0-15 years) has increased to **2.5 per 100,000**, from 1.7 per 100,000 in 2019/20.
- In 2023/24, more PDUs are managing CYP with Type 2 diabetes, with 57% (98/172) of PDUs managing more than five CYP with Type 2 diabetes, compared to 27% (47/172) in 2019/20.
5% (9/172) of PDUs did not report any cases of Type 2 diabetes in 2023/24.



41% of CYP with Type 2 diabetes, aged 12 or older had all six key health checks in 2023/24, compared to 66% of CYP with Type 1 diabetes.

Health check completion ranged from **17% to 100%** at PDU-level.



The national (England and Wales combined) median HbA1c for CYP with Type 2 diabetes in 2023/24 is 50.0 mmol/mol, compared to 52.5 mmol/mol seen in 2019/20. This is lower than that seen in Type 1 diabetes at 60.0 mmol/mol.

53% of CYP have a median HbA1c above the NICE recommended level of 48 mmol/mol.



CYP with Type 2 diabetes are more likely to come from ethnic minority backgrounds or live in more deprived areas, compared to CYP with Type 1 diabetes and the general population.

Furthermore, **74%** of CYP with Type 2 diabetes have a family history of Type 2 diabetes.



24% of CYP with Type 2 diabetes received psychological support in 2023/24, while an additional 29% were offered, but did not receive, psychological support. 73% received dietetic support in 2023/24.

CYP living in more deprived areas were more likely to have had, or been offered, psychological and dietetic support.



Despite the median HbA1c being lower in CYP with Type 2 diabetes compared to those with Type 1, **abnormalities in both microvascular (albuminuria) and macrovascular (BMI, blood pressure, hyperlipidaemia) outcomes are more prevalent in Type 2 diabetes.**

- **86%** of CYP with Type 2 diabetes had a body mass index (BMI) in the obese range (above the 95th centile), and **23%** were offered treatment for obesity.
- **71%** of CYP with Type 2 diabetes had a blood pressure measurement above the 91st percentile. However, **5%** have received treatment for hypertension.
- **20%** of CYP with Type 2 diabetes had albuminuria, however **3%** received treatment for albuminuria.
- **24%** of CYP with Type 2 diabetes had a total blood cholesterol above 5 mmol/l, and **1%** received treatment for hyperlipidaemia.



Recommendations

1

With the increased incidence and prevalence of Type 2 diabetes, and larger caseloads at the PDU-level, teams should be formally trained in the management of children and young people with Type 2 diabetes. This should include evidence-based training and resources to help care for ethnic minority families and those living in deprived areas. Healthcare professionals should engage with their networks to increase their skills and confidence in Type 2 diabetes management.

Action by: The National Children and Young People's Diabetes Network, the RCPCH, Integrated Care Boards in England and Local Health Boards in Wales.

2

Children and young people with identified comorbidities should be offered treatment and specialist support in line with National Institute for Health and Care Excellence (NICE) guidance.

Action by: Integrated Care Boards in England and Local Health Boards in Wales.

3

Children and young people with Type 2 diabetes and a BMI in the obese range should be offered holistic support, including psychological and dietetic input. This may include referral to specialist weight management services.

Action by: Integrated Care Boards in England and Local Health Boards in Wales.

4

A standard, specialised package of care should be available within all PDUs for children and young people with Type 2 diabetes. This should reflect the fact that CYP with Type 2 diabetes are more likely to come from ethnic minority backgrounds and live in more deprived areas. Care packages need to be accessible to all, individualised where appropriate and culturally tailored. Access to psychological and dietetic support should be universal and offered without bias.

Provision of such a package of care would be in line with NICE guidance, the NHS England Core20PLUS5 approach to reducing health inequalities for children and young people, and the Welsh Government Quality statement for diabetes.

Action by: Integrated Care Boards in England and Local Health Boards in Wales.

5

As children and young people with Type 2 diabetes carry a greater risk of developing comorbidities, careful consideration should be given to the potential for intervention and early escalation for treatment for comorbidities. This requires education and guidance to PDUs about the use of adjunctive therapies that can reduce the risk of future complications of the disease.

Regular completion of key care processes is essential for the early detection of comorbidities and complications. Therefore, any unwarranted variation in care process completion should be monitored and addressed.

Action by: The National Children and Young People's Diabetes Network, Integrated Care Boards in England, Local Health Boards in Wales and the NHS England Getting It Right First Time Programme.

SECTION 01

Participation



This Type 2 Diabetes Spotlight Report includes information on **1,521** CYP up to the age of 24 years, receiving care from a PDU, in England and Wales (Figure 1); Data relating to **1,321** of these CYP were reported by **163 out of 172** PDUs who participated in the spotlight audit, with an additional 200 being reported in the concurrent 2023/24 NPDA core audit. **This is an 88% increase from 810 CYP for whom data was processed in the 2019/20 Type 2 Diabetes spotlight audit.**

Nine PDUs did not report managing any CYP with Type 2 diabetes (**8** in England and **1** in Wales).

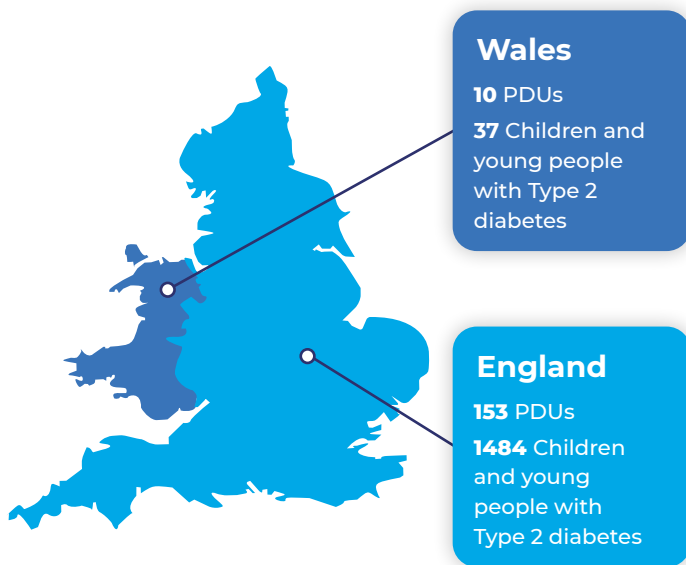


Figure 1: CYP included in the NPDA 2023/24 Type 2 Spotlight Audit in England and Wales, including Spotlight Audit and core audit (2023/24) responses.

