NPDA Type 2 Diabetes Spotlight Audit Report 2023-2024

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Helping all children and young people with diabetes in East London to lead a healthy, happy life.

Barts and The London
School of Medicine and Dentistry

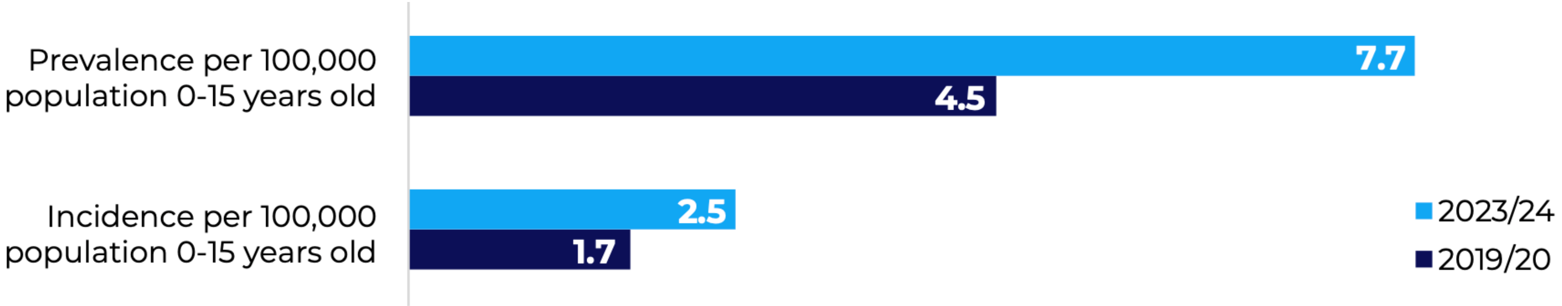
NPDA and HQIP

- 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**).
- Report covers characteristics of CYP with T2D and the care provided to them by paediatric diabetes units (PDU) in England and Wales between 1st April 2023 and 31st March 2024. (Published 2025)
- Previous NPDA T2D Spotlight audit was 4 years ago, and covered 2019-2020 (Published 2023)

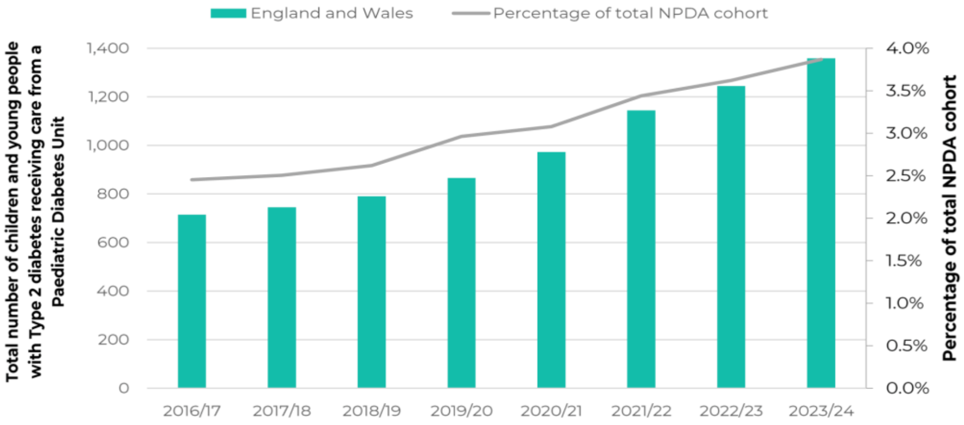
Faatimah, V

Incidence and prevalence T2D in CYP has increased

- 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**. Currently, 4% of all diabetes in NPDA is T2D.
- 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**.

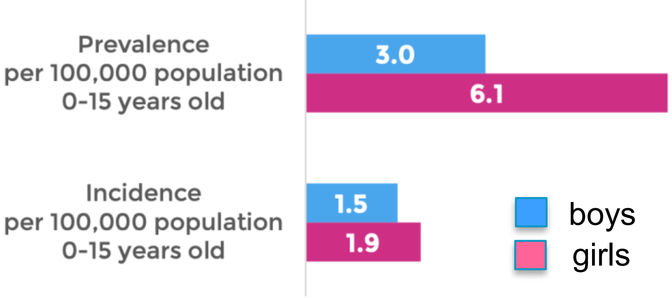


Type 2 Diabetes in 0-15 yr olds is increasing in England and Wales



NPDA 2019-2020: 222 new patients
NPDA 2021-2022: 281 new patients
NPDA 2022-2023: 268 new patients
NPDA 2023-2024: 292 new patients

Sex ratio audit 2019/2020:



Type 2 Diabetes in 0-15 yr olds is increasing worldwide (SWEET)

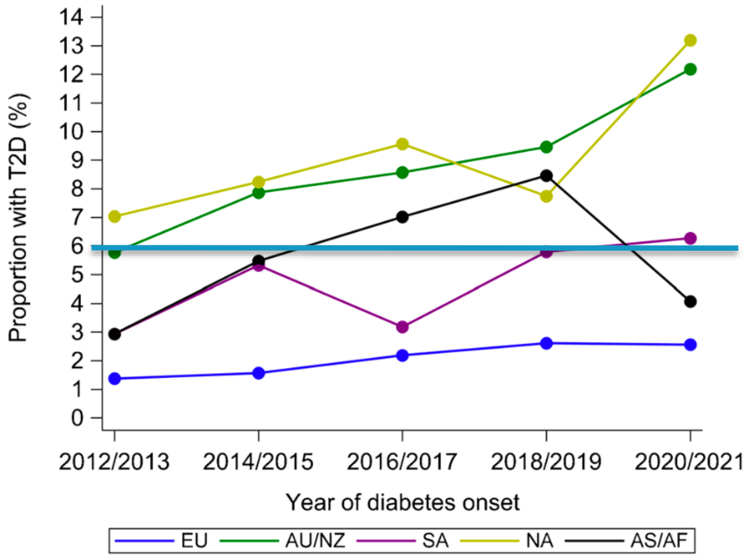
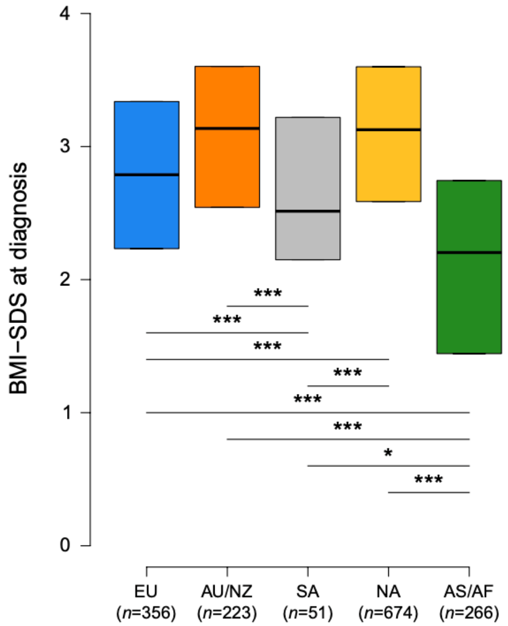


