

National Diabetes Audit, 2017-18

Report 1: Care Processes and Treatment Targets

England and Wales

13th June 2019

Full Report

Prepared in collaboration with:



The Healthcare Quality Improvement Partnership (HQIP). The National Diabetes Audit (NDA) is part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP) which is commissioned by the Healthcare Quality Improvement Partnership (HQIP) and funded by NHS England. 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, and in particular to increase the impact that clinical audit has on healthcare quality in England and Wales. HQIP holds the contract to manage and develop the NCAPOP Programme, comprising more than 30 clinical audits that cover 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 audits, also funded by the Health Department of the Scottish Government, DHSSPS Northern Ireland and the Channel Islands.



NHS Digital is the trading name for the Health and Social Care Information Centre (HSCIC). NHS Digital managed the publication of the 2016-17 annual report.



Diabetes UK is the charity leading the fight against the most devastating and fastest growing health crisis of our time, creating a world where diabetes can do no harm.

Supported by:



Public Health
England

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.

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^{1,2}.

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 November 2018.

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
<http://www.rcgp.org.uk/clinical-and-research/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>

Contents: Navigation

Chapter	Slide
Key Findings	<u>6</u>
Key Recommendations	<u>7</u>
Is everyone with diabetes diagnosed and recorded on a practice diabetes register?	<u>9</u>
• Registrations	<u>10</u>
• Participation	<u>11</u>
What percentage of people registered with diabetes received the NICE key processes of diabetes care?	<u>12</u>
• Care Processes	<u>13</u>
• Structured Education	<u>20</u>
What percentage of people registered with diabetes achieved the NICE defined treatment targets for glucose control, blood pressure and blood cholesterol?	<u>23</u>
• Treatment Targets	<u>24</u>
Cardiovascular Disease Risk Reduction	<u>34</u>
Definitions, footnotes, data sources and further reading	<u>42</u>

Home button – available on slides to return to Contents: Navigation



Key Findings

Variation

All measurements showed marked geographical and inter-service variation.

Annual Care Processes

The urine albumin care process check is completed less frequently than other checks across all types of diabetes. BMI recording and foot examination appeared to improve in 2017-18. For BMI, this is possibly due in part to the new collection of height and weight from which BMI could be calculated if it had not been recorded. For foot examination, the improvement was probably partly due to the resolution of a TPP technical issue*.

Most other care processes remain well completed, though less frequently in all people with Type 1 diabetes and in younger people with any type of diabetes.

Achievement of the Treatment Targets (HbA1c, Blood Pressure, Cholesterol)

Between 2013-14 and 2017-18, there were similar levels of three target achievement for both people with Type 1 diabetes and people with Type 2 and other diabetes.

People of working age and younger are almost half as likely to achieve treatment targets as their older counterparts.

Structured Education

Recording within primary care systems showing that structured education has been offered continues to increase but there has not yet been an increase in the recording of attendance or completion.

Cardiovascular Disease (CVD) Risk reduction

Medication records show that many eligible people are not prescribed statins especially those aged 40-60. There are also appreciable numbers with above target blood pressure who are not prescribed any antihypertensive drugs.



Key Recommendations

Develop and implement systems for GP practices that clarify who has attended patient education courses.

- **Who:** All structured education providers and all CCGs/LHBs.
- **What:** Implement systems that reliably inform General Practices about who has attended, who has completed and what to record in the care record.
- **Where/when:** At education provider locations when attendance has finished.

Reduce variation; all services and localities have some results that are significantly poorer than their peers.

- **Who:** All CCGs/LHBs, General Practices and Specialist diabetes services.
- **What:** Review care process and treatment target results; select priorities (e.g. bottom quartile results) for improvement; draw up and implement changes.
- **Where/when:** In health economy, practice and specialist service reviews.



Key Recommendations

Seek new approaches to improving management for the group with worst results i.e. people of working age and younger.

- **Who:** All General Practice & Specialist Services supported by all CCGs/LHBs.
- **What:** Design and test new approaches to providing regular review and optimising treatment for people with diabetes aged younger than 65.
- **Where/when:** In General Practices and Specialist Services, now.

People with diabetes should review these results and consider asking questions locally if their CCG/LHB, GP or specialist service appears to be performing poorly.

- **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 2017-18

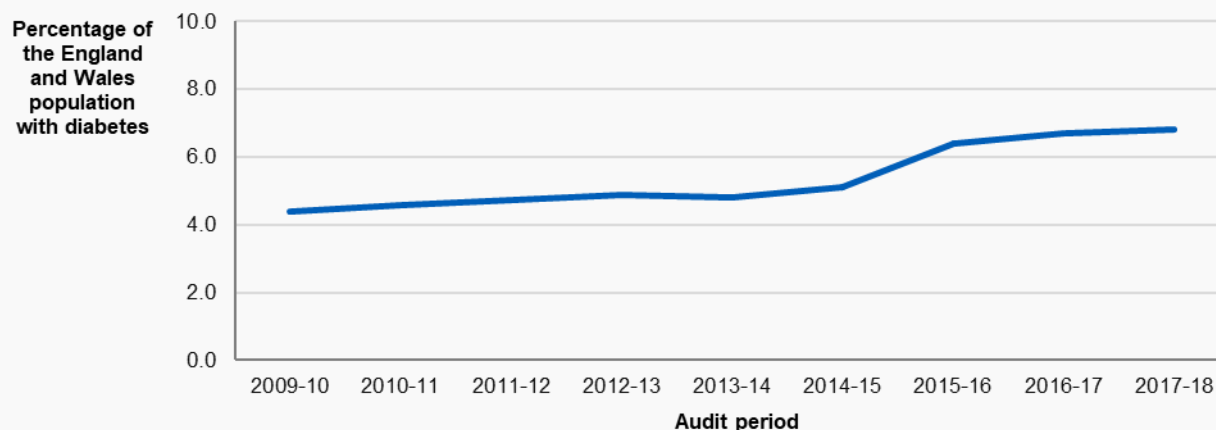
Is everyone with diabetes diagnosed and recorded on a practice diabetes register?



Registrations

Table 1: Diabetes registrations and prevalence for all diabetes by source, England and Wales, 2017-18

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
2017-18	3,398,470	6.8%	3,355,100	43,370



The prevalence of diabetes has generally increased year on year since 2009-10 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 diagnosed and undiagnosed people with diabetes aged 16 and over in England and can be found here: www.yhpho.org.uk/resource/view.aspx?RID=154049

* 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 increased in 2017-18 to 98.3 per cent in England and Wales.

GP practice participation was 90 per cent and over in the vast majority of CCGs and LHBs (193 of 202). Participation was less than 80 per cent in only one CCG (78 per cent).

101 specialist services participated in 2017-18 in England*.

- 63 services submitted both the NDA core dataset and the insulin pump dataset
- 13 services submitted only the insulin pump dataset
- 25 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 2017-18 by CCG and LHB please see the [participation summary](#).



National Diabetes Audit 2017-18

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^{1,2} and attend a structured education programme shortly after diagnosis.

Nine Annual Care Processes for all people with diabetes aged 12 and over

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

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

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

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



Care Processes – Time Series



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, smoking and foot examination recording appeared to improve in 2017-18. Contributory factors may be: for BMI a new weight was accepted if there was a height from which BMI could be calculated; smoking categories have been aligned with the Quality and Outcomes Framework (QOF); a technical issue for one GP system supplier was resolved for foot examination record extraction.

