

# NPDA

National Paediatric  
Diabetes Audit

 RCPCH Audits

## National Paediatric Diabetes Audit (NPDA) Type 2 Diabetes Spotlight Audit 2023/24

**Appendices – Glossary, Extended  
Analysis, Line of Sight Table, and  
Acknowledgements**

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# 1. Extended Analysis

This report covers CYP with Type 2 diabetes receiving care from a paediatric diabetes unit (PDU) in England and Wales between 1<sup>st</sup> April 2023 and 31<sup>st</sup> March 2024.

The 2023/24 Type 2 Diabetes Spotlight Audit aimed to build upon the 2023/24 NDPA Report on Care and Outcomes (referred to as the '2023/24 core audit', by looking in greater detail at the outcomes, health checks, treatments, and comorbidities of children and young people (CYP) with Type 2 diabetes in England and Wales. Following the close of the 2023/24 core audit, PDUs were asked to submit additional data on CYP with Type 2 diabetes within their care.

For all CYP entered into the spotlight audit, data was collected on their characteristics and care at diagnosis. For CYP not diagnosed in the 2023/24 audit year, additional data was collected on the care they received in 2023/24.

In line with the [RCPCH guidance on managing data disclosure risks](#), some values less than 4 but not 0 are suppressed to protect patient confidentiality.

## 1.1 Participation

There were **1,521** CYP with Type 2 diabetes included in the 2023/24 Spotlight Audit: **100 (7%)** were entered into the spotlight audit only, **200 (13%)** into the 2023/24 Core Audit only, and **1,321 (80%)** entered into both audits (Table 1).

This is an **88%** increase from 810 CYP included in the 2019/20 Type 2 Diabetes spotlight audit. Figure 1 shows the change in total number of CYP with Type 2 diabetes by network.

**Table 1: CYP with Type 2 diabetes included in the 2023/24 Type 2 Diabetes spotlight audit.**

	Spotlight Audit Only	Core Audit Only	Both Audits	Total
England and Wales	200	100	1221	1521
<b>Country</b>				
England	99	191	1194	1484
Wales	1	9	27	37
<b>NHS Region</b>				
East of England	9	16	118	143
London	26	62	326	414
Midlands	14	41	244	299
North East and Yorkshire	12	13	203	228
North West	21	25	131	177
South East	13	30	116	159
South West	4	4	56	64
Wales	1	9	27	37
<b>Network</b>				
East Midlands	8	19	87	114
East of England	9	16	107	132
London and South East	36	85	374	495
North East and North Cumbria	1	4	52	57
North West	21	25	131	177
South Central	4	5	41	50
South West	3	4	46	53
Thames Valley		2	48	50
Wales	1	9	27	37
West Midlands	6	22	157	185
Yorkshire and Humber	11	9	151	171

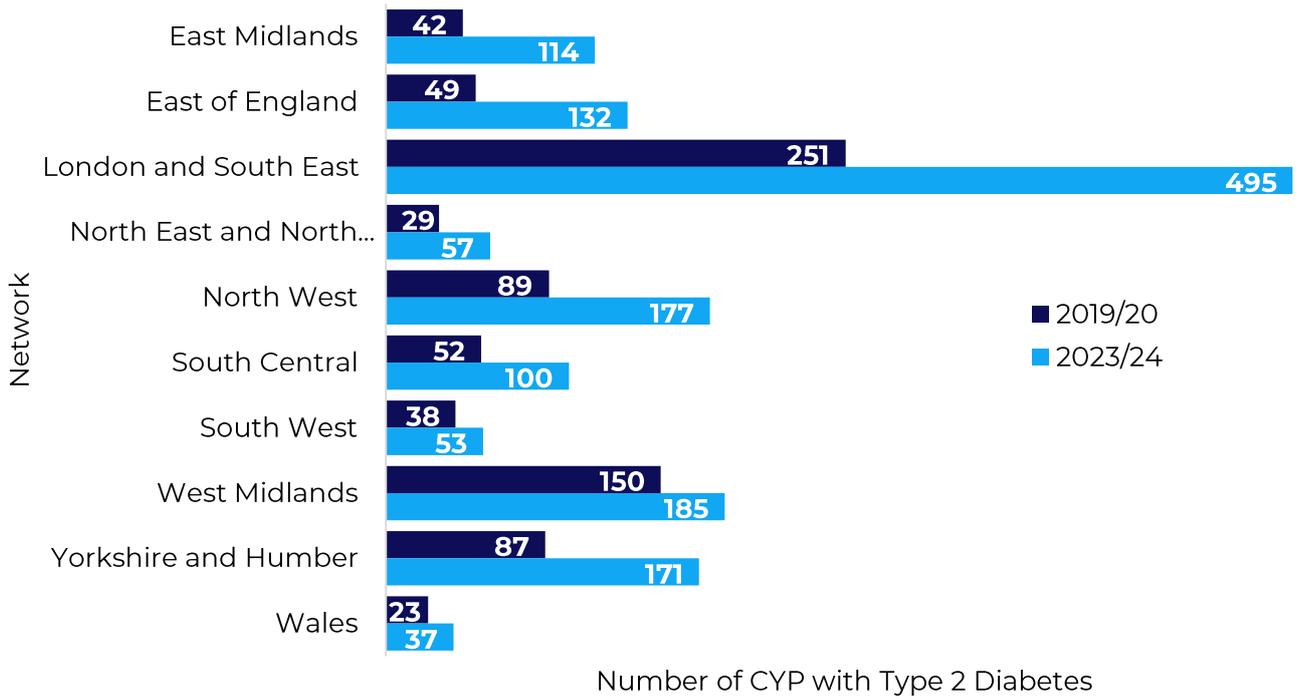


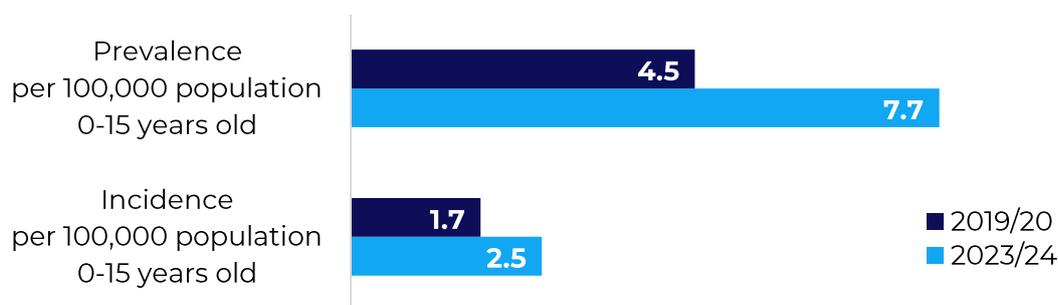
Figure 1: Total number of CYP with Type 2 diabetes by network in 2019/20 and 2023-24.

## 1.2 Prevalence and Incidence

Prevalence and incidence are calculated amongst 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 care.

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

Prevalence and incidence by NHS region are shown in Table 2. Type 2 diabetes was more prevalent in girls (**10.3 per 100,000**), compared to boys (**5.1 per 100,000**; Table 3). There was a higher incidence of Type 2 diabetes in girls (**3.3 per 100,000**) compared to boys (**1.8 per 100,000**).



**Figure 2: Prevalence and incidence of Type 2 diabetes per 100,000 in England and Wales, in 2019/20 and 2023/24.**

**Table 2: Prevalence and incidence of Type 2 diabetes per 100,000, by country and NHS region.**

	Prevalence per 100,000	Incidence per 100,000
England and Wales	7.7	2.5
<b>Country</b>		
England	7.9	2.6
Wales	5.1	1.5
<b>NHS Region</b>		
East of England	6.9	2.3
London	12.3	4.1
Midlands	8.9	2.6
North East and Yorkshire	8.2	2.4
North West	7.5	2.5
South East	5.1	2.0
South West	4.0	1.5
Wales	5.1	1.5

**Table 3: Prevalence and incidence of Type 2 diabetes per 100,000, by age and sex.**

\*Excludes 'Not Specified'

	Prevalence per 100,000	Incidence per 100,000
<b>Males</b>	5.1	1.8
0 – 10 years	0.4	0.2
11 – 15 years	14.6	4.9
<b>Females</b>	10.3	3.3
0 – 10 years	1.7	0.9
11 – 15 years	27.6	8.0
<b>All*</b>	7.7	2.5
0 – 10 years	1.0	0.5
11 – 15 years	21.0	6.4

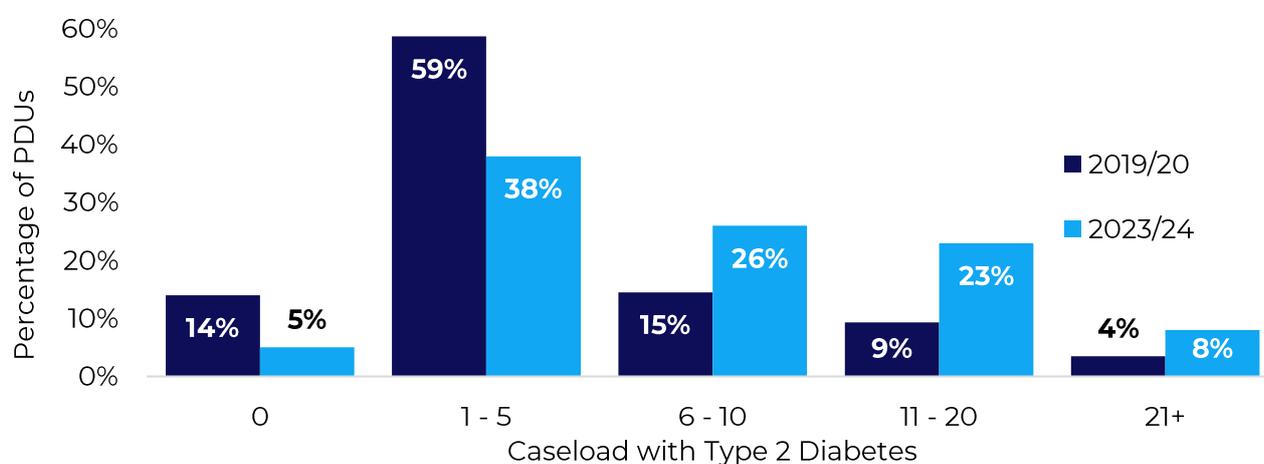
### 1.2.1 Paediatric Diabetes Unit Caseloads

**163 out of 172** PDUs reported managing CYP with Type 2 diabetes. **9** PDUs did not report managing any CYP with Type 2 diabetes (**8** in England, **1** in Wales).

The number of CYP with Type 2 diabetes managed within each PDU ranged from **0 to 54**. **57%** of PDUs provided care for 6 or more CYP with Type 2 diabetes (Table 4). 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 (Figure 3).

**Table 4: Number of PDUs by caseload with Type 2 diabetes.**

	Number of PDUs	Number of CYP with Type 2 diabetes
<b>Total</b>	<b>172</b>	<b>n=1521</b>
PDUs with 0 children with Type 2 Diabetes	9 (5%)	0 (0%)
PDUs with 1 - 5 children with Type 2 Diabetes	65 (38%)	182 (12%)
PDUs with 6 - 10 children with Type 2 Diabetes	45 (26%)	342 (22%)
PDUs with 11 - 20 children with Type 2 Diabetes	40 (23%)	575 (38%)
PDUs with 21+ children with Type 2 Diabetes	13 (8%)	422 (28%)



**Figure 3: Percentage of PDUs by caseload size in 2019/20 and 2023/24.**

## 1.3 Characteristics

The median age of CYP with Type 2 diabetes was 15 years (Table 5), (compared to 13 years in Type 1 diabetes (2023/24 core audit). The majority of CYP with Type 2 diabetes are female. Figure 4 shows the sex of CYP with Type 2 diabetes by age.

The majority of CYP with Type 2 diabetes are from minority ethnic backgrounds, and are more likely to come from ethnic minority backgrounds compared to CYP with Type 1 diabetes and the general population aged 0-19 years (Figure 5).

Type 2 diabetes is more prevalent amongst those living in deprived areas (Figure 6). **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 in the 2032/24 core audit. Table 6 shows the relationship between ethnicity and deprivation. In all ethnic categories, the majority of CYP with Type 2 diabetes live in more deprived areas.

**Table 5: Characteristics of children and young people with Type 2 diabetes in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>Age</b>	<b>(n=1521)</b>	<b>(n=1484)</b>	<b>(n=37)</b>
0 – 10 years	79 (5%)	*	*
11 – 15 years	782 (51%)	757 (51%)	25 (68%)
16 – 24 years	660 (43%)	*	*
Median age	15	15	14
<b>Sex</b>	<b>(n=1519)</b>	<b>(n=1482)</b>	<b>(n=37)</b>
Male	576 (38%)	565 (38%)	11 (30%)
Female	943 (62%)	917 (62%)	26 (70%)
<b>Ethnicity</b>	<b>(n=1468)</b>	<b>(n=1432)</b>	<b>(n=36)</b>
White	568 (39%)	541 (38%)	27 (75%)
Mixed	518 (35%)	513 (36%)	5 (14%)
Asian	227 (16%)	*	*
Black	86 (6%)	86 (6%)	0 (0%)
Other	69 (5%)	*	*
<b>Deprivation</b>	<b>(n=1511)</b>	<b>(n=1475)</b>	<b>(n=36)</b>
Most deprived	643 (43%)	629 (43%)	14 (39%)
Second most deprived	409 (27%)	399 (27%)	10 (28%)
Third least deprived	225 (15%)	220 (15%)	5 (14%)
Second least deprived	125 (8%)	*	*
Least deprived	109 (7%)	*	*

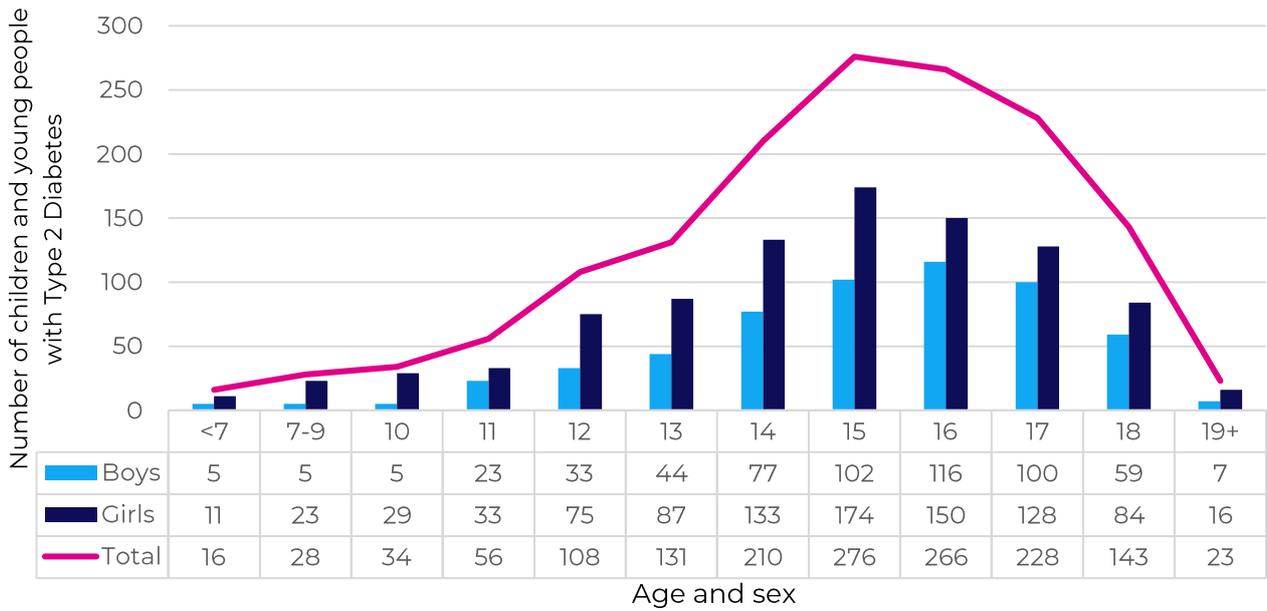


Figure 4: Number of CYP with Type 2 diabetes by age and sex in the 2023/24 spotlight audit.

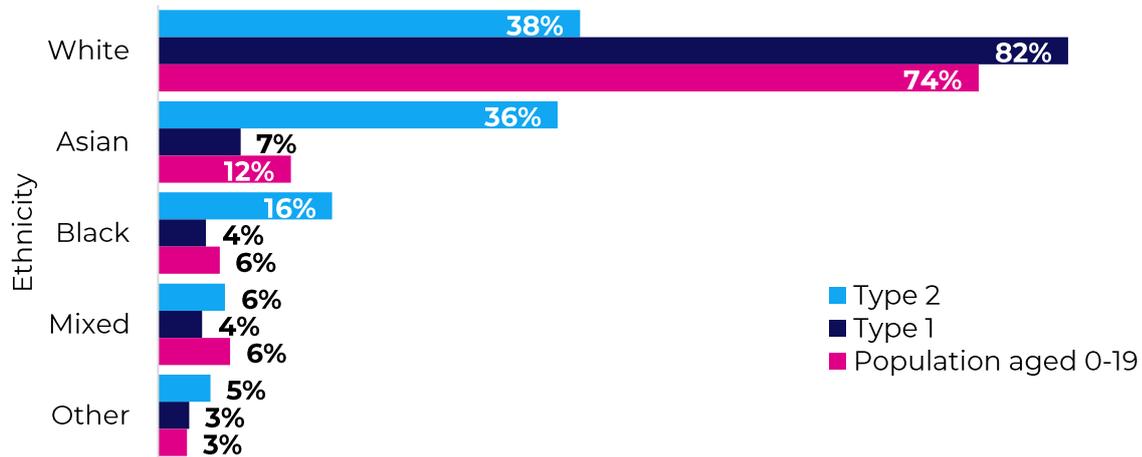


Figure 5: Ethnicity by diabetes type in 2023/24, excluding 'not stated' and 'not known' categories, compared to ONS data (Census 2021).

