

# National Diabetes Audit, 2018-19

## Report 1: Care Processes and Treatment Targets

England and Wales  
10<sup>th</sup> December 2020

### Full Report

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# Introduction

The National Diabetes Audit (NDA) provides a comprehensive view of diabetes care in England and Wales. It measures the effectiveness of diabetes healthcare against NICE Clinical Guidelines and NICE Quality Standards<sup>1,2,3,4,5</sup>.

## The Core NDA answers five key questions\*:

1. Is everyone with diabetes diagnosed and recorded on a practice diabetes register?
2. What percentage of people registered with diabetes received the nine NICE key processes of diabetes care?
3. What percentage of people registered with diabetes achieved NICE defined treatment targets for glucose control, blood pressure and cardiovascular disease risk reduction?
4. What percentage of people registered with diabetes are offered and attend a structured education course?
5. For people with registered diabetes what are the rates of acute and long term complications (disease outcomes)?

**This is the full report. A [short report](#) was published in December 2019.**

GP practice and specialist service level information accompanies this report and can be found [here](#).

# Aims and Objectives

The NDA supports improvement in the quality of diabetes care by enabling participating NHS services and organisations to:

- Assess local practice against NICE guidelines
- Compare their care and care outcomes with similar services and organisations
- Identify gaps or shortfalls that are priorities for improvement
- Identify and share best practice
- Provide a comprehensive national picture of diabetes care and outcomes in England and Wales



A Primary Care Quality Improvement Toolkit has been developed in collaboration with the RCGP  
<https://www.rcgp.org.uk/clinical-and-research/resources/toolkits/quality-improvement-toolkit-for-diabetes-care.aspx>

A Guide to Quality Improvement in Specialist Services has been published by the NDA  
<https://www.diabetes.org.uk/resources-s3/2017-10/NDA%20QI%20Guide%20for%20Specialist%20Services%20-%20Final%20draft.pdf>

# Key Findings

## Annual Care Processes

There has been a decline in the eight care process 'bundle' completion rate driven predominantly by lower rates of urine albumin checks.

However, although most care processes remain well completed (within the 75-90 per cent range) they are less frequently completed in people with Type 1 diabetes.

Most people had HbA1c checked 2-3 times during 2018-19, which is in line with NICE guidance. But around 15 per cent of people with Type 1 diabetes and five per cent of people with Type 2 and other diabetes had no HbA1c check in 2018-19.

## Structured Education

Recording of people being offered and attending structured education within primary care systems remains stable and attendances are occurring sooner after diagnosis.



## Achievement of the Treatment Targets (HbA1c, Blood Pressure, CVD risk reduction)

Between 2013-14 and 2018-19, 'old' three target achievement\* levels improved for people with Type 1 diabetes, driven by a higher percentage of people achieving the HbA1c $\leq$ 58mmol/mol target, but there has been no change for people with Type 2 and other diabetes.

In some areas, the 'new' three target achievement\* rates were more than 30 per cent for people with Type 1 diabetes and more than 45 per cent for Type 2 and other diabetes.

Although, overall, younger age and social deprivation are associated with lower rates of treatment target achievement\*\* some of the areas and services with the highest achievement rates have younger and more deprived patient populations.



\*See [Definitions Section](#)

\*\*See the 'Characteristics of people with diabetes' data file accompanying this report - [www.digital.nhs.uk/pubs/ndauditcorerep1819](http://www.digital.nhs.uk/pubs/ndauditcorerep1819)

# Key Recommendations 2018-19

## 1. Provision of patient education courses and recording of attendance should be improved (details on slide 30).

**Who:** All structured education providers and all Clinical Commissioning Groups (CCGs) / Local Health Boards (LHBs).

**What:** Implement systems that reliably record who has attended and who has completed.

**Where/when:** At education provider locations when attendance starts and finishes.

## 2. Strive to match the best achieving services (details on slide 26).

**Who:** All CCGs/LHBs, General Practices and Specialist diabetes services.

**What:** Agree and implement changes that aim for individual care process completion rates over 80 per cent and three target achievement rates over 30 per cent for Type 1 diabetes and over 45 per cent for Type 2 diabetes.

**Where/when:** In health economy, practice and specialist service reviews.

## 3. People with diabetes should review these results and consider asking questions if their CCG/LHB, GP or specialist service does not seem to be doing well.

**Who:** People with diabetes, their relatives/carers and their representative organisations.

**What:** submit questions to the relevant service leads and organisation executives.

**Where/when:** everywhere that results are clearly much worse than average, now.



# National Diabetes Audit 2018-19

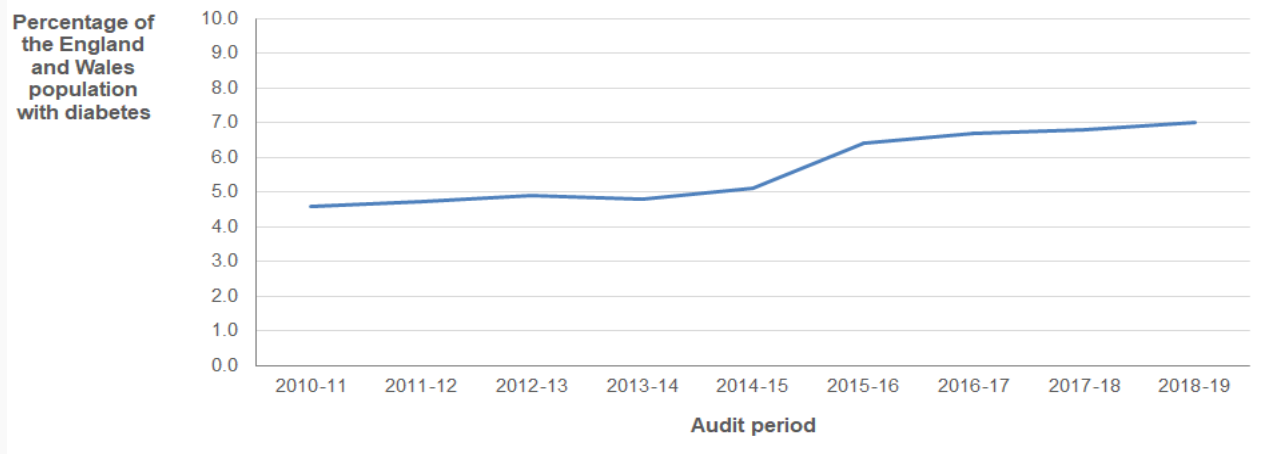
**Audit Question 1:  
Is everyone with  
diabetes diagnosed and  
recorded on a practice  
diabetes register?**



# Registrations

**Table 1: Diabetes registrations and prevalence for all diabetes by source, England and Wales, 2018-19**

Audit Year	Total number of registrations*	Percentage of the population**	Registrations from primary care	Registrations from specialist care where there is no corresponding GP record
2018-19	3,537,385	7.0%	3,479,215	58,170



The prevalence of diabetes has generally increased year on year since 2010-11 in England and Wales.

The NDA experienced lower participation rates in 2013-14 and 2014-15, which may have affected the reported prevalence for those years.

The National Cardiovascular Intelligence Network (NCVIN) publishes a diabetes prevalence model for local authorities and CCGs. It uses Health Survey for England data to estimate the total number of diagnosed and undiagnosed people with diabetes aged 16 and over in England and can be found here:

<https://www.gov.uk/government/publications/diabetes-prevalence-estimates-for-local-populations>

\* Total registrations include all people submitted by GP practices and specialist care and will therefore be different to the GP practice level figures provided in the NDA interactive reports. GP practice level figures, as well as national care process and treatment target figures throughout the report, are based only on people submitted by GP practices.

\*\* Population is the participating GP practice list size





# Audit Participation

## Primary care participation stood at 98.0 per cent in 2018-19 in England and Wales.

GP practice participation was 90 per cent and over in all but four CCGs and LHBs (198 of 202). Participation was less than 80 per cent in only one CCG (66 per cent).

## 113 specialist services participated in 2018-19 in England\*.

- 47 services submitted both the NDA core dataset and the insulin pump dataset
- 7 services submitted only the insulin pump dataset
- 59 services submitted only the NDA core dataset



Specialist services generally take the lead in care for Type 1 diabetes services and also often for younger people with Type 2 diabetes. Their more comprehensive involvement is important as part of the drive to improve the poorer results for these patients.