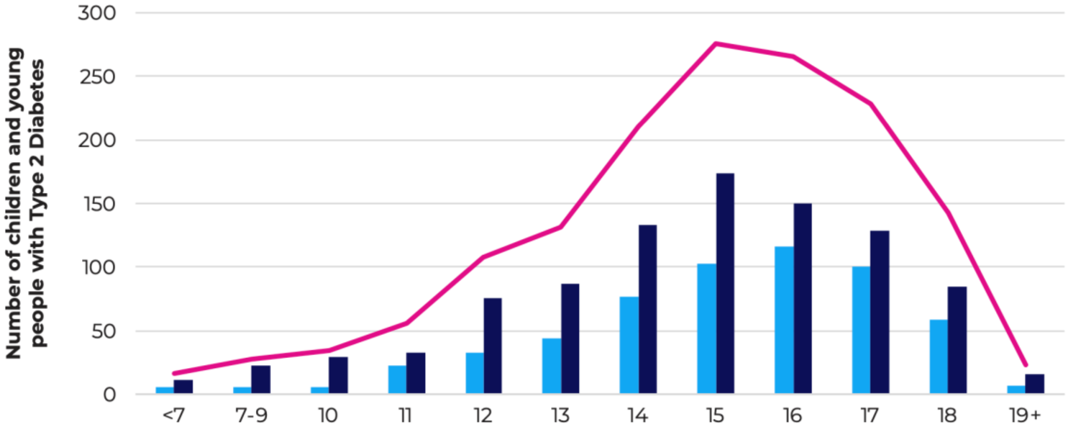
Fig. 3 Percentage of new patients with type 2 diabetes (T2D) among all diabetes cases by region and period of diagnosis



Gesulta R, Diabetologia 2025;68:82-93

Sex and age of CYP with T2D in 2023/2024

- Sex and age in whole years at the beginning of the 2023/24 audit period.
- 62% is female (compared to 47% in T1D)
- More prevalent in girls (10.3 per 100,000), compared to boys (5.1 per 100,000).
- Higher incidence in girls (3.3 per 100,000) compared to boys (1.8 per 100,000).

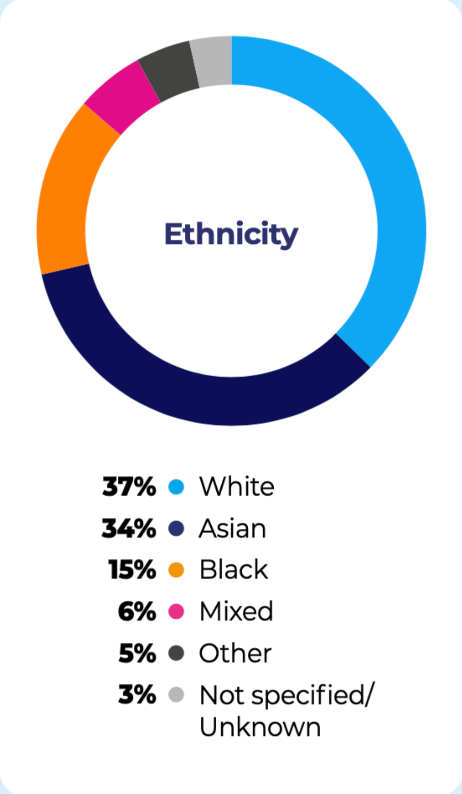


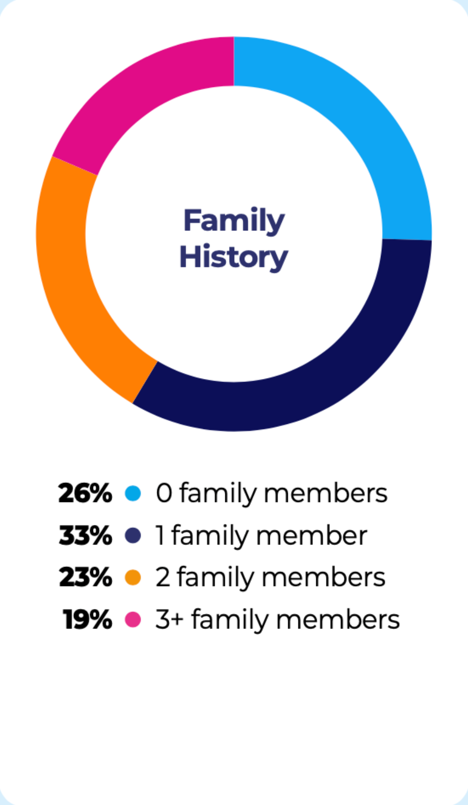
	<7	7-9	10	11	12	13	14	15	16	17	18	19+
Boys	5	5	5	23	33	44	77	102	116	100	59	7
Girls	11	23	29	33	75	87	133	174	150	128	84	16
Total	16	28	34	56	108	131	210	276	266	228	143	23

Ethnicity and family members

- **63% of** ethnic minority (**18%** of the CYP with T1D)
- After white (37%), Asian ethnicity most common (34%)

- **74%** family member with T2D
- **42%** has a mother with T2D
- **28%** has a father with T2D
- Fewer with a parent with T2D compared to 2019/2020 (60 and 40% mother/father)