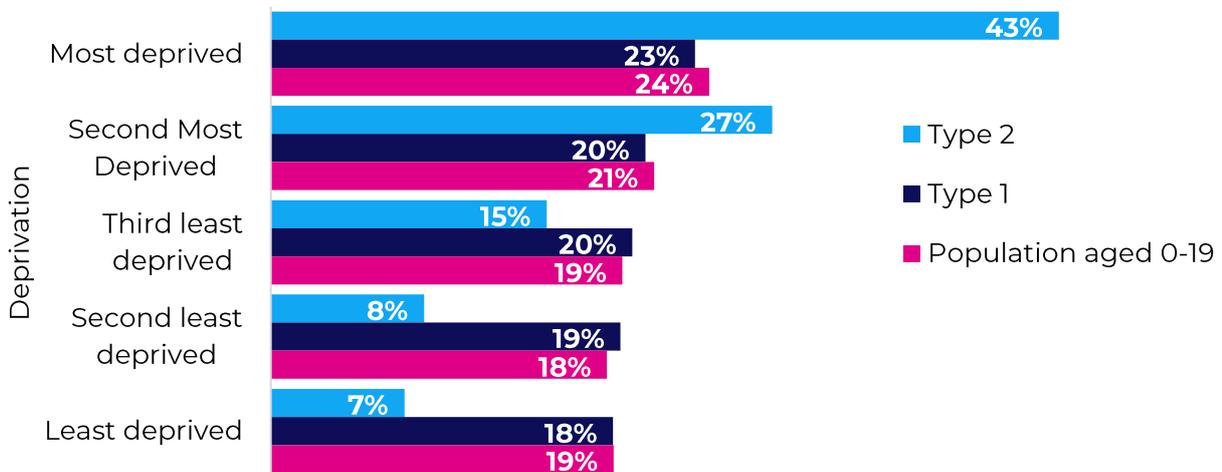


Figure 6: Deprivation quintile by diabetes type in 2023/24, compared to the ONS data (2020).

**Table 6: Number of children and young people with Type 2 diabetes by ethnicity and deprivation in the 2023/24 spotlight audit.**

Small numbers in the unknown categories are not masked, in line with RCPCH guidance on managing data disclosure risks. These categories may be masked secondarily to avoid suppress data in other columns.

	<b>Most deprived</b>	<b>Second most deprived</b>	<b>Third least deprived</b>	<b>Second least deprived</b>	<b>Least deprived</b>	<b>Unknown deprivation</b>
White	219	127	94	63	59	6
Asian	237	155	70	31	24	1
Black	107	69	30	11	8	2
Mixed	38	24	9	4	11	0
Other	25	19	12	10	*	*
Unknown ethnicity	17	15	10	6	*	*

## 1.4 Family History

**74%** of CYP with Type 2 diabetes have a family history of Type 2 diabetes (Figure 7); **57%** had a mother and **38%** had a father with Type 2 diabetes (Figure 8). Table 7 shows family history by country.



**Figure 7: Percentage of CYP with Type 2 diabetes by number of family members with Type 2 diabetes.**

**Figure 8: Percentage of CYP with Type 2 diabetes with specified family members with Type 2 diabetes**

**Table 7: Family history of Type 2 diabetes, by country.**

	England and Wales	England	Wales
<b>Family history of Type 2 Diabetes</b>	<b>(n=1321)</b>	<b>(n=1293)</b>	<b>(n=28)</b>
Yes	984 (74%)	964 (75%)	20 (71%)
No/Not known	337 (26%)	329 (25%)	8 (29%)
<b>If yes, relative with Type 2 diabetes</b>	<b>(n=984)</b>	<b>(n=964)</b>	<b>(n=20)</b>
Mother	560 (57%)	546 (57%)	14 (70%)
Father	373 (38%)	*	*
Sister	62 (6%)	62 (6%)	0 (0%)
Brother	37 (4%)	37 (4%)	0 (0%)
Maternal grandmother	289 (30%)	283 (30%)	6 (30%)
Paternal grandmother	155 (16%)	*	*
Maternal grandfather	172 (18%)	*	*
Paternal grandfather	130 (13%)	*	*
Other	167 (17%)	*	*
<b>Number of family members with Type 2 Diabetes</b>	<b>(n=1321)</b>	<b>(n=1293)</b>	<b>(n=28)</b>
0 family members	337 (26%)	329 (25%)	8 (29%)
1 family member	437 (33%)	426 (33%)	11 (39%)
2 family members	302 (23%)	*	*
3+ family members	245 (19%)	*	*

## 1.5 Diagnosis of Type 2 Diabetes

Items on care and outcomes at diagnosis were collected as part of the Type 2 Diabetes Spotlight Audit. Therefore, CYP entered only into the 2023/24 core audit are excluded.

### 1.5.1 Timeliness of diagnosis

The majority of CYP with Type 2 diabetes had an earlier diagnosis, with only **10%** receiving a diagnosis after 3 months (Figure 9). **79%** of CYP with Type 2 diabetes in England and **75%** in Wales had no delay in diagnosis (Table 8). Table 9 shows timeliness of diagnosis by country, NHS region, and network.

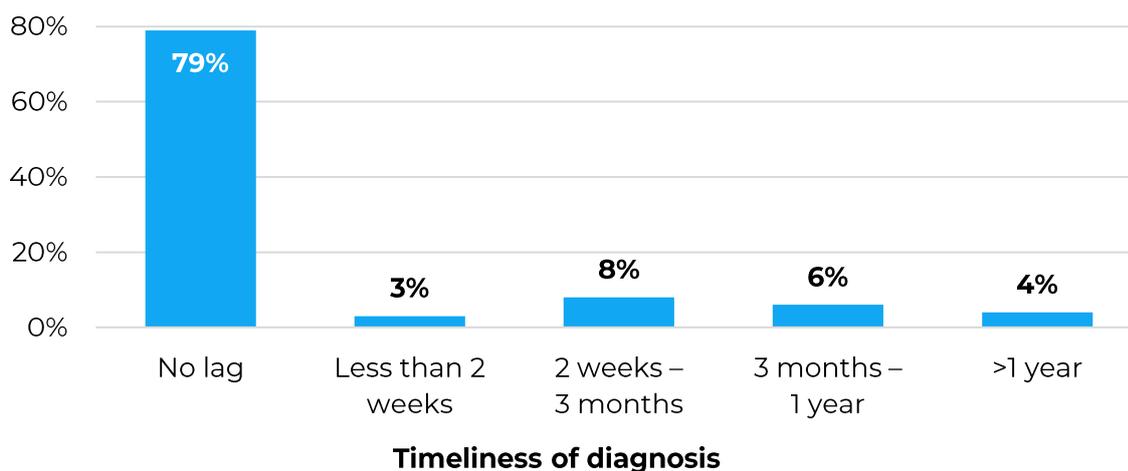


Figure 9: Timeliness of Type 2 diabetes diagnosis.

Table 8: Timeliness of diagnosis of Type 2 diabetes in the 2023/24 spotlight audit, by country.

	England and Wales (n=1321)	England (n=1293)	Wales (n=28)
<b>Timeliness of Diagnosis</b>			
No lag	1040 (79%)	1019 (79%)	21 (75%)
Less than 2 weeks	44 (3%)	44 (3%)	0 (0%)
2 weeks – 3 months	106 (8%)	*	*
3 months – 1 year	79 (6%)	75 (6%)	4 (14%)
>1 year	52 (4%)	*	*

**Table 9: Timeliness of diagnosis of Type 2 diabetes, by geography.**

	Total	Earlier diagnosis (≤3 months)	Later diagnosis (>3 months)
England and Wales	1321	1190 (90%)	131 (10%)
<b>Country</b>			
England	1293	1168 (90%)	125 (10%)
Wales	28	22 (79%)	6 (21%)
<b>NHS Region</b>			
East of England	127	106 (83%)	21 (17%)
London	352	322 (91%)	30 (9%)
Midlands	258	235 (91%)	23 (9%)
North East and Yorkshire	215	199 (93%)	16 (7%)
North West	152	138 (91%)	14 (9%)
South East	129	115 (89%)	14 (11%)
South West	60	53 (88%)	7 (12%)
Wales	28	22 (79%)	6 (21%)
<b>Network</b>			
East Midlands	95	84 (88%)	11 (12%)
East of England	116	95 (82%)	21 (18%)
London and South East	410	370 (90%)	40 (10%)
North East and North Cumbria	53	*	*
North West	152	138 (91%)	14 (9%)
South Central	45	40 (89%)	5 (11%)
South West	49	44 (90%)	5 (10%)
Thames Valley	48	*	*
Wales	28	22 (79%)	6 (21%)
West Midlands	163	151 (93%)	12 (7%)
Yorkshire and Humber	162	150 (93%)	12 (7%)

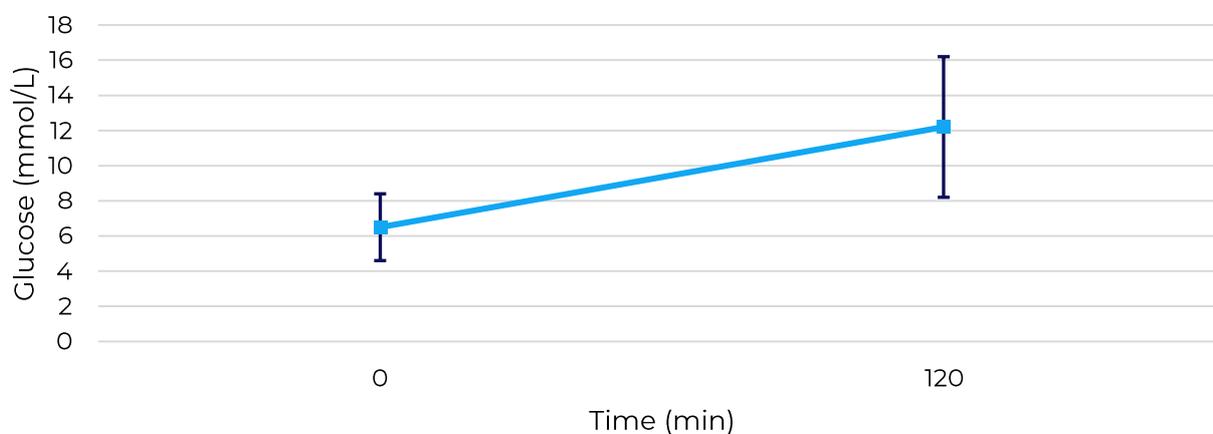
### 1.5.2 Oral glucose tolerance testing

21% of CYP with Type 2 diabetes had an oral glucose tolerance test performed at diagnosis (Table 10).

At the start of the test, the mean glucose result was **6.5 mmol/L**, where a level of 6.1 mmol/L or greater indicates impaired glucose tolerance. The mean glucose level at 120 minutes was **12.2 mmol/L** (Figure 10), where a level of 11.1 mmol/L or greater indicates diabetes.

**Table 10: Oral glucose tolerance test at diagnosis in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>Was an Oral Glucose Tolerance Test performed at diagnosis of diabetes?</b>	<b>(n=1321)</b>	<b>(n=1293)</b>	<b>(n=28)</b>
Yes	272 (21%)	*	*
No	939 (71%)	915 (71%)	24 (86%)
Not known	110 (8%)	*	*
<b>If yes, what was the glucose result at 0 minutes? (mmol/L)</b>	<b>(n=272)</b>		
Mean (SD)	6.5 (1.9)	*	*
<b>If yes, what was the glucose at 120 minutes? (mmol/L)</b>	<b>(n=272)</b>		
Mean (SD)	12.2 (4)	*	*



**Figure 10: Mean and standard deviation of glucose (mmol/L) at 0 and 120 minutes of glucose tolerance test.**

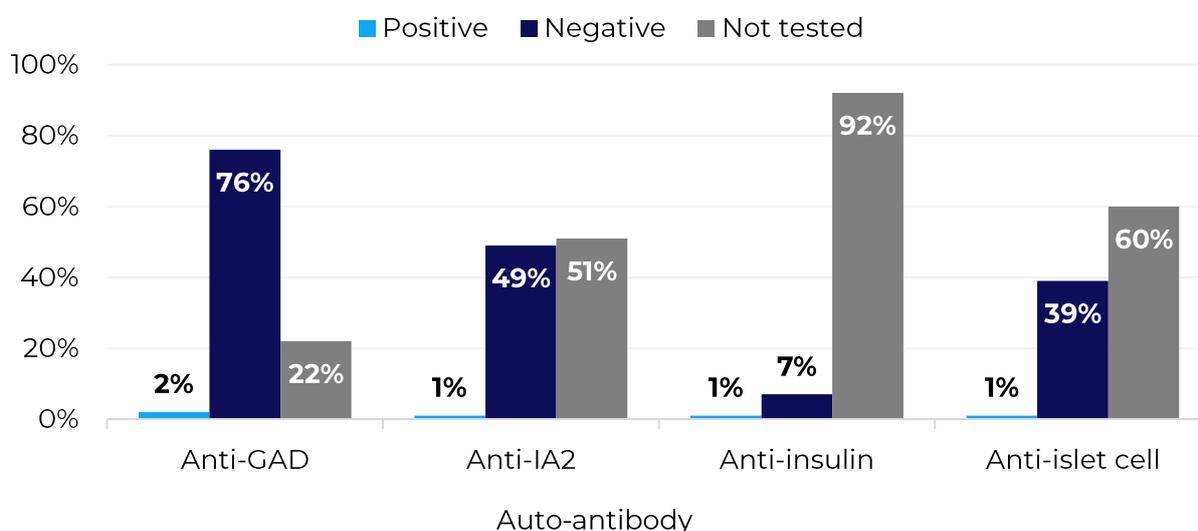
### 1.5.3 Auto-antibody testing

1,070 (81%) of CYP had an auto-antibody test at diagnosis. 95% of those tested had no auto-antibodies identified (Table 11).

The most commonly tested antibody was anti-GAD, with **78% (1034/1321)** having an anti-GAD test and **2%** having a positive result (Figure 11).

**Table 11: Auto-antibody testing at diagnosis in the 2023/24 spotlight audit, by country.**

	England and Wales (n=1321)	England (n=1293)	Wales (n=28)
<b>Anti-GAD</b>			
Positive	25 (2%)	*	*
Negative	1000 (76%)	974 (76%)	26 (93%)
Not tested	287 (22%)	*	*
<b>Anti-IA2</b>			
Positive	10 (1%)	10 (1%)	-
Negative	639 (49%)	625 (49%)	14 (50%)
Not tested	663 (51%)	649 (51%)	14 (50%)
<b>Anti-ZnT8</b>			
Positive	*	*	*
Negative	*	*	*
Not tested	709 (54%)	694 (54%)	15 (54%)
<b>Anti-insulin</b>			
Positive	7 (1%)	*	*
Negative	97 (7%)	*	*
Not tested	1206 (92%)	1179 (92%)	27 (96%)
<b>Anti-islet cell</b>			
Positive	9 (1%)	9 (1%)	-
Negative	511 (39%)	490 (38%)	21 (75%)
Not tested	791 (60%)	784 (61%)	7 (25%)
<b>Other</b>			
Positive	16 (1%)	16 (1%)	-
Negative	69 (5%)	69 (5%)	-
Not tested/Not applicable	1,226 (94%)	1,198 (93%)	28 (100%)



**Figure 11: Percentage of CYP with auto-antibody testing and positive results.**

### 1.5.4 DKA and hypoglycaemia

DKA at diagnosis was uncommon, with **2%** presenting with DKA and **1%** in a hyperglycaemic hyperosmolar state at diagnosis of diabetes (Table 12). Of those presenting in DKA, the mean pH was **7.1**.