For more information on the level of participation in 2018-19 by CCG and LHB please see the [participation summary](#) accompanying this report - [www.digital.nhs.uk/pubs/ndauditcorerep1819](http://www.digital.nhs.uk/pubs/ndauditcorerep1819).



# National Diabetes Audit 2018-19

**Audit Question 2:  
What percentage of  
people registered with  
diabetes received the  
NICE key processes of  
diabetes care?**



# Care Processes

All people with diabetes aged 12 years and over should receive all of the nine NICE recommended care processes<sup>1,2,3,4,5</sup> and attend a structured education programme shortly after diagnosis.

**Table 2: Nine Annual Care Processes for all people with diabetes aged 12 and over**

Responsibility of Diabetes Care providers (comprising the NDA 8 Care Processes)

<b>1. HbA1c</b> (blood test for glucose control)	<b>5. Urine Albumin/Creatinine Ratio</b> (urine test for risk of kidney disease)
<b>2. Blood Pressure</b> (measurement for cardiovascular risk)	<b>6. Foot Risk Surveillance</b> (examination for foot ulcer risk)
<b>3. Serum Cholesterol</b> (blood test for cardiovascular risk)	<b>7. Body Mass Index</b> (measurement for cardiovascular risk)
<b>4. Serum Creatinine</b> (blood test for kidney function)	<b>8. Smoking History</b> (question for cardiovascular risk)

Responsibility of NHS Diabetes Eye Screening (NHS England, Public Health England)\*

**9. Digital Retinal Screening**  
(photographic eye test for early detection of eye disease)

1,2,3,4,5. Please see full list of footnotes in the definitions and footnote section

\* The screening registers are drawn from practice registers but the outcomes are recorded in screening management systems that presently cannot export data to the NDA



# Care Processes: Time Series



**Table 3: Percentage of people with diabetes receiving NICE recommended care processes by care process, diabetes type and audit year, England and Wales**

	Type 1					
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
HbA1c	80.9	83.2	83.7	84.3	84.8	85.6
Blood pressure	87.0	89.0	89.1	90.3	90.6	91.0
Cholesterol	77.4	78.7	79.1	79.9	80.2	80.7
Serum creatinine	78.8	80.5	81.5	82.7	82.9	83.3
Urine albumin*	63.9	55.9	50.2	50.1	51.3	48.4
Foot surveillance**	70.7	72.4	72.9	69.5	74.1	74.5
BMI	76.8	74.9	75.2	75.3	81.7	83.5
Smoking***	77.4	77.9	78.5	79.2	90.0	90.2
<b>Eight care processes<sup>7</sup></b>	<b>44.5</b>	<b>38.7</b>	<b>36.5</b>	<b>33.7</b>	<b>41.9</b>	<b>39.8</b>
	Type 2 and other <sup>6</sup>					
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
HbA1c	93.5	94.8	95.0	95.1	95.2	95.1
Blood pressure	94.9	96.1	95.7	96.2	96.2	96
Cholesterol	92.4	92.8	92.7	92.7	92.5	92.3
Serum creatinine	93.4	94.5	94.7	95.0	94.9	94.3
Urine albumin*	84.4	74.6	66.7	65.2	65.6	60.8
Foot surveillance**	86.2	86.7	86.7	79.4	86.1	85.9
BMI	85.7	83.1	82.7	83.1	87.5	88.3
Smoking***	85.5	85.2	85.2	85.5	95.3	95.5
<b>Eight care processes<sup>7</sup></b>	<b>67.6</b>	<b>58.7</b>	<b>53.7</b>	<b>47.6</b>	<b>58.0</b>	<b>53.8</b>

- Most care process completion rates have improved for people with Type 1 diabetes. Nonetheless, fewer people with Type 1 than with Type 2 or other diabetes receive annual checks.
- The urine albumin check is completed much less frequently than other checks.
- BMI checks improved in 2018-19 but urine albumin checks declined, leading to a fall in the overall 'Eight Care Process' percentage.

6,7. Please see full list of footnotes in the definitions and footnote section.

\* There is a 'health warning' regarding the screening test for early kidney disease (Urine Albumin Creatinine Ratio, UACR) prior to 2013-14; please see the [NDA Data Quality Statement](#)

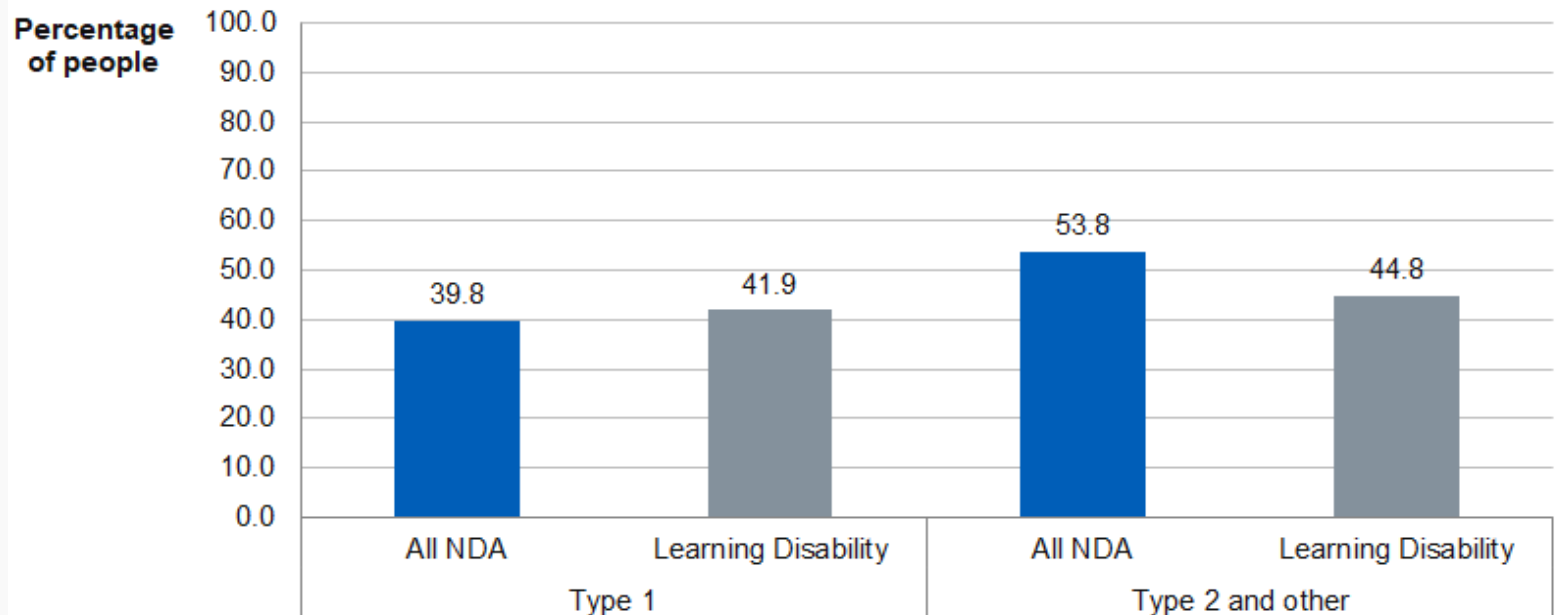
\*\* It was identified that foot surveillance data could have been under-reported for a number of GP practices who use the TPP SystemOne clinical system in 2016-17

\*\*\* The NDA smoking status care process methodology changed in 2017-18 to align with the [Quality and Outcomes Framework](#); please see the [NDA Methodology Report](#)



# Care Processes: Learning Disability

**Figure 1: Percentage of people with diabetes receiving all eight NICE recommended care processes<sup>7</sup> by diabetes type and learning disability diagnosis, standardised by age and sex, England and Wales, 2018-19**