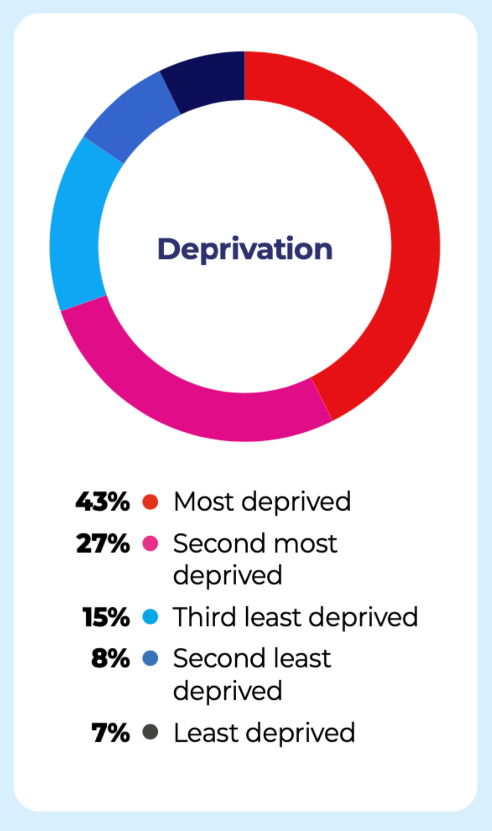




Deprivation

- 70% of CYP with T2D live in deprived areas (vs 43% in T1D)
- 43% of T2D in most deprived areas
- 27% second most deprived

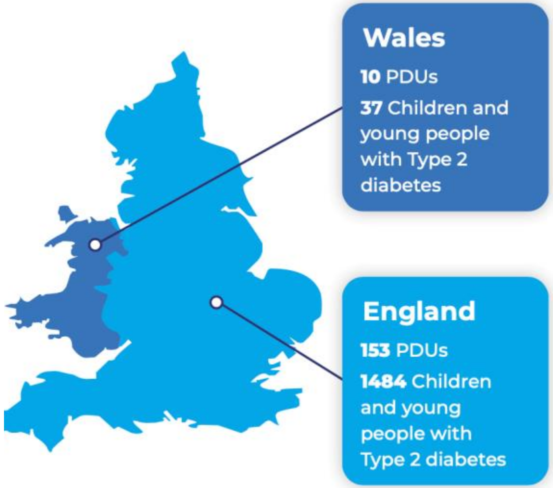
- Similar to previous audit



Most units care for CYP with T2D

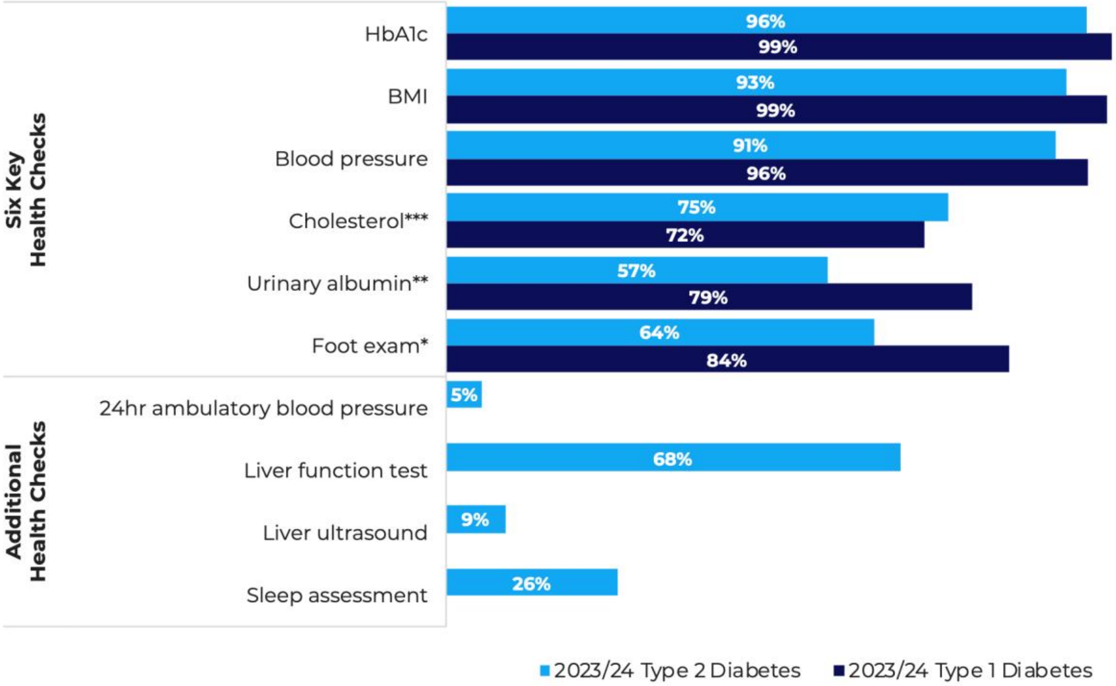
- 95% of PDUs (163 out of 172) have CYP with T2D (previously 86%)
- Number of patients: 1-54
- 57% PDUs look after more than 5 patients (previously 59% had 1-5 patients)
- 31% PDUs look after more than 10 patients (previously 12% of PDUs)

	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%)



Health care checks

- Health check completion ranged fron **17% to 100%** at PDU-level.
- Only **36%** of CYP with T2D < 12 years received all five key health checks; **41%** of CYP > 12 yrs had all six key health checks (vs 66% in T1D)
- HbA1c, BMI and BP slightly lower completion rates than T1D
- Urine albumen and foot exam lowest rates
- US liver, sleep test very low rates
- Similar between ethnicities/deprivation