Table 2: Percentage of people with diabetes receiving NICE recommended care processes by care process, diabetes type and audit year, England and Wales

	Type 1						Type 2 and other ³					
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
HbA1c	79.8	80.9	83.2	83.7	84.3	84.8	93.1	93.5	94.8	95.0	95.1	95.2
Blood pressure	87.7	87.0	89.0	89.1	90.3	90.6	95.4	94.9	96.1	95.7	96.2	96.2
Cholesterol	77.3	77.4	78.7	79.1	79.9	80.2	91.9	92.4	92.8	92.7	92.7	92.5
Serum creatinine	80.3	78.8	80.5	81.5	82.7	82.9	93.2	93.4	94.5	94.7	95.0	94.9
Urine albumin*	56.5	63.9	55.9	50.2	50.1	51.3	74.7	84.4	74.6	66.7	65.2	65.6
Foot surveillance**	71.5	70.7	72.4	72.9	69.5	74.1	85.8	86.2	86.7	86.7	79.4	86.1
BMI	83.3	76.8	74.9	75.2	75.3	81.7	90.9	85.7	83.1	82.7	83.1	87.5
Smoking***	79.2	77.4	77.9	78.5	79.2	90.0	86.3	85.5	85.2	85.2	85.5	95.3
Eight care processes⁴	40.8	44.5	38.7	36.5	33.7	41.9	61.2	67.6	58.7	53.7	47.6	58.0

3,4. 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

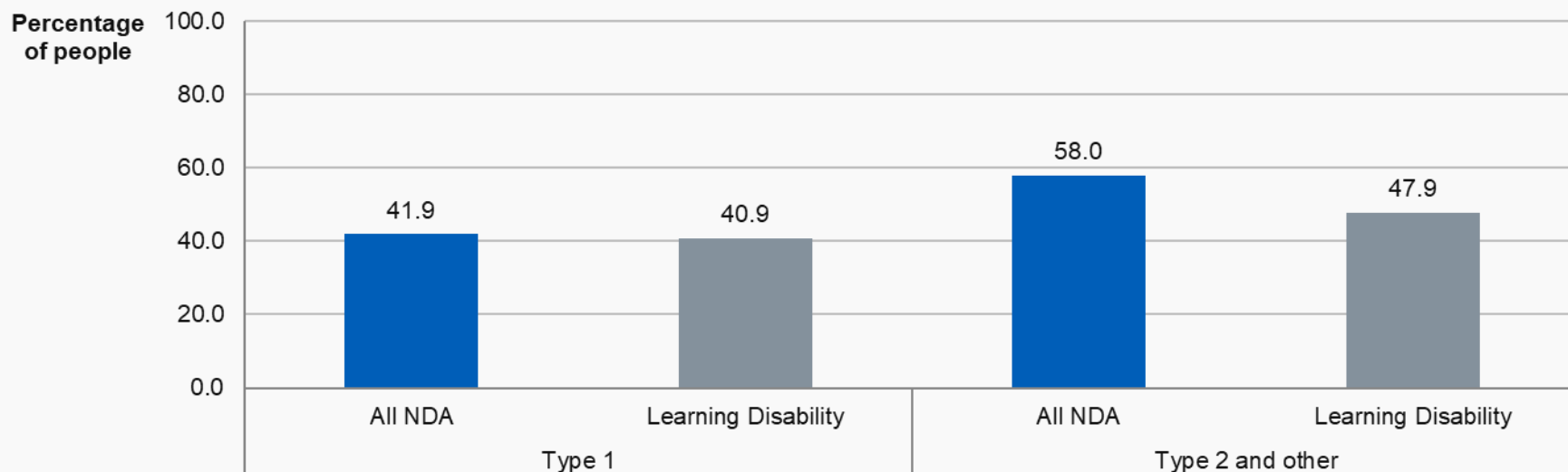
*** The NDA smoking status care process methodology changed in 2017-18 to align with the [Quality and Outcomes Framework](#); please see the [NDA Methodology Report](#)



Care Processes – Learning Disability

Compared to the general diabetes population, people with a learning disability who have Type 1 diabetes receive a similar level of care checks. However, those who have Type 2 and other diabetes are less likely to receive them.

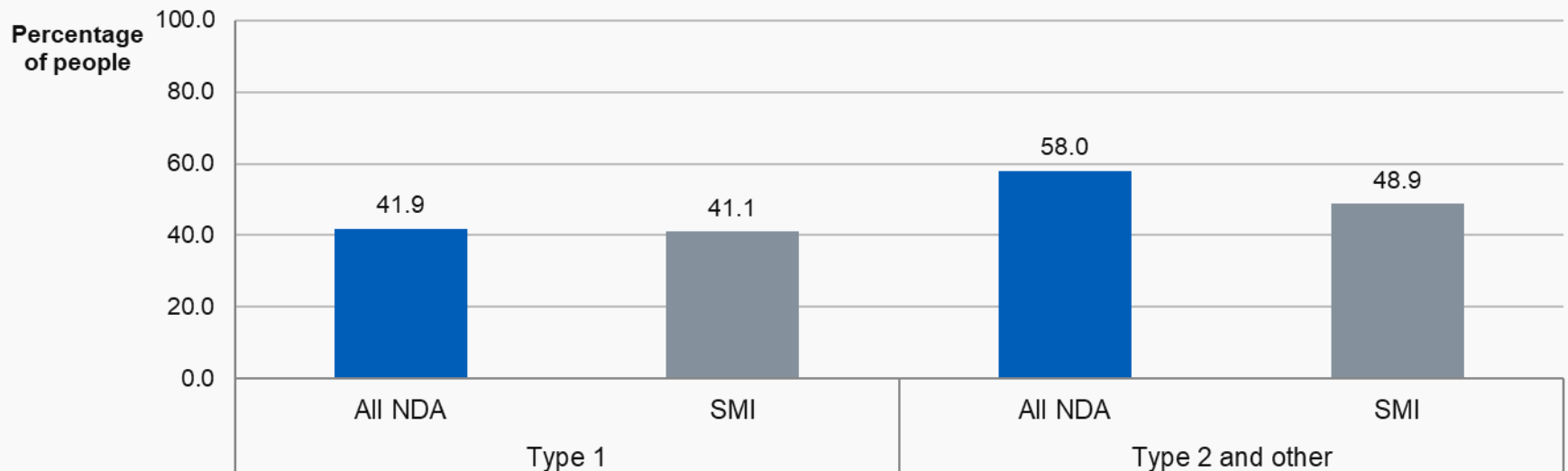
Figure 1: Percentage of people with diabetes receiving all eight NICE recommended care processes⁴ by diabetes type and learning disability diagnosis, standardised by age and sex, England and Wales, 2017-18



Care Processes – Severe Mental Illness

Compared to the general diabetes population, people with a severe mental illness who have Type 1 diabetes receive a similar level of care checks. However, those who have Type 2 and other diabetes are less likely to receive them.