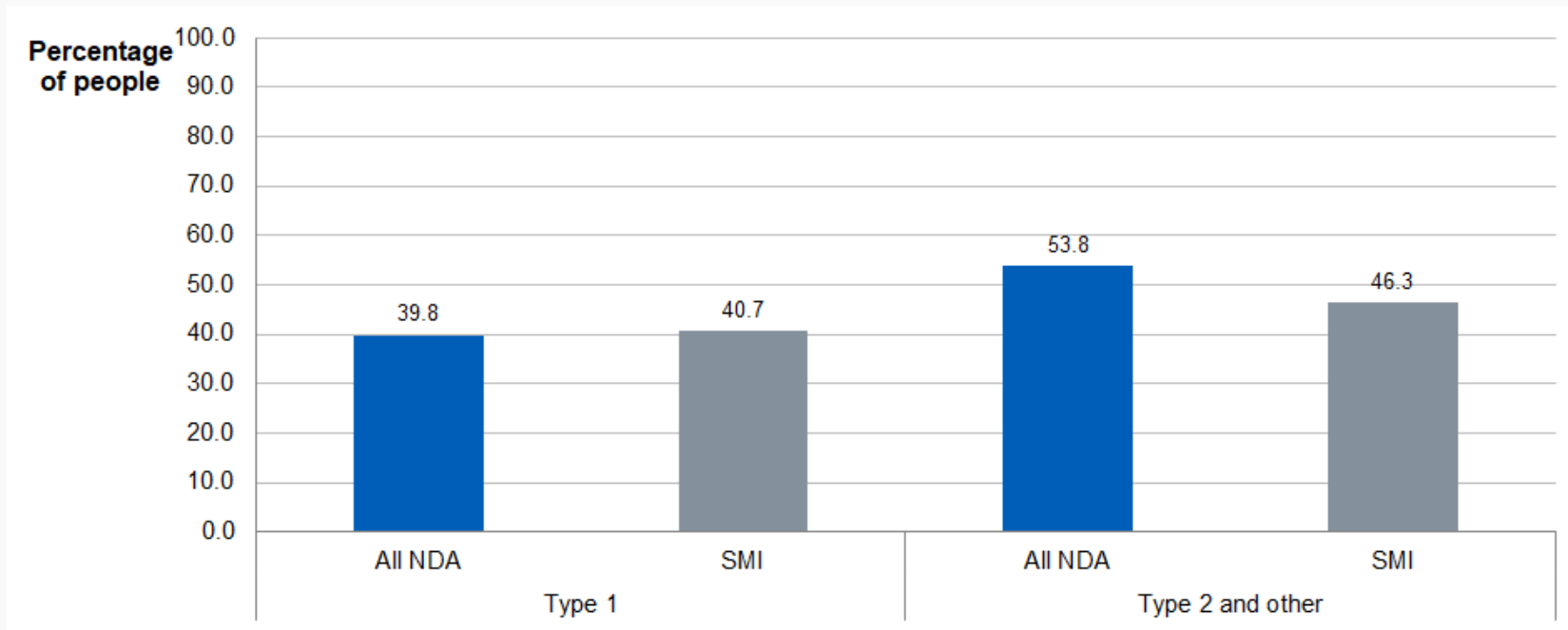


People with a learning disability who have Type 1 diabetes received a similar level of care checks to the general Type 1 diabetes population. However, those who have Type 2 and other diabetes were less likely to receive these care checks. The patterns of variation between the separate care processes are similar to those for people without a learning disability.



# Care Processes: Severe Mental Illness

**Figure 2: Percentage of people with diabetes receiving all eight NICE recommended care processes<sup>7</sup> by diabetes type and SMI diagnosis, England and Wales, 2018-19**



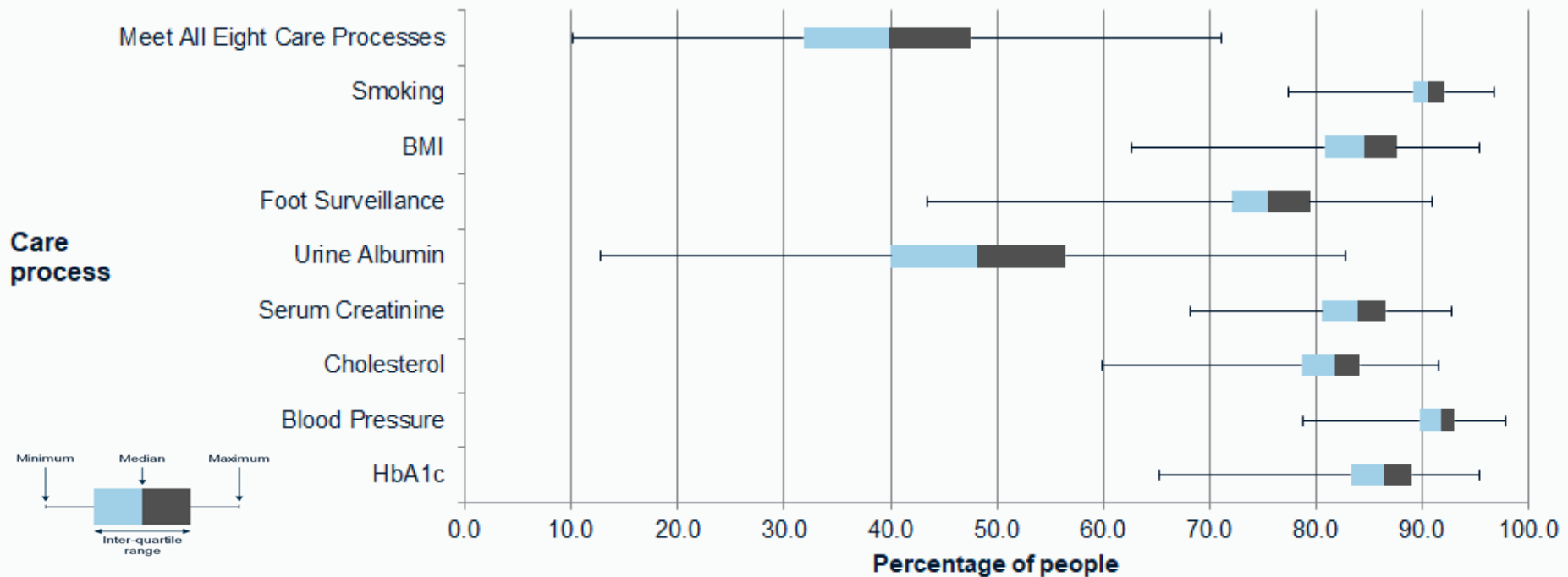
People with a severe mental illness who have Type 1 diabetes received a similar level of care checks to the general Type 1 diabetes population. However, those who have Type 2 and other diabetes were less likely to receive these care checks. The patterns of variation between the separate care processes are similar to those for people without a severe mental illness.



# Care Processes: Locality Variation, Type 1

- Marked CCG and LHB differences, especially for urine albumin and foot checks.
- Similar variation between specialist services (see service level reports\*).
- Some of the variation is associated with patient demographics\*\*.

**Figure 3: The range of CCG/LHB care process completion\*\* for people with Type 1 diabetes, England and Wales, 2018-19**



\* GP practice and specialist service level information accompanies this report and can be found [here](#).

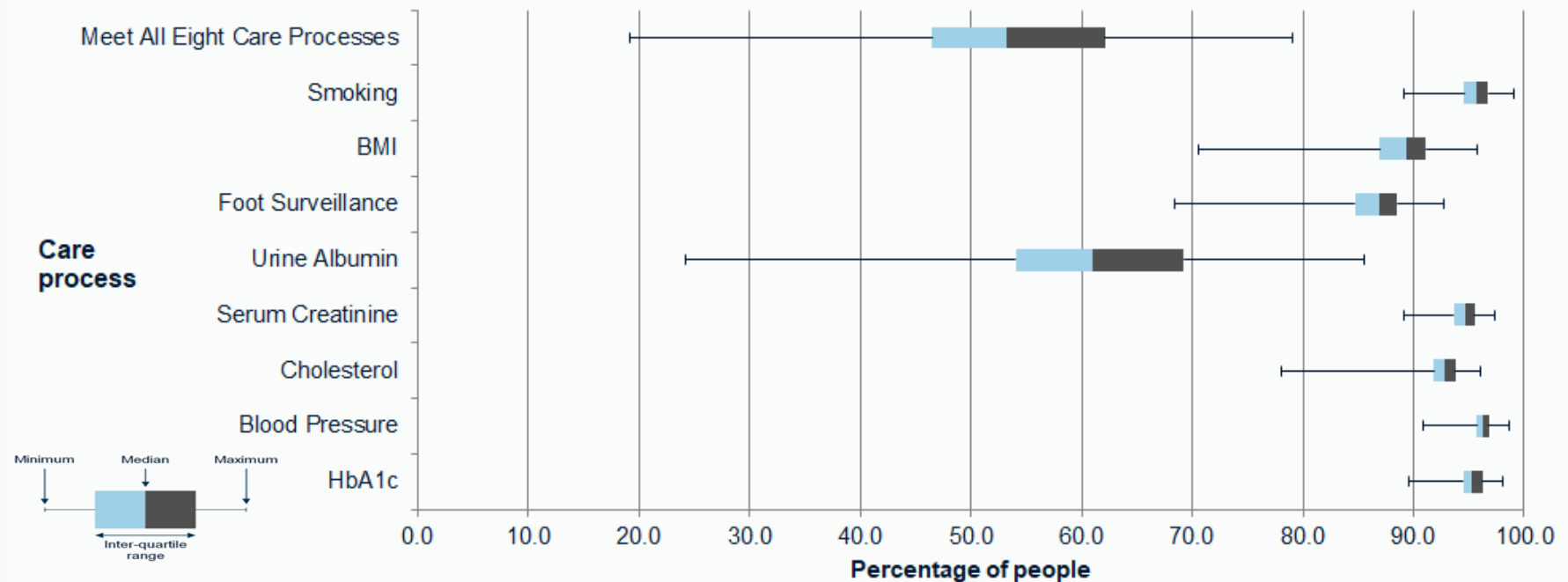
\*\* In the benchmarking tables, care processes completion rates are presented with case-mix adjusted bandings that show whether a service is achieving the care process delivery levels expected for their patient population. The bandings take into account age, gender, ethnicity, duration of diabetes and social deprivation.