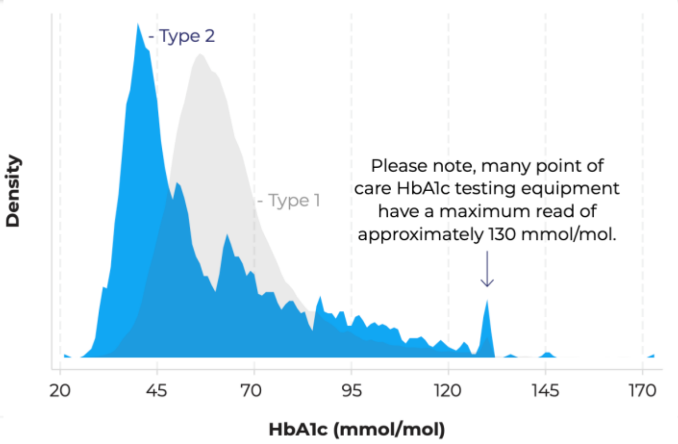
* CYP aged 12 and above

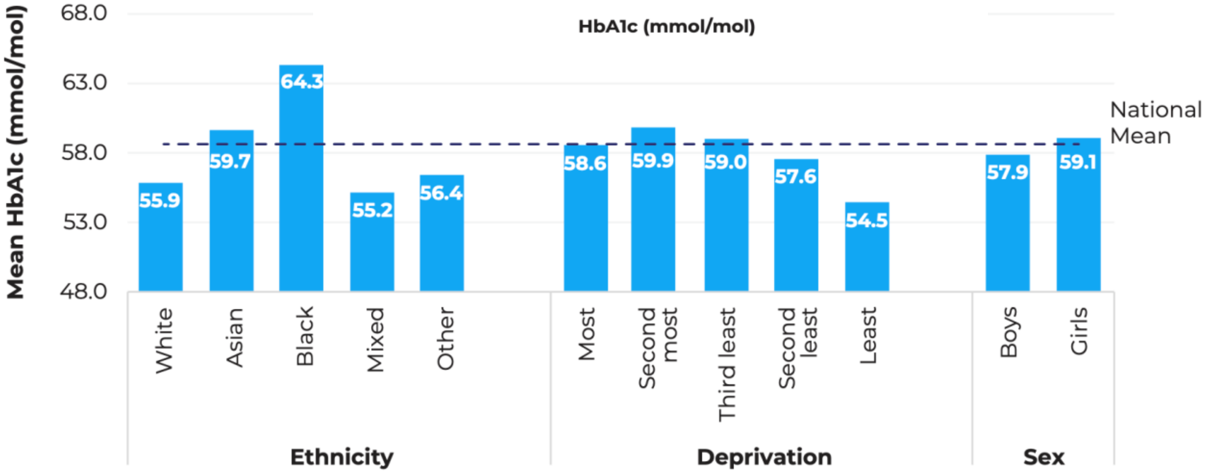
** CYP aged 12 and above for Type 1 diabetes, and all ages for Type 2 diabetes.

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

HbA1c

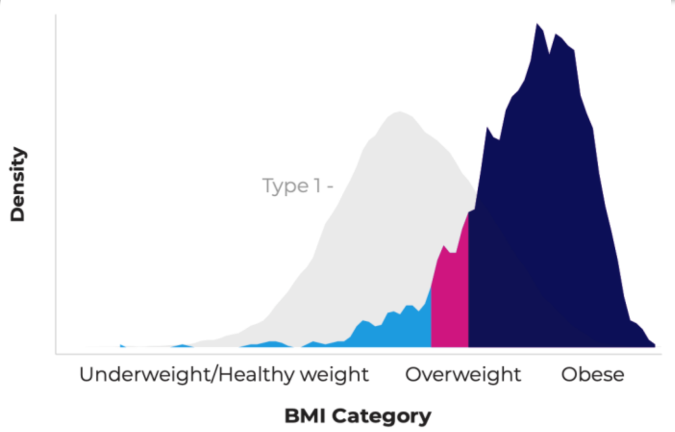
- **Median** HbA1c **50.0 mmol/mol**, (52.5mmol/mol in 2019/20, 49.5 in 2022/23)
- **47%** achieved HbA1c < 48 mmol/mol
- High number with high HbA1c
- Mean Hba1c **58.5 mmol/mol**
- Black and Asian ethnicities highest HbA1c
- Least deprived lowest HbA1c

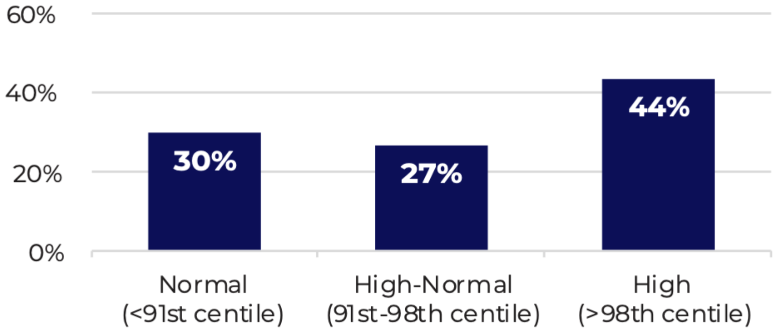


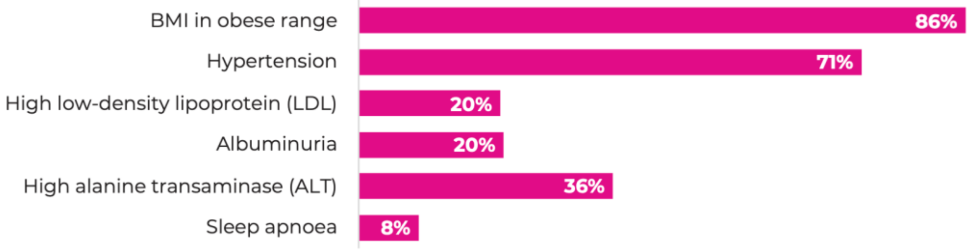


Outcomes and complications

- 85% obese
- High rates of obesity complications, esp. hypertension and raised ALT
- 5% received tmt for hypertension (was 5.9%)
- 3% received tmt for albuminuria (was 3.4%)



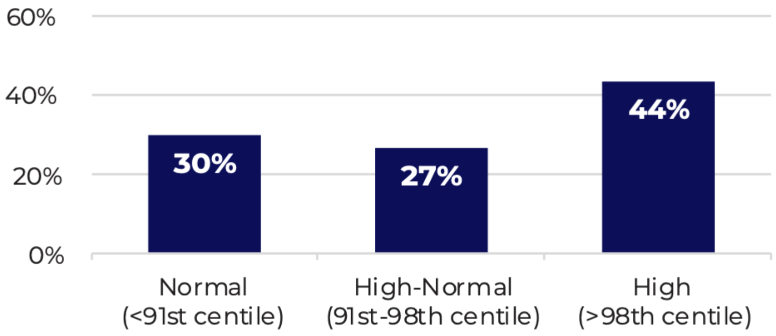




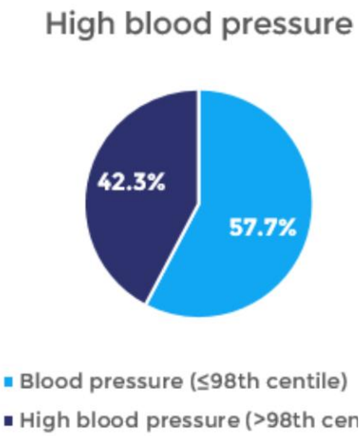
Hypertension 2023/24 vs 2019/20

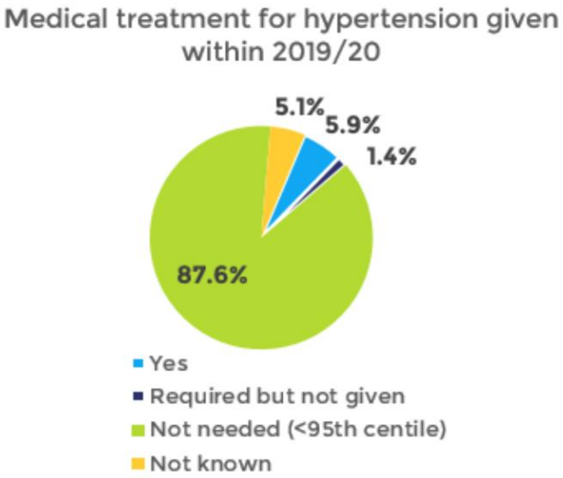
2023/24

- 71% BP > 91st centile
- 44% syst BP > 98th centile
- 5% received tmt for hypertension