**Table 12: DKA and Hyperglycaemia at diagnosis in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>Did the patient have DKA at diagnosis of diabetes?</b>	<b>(n=1,321)</b>	<b>(n=1,293)</b>	<b>(n=28)</b>
Yes	33 (2%)	33 (3%)	0 (0%)
Mean (SD) pH	7.1 (0.1)	7.1 (0.1)	0 (0%)
No	1,234 (93%)	1,206 (93%)	28 (100%)
Not Known	54 (4%)	54 (4%)	0 (0%)
<b>Was the patient in a hyperglycaemic hyperosmolar state (HHS) at diagnosis of diabetes?</b>	<b>(n=1,321)</b>	<b>(n=1,293)</b>	<b>(n=28)</b>
Yes	17 (1%)	17 (1%)	0 (0%)
No	1,216 (92%)	1,188 (92%)	28 (100%)
Not Known	88 (7%)	88 (7%)	0 (0%)

### 1.5.5 Acanthosis nigricans

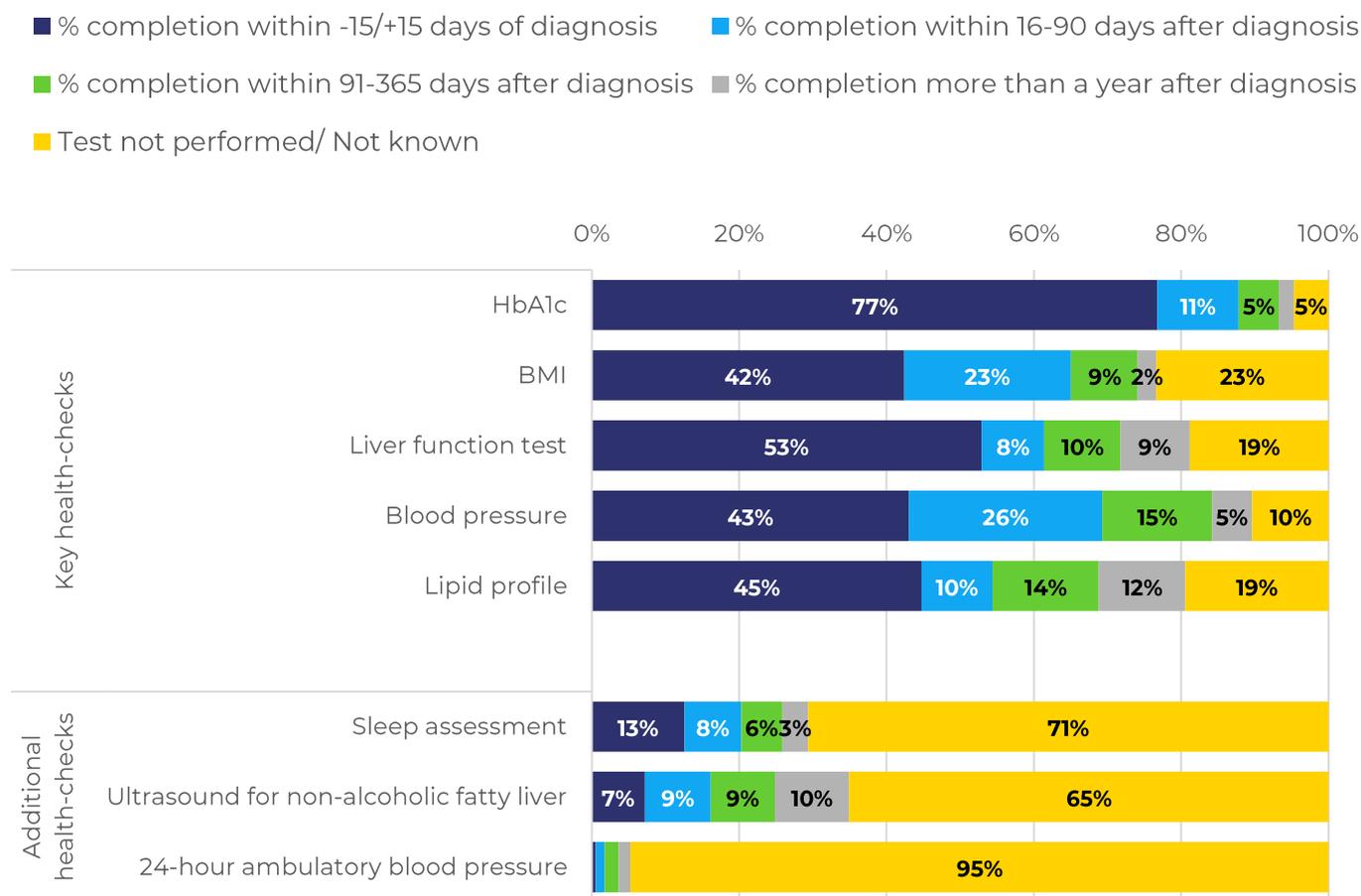
Acanthosis nigricans was present in **48%** of CYP with Type 2 diabetes at diagnosis (Table 13).

**Table 13: Presence of acanthosis nigricans at diagnosis in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>Was acanthosis nigricans present at diagnosis of diabetes?</b>	<b>(n=1321)</b>	<b>(n=1293)</b>	<b>(n=28)</b>
Yes	640 (48%)	622 (48%)	18 (64%)
No/Not known	681 (52%)	671 (52%)	10 (36%)

## 1.6 Health checks completion at diagnosis

Figure 12 shows the percentage of children receiving key and additional health checks at different time intervals following diabetes diagnosis. Completion of foot examination was not assessed at diagnosis. Tables 14 and 15 show health check completion at diagnosis by country.



**Figure 12: Health check completion by time interval following diabetes diagnosis in England and Wales.**

**Table 14: Health check completion for each key health check at diagnosis, by country.**

	England and Wales	England	Wales
<b>HbA1c</b>			
Yes – Within 15 days	1014 (77%)	989 (76%)	25 (89%)
Yes – After 15 days	245 (19%)	243 (19%)	2 (7%)
No/Not known	62 (5%)	61 (5%)	1 (4%)
<b>BMI</b>			
Yes – Within 15 days	560 (42%)	547 (42%)	13 (46%)
Yes – After 15 days	452 (34%)	444 (34%)	8 (29%)
No/Not known	309 (23%)	302 (23%)	7 (25%)
<b>Liver function test</b>			
Yes – Within 15 days	699 (53%)	681 (53%)	18 (64%)
Yes – After 15 days	373 (28%)	366 (28%)	7 (25%)
No/Not known	249 (19%)	246 (19%)	3 (11%)
<b>Blood Pressure*</b>			
Yes – Within 15 days	568 (43%)	554 (43%)	14 (50%)
Yes – After 15 days	616 (47%)	607 (47%)	9 (32%)
No/Not known	137 (10%)	132 (10%)	5 (18%)
<b>Lipid Profile</b>			
Yes – Within 15 days	591 (45%)	576 (45%)	15 (54%)
Yes – After 15 days	473 (36%)	465 (36%)	8 (29%)
No/Not known	257 (19%)	252 (19%)	5 (18%)

\* Blood pressure health-check completion is considered if a valid “systolic” value is recorded.

**Table 15: Health check completion for each additional health check at diagnosis, by country.**

	England and Wales	England	Wales
<b>Ambulatory Blood Pressure</b>			
Yes – Within 15 days	7 (1%)	7 (1%)	0 (0%)
Yes – After 15 days	62 (5%)	61 (5%)	1 (4%)
No/Not known	1252 (95%)	1225 (95%)	27 (96%)
<b>Liver Ultrasound for Metabolic Dysfunction Associated Steatotic Liver Disease (MASLD)</b>			
Yes – Within 15 days	96 (7%)	*	*
Yes – After 15 days	369 (28%)	*	*
No/Not known	856 (65%)	837 (65%)	19 (68%)
<b>Sleep Assessment</b>			
Yes – Within 15 days	166 (13%)	155 (12%)	11 (39%)
Yes – After 15 days	222 (17%)	215 (17%)	7 (25%)
No/Not known	933 (71%)	923 (71%)	10 (36%)

## 1.7 Health check outcomes at diagnosis

**Note:** Only valid outcomes recorded within 15 days of diagnosis are included.

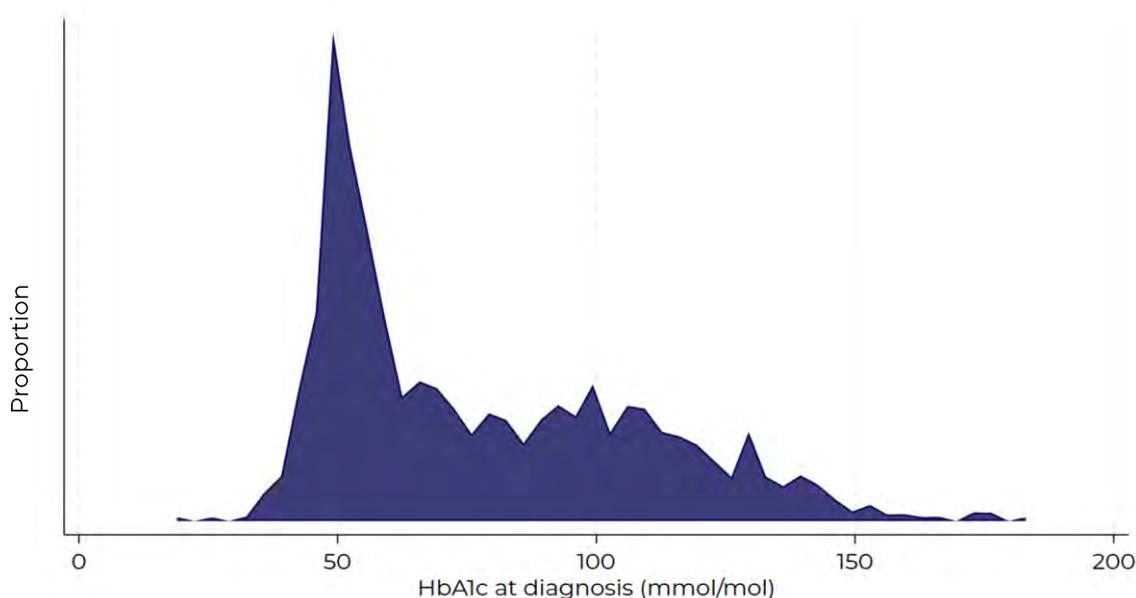
### 1.7.1 HbA1c

**76%** of CYP with Type 2 diabetes had a HbA1c measurement within 15 days of diagnosis (Table 16). The mean HbA1c within 15 days of diagnosis was **77.7 mmol/mol**, skewed towards lower HbA1c (Figure 13).

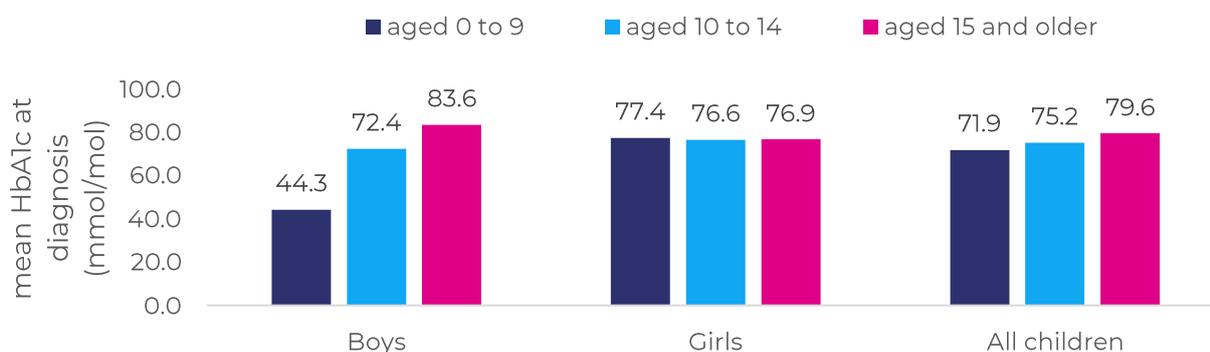
Girls had higher HbA1c than boys in all age groups (Figure 14). Table 17 shows the relationship between ethnicity and deprivation.

**Table 16: HbA1c at diagnosis in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>HbA1c (mmol/mol)</b>	<b>(n=1014)</b>	<b>(n=989)</b>	<b>(n=25)</b>
Mean (SD)	77.7 (30.5)	77.6 (30.6)	80.9 (26.6)
Median (IQR)	68 (49)	68 (48)	80 (47)



**Figure 13: HbA1c distribution within 15 days of diagnosis.**



**Figure 14: Mean HbA1c within 15 days of diagnosis, by age group and sex.**

**Table 17: Mean HbA1c within 15 days of diagnosis, by ethnicity and deprivation.**

	Most deprived	Second most deprived	Third least deprived	Second least deprived	Least deprived	colour scale
White	72.4 (n= 145)	75.6 (n= 84)	68.3 (n= 68)	75.9 (n= 41)	77.8 (n= 41)	51-60 mmol
Asian	77.7 (n= 167)	75.4 (n= 99)	78.1 (n= 45)	69.1 (n= 22)	58.2 (n= 16)	61-70 mmol
Black	100.8 (n= 73)	88.5 (n= 44)	77.9 (n= 22)	69.9 (n= 9)	100.8 (n= 5)	71-80 mmol
Mixed	79.1 (n= 26)	75.6 (n= 19)	105.2 (n= 7)	*	75.6 (n= 8)	81-90 mmol
Other	75.1 (n= 17)	75.4 (n= 11)	94 (n= 8)	89.2 (n= 6)	*	>90 mmol

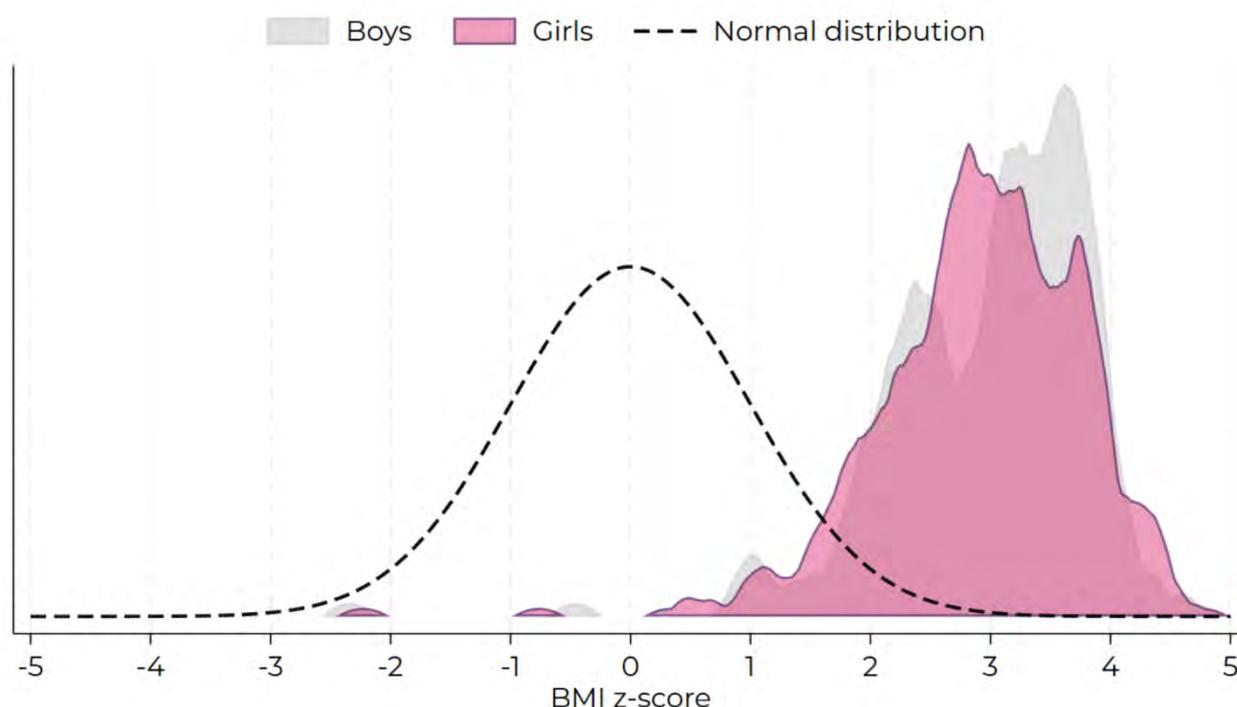
### 1.7.2 BMI

**560 (42%)** of all children and young people included in the Type 2 diabetes Spotlight audit had a BMI measurement within a fortnight of diagnosis. **94%** of them had a BMI in the obese range (Table 18).

Girls and boys had similar BMIs (Figure 15) with **93%** of girls and **95%** of boys having a BMI in the obese range (Table 19). There were slight differences between ethnic groups (Figure 16, Table 20), and little difference between deprivation quintiles (Table 21).