# Care Processes: Locality Variation, Type 2

- Marked CCG and LHB differences, especially for urine albumin.
- Similar variation between General Practices (see service level reports\*).
- Some of the variation is associated with patient demographics\*\*.

**Figure 4: The range of CCG/LHB care process completion\*\* for people with Type 2 and other diabetes, England and Wales, 2018-19**



\* GP practice and specialist service level information accompanies this report and can be found [here](#).

\*\* In the benchmarking tables, care process completion rates are presented with case-mix adjusted bandings that show whether a service is achieving the care process delivery levels expected for their patient population. The bandings take into account age, gender, ethnicity, duration of diabetes and social deprivation.



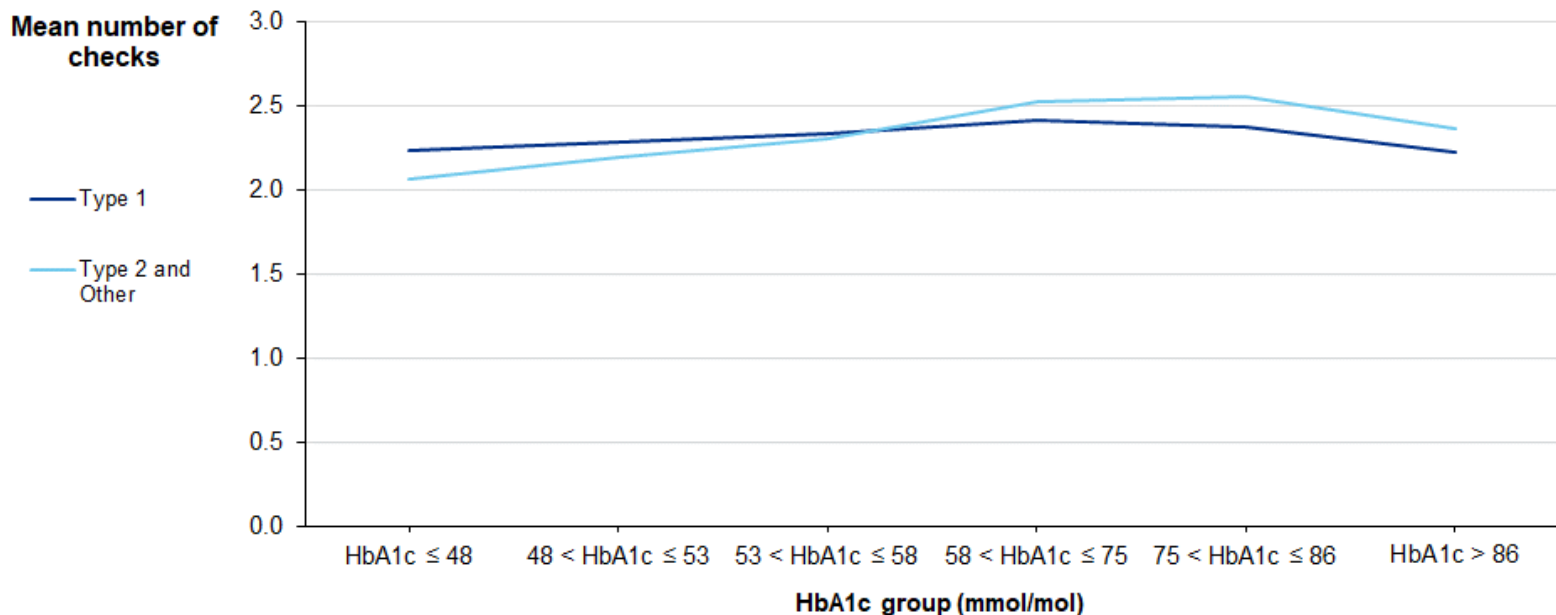


# Care Processes: Frequency of HbA1c checks

NICE recommends that HbA1c should be checked every 3-6 months in people with Type 1 diabetes and every 6 months in people with Type 2 and other diabetes.

- In the [2017 NDA complications and mortality report](#), people having no HbA1c check had higher mortality at all ages.
- In 2018-19, around 15 per cent of people with Type 1 diabetes and five per cent of people with Type 2 and other diabetes had no HbA1c check.
- For those that did have at least one HbA1c check, the mean numbers during the audit period were between 2 and 2.5 at all prevalent levels of HbA1c for both Type 1 and Type 2 and other diabetes.

**Figure 5: Mean numbers of HbA1c checks per person for people with diabetes, by diabetes type and HbA1c grouping, England and Wales, 2018-19**



# Care Processes: Comment

**The annual review\* is the essential foundation for all effective diabetes care in both GP and specialist services.**

There are many opportunities for improvement, notably in:

- Services for people with Type 1 diabetes.
- Urine Albumin/Creatinine Checks
- Services to engage people who have not been seen recently.
- Services for people with LD / SMI who have Type 2 or other diabetes.

## Audit Q2 Recommendations

- **Commissioners:**
  1. Challenge services that are in the lowest quartiles.
  2. Spread knowledge of the systems used by those in the upper quartiles.
- **Specialist and GP services:**
  1. Benchmark against peers using both local and national data.
    - Choose a priority for improvement.
    - Develop and implement improvement plans.
    - Use the NDA QI guides to help plan and test improvements.
    - Specialist services note the Type 1 service 'success factors'.
  2. Note the particular need to increase rates of Urine Albumin care process checks.



# National Diabetes Audit 2018-19

**Audit Question 3:**  
**What percentage of people registered with diabetes achieved the NICE defined treatment targets for glucose control, blood pressure and CVD risk?**



# Treatment Targets

NICE recommends treatment targets for HbA1c (glucose control), blood pressure and Cardiovascular Disease (CVD) risk reduction:

- Target HbA1c reduces the risk of all diabetic complications (eyes, kidney, nerves) and CVD risk.
- Target blood pressure reduces CVD risk and reduces the progression of diabetic eye and kidney disease.
- Statins reduce serum cholesterol and CVD risk.
- NICE treatment target specifications were updated in 2015-16 and now differ between Type 1 and Type 2 diabetes (<https://www.nice.org.uk/guidance/ng17>; <https://www.nice.org.uk/guidance/ng28>).