	2023/24	2019/20
PDUs with 0 children with Type 2 Diabetes	9 (5%)	24 (14%)
PDUs with 1-5 children with Type 2 Diabetes	65 (38%)	101 (59%)
PDUs with 6-10 children with Type 2 Diabetes	45 (26%)	25 (15%)
PDUs with 11-20 children with Type 2 Diabetes	40 (23%)	16 (9%)
PDUs with 21+ children with Type 2 Diabetes	13 (8%)	6 (3%)

Table 1: Number and percentage of PDUs by caseload with Type 2 diabetes, 2019/20 - 2023/24.

The Type 2 diabetes caseload within each PDU ranged **from 0 to 54 CYP**. **57%** of PDUs provided care for six or more CYP with Type 2 diabetes. **This is an increase from 27% in 2019/20**. **Thirteen units** had more than 20 CYP with Type 2 diabetes, compared to six in 2019/20 (Table 1).

SECTION 02

Prevalence and Incidence



Note: These figures are only calculated amongst those CYP aged 0-15 years. Case ascertainment from PDUs drops after this age as CYP transition into adult services and are managed in a combination of primary and secondary adult care.

The incidence and prevalence of diabetes has increased substantially since 2019/20 (Figure 2).

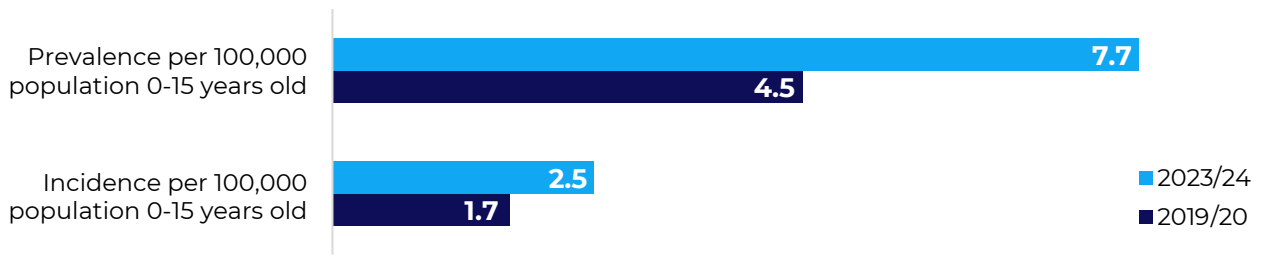


Figure 2: Prevalence and incidence of Type 2 diabetes in 2019/20 and 2023/24.

Type 2 diabetes was more prevalent in girls (10.3 per 100,000), compared to boys (5.1 per 100,000). There was a higher incidence of Type 2 diabetes in girls (3.3 per 100,000) compared to boys (1.8 per 100,000).

SECTION 03

Characteristics



Figure 3 shows the number of CYP with Type 2 diabetes by sex and age in whole years at the beginning for the 2023/24 audit period.

Type 2 diabetes is much more prevalent among girls at all ages. Furthermore, 62% of CYP with Type 2 diabetes were female, compared to 47% being female in Type 1 diabetes (2023/24 core report).

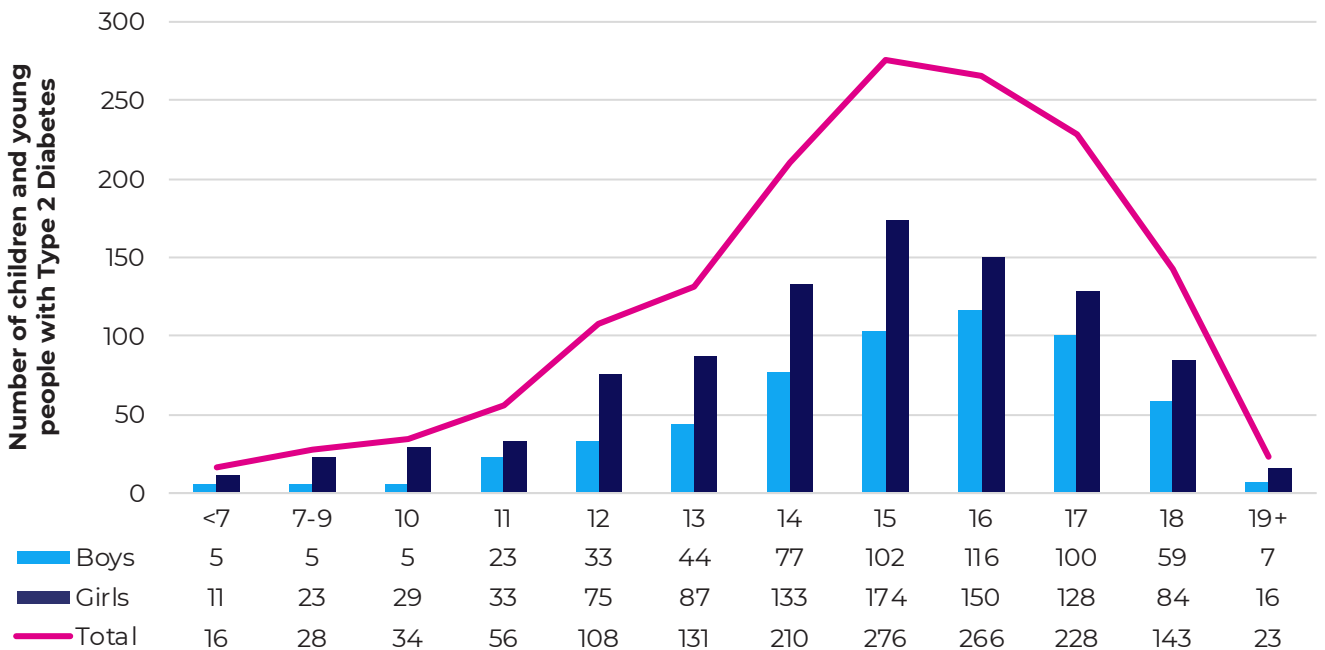


Figure 3: Total number of CYP with Type 2 diabetes broken down by age and sex in 2023/24.



Type 2 diabetes prevalence

The majority of CYP with Type 2 diabetes are from minority ethnic backgrounds, with **63%** of CYP with Type 2 diabetes identified as part of an ethnic minority (Figure 4), compared to **18%** of the CYP with Type 1 diabetes (2023/24 core audit).