**Table 18: BMI at diagnosis in the 2023/24 spotlight audit, by country.**

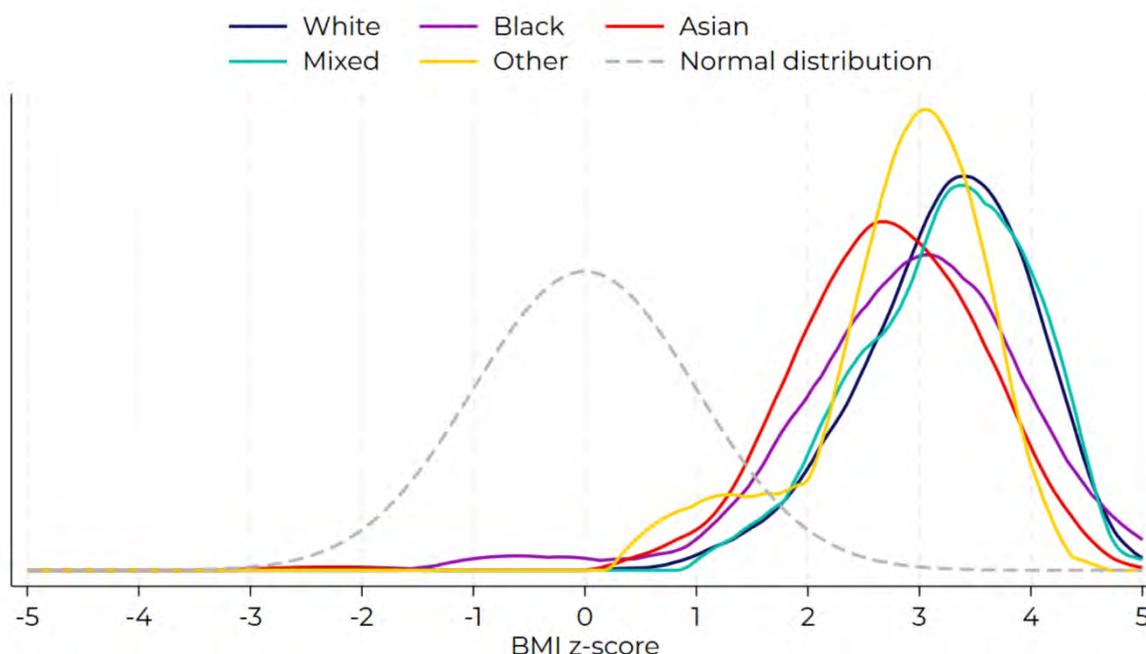
	England and Wales	England	Wales
<b>BMI</b>			
Underweight and Healthy weight	13 (2%)	13 (2%)	0 (0%)
Overweight	22 (4%)	22 (4%)	0 (0%)
Obese	525 (94%)	512 (94%)	13 (100%)



**Figure 15: BMI z-score distribution within 15 days of diagnosis, by sex.**

**Table 19: BMI at diagnosis in the 2023/24 spotlight audit, by sex.**

	Boys	Girls
<b>BMI</b>		
Underweight and Healthy weight	5 (2%)	8 (2%)
Overweight	6 (3%)	16 (5%)
Obese	209 (95%)	316 (93%)



**Figure 16: BMI z-score distribution within 15 days of diagnosis, by ethnicity.**

**Table 20: BMI at diagnosis in the 2023/24 spotlight audit, by ethnicity.**

	White	Asian	Black	Mixed	Other
<b>BMI</b>					
Not obese	7 (4%)	16 (8%)	6 (7%)	0 (0%)	3 (10%)
Obese	191 (96%)	193 (92%)	79 (93%)	29 (100%)	26 (90%)

**Table 21: BMI at diagnosis in the 2023/24 spotlight audit, by deprivation.**

	Most deprived	Second most deprived	Third least deprived	Second least deprived	Least deprived
<b>BMI</b>					
Not obese	15 (6%)	12 (8%)	4 (5%)	3 (6%)	1 (3%)
Obese	223 (94%)	145 (92%)	71 (95%)	45 (94%)	37 (97%)

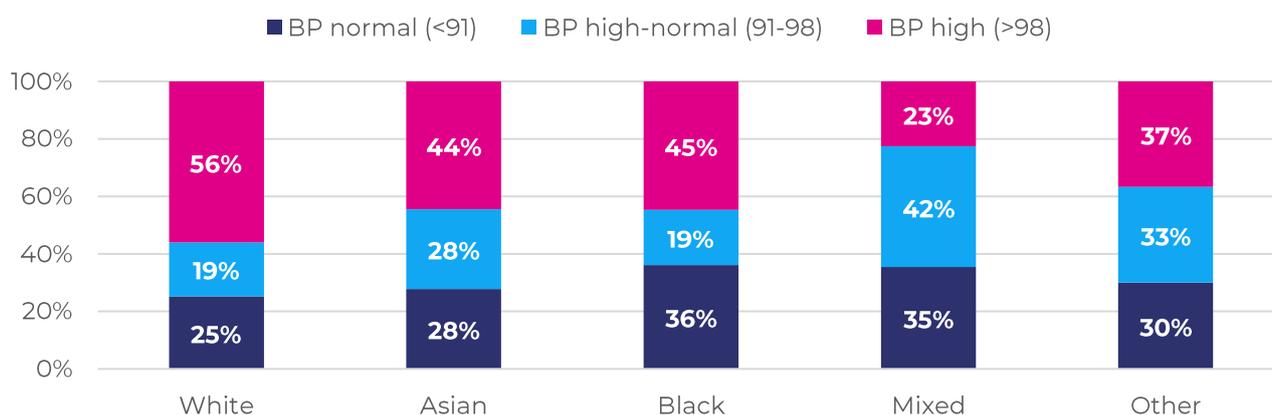
### 1.7.3 Blood pressure

Of the **569 (43%)** CYP with Type 2 diabetes had a blood pressure test (either systolic or diastolic) within 15 days of diagnosis, **407 (72%)** had a high or high normal blood pressure (above the 91<sup>st</sup> centile) (Table 22). White CYP were most likely to have high blood pressure (Figure 17).

Only 7 (1%) children had a 24-hour ambulatory blood pressure test performed within 15 days of diabetes diagnosis. However, from those who were identified as having high or high-normal blood pressure within a fortnight of diagnosis, **22 (5%)** had a 24-hour ambulatory blood pressure within a year of diagnosis.

**Table 22: Blood pressure outcomes at diagnosis in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>Blood pressure</b>			
Normal (<91 <sup>st</sup> centile)	162 (28%)	157 (28%)	5 (36%)
High-normal (91 <sup>st</sup> – 98 <sup>th</sup> centile)	140 (25%)	140 (25%)	0 (0%)
High (>98 <sup>th</sup> centile)	267 (47%)	258 (46%)	9 (64%)



**Figure 17: Blood pressure results within 15 days of diagnosis, by ethnicity.**

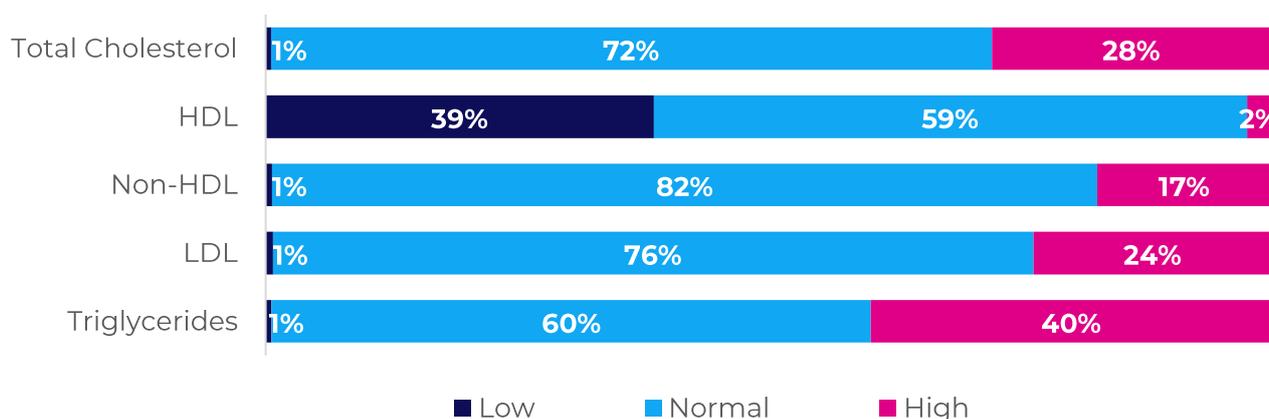
### 1.7.4 Lipid profile

Of the **591 (45%)** CYP who had a lipid profile performed within 15 days of diagnosis, **136 (23%)** had a fasting lipid profile (Table 23).

**23%** of CYP had a high LDL measurement at diagnosis, while **39%** had a low HDL (Figure 18). The mean total cholesterol was **4.7 mmol/l** (Table 2).

**Table 23: Lipid profile at diagnosis in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>Was the lipid profile performed while fasting?</b>	<b>(n=591)</b>	<b>(n=576)</b>	<b>(n=15)</b>
Fasting	136 (23%)	*	*
Non-fasting	318 (54%)	307 (53%)	11 (73%)
Not known	137 (23%)	*	*



**Figure 18: Lipid profile results at diagnosis, as classified by the clinical team.**

Results labelled ‘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.

**Table 24: Lipid profile outcomes at diagnosis in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>Total cholesterol</b>	<b>(n=577)</b>	<b>(n=562)</b>	<b>(n=15)</b>
Mean (SD)	4.7 (2.0)	4.7 (2.0)	4.6 (1.2)
Median (IQR)	4.5 (1.3)	4.5 (1.3)	4.5 (1.9)
High	157 (27%)	*	*
Normal	415 (72%)	403 (72%)	12 (80%)
Lower than normal	*	*	*
Abnormal	*	*	*
<b>HDL cholesterol</b>	<b>(n=559)</b>	<b>(n=544)</b>	<b>(n=15)</b>
Mean (SD)	1.1 (0.3)	1.1 (0.3)	1.1 (0.3)
Median (IQR)	1.0 (0.3)	1.0 (0.3)	1.0 (0.3)
High	13 (2%)	13 (2%)	-
Normal	330 (59%)	321 (59%)	9 (60%)
Lower than normal	216 (39%)	210 (39%)	6 (40%)
Abnormal	-	-	-
<b>Non-HDL cholesterol</b>	<b>(n=483)</b>	<b>(n=468)</b>	<b>(n=15)</b>
Mean (SD)	3.4 (1.2)	3.4 (1.2)	3.6 (1.2)
Median (IQR)	3.3 (1.3)	3.3 (1.3)	3.4 (1.9)
High	85 (18%)	*	*
Normal	395 (82%)	384 (82%)	11 (73%)
Lower than normal	*	*	*
Abnormal	*	*	*
<b>LDL cholesterol</b>	<b>(n=432)</b>	<b>(n=419)</b>	<b>(n=13)</b>
Mean (SD)	2.6 (0.9)	2.6 (0.9)	2.6 (1.0)
Median (IQR)	2.5 (1.1)	2.5 (1.1)	2.7 (0.8)
High	100 (23%)	*	*
Normal	328 (76%)	317 (76%)	11 (85%)
Lower than normal	*	*	*
Abnormal	*	*	*
<b>Triglycerides</b>	<b>(n=550)</b>	<b>(n=535)</b>	<b>(n=15)</b>
Mean (SD)	2.3 (2.1)	2.3 (2.1)	2.1 (1.5)
Median (IQR)	1.7 (1.3)	1.7 (1.3)	1.4 (1.4)
High	215 (39%)	209 (39%)	6 (40%)
Normal	328 (60%)	319 (60%)	9 (60%)
Lower than normal	*	*	*
Abnormal	*	*	*

## 1.7.5 Liver function

A total of 699 (53%) CYP with Type 2 diabetes had a liver function test within 15 days of diagnosis. Of these, **692 (99%)** also had an indication of the upper limit for alanine transaminase (ALT) specified by the hospital laboratory for a patient of that age and sex. Overall, **325 (47%)** CYP had a high ALT result (Table 25). Mean and median ALT values by age and sex are shown in Table 26. Girls had a lower average ALT (Figure 19).

**96 (7%)** of CYP had a liver ultrasound for metabolic dysfunction associated steatotic liver disease (MASLD) within a fortnight of diabetes diagnosis. Of these, **72 (75%)** had MASLD observed (Table 27).

**Table 25: Liver function test at diagnosis in the 2023/24 spotlight audit, by country.**

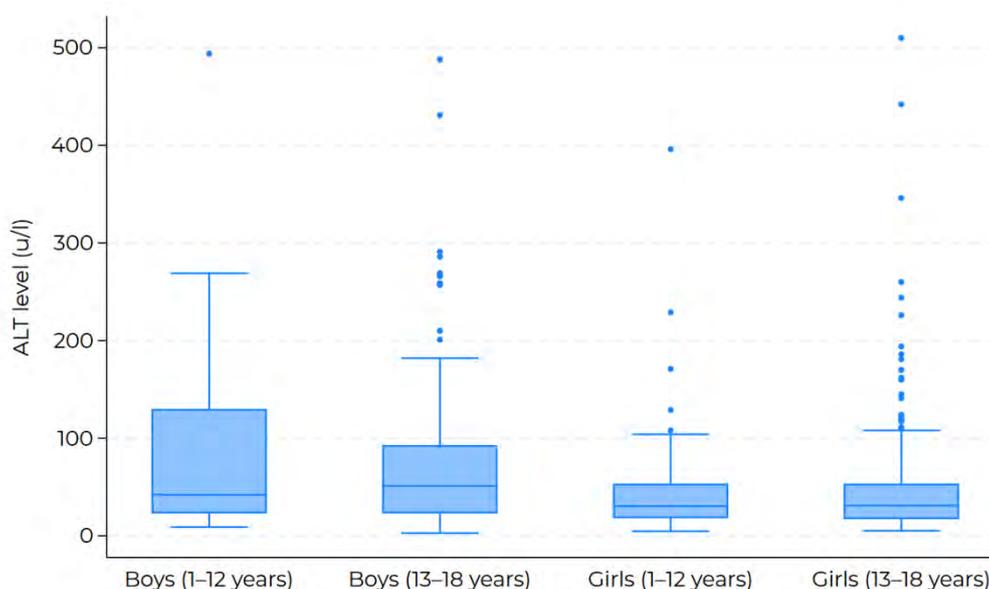
\*High Alanine Transaminase (ALT) is defined as being above the upper limit specified by the hospital's lab for a patient of that age and sex.

	England and Wales	England	Wales
<b>High Alanine Transaminase (ALT) observed</b>	<b>(n=692)</b>	<b>(n=674)</b>	<b>(n=18)</b>
Yes	325 (47%)	315 (47%)	10 (56%)
No	367 (53%)	359 (53%)	8 (44%)

**Table 26: ALT results (u/l) at diagnosis in the 2023/24 spotlight audit, by age and sex.**

\*Young people aged 19 years and over are excluded due to small numbers.

	Total	Mean (SD)	Median (IQR)	Reference (u/l)
<b>Males</b>				
1 – 12 years	27	94.2 (110.5)	42.0 (107.0)	<26
13 – 18 years	235	67.8 (65.0)	51.0 (70.0)	<25
<b>Females</b>				
1 – 12 years	88	46.3 (52.6)	30.5 (35.5)	<26
13 – 18 years	344	46.8 (53.7)	31.0 (36.5)	<23



**Figure 19: ALT levels by age group and sex at diagnosis in the 2023/24 spotlight audit.**

**Table 27: Liver ultrasound for metabolic dysfunction associated steatotic liver disease (MASLD) at diagnosis in the 2023/24 spotlight audit, by country.**

England and Wales	
Was MASLD seen on ultrasound?	(n=96)
MASLD seen on ultrasound	72 (75%)
MASLD not seen on ultrasound	23 (24%)
Not known	1 (1%)

### 1.7.6 Sleep

**166 (13%)** of CYP with Type 2 diabetes had a sleep assessment within 15 days of diabetes diagnosis. **17 (10% )** were diagnosed with sleep apnoea and **9 (53%)** of those diagnosed with sleep apnoea were recommended non-invasive ventilation for sleep apnoea (Table 28).

**Table 28: Sleep assessment within a fortnight of diagnosis in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>Method of sleep assessment</b>			
Questioning for symptoms of respiratory problems	142 (86%)	132 (85%)	10 (91%)
Sleep study	10 (6%)	10 (7%)	*
Questioning for symptoms of respiratory problems and sleep study	14 (8%)	13 (8%)	*
<b>Was sleep apnoea diagnosed?</b>			
Yes	17 (10%)	*	*
No/Not known	149 (90%)	*	*
<b>If yes, was non-invasive ventilation for sleep apnoea recommended?</b>			
Yes	9 (53%)	*	*
No	8 (47%)	*	*
Not known	0 (0%)	*	*

## 1.8 Treatment at diagnosis

The most common treatment at diagnosis was **lifestyle modifications (80%)**, followed by **Metformin (66%)** (Table 29).

Some CYP received a diagnosis of Type 2 diabetes after receiving treatment for a diabetes of another type or unspecified type. For **290 (22%)** of CYP, treatment at diagnosis of Type 2 diabetes differed from the treatment at initial diagnosis. Table 29 also shows the treatment types at diagnosis of Type 2 diabetes where these differed from the initial treatment (n=290).