# Treatment Targets: Time Series



**Table 4: Percentage of people with diabetes achieving their treatment targets by diabetes type and audit year, England and Wales, 2018-19**

	Type 1					
	2013-14	2014-15	2015-16	2016-17	2017-18 <sup>7</sup>	2018-19 <sup>7</sup>
HbA1 <sub>c</sub> ≤ 58 mmol/mol	29.4	29.9	29.2	30.2	29.7	30.9
Blood pressure ≤ 140/80*	76.4	76.4	74.2	75.8	74.7	74.5
Cholesterol < 5mmol/L	71.5	71.3	70.8	69.3	70.2	73.0
Meeting all three treatment targets OLD*	<b>18.6</b>	<b>18.9</b>	<b>18.1</b>	<b>18.9</b>	<b>18.5</b>	<b>19.8</b>
Statins for Primary Prevention of CVD	-	-	-	-	65.3	64.7
Statins for Secondary Prevention of CVD	-	-	-	-	85.2	84.4
Statins for Combined Prevention of CVD	-	-	-	-	68.8	68.2
Meeting all three treatment targets NEW*	-	-	-	-	<b>18.7</b>	<b>19.4</b>

	Type 2 and other <sup>6</sup>					
	2013-14	2014-15	2015-16	2016-17	2017-18 <sup>7</sup>	2018-19 <sup>7</sup>
HbA1 <sub>c</sub> ≤ 58 mmol/mol	66.8	66.1	65.7	66.8	65.6	66.3
Blood pressure ≤ 140/80*	73.6	74.2	73.6	74.2	73.5	74.0
Cholesterol < 5mmol/L	77.8	77.5	77.1	76.0	76.5	78.2
Meeting all three treatment targets OLD*	<b>41.4</b>	<b>41.0</b>	<b>40.2</b>	<b>40.8</b>	<b>39.8</b>	<b>41.3</b>
Statins for Primary Prevention of CVD	-	-	-	-	72.0	70.7
Statins for Secondary Prevention of CVD	-	-	-	-	86.6	85.7
Statins for Combined Prevention of CVD	-	-	-	-	76.0	74.8
Meeting all three treatment targets NEW*	-	-	-	-	<b>39.9</b>	<b>40.1</b>

## Type 1 diabetes

Similar levels of 'old' three target achievement between 2013-14 and 2017-18. Slight improvement in 2018-19 principally due to higher rate of HbA1c<58mmol/mol target achievement..

Lower rates of statins prescribed for primary CVD risk reduction than for people with Type 2 and other diabetes, despite greater CVD risk in people with Type 1 diabetes. Some services achieve over 75 per cent (slide 24).

## Type 2 and other diabetes

Similar levels of 'old' three target achievement between 2013-14 and 2018-19.

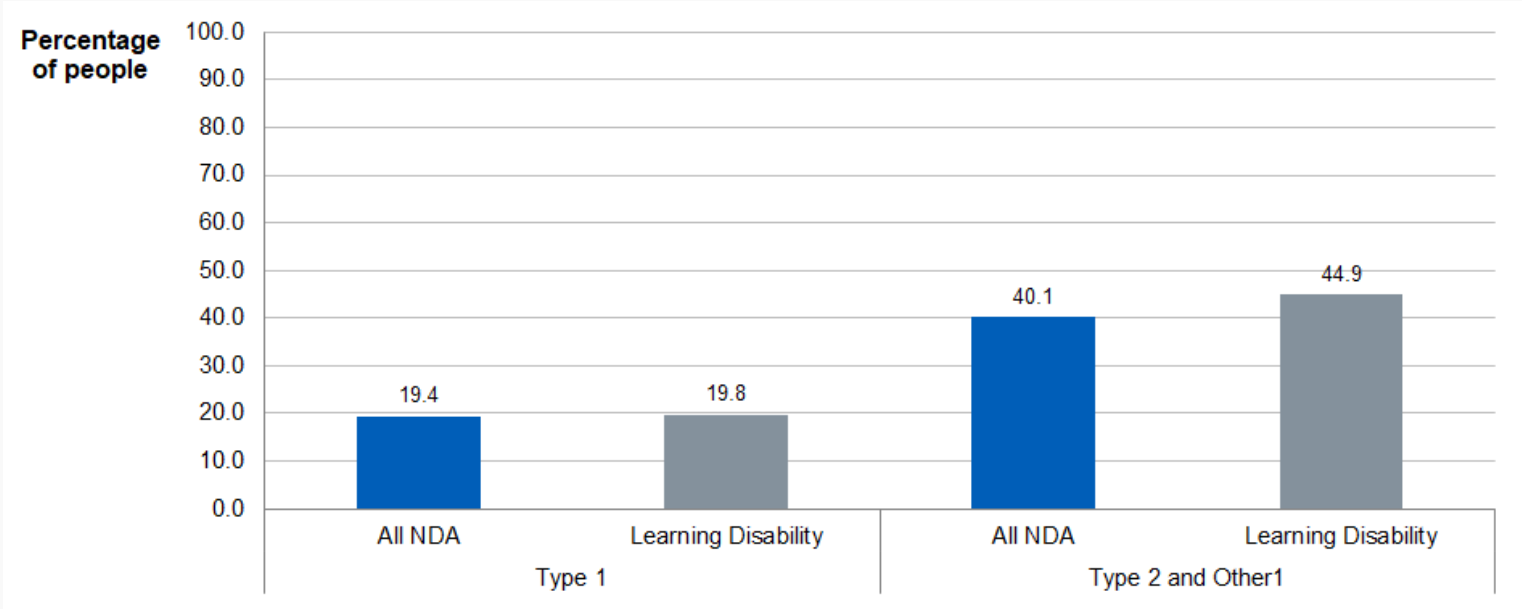
More than 1 in 4 people not prescribed statins for primary CVD risk reduction. Some services achieve over 85 per cent (slide 25).

\*Meeting All Three Treatment Targets NEW and Meeting All 3 Treatment Targets OLD are defined in the [Definitions Section](#) 6,7 Please see full list of footnotes in the definitions and [Footnotes and Additional Information Section](#)



# Treatment Targets: Learning Disability

**Figure 6: Percentage of all people with diabetes achieving all three treatment targets NEW\* by diabetes type and learning disability diagnosis, standardised by age and sex, England and Wales, 2018-19**



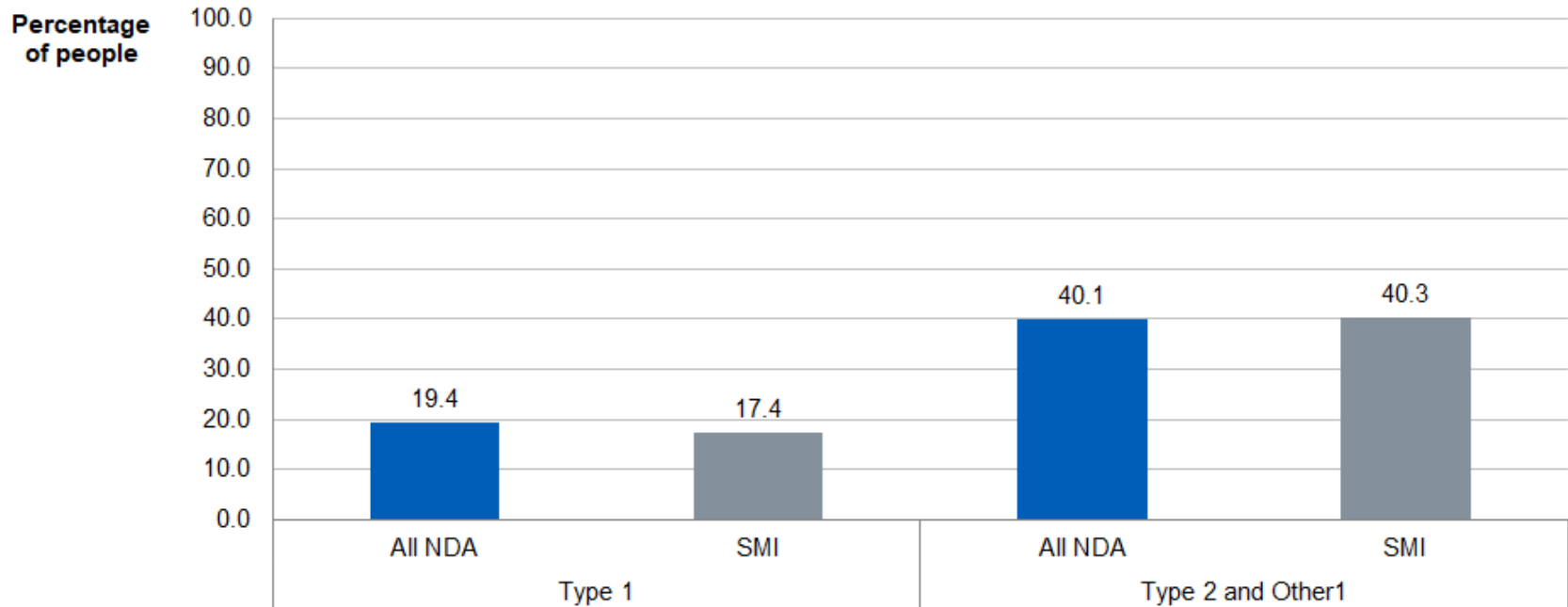
People with a learning disability who have Type 2 or other diabetes are more likely to achieve all three of their treatment targets (NEW\*) compared to their diabetic peers. For people with Type 1 diabetes and a learning disability, three treatment target achievement is similar to the overall Type 1 population. The pattern across the separate treatment targets is similar between those people with a learning disability and those without.