Type 2 diabetes is more prevalent amongst those living in deprived areas. **70%** of CYP with Type 2 diabetes lived in the two most deprived quintiles of England and Wales, compared to **43%** of CYP with Type 1 diabetes (2023/24 core audit).

74% of CYP with Type 2 diabetes have a family history of Type 2 diabetes; **42%** had a mother and **28%** had a father with Type 2 diabetes.

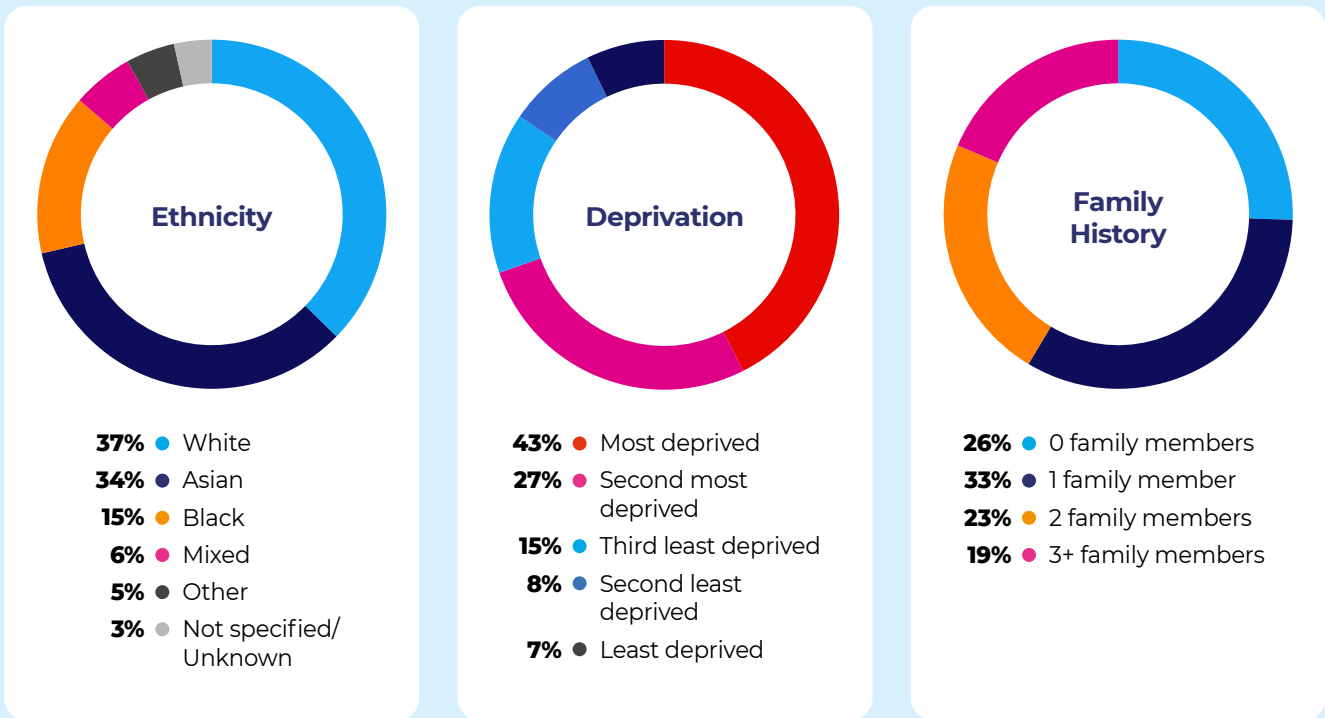


Figure 4: Breakdown of CYP with Type 2 diabetes in 2023/24 by ethnicity, deprivation, and family history of Type 2 diabetes.

SECTION 04

Health Check Completion



Note: The health check completion measures exclude CYP who did not have a complete year of care, for example because they were diagnosed within the audit year or transitioned to adult services.

41% of CYP with Type 2 diabetes, aged 12 or older had all six key health checks in 2023/24, while **36%** of CYP with Type 2 diabetes, younger than 12 years received all five key health checks. Health check completion ranged from **17% to 100%** at PDU-level.

Health check completion is lower than in Type 1 diabetes (Figure 5), where 66% of CYP with Type 1 diabetes aged 12 and above received all six key health checks in 2023/24.