**Table 29: Treatment at diagnosis in the 2023/24 spotlight audit, by country.**

Health checks and outcomes at diagnosis	England and Wales	England	Wales
<b>Treatment at diagnosis of diabetes</b>	<b>(n=1,321)</b>	<b>(n=1,293)</b>	<b>(n=28)</b>
Lifestyle modifications (diet & exercise)	1058 (80%)	1036 (80%)	22 (79%)
Metformin	866 (66%)	846 (65%)	20 (71%)
Insulin short acting	368 (28%)	360 (28%)	8 (29%)
Insulin long acting	466 (35%)	452 (35%)	14 (50%)
Liraglutide (GLP1 agonist) daily injection (e.g. Victoza, Saxenda)	10 (1%)	*	*
Dulaglutide (GLP1 agonist) once weekly injection	*	*	0 (0%)
Exenatide (GLP1 agonist) once weekly injection	*	*	0 (0%)
Semaglutide (GLP1 agonist) (once weekly injection) (e.g. Ozempic, Wegovy)	9 (1%)	9 (1%)	0 (0%)
Empagliflozin (SGLT2 inhibitor)	*	*	0 (0%)
Dapagliflozin (SGLT2 inhibitor)	*	*	*
Sitagliptin, linagliptin, saxagliptin or other DPP4 inhibitor	*	*	0 (0%)
Glibenclamide or other sulphonylurea	*	*	0 (0%)
Orlistat	*	*	0 (0%)
Other anti-hyperglycaemic agents	26 (2%)	26 (2%)	0 (0%)
None	6 (0%)	6 (0%)	0 (0%)
<b>Treatment at diagnosis of Type 2 Diabetes (if different to initial treatment)</b>	<b>(n=290)</b>	<b>(n=282)</b>	<b>(n=8)</b>
Lifestyle modifications (diet & exercise)	221 (76%)	215 (76%)	6 (75%)
Metformin	255 (88%)	247 (88%)	8 (100%)
Insulin short acting	99 (34%)	*	*
Insulin long acting	136 (47%)	131 (46%)	5 (63%)
Liraglutide (GLP1 agonist) daily injection (e.g. Victoza, Saxenda)	6 (2%)	6 (2%)	0 (0%)
Dulaglutide (GLP1 agonist) once weekly injection	*	*	0 (0%)

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Exenatide (GLP1 agonist) once weekly injection	0 (0%)	0 (0%)	0 (0%)
Semaglutide (GLP1 agonist) (once weekly injection) (e.g. Ozempic, Wegovy)	4 (1%)	4 (1%)	0 (0%)
Empagliflozin (SGLT2 inhibitor)	*	*	0 (0%)
Dapagliflozin (SGLT2 inhibitor)	*	*	0 (0%)
Sitagliptin, linagliptin, saxagliptin or other DPP4 inhibitor	0 (0%)	0 (0%)	0 (0%)
Glibenclamide or other sulphonylurea	5 (2%)	5 (2%)	0 (0%)
Orlistat	0 (0%)	0 (0%)	0 (0%)
Other anti-hyperglycaemic agents	4 (1%)	4 (1%)	0 (0%)
None	*	*	0 (0%)

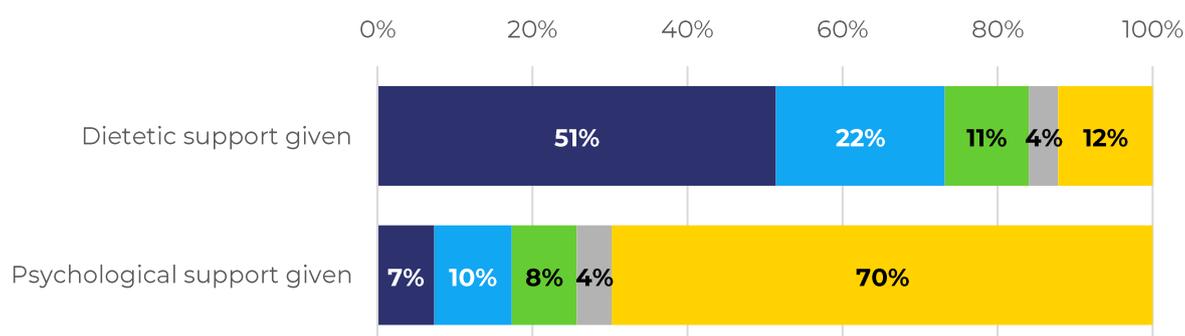
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## 1.9 Psychological and Dietetic Support at Diagnosis

**679 (51%)** CYP received dietetic support within a fortnight of diagnosis, and **97 (7%)** received psychological support within the same timeframe (Figure 20). Table 30 shows access by country.

There were slight differences in access to psychological and dietetic support by ethnicity and deprivation quintiles (Figure 21).

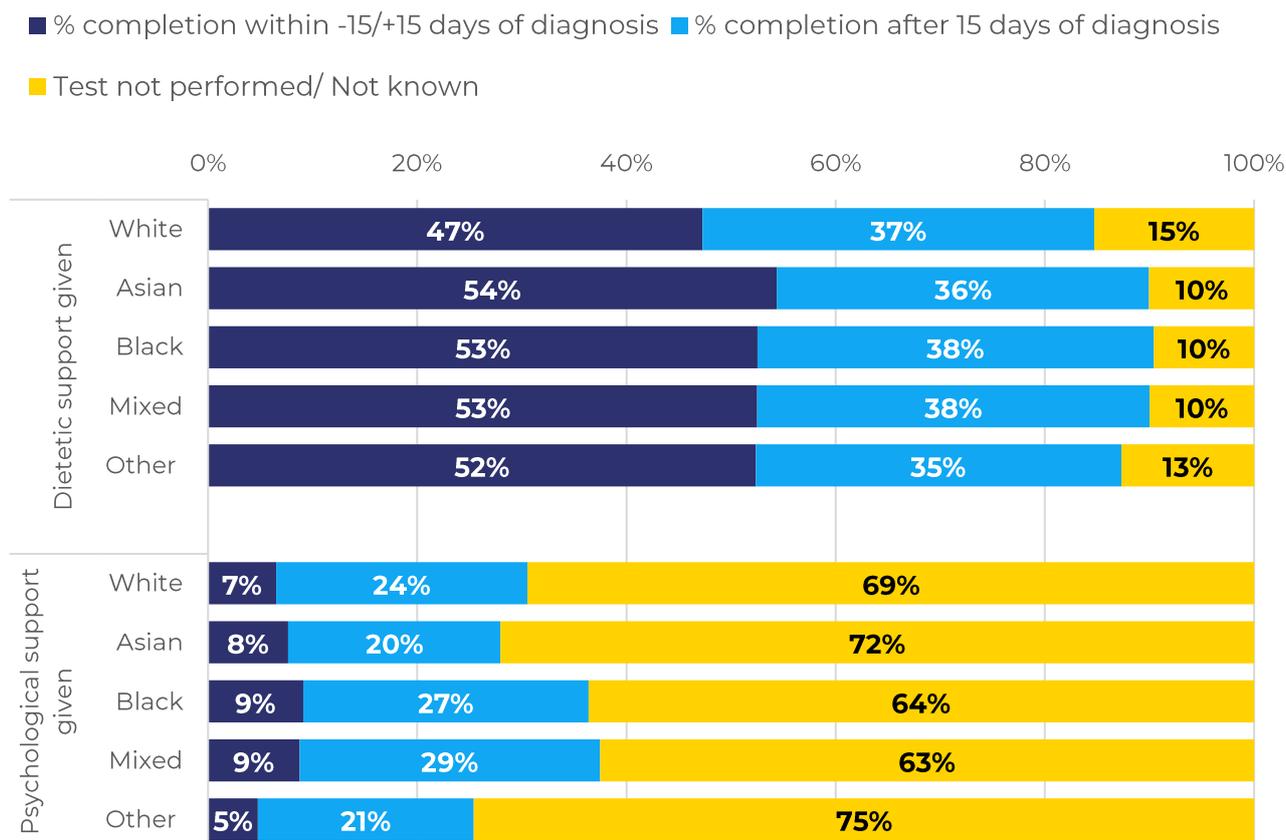
■ % completion within -15/+15 days of diagnosis   
 ■ % completion within 16-90 days after diagnosis  
■ % completion within 91-365 days after diagnosis   
 ■ % completion more than a year after diagnosis  
■ Test not performed/ Not known



**Figure 20: Dietetic and psychological support given following diabetes diagnosis, by time intervals, in England and Wales.**

**Table 30: Psychological and dietetic support following diagnosis in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>Was dietetic support offered following diabetes diagnosis?</b>			
Yes	1,247 (94%)	1,220 (94%)	27 (96%)
No	15 (1%)	15 (1%)	0 (0%)
Not known	59 (5%)	58 (5%)	1 (4%)
<b>Dietetic support given</b>			
Yes (within 15 days)	679 (51%)	662 (51%)	17 (61%)
Yes (after 15 days)	481 (36%)	472 (37%)	9 (32%)
No/Not known	161 (12%)	159 (12%)	2 (7%)
<b>Was psychological support offered following diabetes diagnosis?</b>			
Yes	702 (53%)	685 (53%)	17 (61%)
No	463 (35%)	454 (35%)	9 (32%)
Not known	156 (12%)	154 (12%)	2 (7%)
<b>Psychological support given</b>			
Yes (within 15 days)	97 (7%)	94 (7%)	3 (11%)
Yes (after 15 days)	302 (23%)	293 (23%)	9 (32%)
No/Not known	922 (70%)	906 (70%)	16 (57%)



**Figure 21: Dietetic and psychological support given following diabetes diagnosis, by time intervals and ethnicity, in England and Wales.**

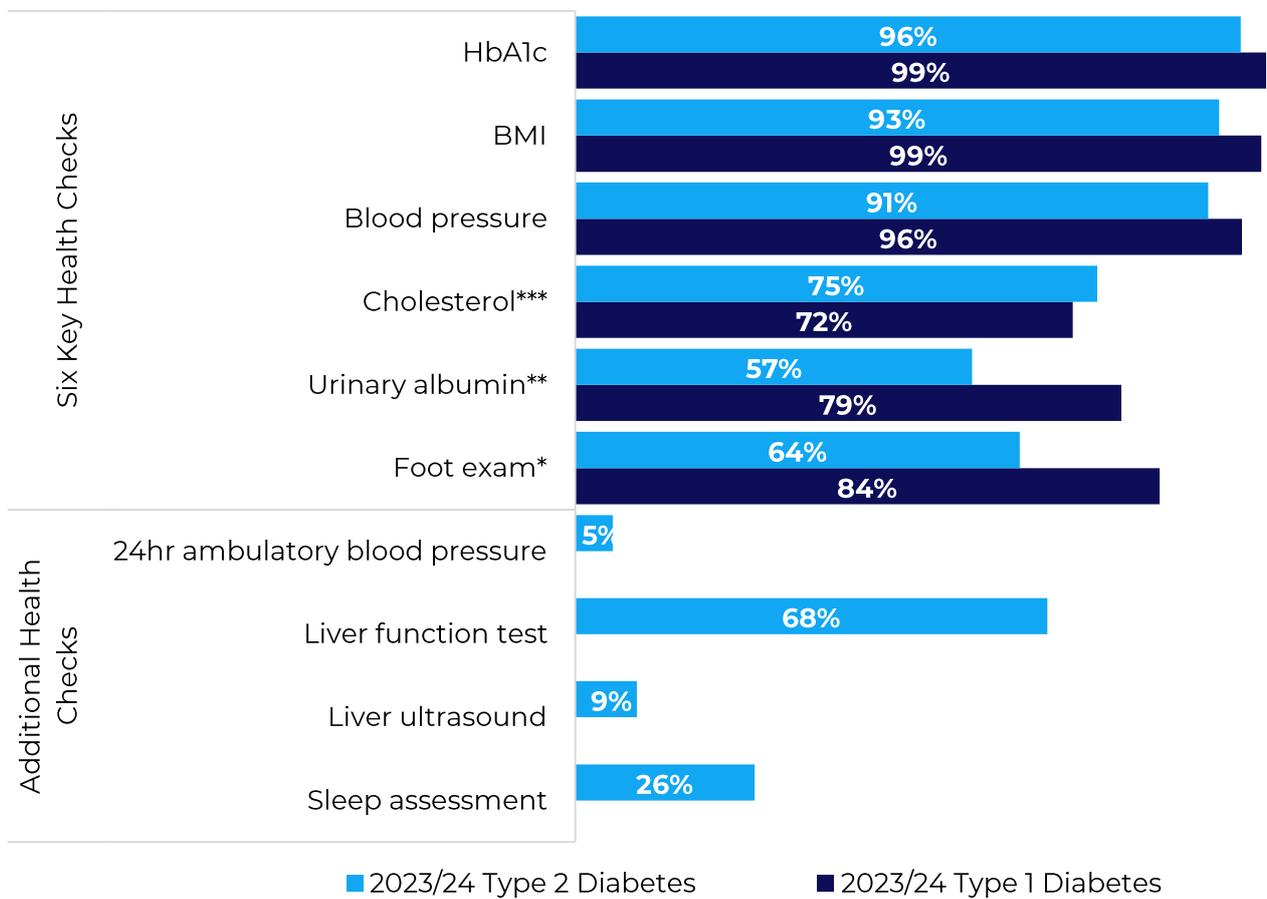
## 1.10 Health checks completion in 2023/24

Note: Health check completion is only calculated for patients with a complete year of care in 2023/24.

All valid outcomes recorded >90 days from diagnosis are included.

**41%** of CYP with Type 2 diabetes aged 12 or older had all six health checks in 2023/24, while **36%** of those below 12 years received all five key health checks. Health check completion ranged from **17% to 100%** at PDU-level. Figure 22 shows the completion of each key health check compared to CYP with Type 1 diabetes in 2023/24. Completion by country is shown in Tables 31 and 32.

Health check completion was highest for CYP of black ethnicity, and there was little difference between deprivation quintiles (Figure 23).



**Figure 22: Health check completion for CYP with Type 2 diabetes in the 2023/24 audit year, compared to CYP with Type 1 diabetes where 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

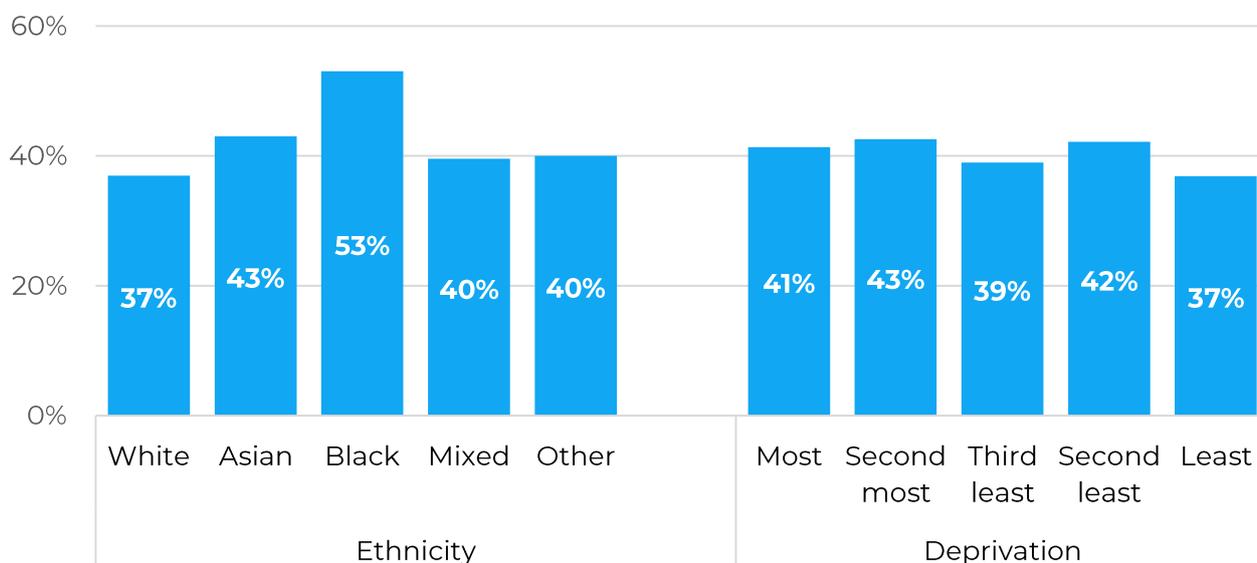
\*\*\* Cholesterol is only a key health check for CYP with Type 2 diabetes. Including as part of a lipid profile

**Table 31: Health check completion for each key health check in 2023/24, by country.**

	England and Wales	England	Wales
<b>HbA1c</b>	<b>(n=873)</b>	<b>(n=851)</b>	<b>(n=22)</b>
Yes	835 (96%)	*	*
No	38 (4%)	*	*
<b>BMI</b>	<b>(n=873)</b>	<b>(n=851)</b>	<b>(n=22)</b>
Yes	808 (93%)	*	*
No	65 (7%)	*	*
<b>Blood Pressure</b>	<b>(n=909)</b>	<b>(n=887)</b>	<b>(n=22)</b>
Yes	827 (91%)	807 (91%)	20 (91%)
No	*	*	*
Not known	*	*	*
<b>Cholesterol (including as part of a lipid profile)</b>	<b>(n=909)</b>	<b>(n=887)</b>	<b>(n=22)</b>
Yes	680 (75%)	663 (75%)	17 (77%)
No	224 (25%)	219 (25%)	5 (23%)
Not known	5 (1%)	5 (1%)	-
<b>Lipid Profile</b>	<b>(n=815)</b>	<b>(n=794)</b>	<b>(n=21)</b>
Yes – Fasting	83 (14%)	*	*
Yes – Non-fasting	382 (63%)	369 (62%)	13 (81%)
Yes – Fasting not known	143 (24%)	*	*
No	171 (21%)	*	*
Not Known	36 (4%)	*	*
<b>Urinary Albumin Test</b>	<b>(n=873)</b>	<b>(n=851)</b>	<b>(n=22)</b>
Yes	498 (57%)	484 (57%)	14 (64%)
No	375 (43%)	367 (43%)	8 (36%)
<b>Foot Examination</b>	<b>(n=817)</b>	<b>(n=798)</b>	<b>(n=19)</b>
Yes	522 (64%)	509 (64%)	13 (68%)
No	295 (36%)	289 (36%)	6 (32%)