Figure 2: Percentage of people with diabetes receiving all eight NICE recommended care processes⁴ by diabetes type and SMI diagnosis, England and Wales, 2017-18



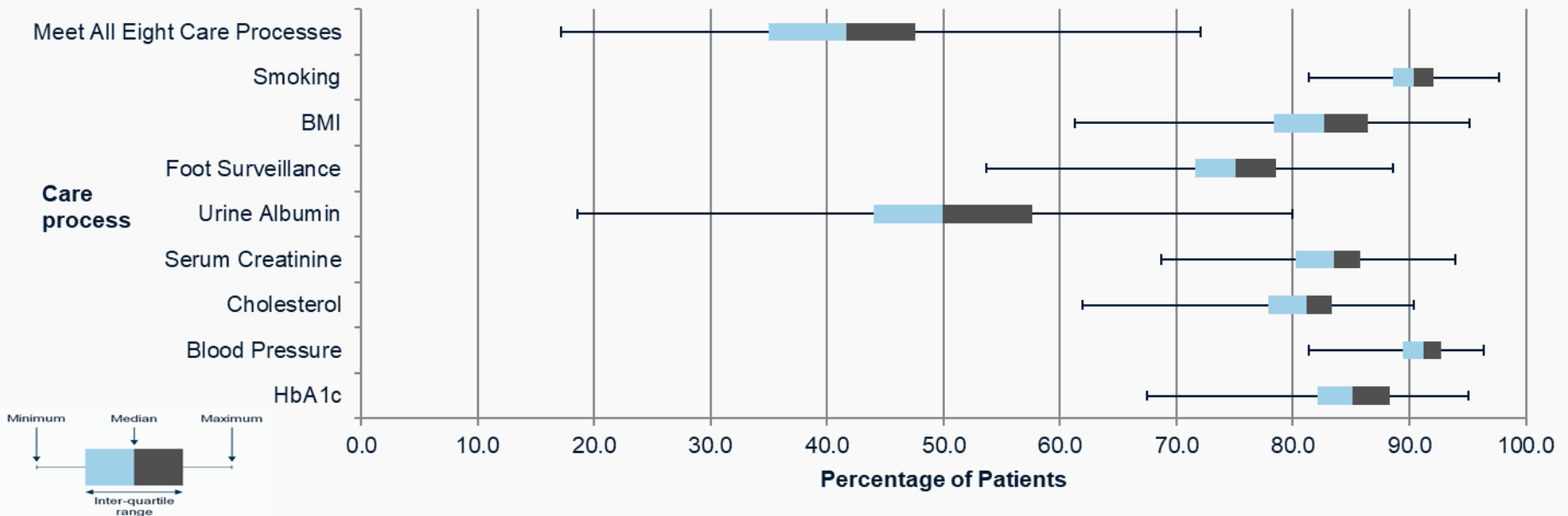
Care Processes - Locality Variation, Type 1

Marked variation across CCGs and LHBs.

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, 2017-18**



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

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



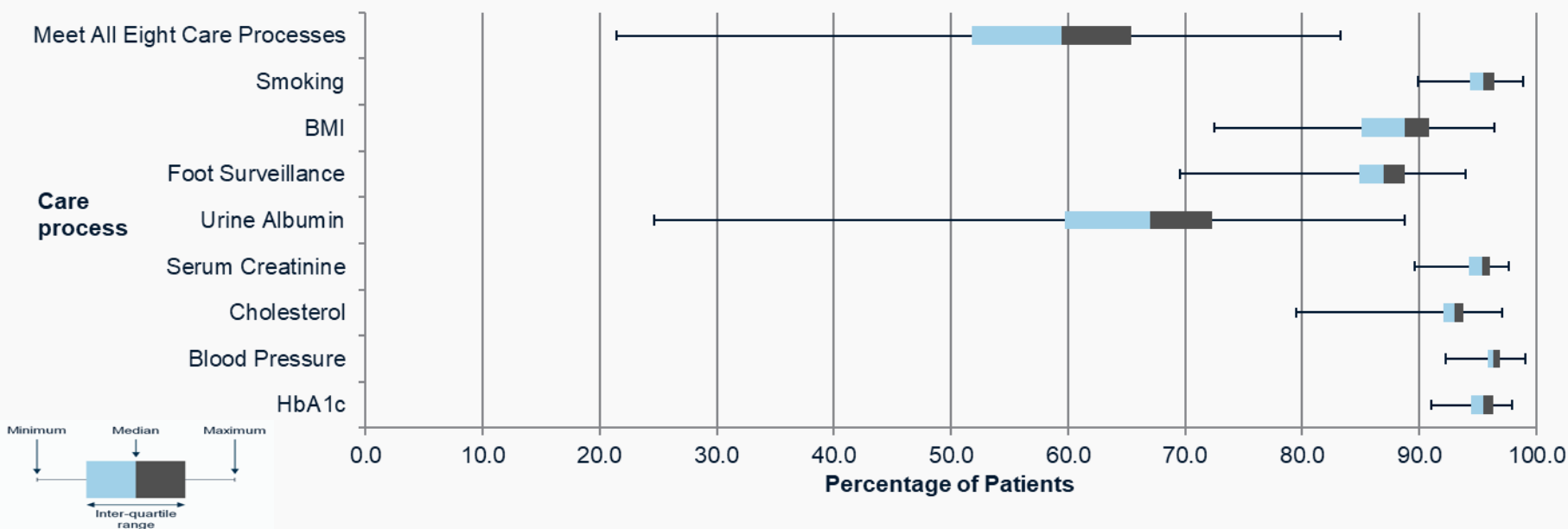
Care Processes - Locality Variation, Type 2

Marked variation across CCGs and LHBs.

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, 2017-18**



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

** Care processes are presented with case-mix adjusted bandings and show whether a service is achieving 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 – Comment

The annual review¹ is the essential foundation for all effective diabetes care in both GP and specialist services.

There are many opportunities for improvement, notably in:

- Services in the bottom quartiles.
- Services for young people*.
- Services for people with Type 1 diabetes.
- Services for people with LD / SMI who have Type 2 or other diabetes.

Recommendations

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

* In previous national publications, the NDA drew attention to the fact that younger people with diabetes are less likely to receive their annual care process checks and achieve treatment targets than their older counterparts. This continued to be the case in 2017-18. The data for this specific finding is published in NDA supporting information and can be found [here](#).