\*Meeting All Three Treatment Targets NEW and Meeting All 3 Treatment Targets OLD are defined in the [Definitions Section](#)

# Treatment Targets: Severe Mental Illness

**Figure 7: Percentage of people with diabetes achieving their treatment targets NEW\*, by diabetes type and SMI diagnosis, England and Wales, 2018-19**



People with a severe mental illness who have Type 1 diabetes are less likely to achieve all three of their treatment targets (NEW\*) compared to their diabetic peers. People with Type 2 or other diabetes and SMI have three target achievement rates similar to the overall Type 2 population. The pattern across the separate treatment targets is similar between those people with a severe mental illness and those without.

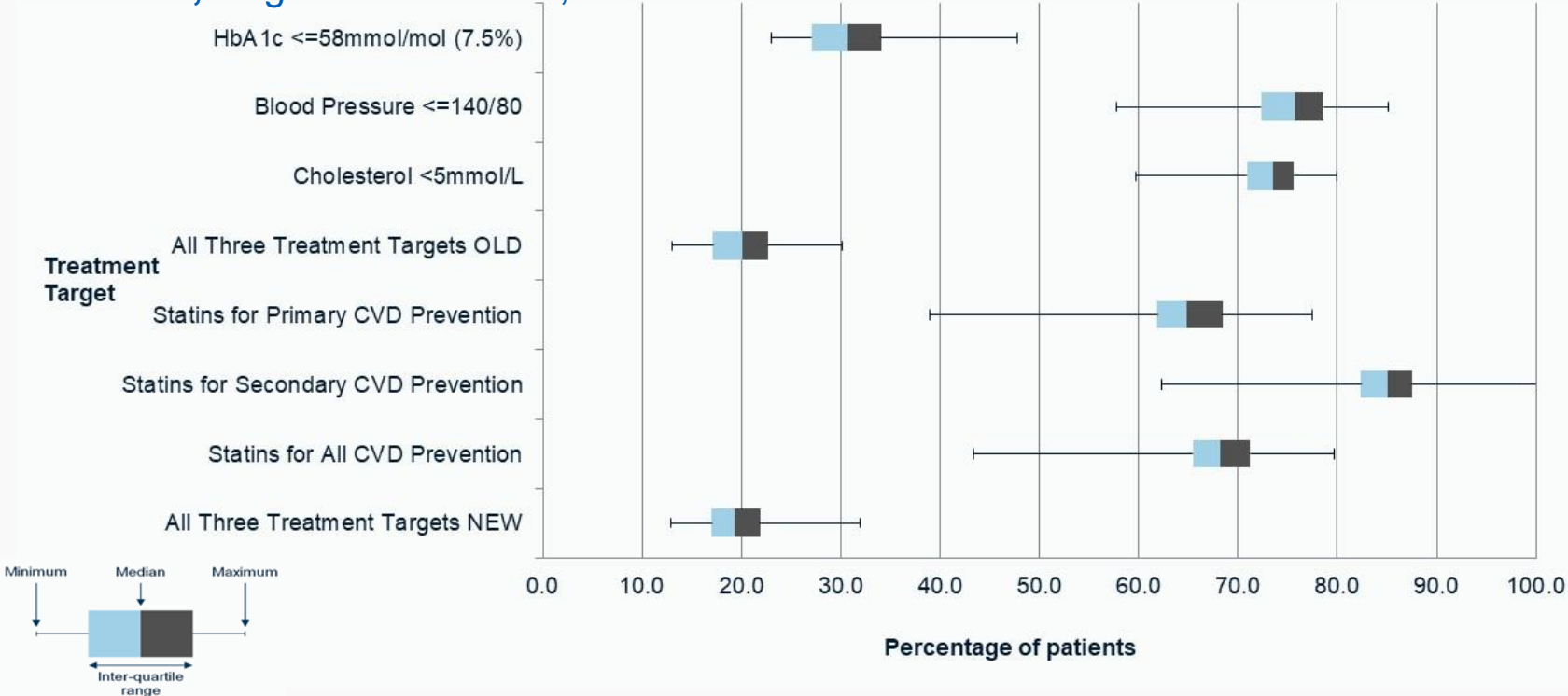


# Treatment Targets: Locality Variation, Type 1

High levels of target achievement in some areas - HbA1c over 40 per cent, blood pressure over 80 per cent and CVD risk reduction (statins) at around 80 per cent.

However, considerable variation exists across CCGs and LHBs, which is also found between specialist services (see service level reports\*). Differences in population patient demographics do not adequately predict the likelihood of target achievement.

**Figure 8: The range of CCG/LHB treatment target achievement for people with Type 1 diabetes, England and Wales, 2018-19**



\* GP practice and specialist service level information accompanies this report - [www.digital.nhs.uk/pubs/ndauditcorerep1819](http://www.digital.nhs.uk/pubs/ndauditcorerep1819)  
 Treatment target achievement forms one of the indicators in the [CCG improvement and assessment framework 2018-19](#)

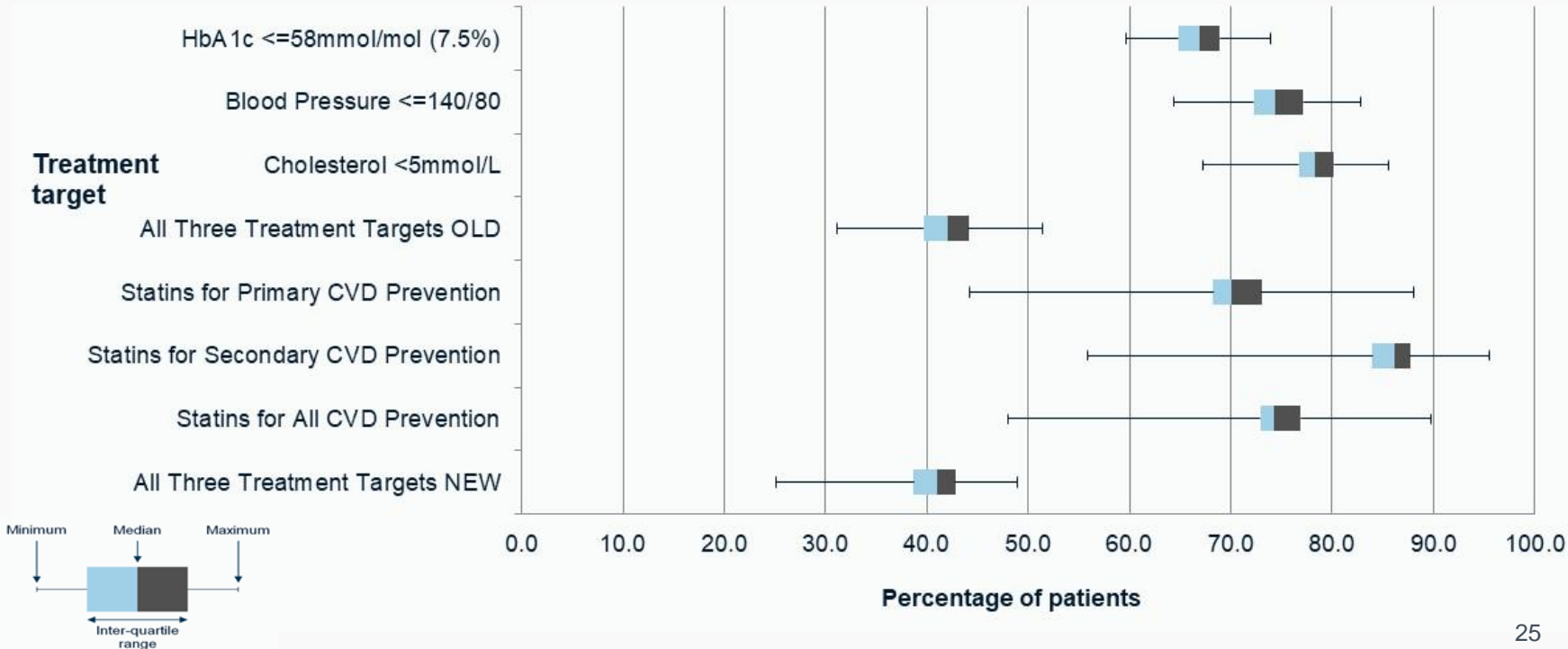


# Treatment Targets: Locality Variation, Type 2 and Other

High levels of target achievement in some areas - HbA1c over 70 per cent, blood pressure over 80 per cent and CVD risk reduction (statins) at around 90 per cent.