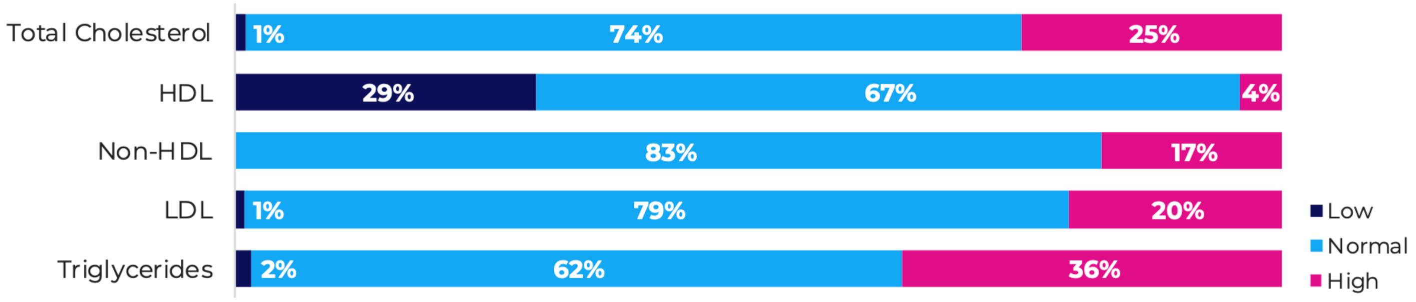


2019/20





Lipids and sleep apnoea



- Mean cholesterol 4.3 mmol/mol, 20% have high LDL, and 30% high Triglycerides
- **1% received treatment for hyperlipidaemia (was 0.6% in 2019/20)**

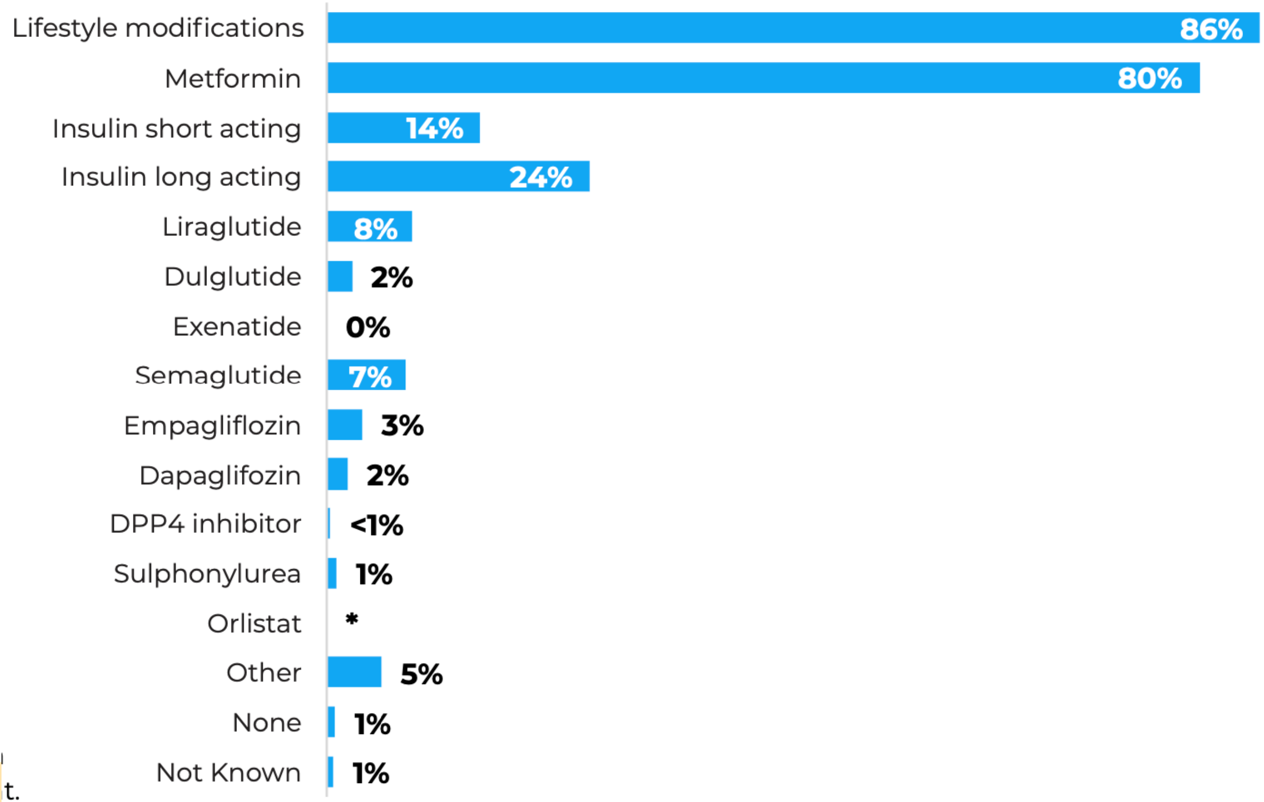
- 8% assessed for sleep apnea (was 16% in 2019-2020)
- **60% of those required non-invasive ventilation**

More complications in T2D vs T1D (2023/24)

TYPE 1 DIABETES	TYPE 2 DIABETES
28% (aged 12 and above) had a diastolic or systolic blood pressure in the hypertensive range (>98th centile after correction for age and gender), compared to **30%** in 2022/23.	**46% (all ages)** had a diastolic or systolic blood pressure in the hypertensive range (>98th centile after correction for age and gender), compared to **47%** in 2022/23.
19% (aged 12 and above) had a total blood cholesterol of 5mmol/l or higher, compared to **20%** in 2022/23. *(Cholesterol is no longer included in the health checks specified for Type 1 diabetes by NICE, however the NPDA continues to report the outcomes of the cholesterol tests undertaken and submitted as some PDUs consider it to merit continuing scrutiny).*	**32% (all ages)** had a total blood cholesterol of 5mmol/l or higher, compared to **30%** in 2022/23.
42% (all ages) were overweight or obese (BMI>85[th] centile after correction for age and gender), compared to **42%** in 2022/23.	**94% (all ages)** were overweight or obese (BMI >85th centile after correction for age and gender), compared to **94%** in 2022/23.
11% (aged 12 and above) had an abnormal retinopathy screen, compared to **11%** in 2022/23.	**7% (aged 12 and above)** had an abnormal retinopathy screen, compared to **6%** in 2022/23.
10% (aged 12 years and above) had micro- or macro- albuminuria, compared to **10%** in 2022/23.	**21% (all ages)** had micro- or macro-albuminuria, compared to **21%** in 2022/23.