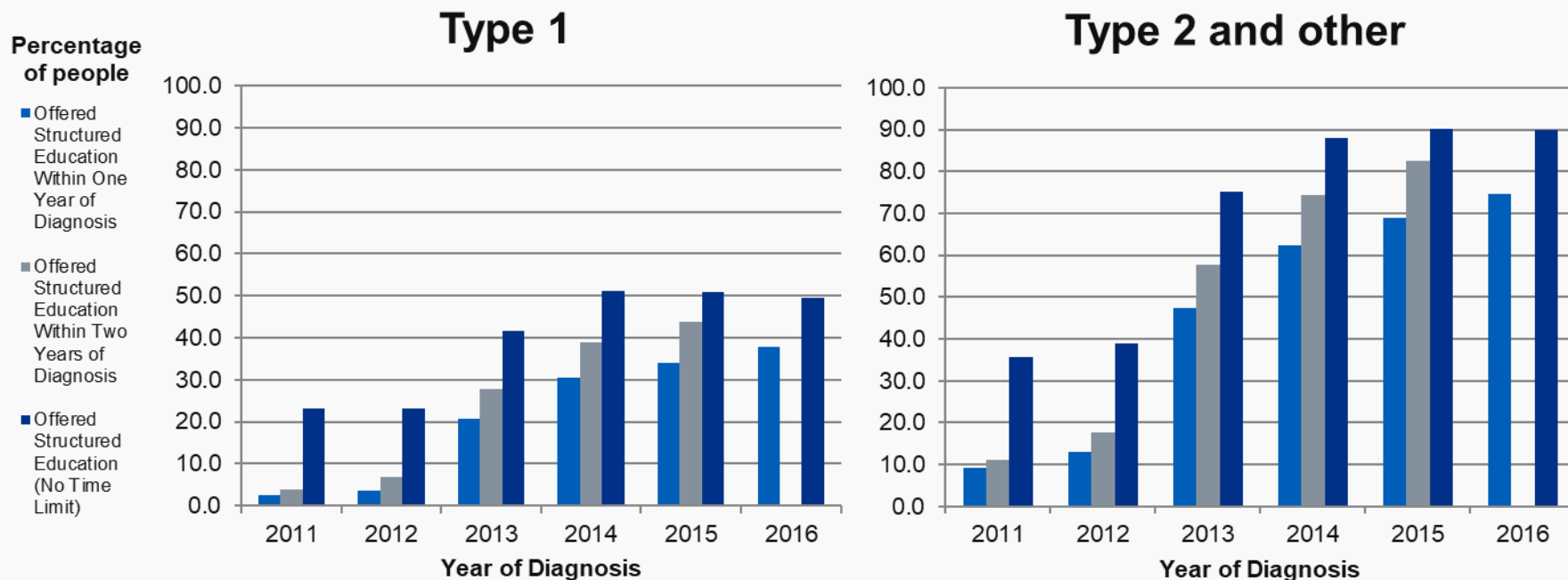
1. Please see full list of footnotes in the definitions and footnote section



Structured Education - Offered

Recorded offers of structured education have remained around the same levels for the last 2-3 years. It is noted that offered dates can sometimes change between audit periods, suggesting that structured education is being re-offered if declined initially.

Figure 5: Percentage of people diagnosed with diabetes that were offered structured education, by year of diagnosis and diabetes type, England and Wales, 2017-18*

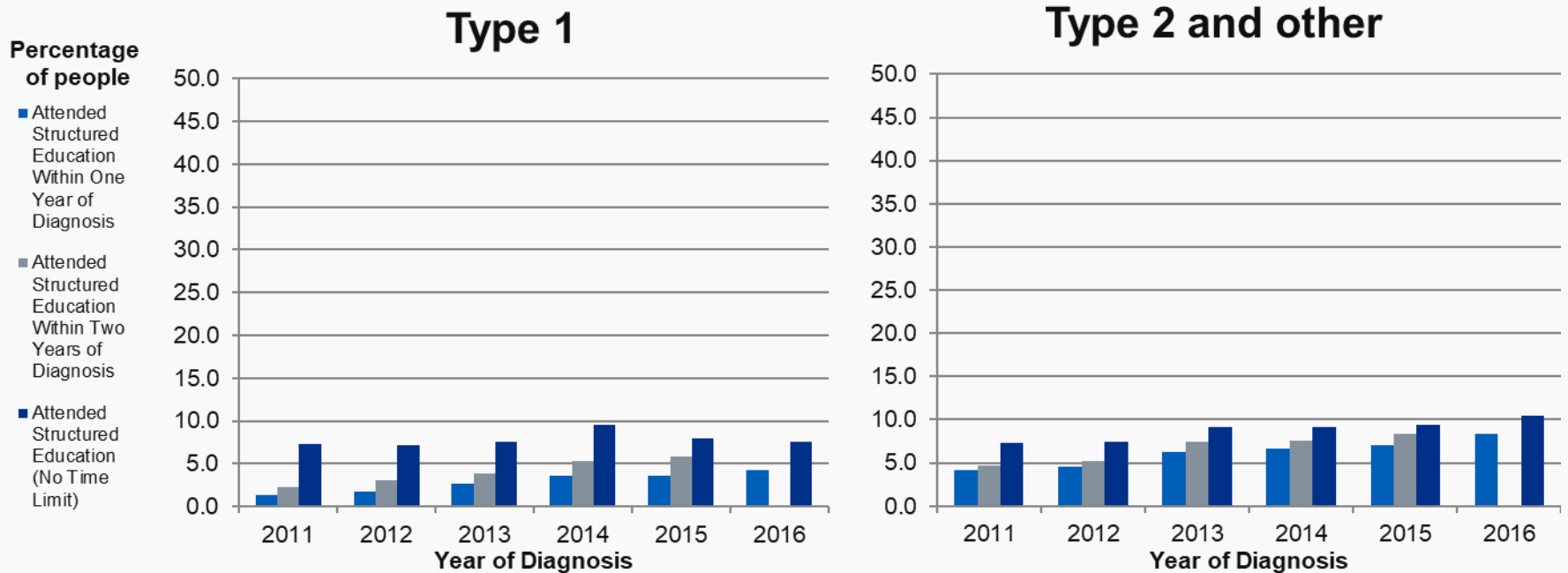


* 'Offered structured education within 2 years of diagnosis' data is not reported for people diagnosed with diabetes in 2016 – this is because the 2017-18 NDA data (latest audit period) ends in March 2018, meaning that anyone diagnosed after March 2016 would not have the full 2 year opportunity to be offered structured education.

Structured Education - Attended

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

Figure 6: Percentage of people diagnosed with diabetes that have a recorded structured education programme attendance, by year of diagnosis and diabetes type, England and Wales, 2017-18*



* 'Attended structured education within 2 years of diagnosis' data is not reported for people diagnosed with diabetes in 2016 – this is because the 2017-18 NDA data (latest audit period) ends in March 2018, meaning that anyone diagnosed after March 2016 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 2016/17](#).



Structured Education - Comment

The NHS sometimes seems to underestimate, or undervalue, the provision of structured education for people with diabetes.

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.

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.



National Diabetes Audit 2017-18

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



Type 1 diabetes

- Similar levels of three target achievement between 2013-14 and 2017-18.
- Much lower HbA1c target achievement rate than for people with Type 2 diabetes.
- Lower rates of statins prescribed for primary CVD risk reduction than for people with Type 2 diabetes, despite greater CVD risk.

Type 2 and other diabetes

- Similar levels of three target achievement between 2013-14 and 2017-18.
- More than 1 in 4 people not prescribed statins for primary CVD risk reduction.