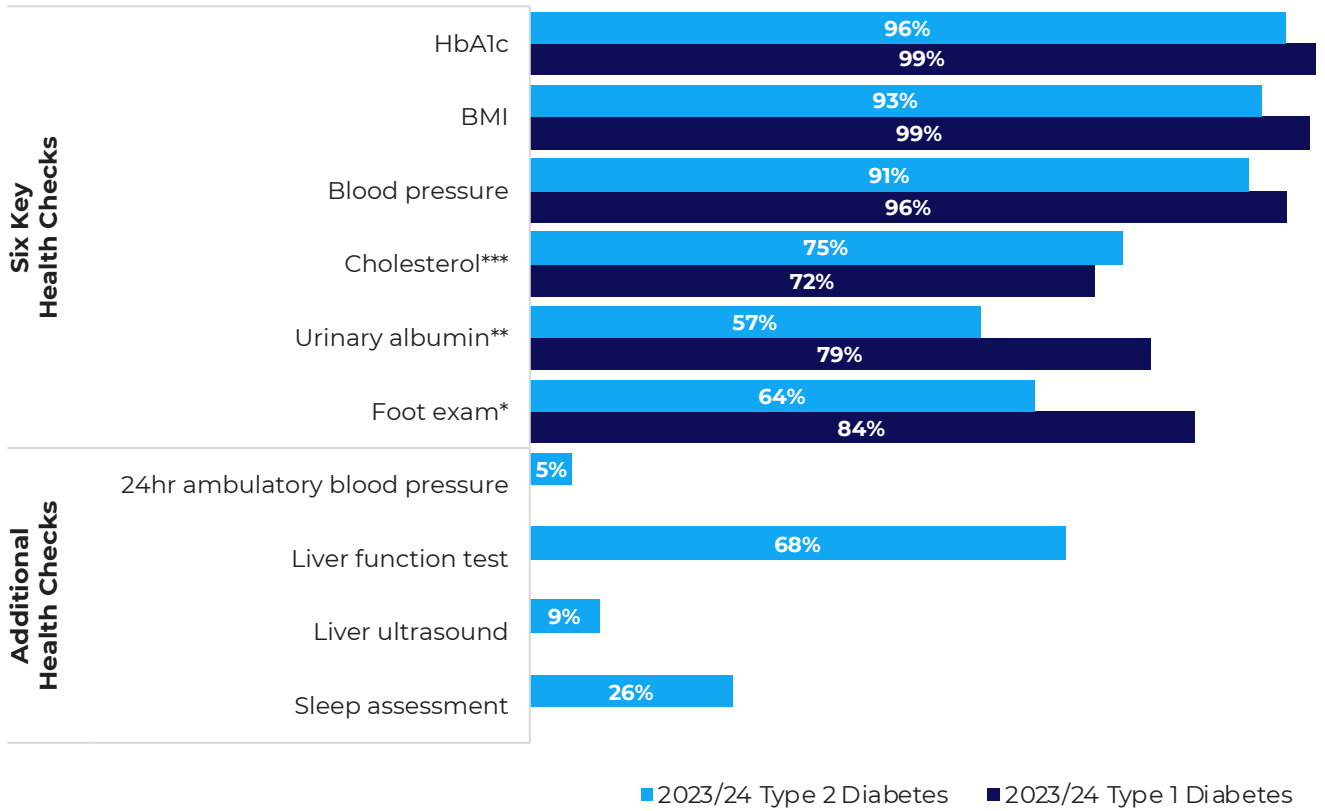


Figure 5: Health check completion rate for CYP with Type 2 diabetes and a complete year of care in 2023/24, compared to CYP with Type 1 diabetes where the data is available in the 2023/24 core audit.

* CYP aged 12 and above

** CYP aged 12 and above for Type 1 diabetes, and all ages for Type 2 diabetes.

*** Cholesterol is only a key health check for CYP with Type 2 diabetes.

Of those aged 12 and above, Black CYP had the highest completion rate, at **53%** (Figure 6). There was little difference in health check completion between deprivation quintiles.

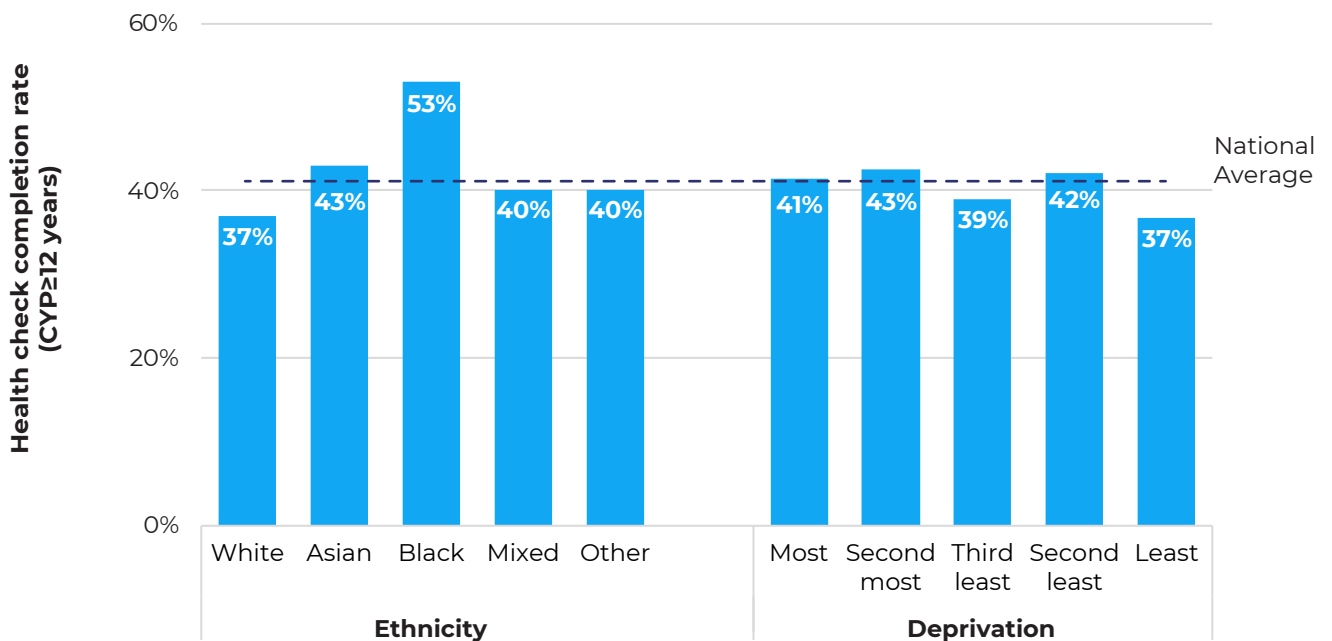


Figure 6: Health check completion rate by ethnicity and deprivation for CYP aged 12 and above with Type 2 diabetes in 2023/24.

SECTION 05



Health Check Outcomes

Note: Below are the outcomes of the health checks performed in 2023/24, regardless of whether the CYP had a complete year of care. All outcomes exclude measurements taken within 90 days following diagnosis. Outcomes at diagnosis are presented in the [extended analysis](#).

There is a high prevalence of abnormalities in health checks amongst CYP with Type 2 diabetes. The majority of CYP with Type 2 diabetes have a BMI in the obese range and/or hypertension and **one fifth** have a high LDL level or albuminuria (Figure 7).

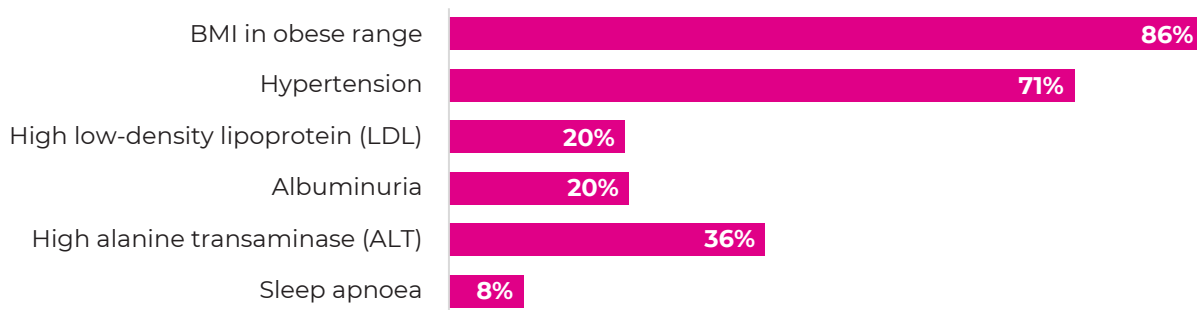


Figure 7: Percentage of CYP with Type 2 diabetes and abnormal health checks.