However, considerable variation exists across CCGs and LHBs, which is found also between General Practices (see service level reports\*). Differences in population patient demographics do not adequately predict the likelihood of target achievement.

**Figure 9: The range of CCG/LHB treatment target achievements for people with Type 2 and other diabetes, England and Wales, 2018-19**



\* GP practice and specialist service level information accompanies this report - [www.digital.nhs.uk/pubs/ndauditcorerep1819](http://www.digital.nhs.uk/pubs/ndauditcorerep1819)  
 Treatment target achievement forms one of the indicators in the [CCG improvement and assessment framework 2018-19](#)

# Treatment Targets: Comment

- In some CCGs/LHBs, target achievement rates are high. Statistical modelling shows that, unlike for care processes, differences in population patient demographics do NOT adequately predict the likelihood of target achievement.
- There are also high achieving individual specialist services and General Practices but, again, differences in patient demographics do not explain the variation.
- Reduced variation and improved average treatment target achievement levels (above 30 per cent in Type 1 and above 45 per cent in Type 2) would yield great health benefits\*.

## Audit Q3 Recommendations

- **Commissioners:**
  1. Support services to improve treatment target achievement rates.
  2. Support trials of new approaches for care of vulnerable groups.
- **Specialist and GP services:**
  1. Benchmark against peers using both local and national data.
    - Choose a priority for improvement.
    - Use the NDA QI guides to help analyse the problem and formulate plans.
    - Implement and test the effectiveness of improvement plans.



# National Diabetes Audit 2018-19

**Audit Question 4:  
What percentage of people  
registered with diabetes  
are offered and attend a  
structured education  
course?**

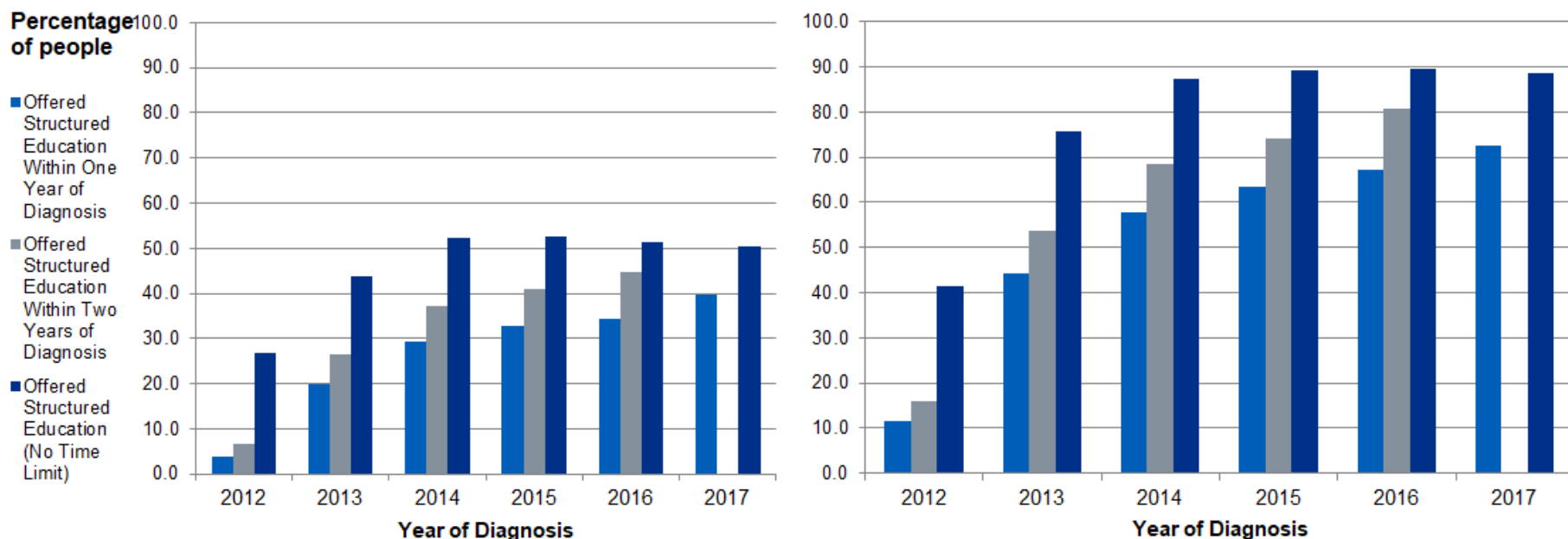


# Structured Education: Offered

**Figure 10: Percentage of people diagnosed with diabetes that were offered structured education, by year of diagnosis and diabetes type, England and Wales, 2018-19\***

**Type 1**

**Type 2 and Other**



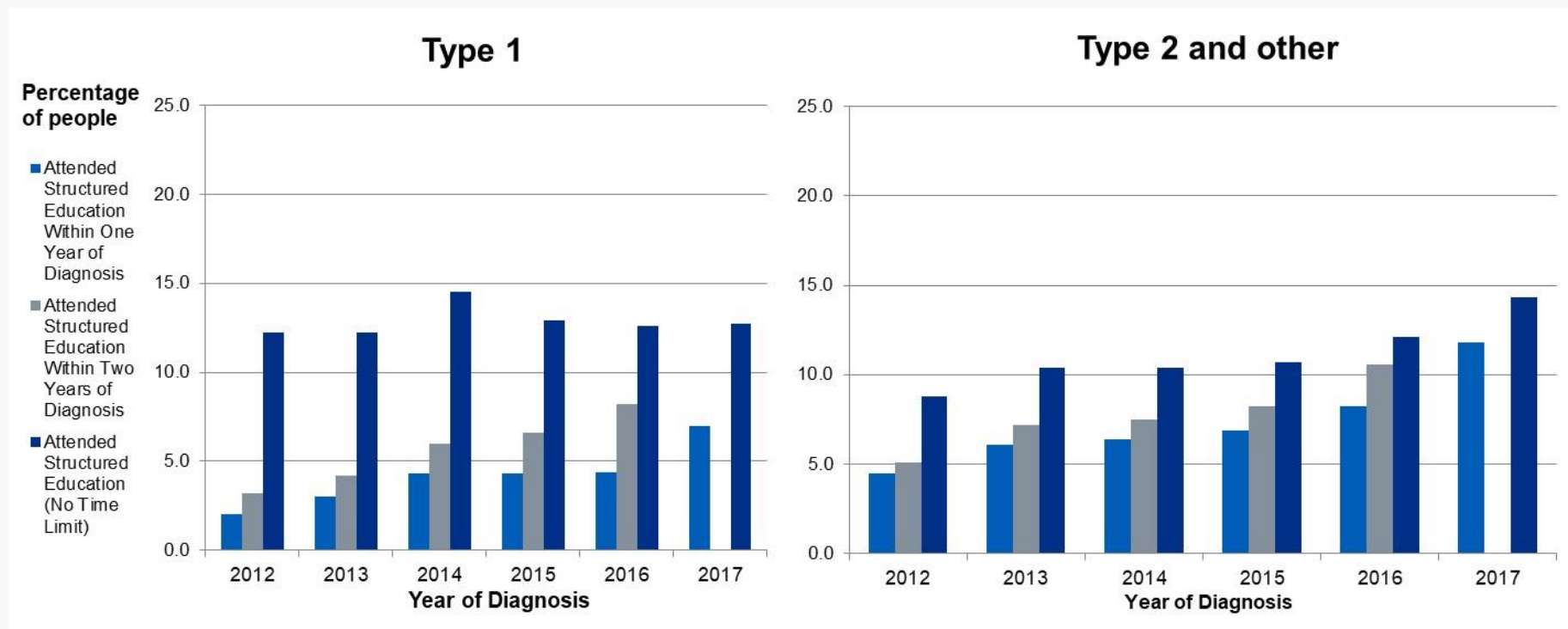
Recorded offers of structured education have remained around the same levels for the last 3-4 years. It is noted that offered dates can sometimes change between audit periods, suggesting that structured education is being re-offered if declined initially.