Table 3: Percentage of people with diabetes achieving their treatment targets by diabetes type and audit year, England and Wales, 2017-18

	Type 1						Type 2 and other ³					
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
HbA1 _c ≤ 58 mmol/mol	27.2	29.4	29.9	29.2	30.2	29.9	64.9	66.8	66.1	65.7	66.8	65.8
Blood pressure ≤ 140/80*	73.4	76.4	76.4	74.2	75.8	74.8	68.6	73.6	74.2	73.6	74.2	73.8
Cholesterol < 5mmol/L	70.2	71.5	71.3	70.8	69.3	70.3	76.7	77.8	77.5	77.1	76.0	76.6
Meeting all three treatment targets OLD	16.1	18.6	18.9	18.1	18.9	18.6	37.3	41.4	41.0	40.2	40.8	40.1
Statins for Primary Prevention of CVD	-	-	-	-	-	65.4	-	-	-	-	-	72.2
Statins for Secondary Prevention of CVD	-	-	-	-	-	85.3	-	-	-	-	-	86.7
Statins for Combined Prevention of CVD	-	-	-	-	-	68.9	-	-	-	-	-	76.1
Meeting all three treatment targets NEW*	-	-	-	-	-	17.1	-	-	-	-	-	39.5

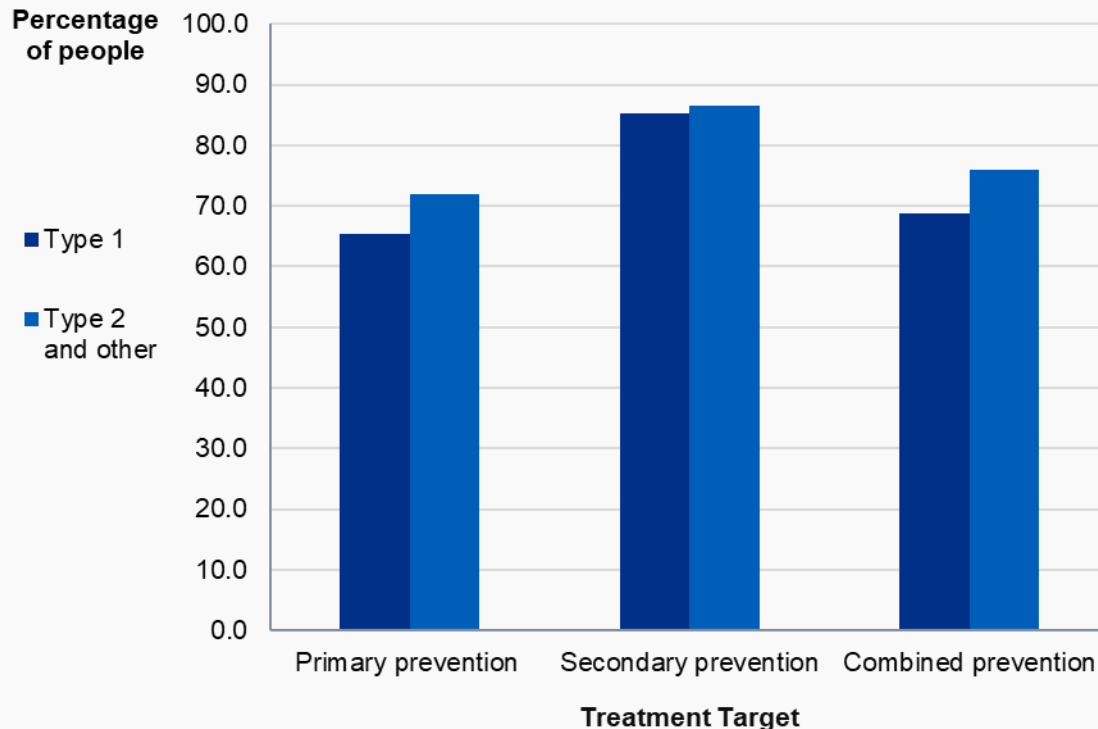
* All Three Treatment Targets NEW – HbA1c, Blood Pressure and Statins for Combined Prevention of CVD
3,4. Please see full list of footnotes in the definitions and footnote section



Treatment Targets – CVD Risk Reduction

In its 2015-16 guidance, NICE moved from serum cholesterol treatment targets to use of statins (above age 40 for Type 1 and CVD risk (QRisk2) related for Type 2). Because NDA cannot calculate QRisk2, and taking account of opinion and evidence about over-treating the elderly, the NDA Advisory Group decided to use one set of standards as shown below.

Figure 7: Percentage of people with diabetes prescribed statins* for CVD risk reduction in England, by diabetes type and CVD status, England and Wales, 2017-18



- Primary prevention of CVD: The percentage of people with diabetes aged 40 to 80 years with no history of heart disease** that received statins during the audit period.
- Secondary prevention of CVD: The percentage of people with diabetes (any age) with a history of heart disease that received statins during the audit period.
- Combined prevention of CVD: The percentage of people with diabetes that fall into either of the primary or secondary prevention groups that received statins during the audit period.

* A person can be prescribed statins at any point during the 2017-18 NDA audit period, for any length of time.

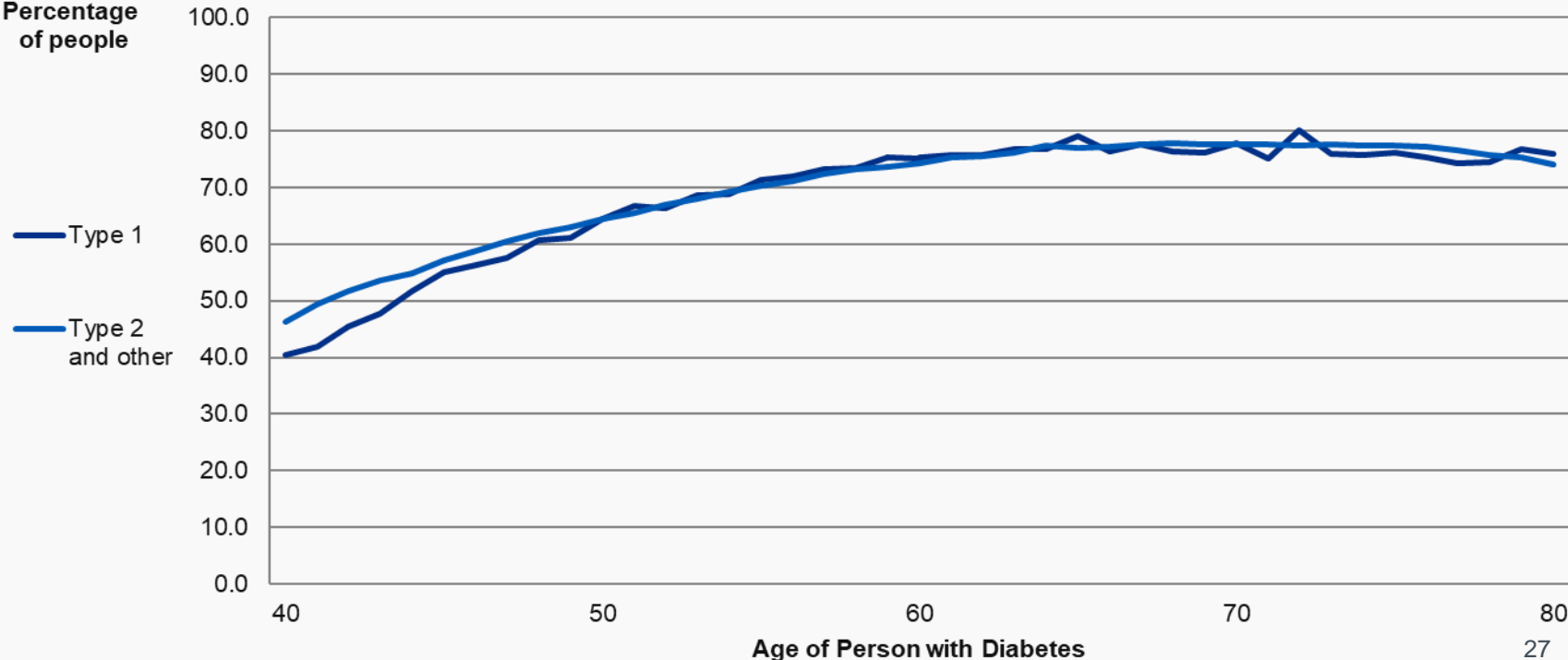
** 'History of heart disease' is classified as having ischaemic heart disease recorded in the person's primary care record or an admission to hospital in the last ten years with heart failure, stroke, myocardial infarction or angina.