Medication

- 80% Metformin
- 25% long-acting insulin
- 17% GLP1 agonists (mostly liraglutide and semaglutide)
- 5% SGLT2 inhibitors



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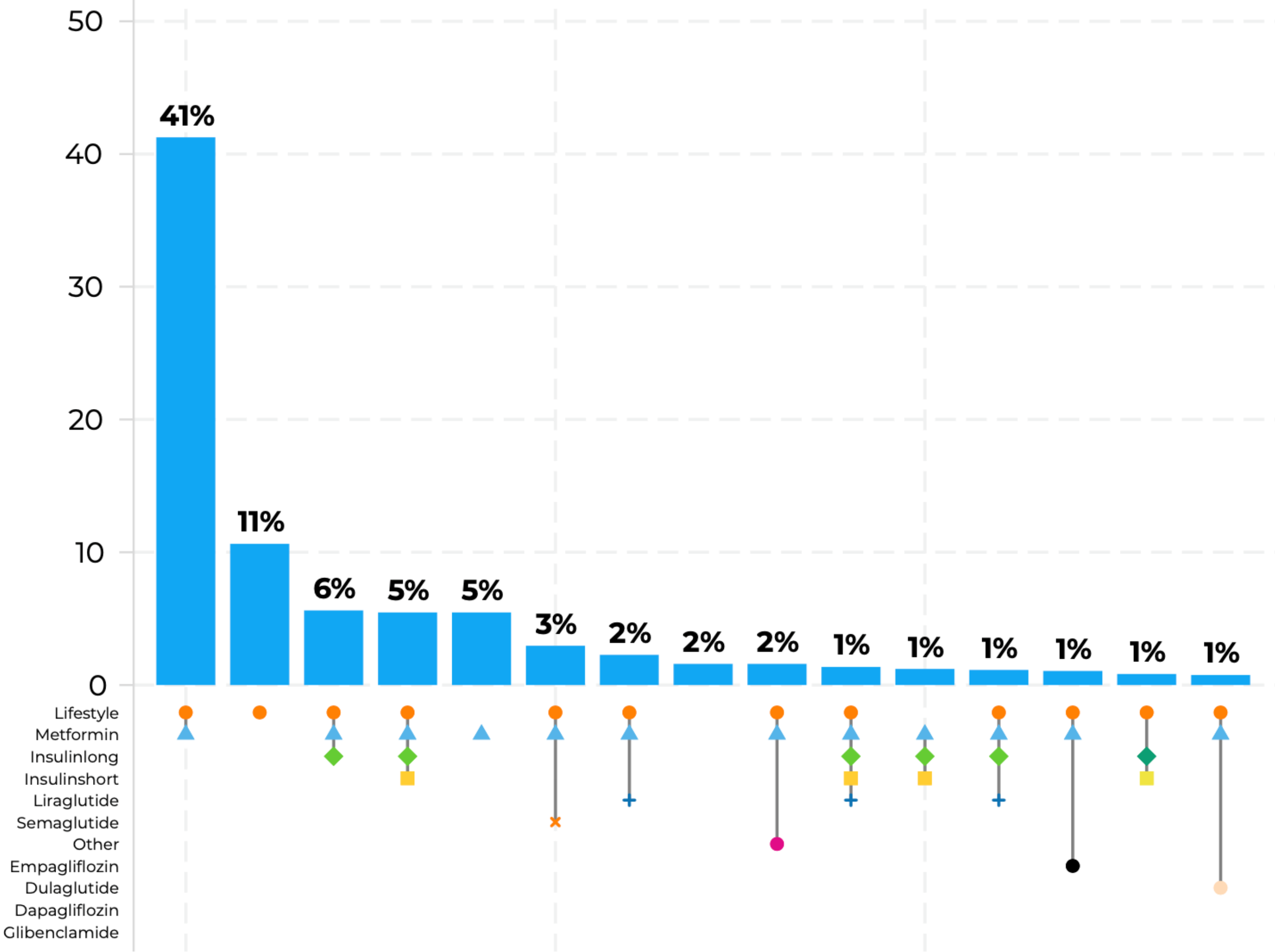
Multiple drugs

- 11% no medication
- 41% only Metformin
- Most common combination Metformin and insulin (11%) only (not in line with current NICE guideline)
- 10% Metformin and GLP1 agonist / SGLT2 inhibitor without insulin



Algorithm for drug treatment in CYP with T2D

Metformin

+/- insulin

- Any form of Metformin
- Reduce insulin if possible

→

Liraglutide

- At 3 months if HbA1c > 48 or not able to wean insulin

0.6→1.2→1.8 mg *
sc OD
(weekly increments)

OR

Consider weekly Dulaglutide

(not licensed)

0.75-1.5 mg *
sc once weekly,
Increase to 3.0 mg
(max dose 4.5 mg)