5.1 HbA1c

The median HbA1c for CYP with Type 2 diabetes in 2023/24 was **50.0 mmol/mol**, which is a decrease from 52.5 mmol/mol in 2019/20. The median HbA1c was **50.0 mmol/mol** in England (n= 1174) and **58.8 mmol/mol** in Wales (n=26).

Figure 8 shows that CYP with Type 2 diabetes had a lower median HbA1c compared to those with Type 1 diabetes (60.0mmol/mol, 2023/24 core audit).

47% of CYP achieved a median HbA1c measurement less than or equal to 48 mmol/mol, compared to 11.9% of CYP with Type 1 diabetes (2023/24 core audit).

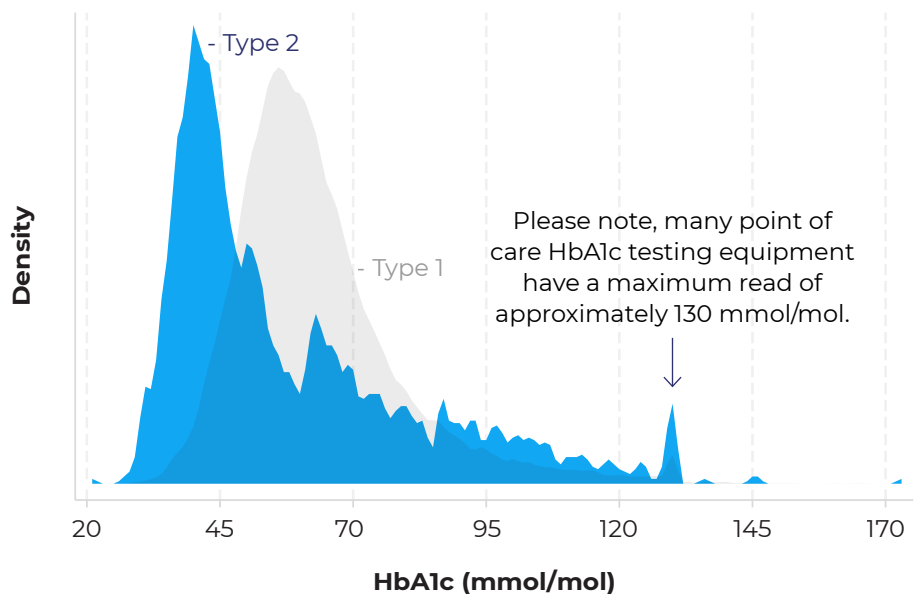


Figure 8: Distribution of median HbA1c measurements in 2023/24 by density. As the number of CYP with Type 1 diabetes far exceeds the number with Type 2 diabetes, the density has been calculated so both can be presented on the same figure.

The mean HbA1c was **58.6 mmol/mol**. **Black and Asian CYP, and those living in more deprived areas had a higher mean HbA1c compared to the national average** (Figure 9).

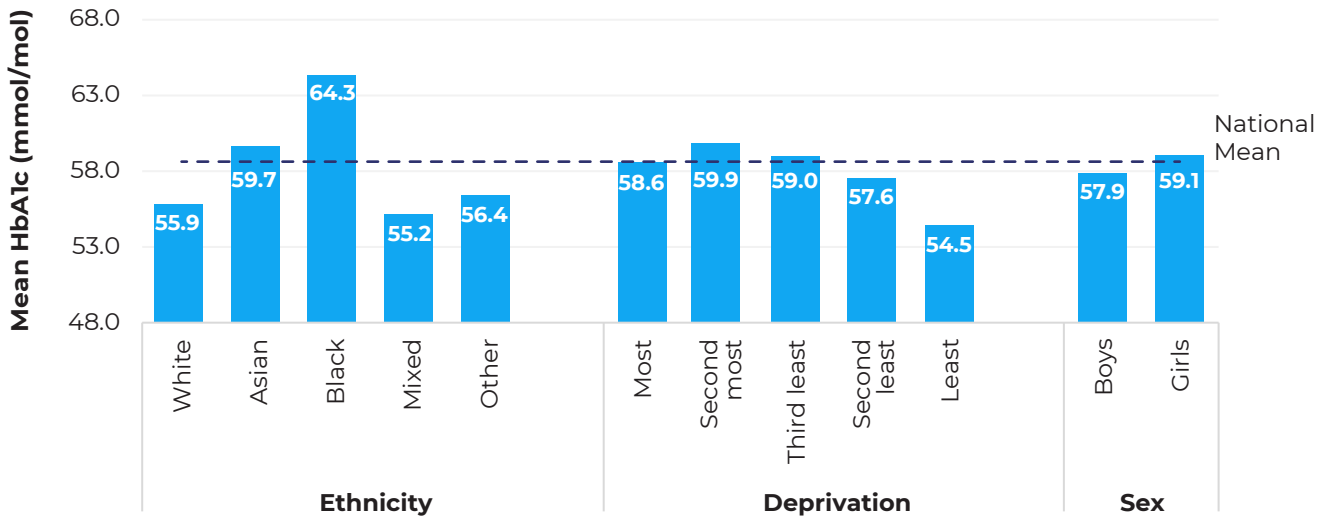


Figure 9: Mean HbA1c for CYP with Type 2 diabetes in 2023/24 by ethnicity, deprivation, and sex.

5.2 BMI

Overall, **CYP with Type 2 diabetes have a higher BMI** compared to those with Type 1 diabetes in the 2023/24 core audit (Figure 10).

86% of CYP in England and Wales combined with Type 2 diabetes had a BMI in the obese range (above the 95th centile), which is a decrease from 92% in 2019/20. **86% of CYP in England and 100% of CYP in Wales** had a BMI in the obese range.

23% of CYP with Type 2 diabetes were offered treatments for obesity in 2023/24.

Of those with a BMI in the obese range, **34%** were offered treatments for obesity. Figure 11 shows the treatments offered to these CYP in England and Wales.