**Table 32: Health check completion for each additional health check in 2023/24, by country.**

	England and Wales	England	Wales
<b>Ambulatory Blood Pressure</b>	<b>(n=815)</b>	<b>(n=794)</b>	<b>(n=21)</b>
Yes	44 (5%)	*	*
Not needed (blood pressure below 95 <sup>th</sup> percentile)	603 (74%)	587 (74%)	16 (76%)
No	54 (7%)	*	*
Not known	114 (14%)	*	*
<b>Liver Function Test</b>	<b>(n=815)</b>	<b>(n=794)</b>	<b>(n=21)</b>
Yes	553 (68%)	538 (68%)	15 (71%)
No	221 (27%)	*	*
Not Known	41 (5%)	*	*
<b>Liver Ultrasound</b>	<b>(n=980)</b>	<b>(n=959)</b>	<b>(n=21)</b>
Yes	147 (15%)	*	*
No	793 (81%)	774 (81%)	19 (90%)
Not known	40 (4%)	*	*
<b>Sleep Assessment</b>	<b>(n=815)</b>	<b>(n=794)</b>	<b>(n=21)</b>
Yes – questioning for symptoms of sleep disturbance	176 (22%)	166 (21%)	10 (48%)
Yes – sleep study	17 (2%)	17 (2%)	-
Yes – questioning for symptoms of sleep disturbance and sleep study	17 (2%)	17 (2%)	-
No/Not known	605 (74%)	594 (75%)	11 (42%)



**Figure 23: Percentage of CYP with Type 2 diabetes aged 12 years and above receiving all six key health checks by ethnicity and deprivation in 2023/24.**

## 1.11 Health check outcomes in 2023/2024

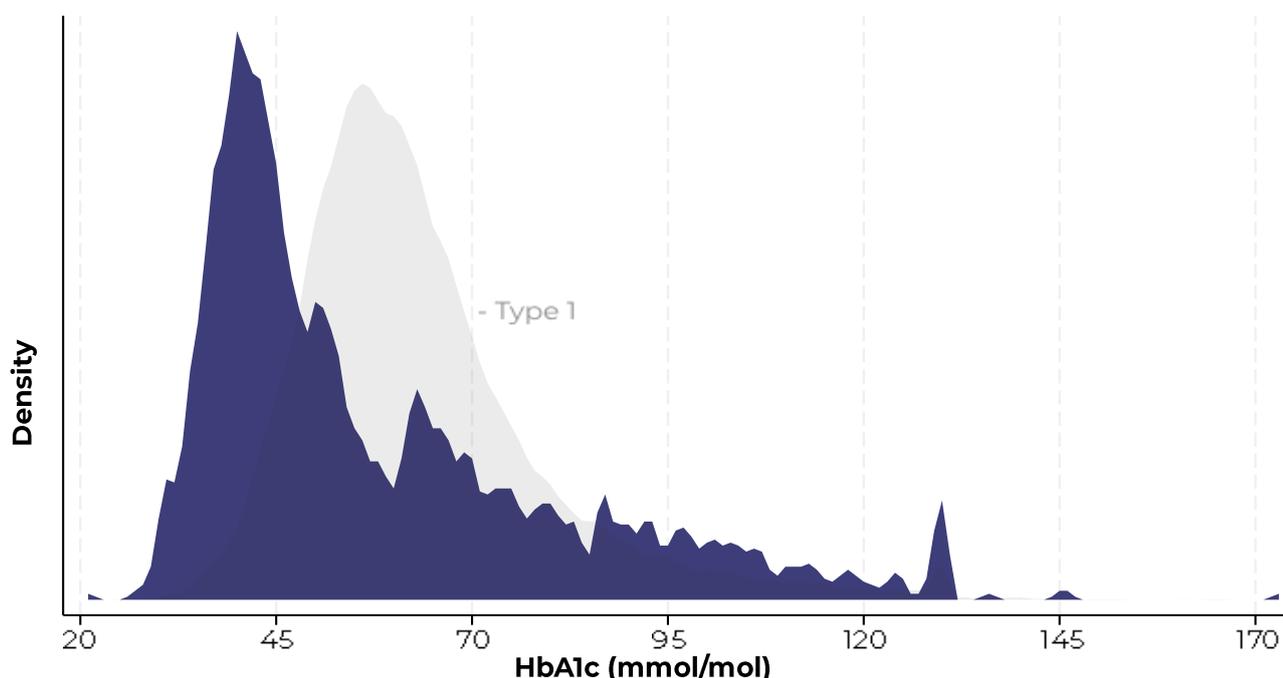
### 1.11.1 HbA1c

96% of CYP with a complete year of care had a HbA1c measurement in 2023/24. Of those who had a valid HbA1c measurement >90 days after diagnosis, the median was **50.0 mmol/mol** and the mean was **58.6 mmol/mol** (Table 33).

47% of CYP with Type 2 diabetes had a HbA1c less than or equal to the NICE-recommended limit of 48 mmol/mol. The distribution of median HbA1c measurements by diabetes type is shown in Figure 24.

**Table 33: HbA1c in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>HbA1c (mmol/mol)</b>	<b>(n=1200)</b>	<b>(n=1174)</b>	<b>(n=26)</b>
Mean (SD)	58.6 (23.8)	58.6 (23.9)	59.0 (19.6)
Median (IQR)	50.0 (29.0)	50.0 (29.0)	58.8 (29.0)
<b>HbA1c targets</b>	<b>(n=1200)</b>	<b>(n=1174)</b>	<b>(n=26)</b>
≤48 mmol/mol	566 (47%)	558 (48%)	8 (31%)
>58 mmol/mol	736 (61%)	723 (62%)	13 (50%)
≥ 69 mmol/mol	318 (27%)	311 (26%)	7 (27%)
>80 mmol/mol	212 (18%)	*	*

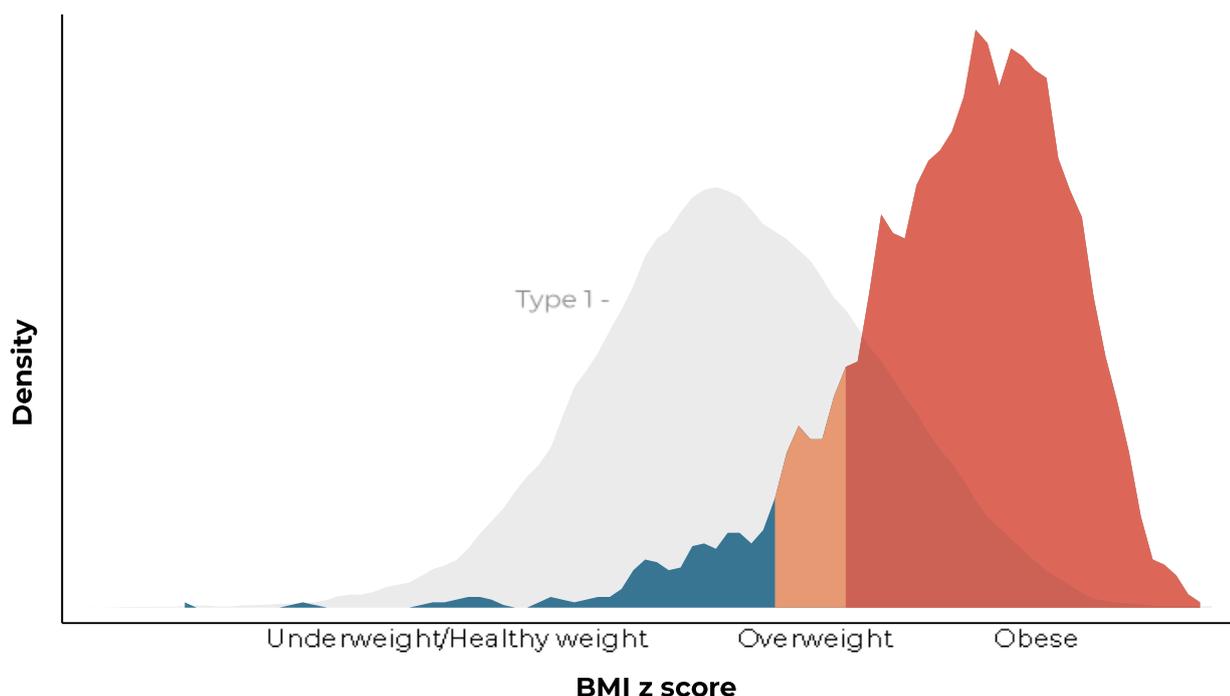


**Figure 24: Distribution of median HbA1c measurements in 2023/24 by density.**

### 1.11.2 BMI

**93%** of CYP with a complete year of care had a BMI measurement in 2023/24. Of those with a valid BMI measurement >90 days from diagnosis, **86%** were had a BMI in the obese range (Table 27). The distribution of BMI z scores by diabetes type is shown in Figure 25.

**23%** of CYP were offered a treatment for obesity (Table 34). The most common treatment for obesity was a low calorie diet, followed by meal replacement. Of these, **20%** were offered ‘Other’ treatment, which included lifestyle modification, dietary changes, semaglutide, and onward referral to CEW services.



**Figure 25: Distribution of BMI z scores for children and young people with Type 1 and Type 2 diabetes in 2023/24.**

**Table 34: BMI completion and treatment for obesity in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>BMI</b>	<b>(n=1155)</b>	<b>(n=1128)</b>	<b>(n=27)</b>
Underweight and healthy weight	73 (6%)	73 (6%)	0 (0%)
Overweight	90 (8%)	90 (8%)	0 (0%)
Obese	992 (86%)	965 (86%)	27 (100%)
<b>Treatment for obesity in 2023/24 (multiple choice)</b>	<b>(n=1321)</b>	<b>(n=1293)</b>	<b>(n=28)</b>
Low calorie diet	146 (11%)	*	*
Meal replacement	44 (3%)	44 (3%)	0 (0%)
Orlistat	7 (1%)	7 (1%)	0 (0%)
Bariatric surgery			
Yes	6 (0%)	6 (0%)	0 (0%)
No, but referred	17 (1%)	17 (1%)	0 (0%)
Other	267 (20%)	251 (19%)	16 (57%)
Any of the above	410 (31%)	392 (30%)	18 (64%)

### 1.11.3 Blood pressure

91% of CYP with a complete year of care had their blood pressure measured in 2023/24. Of those with a valid blood pressure measurement, 44% had high blood pressure (Figure 26). 5% of CYP with Type 2 diabetes received treatment for hypertension in 2023/24 (Table 35).

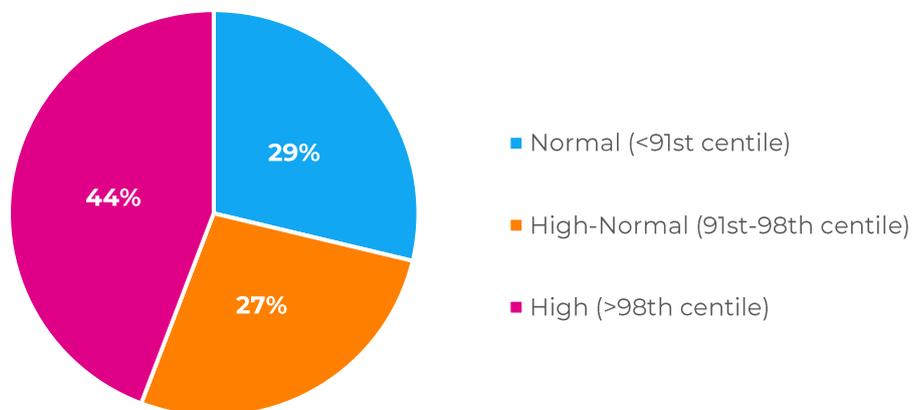


Figure 26: Blood pressure outcomes for CYP with Type 2 diabetes in 2023/24.

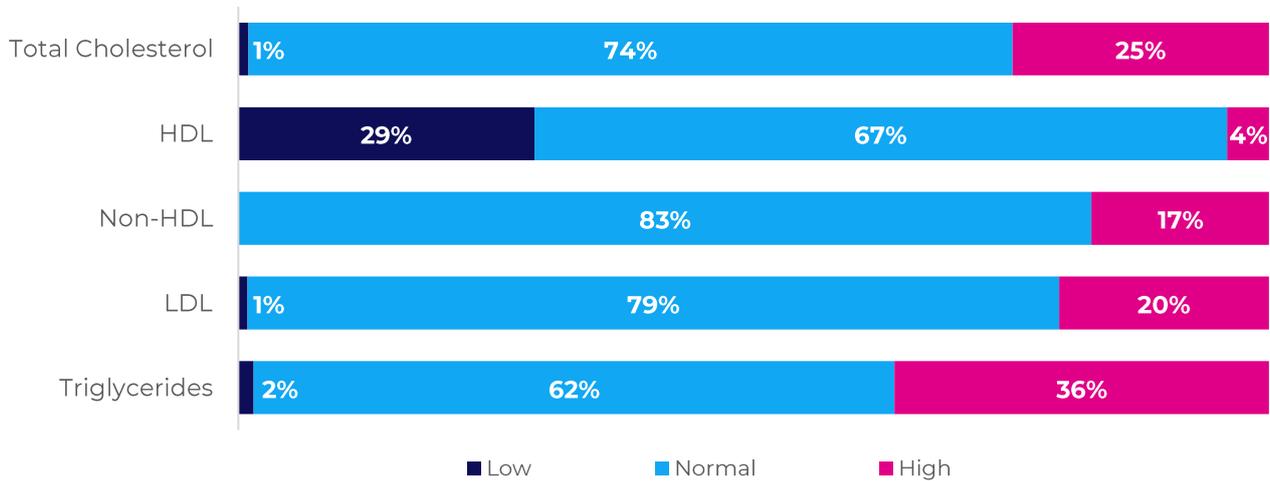
Table 35: Blood pressure outcomes and treatment the 2023/24 spotlight audit, by country.

	England and Wales	England	Wales
<b>Blood pressure</b>	<b>(n=1189)</b>	<b>(n=1162)</b>	<b>(n=27)</b>
Normal (<91 <sup>st</sup> centile)	342 (29%)	334 (29%)	8 (30%)
High-normal (91 <sup>st</sup> – 98 <sup>th</sup> centile)	321 (27%)	316 (27%)	5 (19%)
High (>98 <sup>th</sup> centile)	526 (44%)	512 (44%)	14 (52%)
<b>Was medical treatment for hypertension given within the 2023/24 audit year?</b>	<b>(n=1321)</b>	<b>(n=1293)</b>	<b>(n=28)</b>
Yes	64 (5%)	64 (5%)	-
Not needed	1126 (85%)	1101 (85%)	25 (89%)
Required but not given	18 (1%)	*	*
Not known	113 (9%)	*	*

### 1.11.4 Lipid profile

**75%** of CYP with a complete year of care had a lipid profile performed in 2023/24. When combining results with the 2023/24 core audit, **75%** had a cholesterol measurement entered into either of the two audits. Of those who had a lipid profile, **14%** had a fasting lipid profile.

**36%** of CYP with a valid lipid profile >90 days from diagnosis had a high LDL measurement, while **28%** had a low HDL (Figure 27). The mean total cholesterol was **4.6 mmol/l** (Table 36).



**Figure 27: Lipid profile outcomes in 2023/24, as classified by the clinical team.**

Results labelled '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.

**Table 36: Lipid profile outcomes and treatment in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>Total cholesterol</b>	<b>(n=719)</b>	<b>(n=702)</b>	<b>(n=17)</b>
Mean (SD)	4.6 (1.1)	4.6 (1.1)	4.7 (1.1)
Median (IQR)	4.4 (1.2)	4.4 (1.2)	4.5 (1.2)
High/Abnormal	179 (25%)	175 (25%)	4 (24%)
Normal	533 (74%)	520 (74%)	13 (76%)
Lower than normal	7 (1%)	7 (1%)	-
<b>HDL cholesterol</b>	<b>(n=689)</b>	<b>(n=672)</b>	<b>(n=17)</b>
Mean (SD)	1.1 (0.5)	1.1 (0.5)	1.1 (0.3)
Median (IQR)	1.1 (0.3)	1.1 (0.3)	1.0 (0.3)
High	28 (4%)	*	*
Normal	463 (67%)	456 (68%)	7 (41%)
Lower than normal/Abnormal	198 (29%)	*	*
<b>Non-HDL cholesterol</b>	<b>(n=655)</b>	<b>(n=638)</b>	<b>(n=17)</b>
Mean (SD)	3.4 (1.1)	3.4 (1.1)	3.6 (1.0)
Median (IQR)	3.3 (1.3)	3.3 (1.4)	3.4 (0.6)
High/Abnormal	113 (17%)	108 (17%)	5 (29%)
Normal	542 (83%)	530 (83%)	12 (71%)
Lower than normal	-	-	-
<b>LDL cholesterol</b>	<b>(n=555)</b>	<b>(n=539)</b>	<b>(n=16)</b>
Mean (SD)	2.0 (1.8)	2.0 (1.8)	2.0 (1.1)
Median (IQR)	1.6 (1.4)	1.6 (1.4)	1.6 (1.6)
High/Abnormal	113 (20%)	107 (20%)	6 (38%)
Normal	437 (79%)	427 (79%)	10 (63%)
Lower than normal	5 (1%)	5 (1%)	-
<b>Triglycerides</b>	<b>(n=666)</b>	<b>(n=649)</b>	<b>(n=17)</b>
Mean (SD)	2.6 (0.9)	2.6 (0.9)	2.7 (0.8)
Median (IQR)	2.6 (1.1)	2.6 (1.1)	2.8 (0.8)
High/Abnormal	242 (36%)	234 (36%)	8 (47%)
Normal	414 (62%)	405 (62%)	9 (53%)
Lower than normal	10 (2%)	10 (2%)	-
<b>Was medical treatment for hyperlipidaemia given within the 2023/24 audit year?</b>	<b>(n=1321)</b>	<b>(n=1293)</b>	<b>(n=28)</b>
Yes	17 (1%)	17 (1%)	-
Not needed	1124 (85%)	1098 (85%)	26 (93%)
Required but not taken	27 (2%)	*	*
Not known	153 (12%)	*	*

### 1.11.5 Liver function

**68%** of CYP with a complete year of care had a liver function test performed in 2023/24. Of the CYP who had a liver function test performed >90 days from diagnosis, **36%** had high ALT levels (Table 37). Table 38 shows ALT results by age and sex.