→

Consider Empagliflozin

if HbA1c > 48 or not able to wean insulin or GLP1RA not tolerated

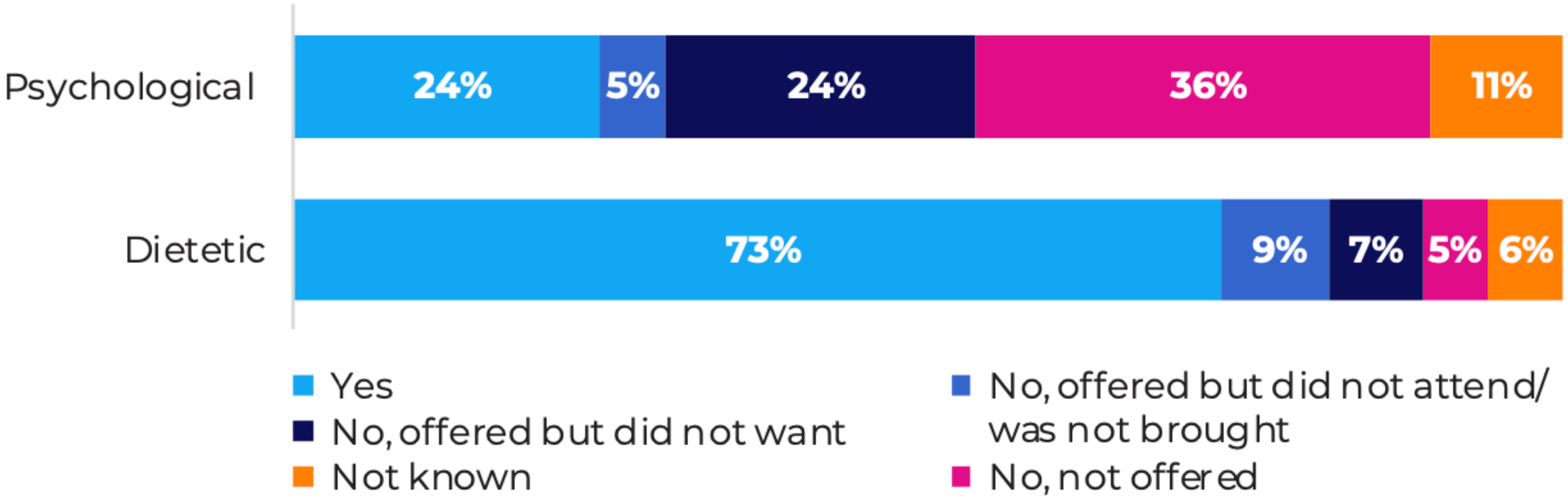
(not licensed)

10 mg OD PO *,
If at 3 months Hba1c>48
Increase to 25 mg

* if > 10 yrs and use lowest possible dose

NICE guideline T1/T2D in CYP, Fou L, BMJ 2023

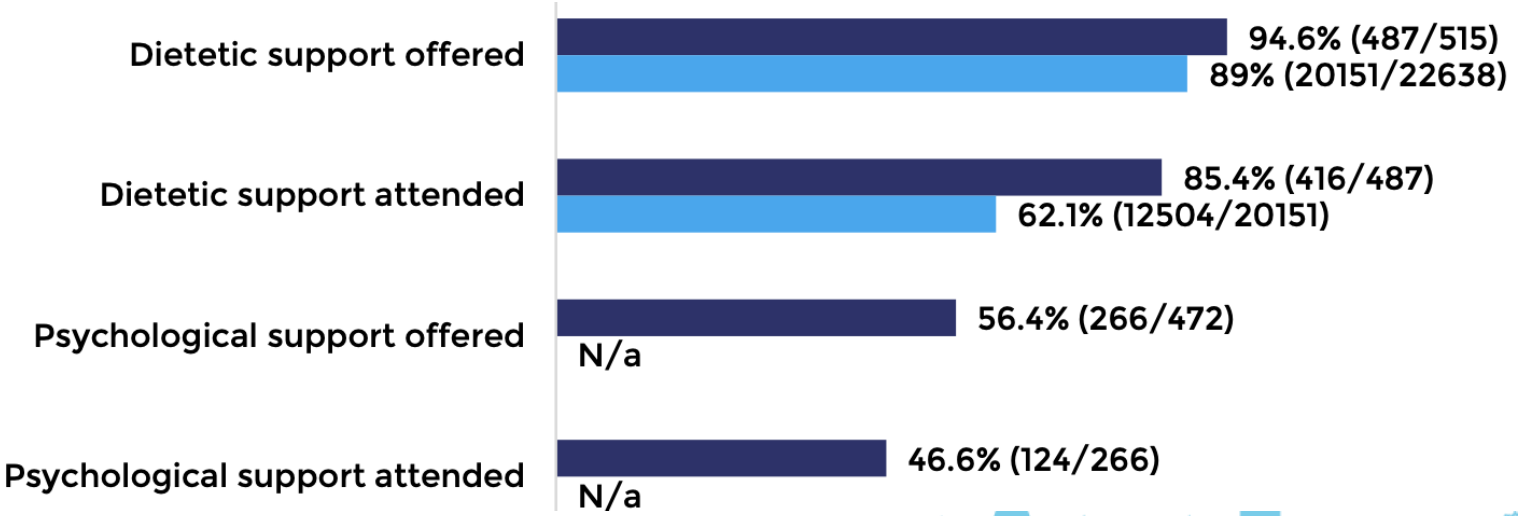
Psychological and dietetic support



- Only 53% offered psychological support
- Most offered dietetic support

Dietetic and psychological support (2019/2020)

- Dietetic support offered in 94% and attended more often (85%) than in T1D (62%)
- Psychological support offered in only 56%, and only 46% of those patients attended.



Psychological/dietetic support and deprivation

- More psychological and dietary support offered in most deprived areas vs non deprived areas
- Black CYP have highest uptake of psychological support