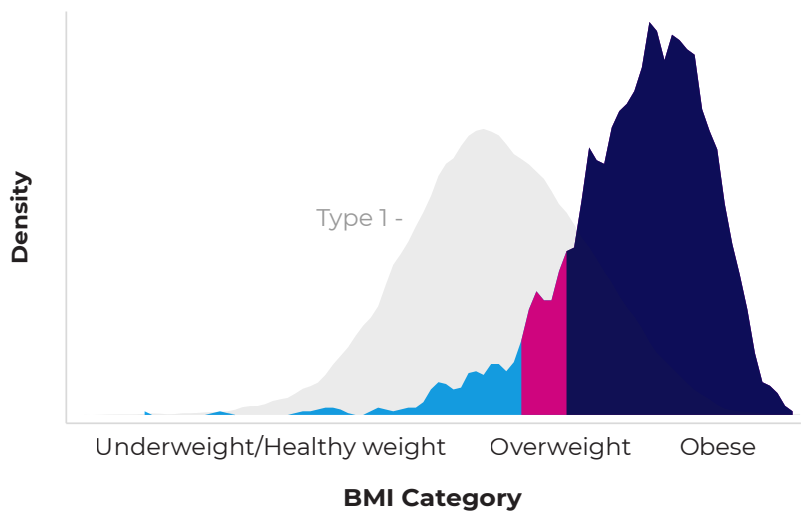


Figure 10: Distribution of BMI z scores for children and young people with Type 1 and Type 2 diabetes in 2023/24. BMI z scores are calculated to compare BMI across different ages and genders. As the number of CYP with Type 1 diabetes far exceeds the number with Type 2 diabetes, the density has been calculated so both can be presented on the same figure.

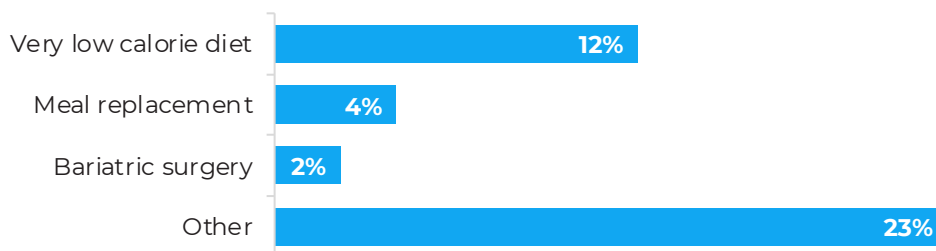


Figure 11: Obesity treatments provided to CYP with Type 2 diabetes with a BMI in the obese range at least 90 days after diagnosis in 2023/24. 'Bariatric surgery' includes those who have been referred but not yet received bariatric surgery. 'Other' includes low calorie diets, Orlistat, GLP1 agonists, SGLT2 inhibitors, lifestyle modifications, referral to Complications of Excess Weight clinics, and referral to eating disorder services.

5.3 Hypertension

71% of CYP with Type 2 diabetes had high or high normal blood pressure, defined as blood pressure above the 91st centile (**70% in England and 71% in Wales**), with **44%** having a blood pressure above the 98th centile (Figure 12). This is an increase from 42% in 2019/20.

7% of CYP with hypertension had a 24-hour ambulatory blood pressure assessment. Only **5%** of CYP with Type 2 diabetes received treatment for hypertension.

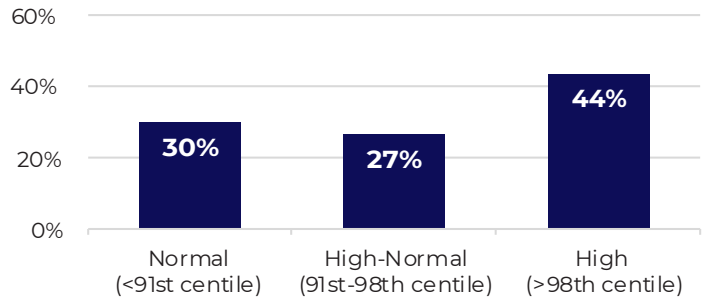


Figure 12: Breakdown of standardised¹ blood pressure results by category in 2023/24.

5.4 Lipid Profile

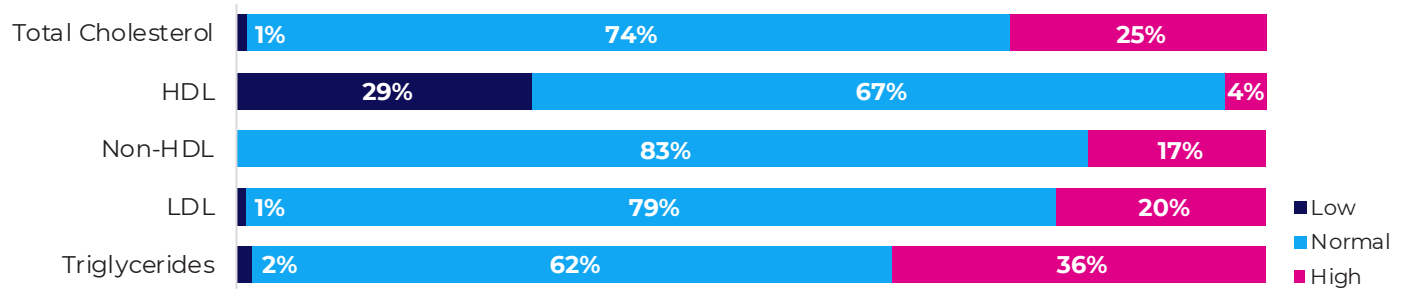


Figure 13: Lipid profile results in 2023/24, as classified by the clinical team. Results labelled as 'Abnormal' have been merged into other categories to mask small numbers. For HDL, 'abnormal' results are included in the low category. For all other measurements, 'abnormal' results are included in the high category.

The mean total cholesterol levels were **4.6 mmol/l (4.6 mmol/l in England and 4.7 mmol/l in Wales)**. **34%** of CYP in England and Wales combined had a total blood cholesterol of 5 mmol/l or higher, compared to **19%** of CYP with Type 1 diabetes in the 2023/24 core audit. Figure 13 shows the outcome of lipid profile tests, as classified by the clinical team. **1%** of CYP with Type 2 diabetes received treatment for hyperlipidaemia.

5.5 Liver Function

36% of CYP with Type 2 diabetes that had a liver function test had high alanine transaminase (ALT) levels, defined as above the reference range supplied by the submitting PDU.