Treatment Targets – Primary Prevention, by Age

Statin prescriptions for primary prevention of CVD are lower in people with both Type 1 and Type 2 or other diabetes under the age of 60 years. Younger people live longest with their diabetes and have the highest relative risk of CVD when compared to their age related non-diabetic peers.

Figure 8: Percentage of all people with diabetes prescribed statins* for primary prevention of CVD, by diabetes type, England and Wales, 2017-18



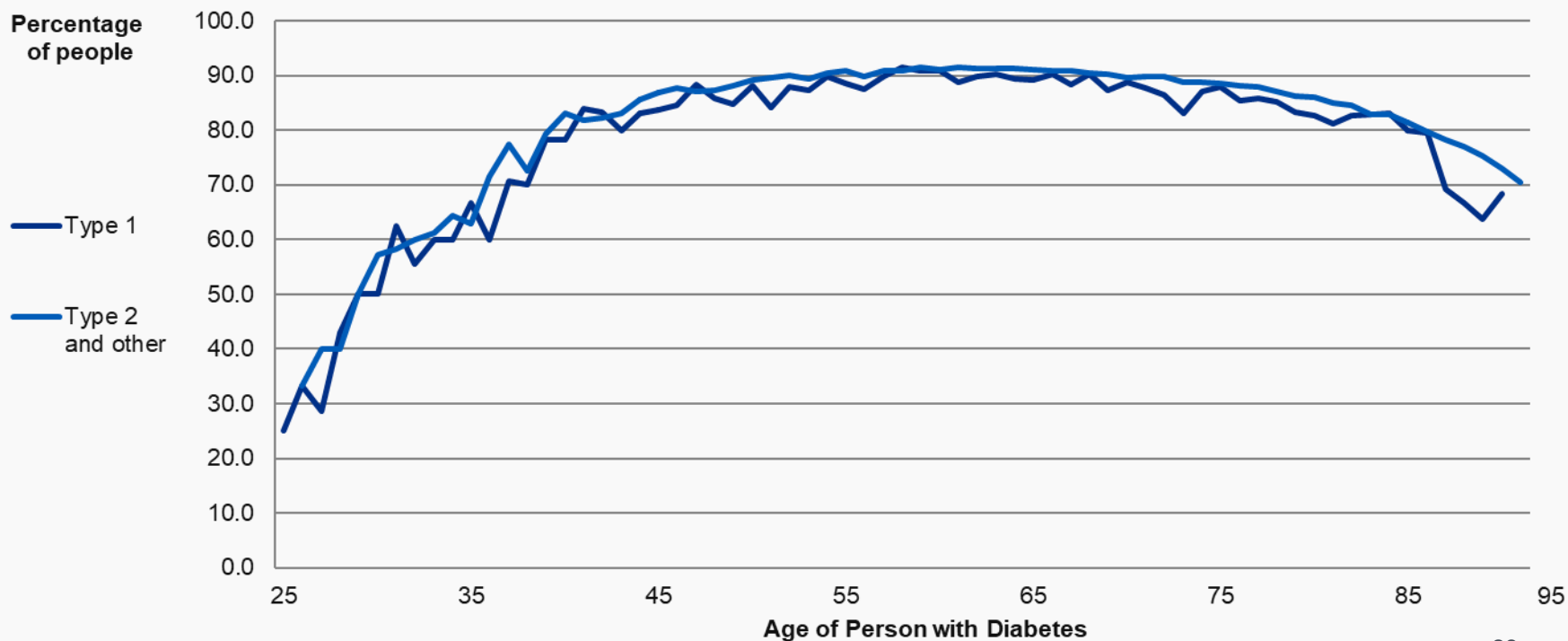
* A person can be prescribed statins at any point during the 2017-18 NDA audit period, for any length of time.



Treatment Targets – Secondary Prevention, by Age

Statin prescriptions for secondary prevention of CVD are much lower in people with both Type 1 and Type 2 or other diabetes under the age of 40 years and somewhat lower in the 40-50 year age group.

Figure 9: Percentage of all people with diabetes prescribed statins* for secondary prevention of CVD, by diabetes type, England and Wales, 2017-18

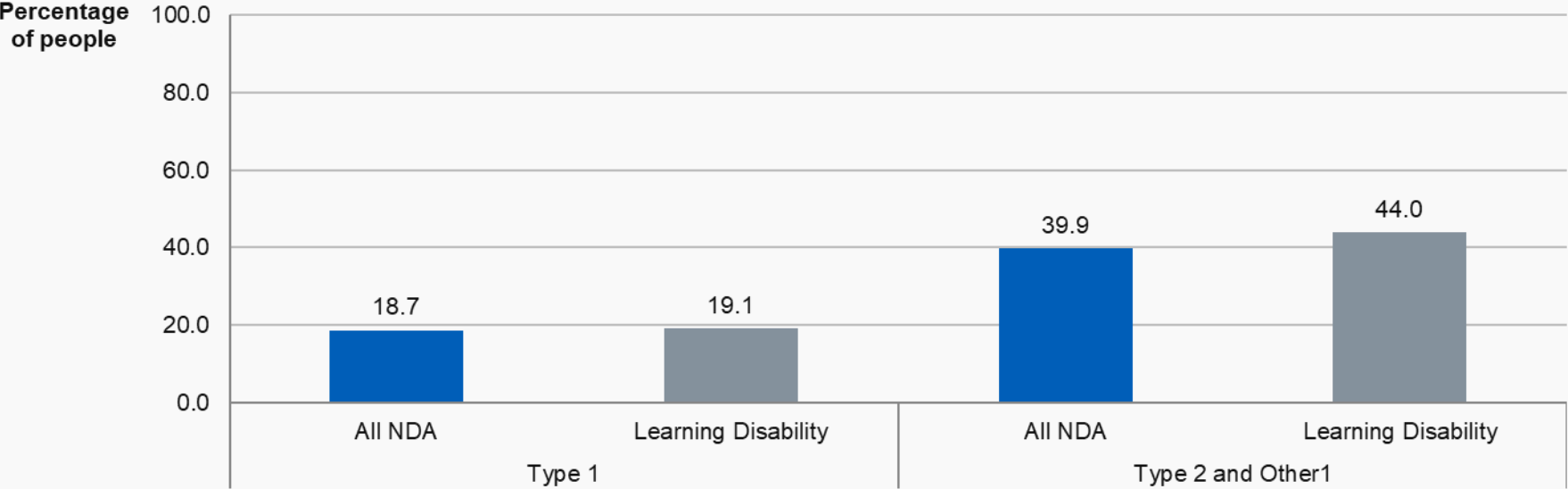


* A person can be prescribed statins at any point during the 2017-18 NDA audit period, for any length of time.