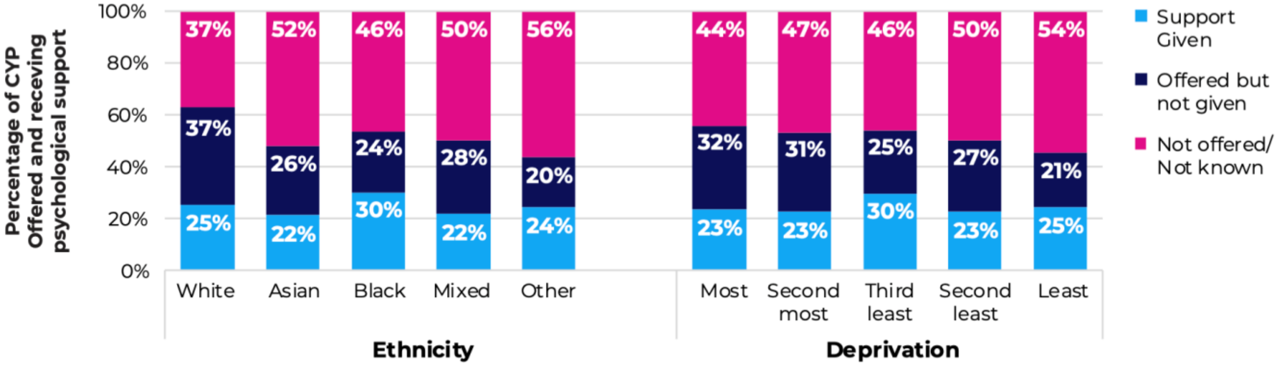
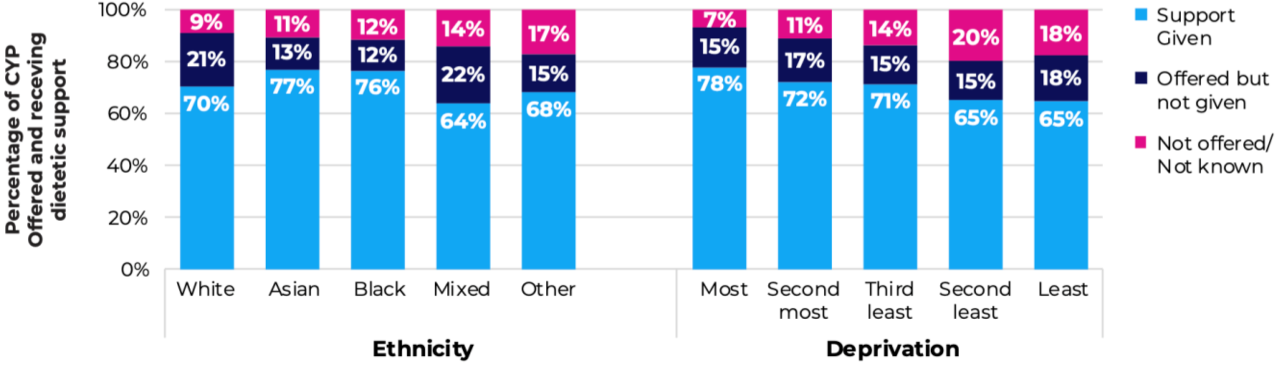


Figure 17: Access to psychological support by ethnicity deprivation quintile in 2023/24.



Summary

- Incidence and prevalence of T2D in CYP is increasing rapidly
- 95% of PDUs have CYP with T2D, and 31% have more than 10 CYP with T2D

- High rates of compications (hypertension, hyperlipidaemia, albuminuria)
- Low treatment rates of complications, without improvement compared to 2019/20

- 24% received psychological support in 2023/24, while an additional 29% were offered, but did not receive, psychological support
- 78% received dietetic support

Recommendations

CYP with identified comorbidities should be offered treatment and specialist support

ICB/ LHB

A standard, specialised package of care should be available within all PDUs for CYP with T2D

ICB/ LHB

Teams should be trained in management of T2D in CYP

NCYP DN

RCPCH

ICB/ LHB

CYP with obesity to be offered holistic support, including psychological and dietetic input and may include weight management services.

ICB/ LHB

Any unwarranted variation in care process completion should be monitored and addressed.

ICB/ LHB

NCYP DN

GIRFT

Resources, training, QI

- RCPCH Diabetes Quality Improvement Website
- NHS England e-learning for healthcare
- NHS RightCare - CYP Diabetes Toolkit
- Leicester Diabetes Centre - Eden
- Digibete – T2 resources

Acknowledgement

- All units for collecting data
- HQIP – NPDA – RCHPCH
- Prof Justin Warner, NPDA Clinical Lead
- Amani Krayem, NPDA Project Manager
- National Paediatric Diabetes Audit Project Board
- Dr Fiona Campbell, National Paediatric Diabetes Audit Methodology and Dataset Working Group
- Type 2 Diabetes Working Group
- SWEET Consortium and Rosaria Gesuita (Ancona, Italy)
- Barts Health NHS Trust – Paediatric Diabetes MDT Team

QUESTIONS ?

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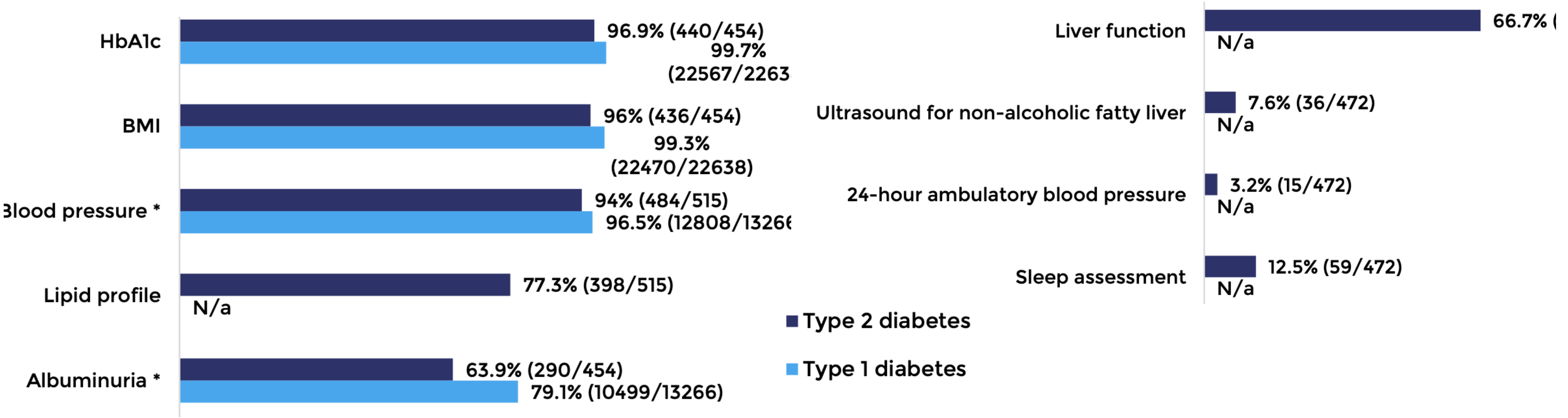
Health care checks in T2D (2019-2020)



HbA1c, BMI, blood pressure – slightly lower completion than in T1D
Albuminuria – significantly lower completion (64%)
Lipids and LFT - only in 77% and 67%
Obesity-related investigations – very low %

2020/21 NPDA– Type 2 diabetes

24.1%

of young people with T2D age 12+ with a complete year of care received all six key health checks in the audit year

973

children and young people with T2D were included in the audit, up from 866 in 2019/20

49.3%

of young people with T2D had high blood pressure

23.4%

of young people with T2D had albuminuria compared to **10.3%** of those with T1D

59.5%

of CYP with T2D

were assessed as requiring additional psychological or CAMHS support outside of MDT clinics, up from 53.6% in 2018/19