Of the CYP who had a liver ultrasound to detect metabolic dysfunction-associated steatotic liver disease (MASLD) in 2023/24, the majority (**55%**) had no change from previous ultrasound, while **24%** had newly observed MASLD.

5.6 Liver Function

20% of patients had albuminuria in 2023/24 (**17%** microalbuminuria and **3%** macroalbuminuria). **3%** of all CYP with Type 2 diabetes received treatment for albuminuria.

5.7 Sleep Apnoea

8% of CYP who had a sleep assessment in 2023/24 were diagnosed with sleep apnoea. This is a decrease from 16% in 2019/20. Of those with sleep apnoea, **60%** were recommended non-invasive ventilation.

SECTION 06



Treatment and Support

The most common treatment provided to CYP with Type 2 diabetes was lifestyle modifications, followed by Metformin and long acting insulin (Figure 14). 17% were prescribed GLP1 agonists (Dulaglutide, Exenatide, Liraglutide or Semaglutide) and 5% were prescribed SGLT2 inhibitors (Dapagliflozin or Empagliflozin).

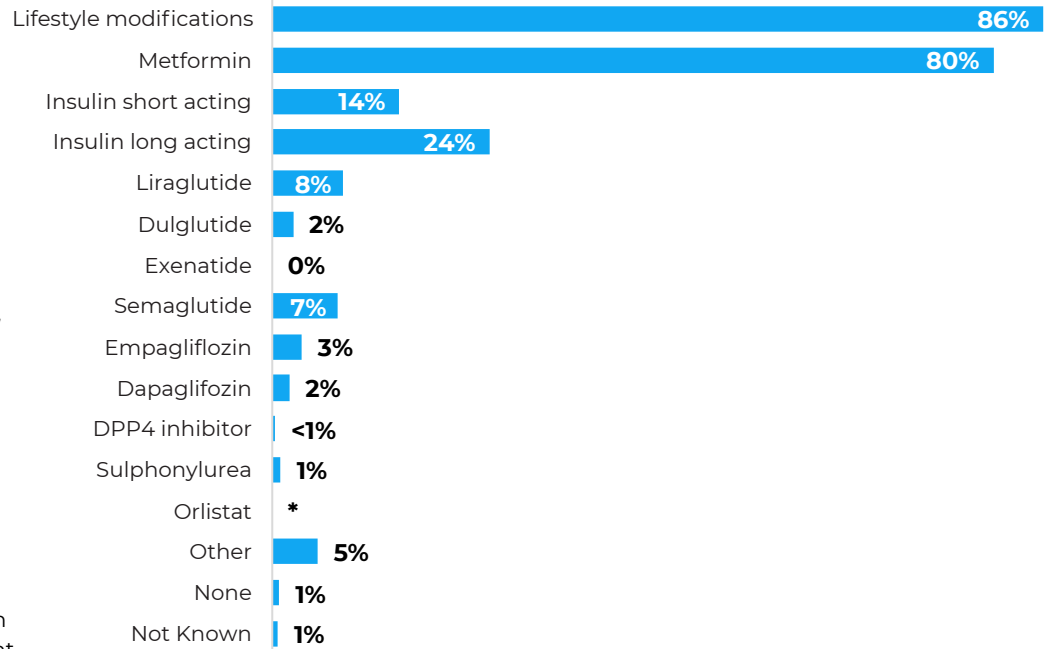


Figure 14: Percentage of CYP with Type 2 diabetes on each treatment.

81% of CYP with Type 2 diabetes were given two or more treatments in 2023/24. Figure 15 shows that the most common treatment combination was lifestyle modifications and metformin. Lifestyle modifications alone was the second most common treatment regimen.

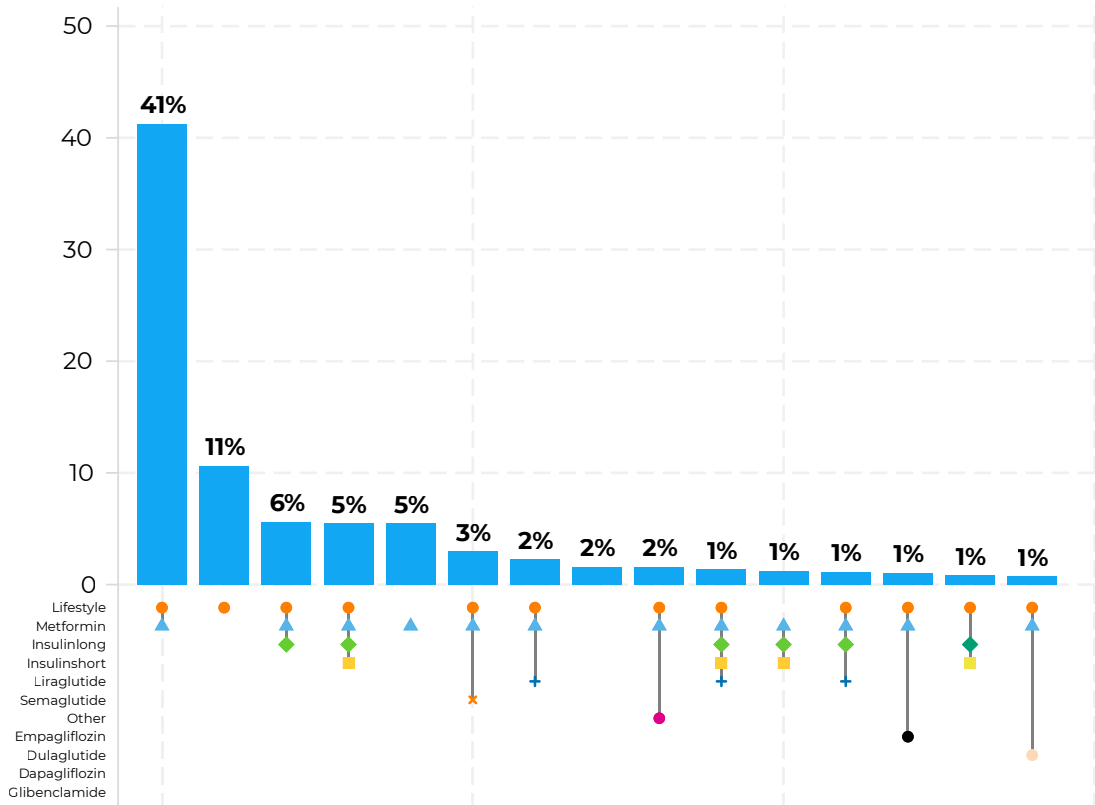


Figure 15: Percentage of CYP receiving the most common treatment combinations.