Treatment Targets – Learning Disability

People with a learning disability who have diabetes are more likely to achieve all three of their treatment targets (NEW*) compared to their diabetic peers, particularly those with Type 2 and other diabetes.

Figure 10: 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, 2017-18

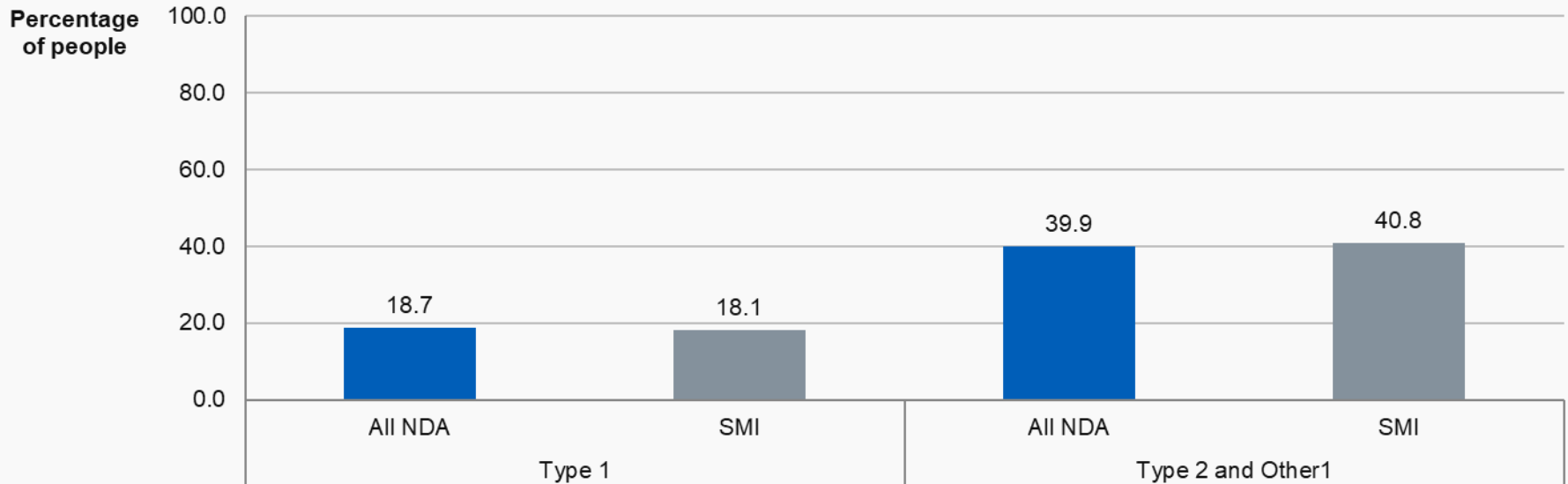


* All Three Treatment Targets NEW – HbA1c, Blood Pressure and Statins for All Prevention

Treatment Targets – Severe Mental Illness

There is no appreciable difference in treatment target achievement (NEW*) between people with diabetes who have a SMI and those who do not.

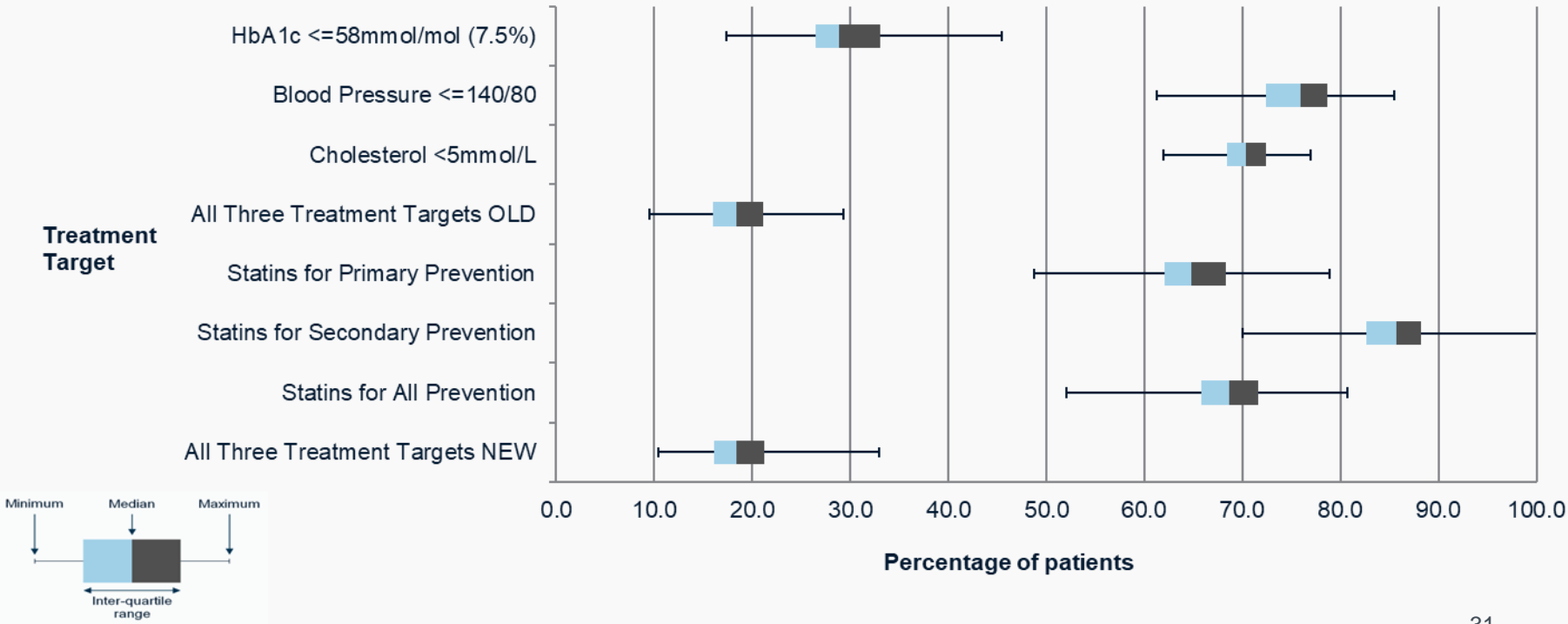
Figure 11: Percentage of people with diabetes achieving their treatment targets NEW*, by diabetes type and SMI diagnosis, England and Wales, 2017-18



Treatment Targets - Locality Variation, Type 1

Marked variation across CCGs and LHBs.
 Similar variation between specialist services (see service level reports*).
 The variation is not associated with patient demographics.

Figure 12: The range of CCG/LHB treatment target achievement for people with Type 1 diabetes, England and Wales, 2017-18



* GP practice and specialist service level information accompanies this report and can be found [here](#).
 Treatment target achievement forms one of the indicators in the [CCG improvement and assessment framework 2017/18](#).