**15%** of CYP with a complete year of care had a liver ultrasound for MASLD – **8%** had no change from diagnosis, **2%** improved since diagnosis, and **5%** had new or increased severity of MASLD (Table 39).

**Table 37: Liver function testing in the 2023/24 spotlight audit, by country.**

\*High ALT is defined as being above the upper limit specified by the hospital's lab of a patient of that age and sex.

	England and Wales	England	Wales
<b>High Alanine Transaminase (ALT)</b>	<b>(n=691)</b>	<b>(n=675)</b>	<b>(n=16)</b>
Yes	247 (36%)	242 (36%)	5 (31%)
No	444 (64%)	433 (64%)	11 (69%)

**Table 38: Mean and standard deviation of ALT results in the 2023/24 spotlight audit, by age and sex.**

\*CYP aged 19 years and above are excluded from the below due to small numbers.

Age and Sex	Total	Mean (u/l)	Standard Deviation (u/l)	Reference (u/l)
<b>Males</b>				
1 – 12 years	21	49.0	76.1	<26
13 – 18 years	232	48.8	44.4	<25
<b>Females</b>				
1 – 12 years	60	26.1	21.6	<26
13 – 18 years	343	36.0	35.4	<23

**Table 39: Liver ultrasound for metabolic dysfunction-associated steatotic liver disease (MASLD) outcomes in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>In 2023/24, had ultrasound findings changed since diagnosis?</b>	<b>(n=980)</b>	<b>(n=959)</b>	<b>(n=21)</b>
No ultrasound done/repeated	793 (81%)	774 (81%)	19 (90%)
No change from previous ultrasound	81 (8%)	*	*
Improved – reduced severity of fatty liver	6 (1%)	6 (1%)	-
Improved – no fatty liver	11 (1%)	11 (1%)	-
Fatty liver now observed	35 (4%)	35 (4%)	-
Increased severity of previously existing fatty liver	14 (1%)	14 (1%)	-
Not known	40 (4%)	*	*

### 1.11.6 Albuminuria

**57%** of CYP with a complete year of care had a urinary albumin test done in 2023/24. Of those who had a valid result >90 days from diagnosis, **17%** had microalbuminuria and **3%** had macroalbuminuria (Table 40).

**3%** of CYP with Type 2 diabetes received treatment for albuminuria.

**Table 40: Urinary albumin outcomes and treatment in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>Albuminuria stage</b>	<b>(n=591)</b>	<b>(n=574)</b>	<b>(n=17)</b>
Normoalbuminuria	470 (80%)	456 (79%)	14 (82%)
Microalbuminuria	101 (17%)	*	*
Macroalbuminuria	20 (3%)	*	*
<b>Was medical treatment for albuminuria provided in 2023/24?</b>	<b>(n=1321)</b>	<b>(n=1293)</b>	<b>(n=28)</b>
Yes	36 (3%)	36 (3%)	-
Not needed	1131 (86%)	1104 (85%)	27 (96%)
Required but not treatment	21 (2%)	*	*
Not known	133 (10%)	*	*

### 1.11.7 Sleep

**26%** of CYP with a complete year of care had a sleep assessment in 2023/24 - **22%** via questioning for symptoms of sleep disturbance, **2%** via sleep study, and **2%** via both (Table 41).

Of those with a valid result >90 days from diagnosis, **8%** were diagnosed with sleep apnoea. **60%** of those diagnosed with sleep apnoea were recommended non-invasive ventilation.

**Table 41: Sleep outcomes in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>Was sleep apnoea diagnosed?</b>	<b>(n=237)</b>	<b>(n=227)</b>	<b>(n=10)</b>
Yes	20 (8%)	20 (9%)	-
No/Not known	217 (92%)	207 (91%)	10 (100%)
<b>If yes, was non-invasive ventilation for sleep apnoea recommended?</b>	<b>(n=20)</b>	<b>(n=20)</b>	<b>(n=0)</b>
Yes	12 (60%)	12 (60%)	-
No/Not known	8 (40%)	8 (40%)	-

## 1.12 Treatment in 2023/2024

Lifestyle modifications were the most common treatment offered, with **86%** of CYP with Type 2 diabetes recommended lifestyle modifications in 2023/24. The second most common was metformin at **80%** (Table 42). The most common combination was lifestyle modifications and metformin together (Figure 28).

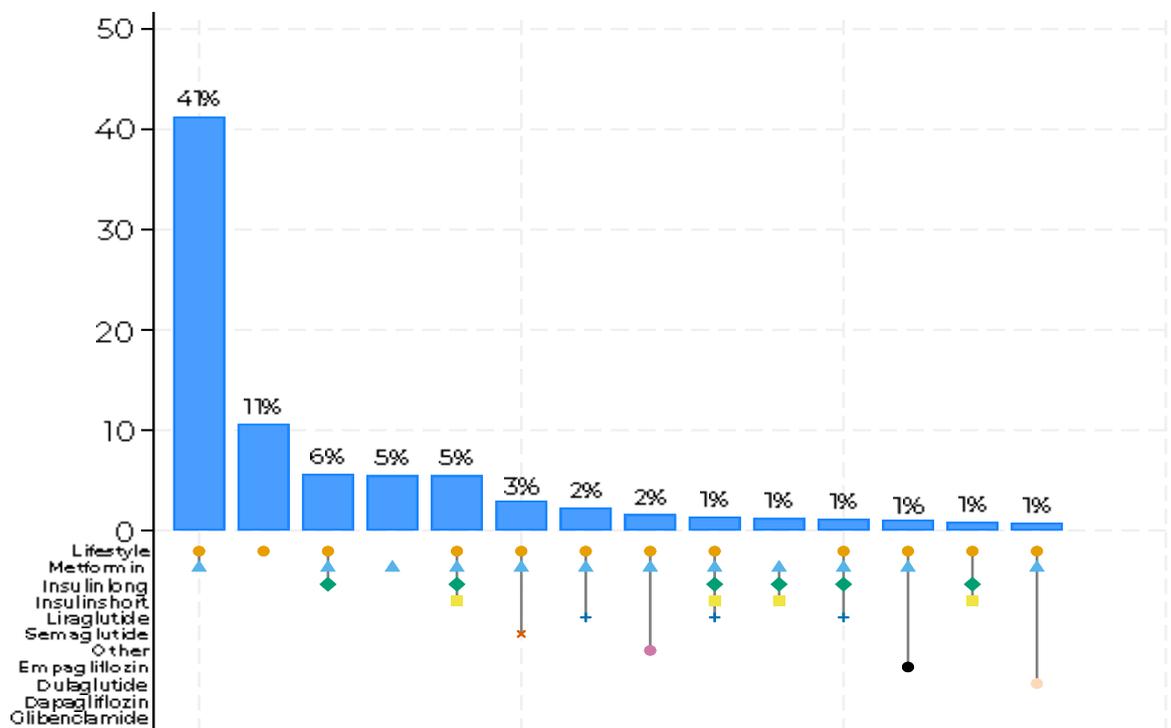


Figure 28: Treatment combinations in 2023/24 in England and Wales.

Table 42: Treatment in the 2023/24 spotlight audit, by country.

	England and Wales (n=1316)	England (n=1288)	Wales (n=28)
<b>Treatment type(s) that were being used as at 31/03/2024 (multiple choice)</b>			
Lifestyle modifications (diet & exercise)	1128 (86%)	1102 (86%)	26 (93%)
Metformin	1055 (80%)	1031 (80%)	24 (86%)
Insulin short acting	186 (14%)	*	*
Insulin long acting	318 (24%)	307 (24%)	11 (39%)
Liraglutide (GLP1 agonist) daily injection (e.g. Victoza, Saxenda)	104 (8%)	*	*
Dulaglutide (GLP1 agonist) once weekly injection	31 (2%)	*	*
Exenatide (GLP1 agonist) once weekly injection	0 (0%)	0 (0%)	0 (0%)
Semaglutide (GLP1 agonist) (once weekly injection (e.g. Ozempic, Wegovy))	97 (7%)	*	*
Empagliflozin (SGLT2 inhibitor)	44 (3%)	*	*

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Dapaglifozin (SGLT2 inhibitor)	26 (2%)	*	*
Sitagliptin, linagliptin, saxagliptin or other DPP4 inhibitor	5 (0%)	5 (0%)	-
Glibenclamide or other sulphonylurea	13 (1%)	13 (1%)	-
Orlistat	*	*	-
Other	67 (5%)	8	*
None	11 (1%)	11 (1%)	-
Not Known	6 (0%)	6 (0%)	-

---

## 1.13 Psychological and Dietetic Support in 2023/24

Access to psychological and dietetic support by ethnicity and deprivation is shown in Figure 29 and Figure 30, respectively.

**89%** of patients were offered dietetic support in 2023/24. Of these, **73%** attended an appointment with a dietitian. **95%** of those receiving dietetic input had input from a hospital based specialist paediatric diabetes dietitian (Table 43).

**54%** of CYP with Type 2 diabetes were offered psychological input in 2023/24, with **24%** attending an appointment with a psychologist in the audit year (Table 44).

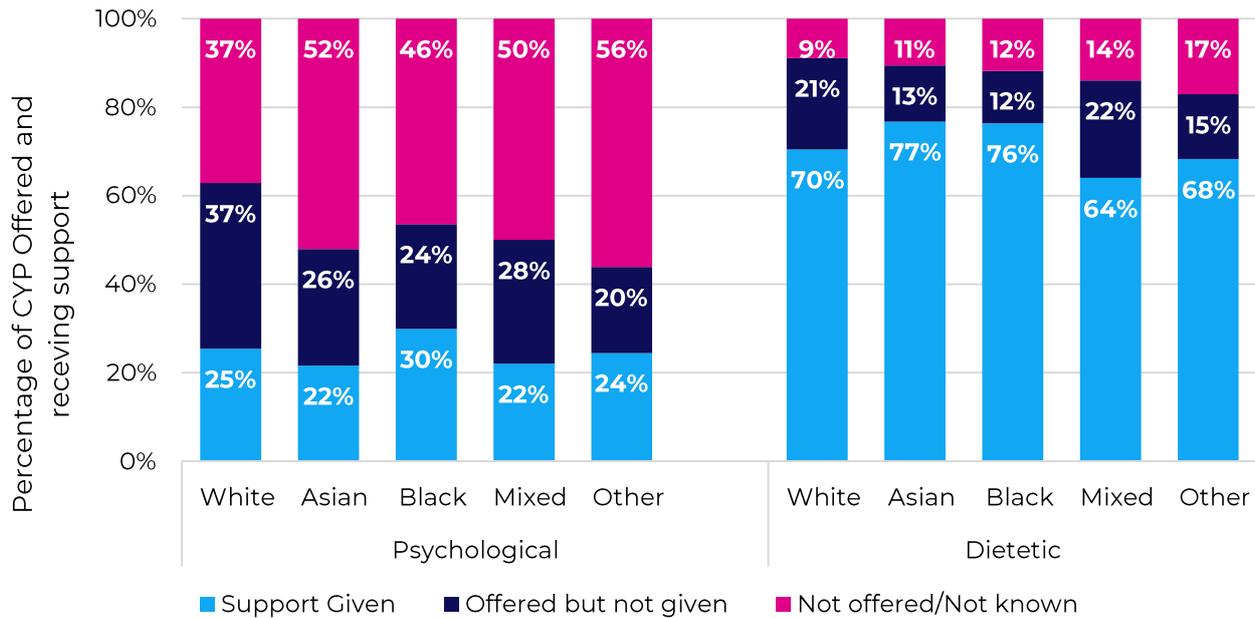


Figure 29: Access to psychological and dietetic support by ethnicity

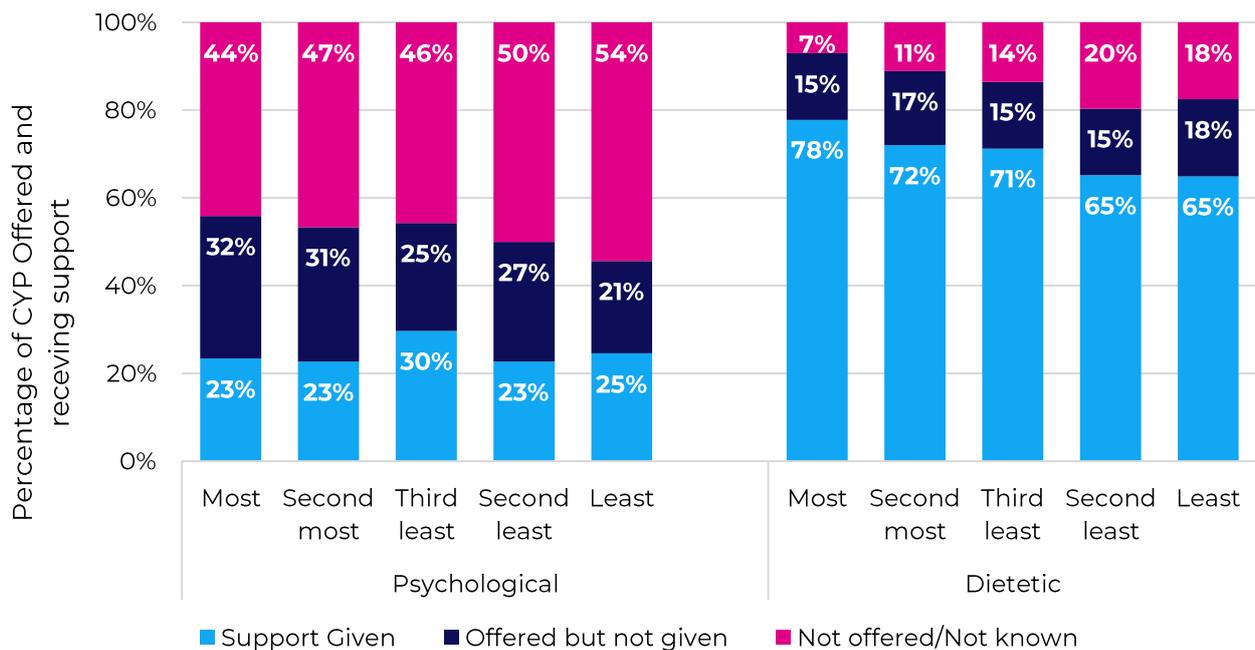


Figure 30: Access to psychological and dietetic support by deprivation quintile.

Table 43: Dietetic input in the 2023/24 spotlight audit, by country.

	England and Wales	England	Wales
<b>Was the patient offered dietetic support within 2023/24 audit year?</b>	<b>(n=815)</b>	<b>(n=794)</b>	<b>(n=21)</b>
Yes	726 (89%)	707 (89%)	19 (90%)
No	41 (5%)	*	*
Not known	48 (6%)	*	*
<b>Did the patient attend an appointment with a dietitian within the 2023/24 year</b>	<b>(n=726)</b>	<b>(n=707)</b>	<b>(n=19)</b>
Yes	596 (73%)	579 (73%)	17 (81%)
No, patient did not attend/was not brought	70 (9%)	*	*
No, patient did not want support from a dietitian	60 (7%)	*	*
Not known	89 (11%)	*	*
<b>Dietitian(s) who delivered/were due to deliver dietetic support to this patient (multiple choice)</b>	<b>(n=726)</b>	<b>(n=707)</b>	<b>(n=19)</b>
Hospital-based specialist paediatric diabetes dietitian	693 (95%)	675 (95%)	18 (95%)
Hospital-based general Paediatric dietitian	11 (2%)	11 (2%)	-
Hospital-based non-paediatric dietitian	7 (1%)	7 (1%)	-
Hospital-based weight management dietitian	24 (3%)	24 (3%)	-
Community-based specialist paediatric diabetes dietitian	16 (2%)	*	*
Community-based general paediatric diabetes dietitian	*	*	-
Community-based non-paediatric dietitian	*	*	-
Community weight management dietitian	*	*	-
Not known	*	*	-

**Table 44: Psychological input in the 2023/24 spotlight audit, by country.**

	England and Wales	England	Wales
<b>Within the 2023/24 audit year, was the patient offered psychological support?</b>	<b>(n=815)</b>	<b>(n=794)</b>	<b>(n=21)</b>
Yes	438 (54%)	428 (54%)	10 (48%)
No/Not known	377 (46%)	366 (49%)	11 (53%)
<b>Did the patient attend an appointment with a psychologist within the 2023/24 audit year?</b>	<b>(n=815)</b>	<b>(n=794)</b>	<b>(n=21)</b>
Yes	197 (24%)	192 (24%)	5 (24%)
No, patient did not attend/was not brought	42 (5%)	*	*
No, patient did not want support from a psychologist	199 (24%)	*	*
Not known	377 (46%)	366 (46%)	11 (52%)

## 2. Glossary

### **Acanthosis nigricans**

Dry, darker patches of skin that usually appear on the neck, armpits or groin. This is a cutaneous marker of insulin resistance and is associated with a range of conditions including obesity and Type 2 diabetes.