The majority of CYP with Type 2 diabetes were offered dietetic support in 2023/24, while only **53%** were offered psychological support (Figure 16). In the 2023/24 core audit, **39%** of CYP with Type 2 diabetes were assessed as requiring additional psychological support outside of multidisciplinary team meetings.

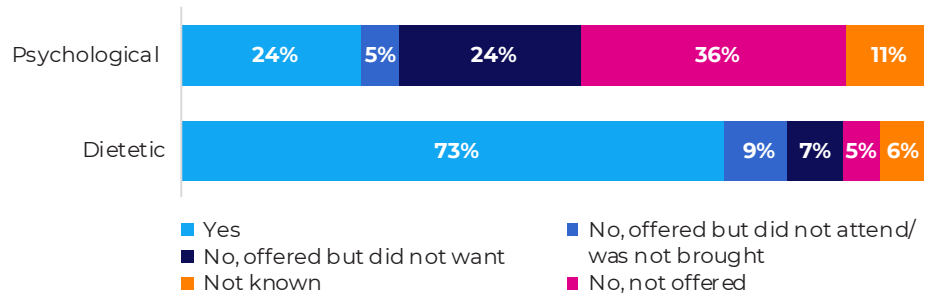


Figure 16: Percentage of CYP with Type 2 diabetes receiving psychological and dietetic support in 2023/24.

CYP living in more deprived areas were more likely to be offered psychological and dietetic support (Figure 17).

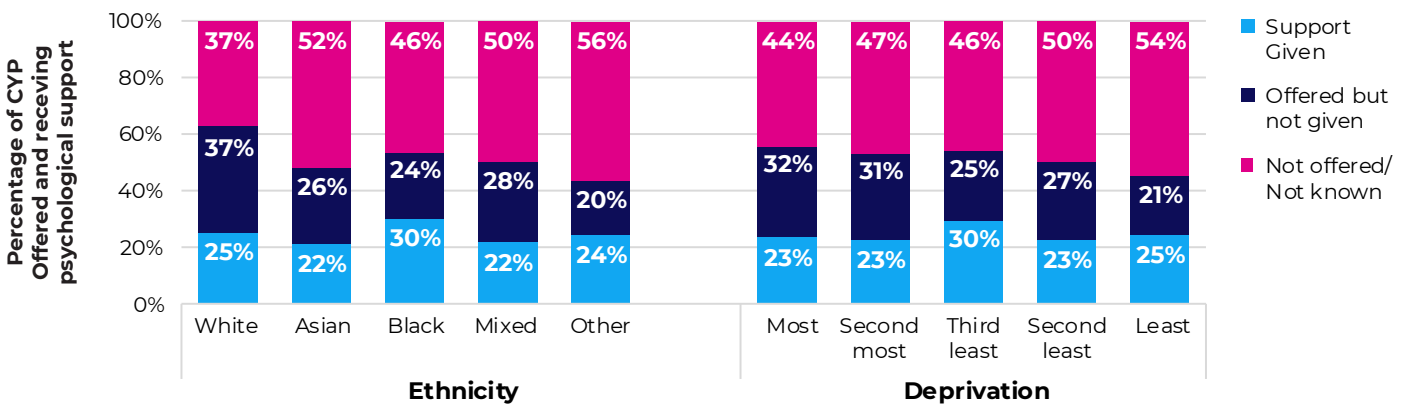


Figure 17: Access to psychological support by ethnicity deprivation quintile in 2023/24.

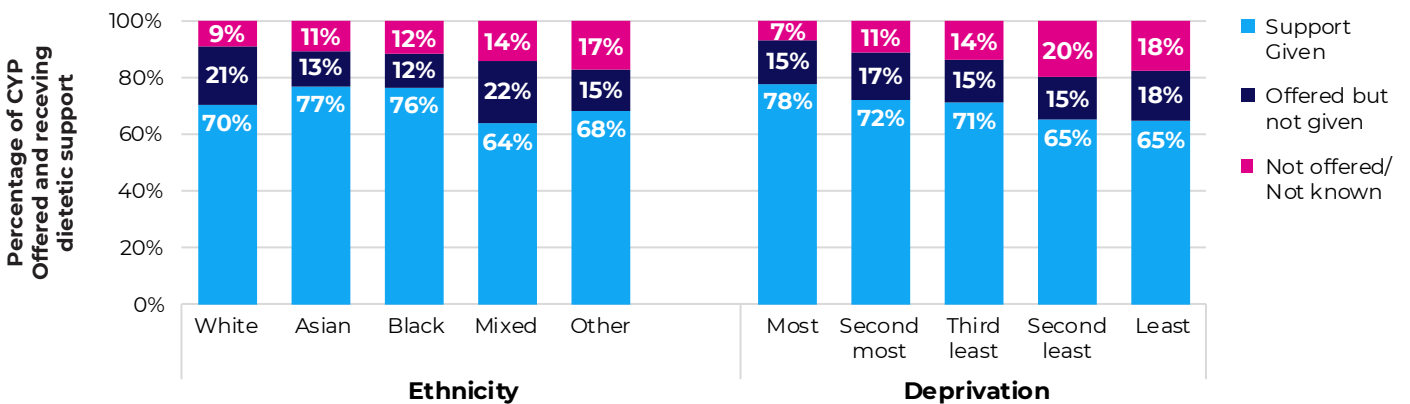


Figure 18: Access to dietetic support by ethnicity deprivation quintile in 2023/24.

Quality Improvement resources

The [RCPCH Diabetes Quality Improvement Website](#) provides multidisciplinary teams with the tools to identify, design and analyse their own interventions specific to the needs of the CYP and their families that they care for.

[NHS England e-learning for healthcare](#) provides online learning resources for managing type 2 diabetes in CYP.

Leicester Diabetes Centre has developed [EDEN](#), which provides an online Early Onset Type 2 Diabetes Toolkit for healthcare professionals.

NHS RightCare has also developed a [CYP Diabetes Toolkit](#) alongside the NHS England National Children and Young Adults Diabetes Programme. This includes a strategy to improve treatment and care for CYP with Type 2 diabetes.

DigiBete publishes [resources](#) for young people with Type 2 diabetes, families and communities to learn about and live well with Type 2 diabetes.

**National Paediatric Diabetes Audit (NPDA)
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