\* 'Offered structured education within 2 years of diagnosis' data is not reported for people diagnosed with diabetes in 2017 – this is because the 2018-19 NDA data (latest audit period) ends in March 2019, meaning that anyone diagnosed after March 2017 would not have the full 2 year opportunity to be offered structured education.

# Structured Education: Attended

**Figure 11: Percentage of people diagnosed with diabetes that have a recorded structured education programme attendance, by year of diagnosis and diabetes type, England and Wales, 2018-19\***



It is believed that poor recording means that the apparently low rates of attendance at structured education programme are an underestimation.

\* 'Attended structured education within 2 years of diagnosis' data is not reported for people diagnosed with diabetes in 2017 – this is because the 2018-19 NDA data (latest audit period) ends in March 2019, meaning that anyone diagnosed after March 2017 would not have the full 2 year opportunity to attend structured education. Attendance at structured education forms one of the indicators in the [CCG improvement and assessment framework 2018-19](#).



# Structured Education: Comment

- Structured education is highly valued by people with diabetes. Rates of ever being offered structured education, and ever attending, have changed little over the past few years, though both are increasingly occurring sooner after diagnosis.
- Diabetes is a lifelong disorder. Treatment demands, including major lifestyle adjustments, are required all day, every day.
- People with diabetes rarely spend more than two to three hours per year with a healthcare professional, and for the remaining 8,757 hours they must manage their diabetes themselves. They need the knowledge and skills to do this.

## Audit Q4 Recommendations

- Commissioners should ensure that Type 1 and Type 2 diabetes structured education programmes can be easily accessed in line with NICE guidelines.
- GPs and specialists should continue to offer their patients structured education advocating it enthusiastically and checking that attendance has occurred and is recorded in the clinical system.
- Education providers should communicate attendance at, and completion of, courses back to GPs and specialists reliably, and submit their data to the NDA.



# National Diabetes Audit 2018-19

**Definitions, footnotes,  
and additional  
information**



# Definitions

## Diabetes

Diabetes is a condition where the amount of glucose in the blood is too high because the pancreas doesn't produce enough insulin. Insulin is a hormone produced by the pancreas that allows glucose to be used as a body fuel and other nutrients to be used as building blocks. There are two main types of diabetes: Type 1 diabetes (no insulin); Type 2 diabetes (insufficient insulin).

## Urine Albumin-to-Creatinine Ratio (UACR)

UACR is a ratio between two measured substances urine albumin and urine creatinine. Unlike a urine dipstick test for albumin, UACR is unaffected by variation in urine concentration.

## Specialist Service

This is a service (often hospital based but sometimes delivered in a community setting) which includes diabetes specialists working in multidisciplinary teams. These teams usually comprise physicians (diabetologists), diabetes specialist nurses and dietitians; it may also include clinical psychologists.

## Annual Review

This is a GP appointment where the annual NICE recommended Care Processes are undertaken

## Care Processes (NICE recommends all of these at least once a year)

**Blood Pressure** is a measurement of the force driving the blood through the arteries. Blood pressure readings contain two figures, e.g. 130/80. The first is known as the systolic pressure which is produced when the heart contracts. The second is the diastolic pressure which is when the heart relaxes to refill with blood.

**BMI measurement** – Body Mass Index is calculated from weight and height and used to classify body weight as low, normal, overweight and obese.

**Serum creatinine** – this is a blood test used to measure kidney function.

**Urinary albumin** – this urine test detects the earliest stages of kidney disease.

**Cholesterol** - this blood test measures a type of fat that can damage blood vessels.

**Foot check** - this examination checks the blood supply and sensation (feeling) in the feet. Loss of either is a risk for foot disease.

**Smoking Status** - this records whether the person is a smoker. Smoking increases the diabetic risk for heart attacks and stroke.

**HbA1c** – this is a blood test for average blood glucose levels during the previous two to three months.

## Treatment Targets (NICE defines target levels to reduce risks of complications for people with diabetes)

**HbA1c** - the closer this is to normal (less than 42mmol/mol) the lower is the risk of all long term complications of diabetes.

**Cholesterol** – reducing cholesterol levels lowers the risk of heart attacks and strokes.

**Blood Pressure** – high levels are a risk for heart attacks and strokes; they also drive progression of eye and kidney disease.

**Primary prevention of CVD** – the prescription of statins for people with diabetes aged 40 to 80 years with no history of heart disease to reduce the risk of cardiovascular disease.

**Secondary prevention of CVD** – the prescription of statins for people with diabetes (any age) with a history of heart disease to reduce the risk of cardiovascular disease.

**Combined prevention of CVD** – the prescription of statins for people with diabetes that fall into either of the primary or secondary prevention groups.

### Meeting all 3 treatment targets –

**Old** – having HbA1c  $\leq 58$ mmol/mol, cholesterol  $< 5$ mmol/L and blood pressure  $\leq 140/80$ .

**New** – having HbA1c  $\leq 58$ mmol/mol, cholesterol  $< 5$ mmol/L and for people falling in the combined prevention CVD group: receiving statins.

For both measures patients under 12 years of age meeting all 3 is defined as HbA1c only.





# Footnotes and Additional Information



1. NICE recommended care processes <http://www.nice.org.uk/guidance/conditions-and-diseases/diabetes-and-other-endocrinal--nutritional-and-metabolic-conditions/diabetes>
2. National Service Framework (NSF) for Diabetes <https://www.gov.uk/government/publications/national-service-framework-diabetes>
3. NICE Clinical Guidelines – NG17: Type 1 diabetes in adults: diagnosis and management <http://www.nice.org.uk/guidance/ng17>
4. NICE Clinical Guidelines – NG28: Type 2 diabetes in adults: management <http://www.nice.org.uk/guidance/ng28>
5. NICE – Diabetes in Adults Quality Standard <http://guidance.nice.org.uk/QS6>
6. Type 2 diabetes includes people with Maturity-onset Diabetes of the Young (MODY), other and non specified diabetes type.
7. The eye screening care process is not included; therefore ‘eight care processes’ comprises of eight care processes excluding eye screening.



The following documents are available from: <http://www.digital.nhs.uk/pubs/ndauditcorerep1819>

- Supporting data in Excel
  - Supporting Information – National tables and charts
  - Interactive report, England - CCG/GP practice level
  - Interactive report, Wales - LHB level
  - Interactive report - Specialist Service (England)
  - Participation Summary
  - National Diabetes Insulin Pump Audit 2018-19, Interactive Report Specialist Service England
  - National Diabetes Insulin Pump Audit 2018-19, Interactive Report LHB Wales
  - National Diabetes Insulin Pump Audit 2018-19, Interactive Report, Supporting Information
- PowerPoint version of this report
- One page summary of the NDA 2018-19 key findings and recommendations (pdf)
- Data Quality Statement (pdf)
- Methodology Report (pdf)



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**The Healthcare Quality Improvement Partnership (HQIP)** is led by a consortium of the Academy of Medical Royal Colleges, the Royal College of Nursing, and National Voices. Its aim is to promote quality improvement in patient outcomes, and in particular, to increase the impact that clinical audit, outcome review programmes and registries have on healthcare quality in England and Wales. HQIP holds the contract to commission, manage, and develop the National Clinical Audit and Patient Outcomes Programme (NCAPOP), comprising around 40 projects covering care provided to people with a wide range of medical, surgical and mental health conditions. The programme is funded by NHS England, the Welsh Government and, with some individual projects, other devolved administrations, and crown dependencies. [www.hqip.org.uk/national-programmes](http://www.hqip.org.uk/national-programmes)



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**The National Cardiovascular Intelligence Network (NCVIN)** is a partnership of leading national cardiovascular organisations which analyses information and data and turns it into meaningful timely health intelligence for commissioners, policy makers, clinicians and health professionals to improve services and outcomes.

# National Diabetes Audit, 2018-19

## Report 1: Care Processes and Treatment Targets

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