### **Alanine transaminase (ALT)**

An enzyme found mostly in the liver, which has a crucial role in converting food into energy. Higher levels in the blood stream can indicate an inflamed or damaged liver.

### **Albuminuria**

Albumin is a protein usually found in the blood. If kidneys become damaged, they may become leaky and allow albumin to pass from the blood into the urine, which is referred to as albuminuria.

### **Ambulatory blood pressure monitoring (ABPM)**

When your blood pressure is measured whilst you as you go about your normal daily activities, for up to 24 hours.

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

A measure taking into account your height and weight that is used to classify healthy and unhealthy weight categories.

### **HbA1c**

The term HbA1c refers to glycated haemoglobin. Measuring HbA1c gives an indication of a patient's average blood sugar levels over a period of a few months. Consistently higher HbA1c is associated with higher risks of developing diabetes-related complications.

### **Hyperlipidaemia**

A high level of lipids (fats, cholesterol and triglycerides) circulating in the blood.

### **Hypertension**

A condition in which blood pressure is high enough that it may eventually cause health problems, such as heart disease.

### **Insulin**

A hormone made in the pancreas, which is an organ in your body that helps with digestion. Insulin helps your body use glucose (sugar) for energy.

### **Metformin**

A medicine used to treat Type 2 diabetes. It reduces the amount of sugar your liver releases into your blood and also makes your body respond better to insulin.

### **Metabolic dysfunction-associated steatotic liver disease (MASLD)**

A range of conditions caused by a build-up of fat in the liver usually seen in people who are overweight or obese, which can lead to serious liver damage. Previously known as non-alcoholic fatty liver disease (NAFLD).

### **NICE**

National Institute for Health and Care Excellence.

**Paediatric diabetes unit (PDU)**

A paediatrician-led multidisciplinary team of health professionals within an NHS trust, hospital or Health board delivering diabetes care to children and young people.

**Triglycerides**

Types of fat (lipids) combined with glycerol, a form of glucose. Higher levels of triglycerides in the blood contribute to the risk of developing heart and circulatory disease.

**Type 1 diabetes**

An autoimmune condition where the body can no longer produce insulin, so insulin injections or infusions are needed.

**Type 2 diabetes**

A condition with both genetic and lifestyle factors, where the body is unable to make enough insulin, or where the insulin that is produced doesn't work effectively.

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## 5. Line of Sight Table

Provider line of sight Table on report recommendations for submission to the funders							
Please can the provider complete the following details to allow for ease of access and rapid review							
<b>Project and Title of report, including HQIP Ref. e.g., Ref. XXX, Project and report title</b>				Ref 532: National Paediatric Diabetes Audit Type 2 Diabetes Spotlight Audit 2023/24			
1. What is the report looking at/what is the project measuring?				<ul style="list-style-type: none"> <li>• The incidence and prevalence of Type 2 diabetes</li> <li>• Whether recommended health checks are being received by children and young people with Type 2 diabetes</li> <li>• The prevalence and incidence of Type 2 diabetes-related complications amongst children and young people with diabetes</li> <li>• The treatments and support offered to children and young people with Type 2 diabetes, including treatment for complications and comorbidities</li> </ul>			
2. What countries are covered?				<b>England and Wales</b>			
3. The number of previous projects (e.g., whether it is the 4 <sup>th</sup> project or if it is a continuous project)				<b>1</b>			
4. The date the data is related to (please include the start and end points – e.g., from 1 January 2016 to 1 October 2016)				<b>1 April 2023 – 31 March 2024</b>			
5. Any links to NHS England objectives or professional work-plans (only if you are aware of any)							
Please can the provider complete the below for each recommendation in the report							
No.	Recommendation	Intended audience for recommendation	Evidence in the report which underpins the recommendation (including page number)	Current national audit benchmarking standard if there is one	Associated NHS payment levers or incentives'	Guidance available (for example, NICE guideline)	% project result if the question previously asked by the project (date asked and result). If not asked before please denote N/A. This is so that there is an indication of whether the result has increased or decreased and over what period of time

1	<p>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.</p>	<p>The National Children and Young People's Diabetes Network, the RCPCH, Integrated Care Boards in England and Local Health Boards in Wales.</p>	<ul style="list-style-type: none"> <li>• Page 6 - The number of CYP with Type 2 diabetes receiving care from a PDU in England and Wales has increased by 88% to 1,521 in 2023/24.</li> <li>• Page 7 - The prevalence of Type 2 diabetes (0-15 years) has increased to 7.7 per 100,000.</li> <li>• Page 7 - The incidence of Type 2 diabetes (0-15 years) has increased to 2.5 per 100,000.</li> <li>• Page 6 - 57% of PDUs managing more than 5 CYP with Type 2 diabetes. Only 5% of PDUs have no diagnosed cases of Type 2 diabetes.</li> </ul>	N/A	N/A	<ul style="list-style-type: none"> <li>• <a href="#">NHS England Children and Young People Diabetes toolkit</a> - Review the capability and competencies of specialist paediatric MDTs to ensure that staff are being supported to develop key skills to care for children and young people with Type 2 diabetes. This could include training and or participation in peer support networks</li> <li>• <a href="#">Wales National Strategic Clinical Network for Diabetes Workplan 2024/25</a> – Priority 11 – Workforce</li> <li>• <a href="#">Welsh Quality statement for diabetes – 7. Health boards provide appropriately resourced specialist teams and professionally competent generalist care to support people with diabetes to manage their condition in accordance with the nationally agreed pathways, locally adopted.</a></li> <li>• <a href="#">National CYP Diabetes Network Delivery Plan 2020-25</a>: Providing staff upskilling opportunities</li> </ul>	<ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• In 2023/24, more PDUs are managing CYP with Type 2 diabetes, with 57% of PDUs managing more than 5 CYP with Type 2 diabetes, compared to 27% in 2019/20.</li> <li>• In 2023/24, only 5% of PDUs have no diagnosed cases of Type 2 diabetes, compared in 14% in 2019/20.</li> </ul>
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						(including training in type 2 diabetes in paediatrics and technology training)	
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.	Integrated Care Boards in England and Local Health Boards in Wales.	<ul style="list-style-type: none"> <li>• Page 11 – 86% of CYP with Type 2 diabetes had a BMI in the obese range, but only 23% were offered treatments for obesity</li> <li>• Page 12 - 44% blood pressure above the 98<sup>th</sup> percentile, but only 5% received treatment for hypertension</li> <li>• Page 12 – 20% of CYP had high LDL and 25% had high total cholesterol, but only 1% received treatment for hyperlipidaemia.</li> <li>• Page 12 – 20% of patients had albuminuria, but only 3%</li> </ul>	N/A	N/A	<ul style="list-style-type: none"> <li>• <a href="#">NG18 1.3.74</a> – offer children and young people with type 2 diabetes annual monitoring for hypertension, dyslipidaemia, and moderately increased albuminuria</li> <li>• <a href="#">NG18 1.3.78</a> – Explain to children and young people with type 2 diabetes and their families or carers that monitoring is important because if they have hypertension, early treatment will reduce their risk of complications.</li> <li>• <a href="#">Welsh Quality statement for diabetes – 24. Health boards use risk stratification tools to deliver prompt investigation of people with signs of diabetes, identifying early patients demonstrating poor disease management and referring them to the appropriate healthcare professional for support.</a></li> </ul>	<ul style="list-style-type: none"> <li>• In 2019/20, 92% of CYP had a BMI in the obese range. 15% received treatment for obesity.</li> <li>• In 2019/20, 42% had blood pressure above the 98<sup>th</sup> centile. Only 6% received treatment for hypertension</li> <li>• In 2019/20, 14% had high LDL and 26% had high total cholesterol. 0.6% received treatment for hyperlipidaemia.</li> <li>• In 2019/20, 26% had albuminuria, and 3% received treatment for albuminuria.</li> </ul>

			received treatment for albuminuria.			•	
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.	Integrated Care Boards in England and Local Health Boards in Wales.	<ul style="list-style-type: none"> <li>• Page 11 - 86% of CYP with Type 2 diabetes had a BMI in the obese range, but only 23% received treatment for obesity.</li> <li>• Page 11 - 12% of those with a BMI in the obese range were offered a very low calorie diet. 4% were offered meal replacement, and 2% had or were referred to bariatric surgery. 23% had other treatment for obesity, such as low calorie diets, orlistat, GLP1 agonists, SGLT2 inhibitors, lifestyle modifications, or referral to</li> </ul>	N/A	<b><u>BPT 2024-25</u></b>	<ul style="list-style-type: none"> <li>• <b><u>NG18</u></b> 1.3.15 – At each contact with a child or young person with type 2 diabetes who is overweight or obese, advise them and their families or carers about the benefits of exercise and weight loss, and provide support towards achieving this.</li> <li>• <b><u>NG18</u></b> 1.3.16 – Offer children and young people with type 2 diabetes dietetic support to help optimise body weight and blood glucose levels</li> <li>• <b><u>NG246</u></b> 1.14.2 – Ensure interventions are multicomponent, tailored to meet individual needs, and take into account the wider determinants and context of overweight and obesity</li> <li>• <b><u>NG246</u></b> 1.14.9 – Refer to the local mental health pathway if there are concerns at any stage of the intervention that the child or young person’s mental wellbeing is affected by their weight, that mental health is</li> </ul>	<ul style="list-style-type: none"> <li>• In 2019/20, 92% of CYP had a BMI in the obese range. 15% received treatment for obesity.</li> </ul>

			<p>Complications of Excess Weight or Eating Disorder services.</p>		<p>affecting their weight or the circumstances that influence their weight, or an eating disorder is suspected.</p> <ul style="list-style-type: none"> <li>• <a href="#">NG246</a> 1.14.36 – Give children and young people, and their family and carers, information about any other local sources of long-term support as part of a multidisciplinary team approach. These could include support from a Registered dietitian or UK Voluntary Register of Nutritionists (UKVRN) registered nutritionist administered by the Association for Nutrition, youth worker, school nurse, family support worker, local support group, online groups or networks, friends and family, free healthcare-endorsed apps, national programmes, charities, helplines, and community groups (such as local leisure services or sports clubs).</li> <li>• <a href="#">NHS England Children and Young People Diabetes toolkit</a> - Work with stakeholders in the ICS and ICP (including</li> </ul>	
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					<p>Local Authorities) to take a population health management approach to addressing overweight and obesity in children and young adults – with a particular focus on high prevalence areas and groups, and the presence of Tier 1 and Tier 2 services.</p> <ul style="list-style-type: none"> <li>• <a href="#">NHS England Children and Young People Diabetes toolkit</a> - Map relevant local supporting services available for CYA with type 2 diabetes (such as weight management services, peer support, mental health, or social support services) and ensure providers are signposting appropriately.</li> <li>• <a href="#">NHS England Children and Young People Diabetes toolkit</a> - Work with CEW clinics, where present, to map pathways and ensure that interdependent services are joined up (such as diabetes services). Not all ICSs currently have a CEW</li> </ul>	
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						<p>clinic, therefore requiring some ICSs to work across larger boundaries.</p> <ul style="list-style-type: none"> <li>• <a href="#">Wales National Strategic Clinical Network for Diabetes Workplan 2024/25</a> – Priority 7 – Remission of Type 2 diabetes</li> <li>• <a href="#">Healthy Weight, Healthy Wales</a> – Targeted and specialised services: evidence driven dietetic led programmes reversing the trends in Type 2 diabetes through weight management, high quality multi professional specialist weight management services available for children and families, and adults across Wales delivered within local communities.</li> </ul>	
4	<p>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</p>	<p>Integrated Care Boards in England and Local Health Boards in Wales.</p>	<ul style="list-style-type: none"> <li>• Page 8 - 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</li> </ul>	N/A	<p><b><a href="#">BPT 2024-25</a></b></p>	<ul style="list-style-type: none"> <li>• <a href="#">NG18</a> 1.3.3 – Tailor the education programme to each child or young person with type 2 diabetes and their families or carers, taking into account issues such as ... cultural considerations, ... current and future social circumstances.</li> <li>• <a href="#">NG18</a> 1.3.19 – Take into account social and</li> </ul>	<ul style="list-style-type: none"> <li>• In 2019/20, 65% of CYP with Type 2 diabetes identified as part of an ethnic minority</li> <li>• In 2019/20, 71.4% of CYP with Type 2 diabetes lived in the two most deprived quintiles.</li> <li>• In 2019/20, black CYP had the highest mean HbA1c of any ethnic group (95.5 mmol/mol).</li> </ul>

	<p>accessible to all, individualised where appropriate and culturally tailored. Access to psychological and dietetic support should be universal and offered without bias.</p> <p>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.</p>		<p>minority (Figure 4), compared to 18% of the CYP with Type 1 diabetes (2023/24 core audit).</p> <ul style="list-style-type: none"> <li>• Page 8 - 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).</li> <li>• Page 9 – Black CYP had a higher health check completion rate than other ethnicities and</li> </ul>		<p>cultural considerations when providing dietary advice to children and young people with type 2 diabetes</p> <ul style="list-style-type: none"> <li>• <a href="#">NG18</a> 1.3.64 – Offer children and young people with Type 2 diabetes and their families or carers emotional support after diagnosis, and tailor this to their emotional, social, cultural, and age-dependent needs.</li> <li>• <a href="#">NHS England Children and Young People Diabetes toolkit</a> - Consider the diversity of the population and whether services can adapt the delivery of care or service models based on key factors such as language, religion, cultural norms, practices, and beliefs.</li> <li>• <a href="#">Wales National Strategic Clinical Network for Diabetes Workplan 2024/25</a> – Priority 9 – Tackling inequalities</li> <li>• <a href="#">Welsh Quality statement for diabetes – 4. Health board clinical teams pay particular attention to adapting service models</a></li> </ul>	<ul style="list-style-type: none"> <li>• The remaining items were not calculated in 2019/20</li> </ul>
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			<p>the national average.</p> <ul style="list-style-type: none"><li>• Page 11 – Black CYP had the highest mean HbA1c of any ethnic group. CYP from the most deprived areas had higher HbA1cs than those from the least deprived areas.</li><li>• Page 14 – CYP from the most deprived areas were more likely to be offered psychological support and dietetic support.</li></ul>			<p><i>and tailoring approaches to improve engagement with groups who may have challenges accessing traditional healthcare models and subsequently have lower rates of key care process completion and poorer treatment outcomes.</i></p> <ul style="list-style-type: none"><li>•</li></ul>	
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<p>5</p>	<p>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.</p> <p>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.</p>	<p>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.</p>	<ul style="list-style-type: none"> <li>• Page 11, Figure 10 – On average, CYP with Type 2 diabetes had a higher BMI than those with Type 1 diabetes.</li> <li>• Page 12 – 44% of CYP with type 2 diabetes had blood pressure above the 98<sup>th</sup> centile</li> <li>• Page 12 – 34% of CYP had a total blood cholesterol of 5 mmol/l or more, compared to 19% of CYP with Type 1 diabetes in 2023/24 (2023/24 core audit report).</li> <li>• Page 12 – 20% of patients with Type 2 diabetes had albuminuria</li> </ul>	<p>N/A</p>	<p>N/A</p>	<ul style="list-style-type: none"> <li>• <a href="#">NG18</a> 1.3.78 – Explain to children and young people with type 2 diabetes and their families or carers that monitoring is important because if they have hypertension, early treatment will reduce their risk of complications.</li> <li>• <a href="#">NG18</a> 1.3.81 - Explain to children and young people with type 2 diabetes and their families or carers that monitoring is important because if they have dyslipidaemia, early treatment will reduce their risk of complications.</li> <li>• <a href="#">NG18</a> 1.3.86 - Explain to children and young people with type 2 diabetes and their families or carers that: if moderately increased albuminuria is detected, improving blood glucose management will reduce the risk of this progressing to significant diabetic kidney disease. Annual monitoring is important because, if they have diabetic kidney disease, early treatment</li> </ul>	<ul style="list-style-type: none"> <li>• In 2019/20, 92% of CYP with Type 2 diabetes had a BMI in the obese range, compared to 24% of CYP with Type 1 diabetes aged 12+ and 19% of CYP with Type 1 diabetes aged 0-11 yrs</li> <li>• In 2019/20, 42% of CYP with Type 2 diabetes had a blood pressure above the 98<sup>th</sup> centile, compared to 27% of CYP with Type 1 diabetes.</li> <li>• In 2023/24, 28% of CYP with Type 1 diabetes in 2023/24 (2023/24 core audit report).</li> <li>• In 2019/20. 29% of CYP with Type 2 diabetes had a total cholesterol of 5 mmol/l or more, compared to 19% of CYP with Type 1 diabetes</li> <li>• In 2019/20, 26% of CYP with Type 2 diabetes had albuminuria, compared to 11% of CYP with Type 1 diabetes.</li> <li>• In 2023/24, 10% of CYP with Type 1 diabetes in 2023/24 (2023/24 core audit report).</li> </ul>
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						will improve the outcome.	
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## 6. Acknowledgements

### **NPDA Clinical Lead**

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