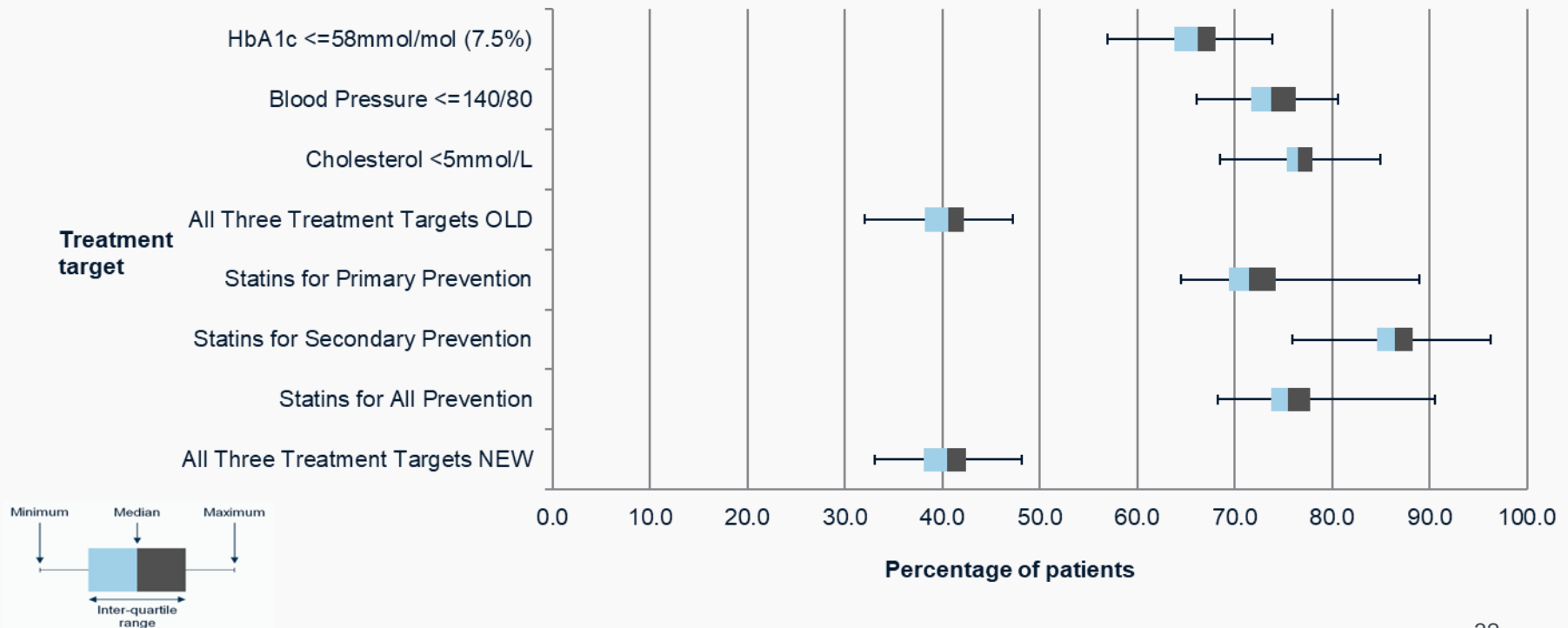
Treatment Targets - Locality Variation, Type 2

Marked variation across CCGs and LHBs.

Similar variation between General Practices (see service level reports*).

The variation is not associated with patient demographics.

Figure 13: The range of CCG/LHB treatment target achievements for people with Type 2 and other diabetes, England and Wales, 2017-18



* GP practice and specialist service level information accompanies this report and can be found [here](#).
Treatment target achievement forms one of the indicators in the [CCG Improvement and Assessment Framework 2017/18](#).

Treatment Targets – Comment

- Target achievement differences between CCGs/LHBs are substantial. Statistical modelling shows that, unlike for care processes, differences in patient demographics do NOT explain any of this variation.
- Differences between individual specialist services and between different general practices are also substantial and again the differences in patient demographics do not explain the extent of the variation.
- Younger people continue to be least likely to achieve treatment targets.
- Changes that reduced variation and improved average treatment target achievement levels, especially among younger people, would yield great health benefits.

Recommendations

- **Commissioners:**
 - Support services that are in the bottom quartile of outcome achievement.
 - Support trials of new approaches for care of younger people.
- **Specialist and GP services:**
 - 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 2017-18

Cardiovascular Disease Risk Reduction



CVD Risk and Diabetes

The risk of all common cardiovascular diseases is substantially increased by diabetes.

The NDA 2015-16, Complications and Mortality Report* showed that in 2014-15 the additional risks of cardiovascular complications for people with diabetes were:

- Type 1 diabetes
 - Heart failure 360%; myocardial infarction 330%; stroke 240%
- Type 2 diabetes
 - Heart failure 170%; myocardial infarction 140%; stroke 100%

Cardiovascular risk factors can be reduced. This report illustrates the successes and failures of overall primary CVD prevention (blood pressure control, statin use, weight management and smoking cessation) and its geographical variation. The amount of variation suggests that there are appreciable opportunities further to reduce the excess cardiovascular disease in people with diabetes.

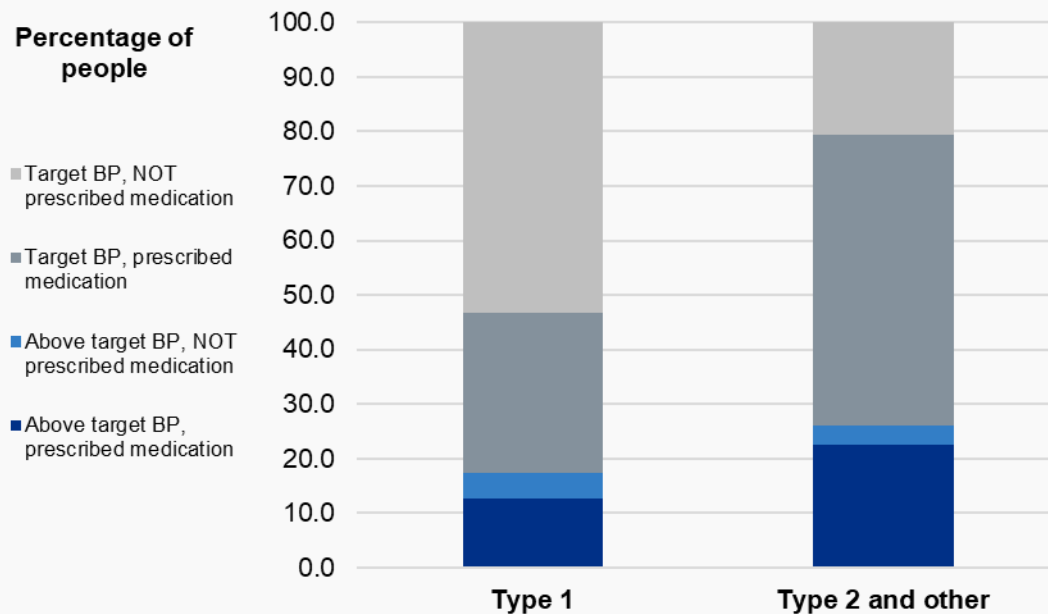


CVD Risk - Blood Pressure and Medication

Drug data is now collected within the NDA. It is therefore possible to explore whether antihypertensive medication is being prescribed to all those who could benefit.

Figure X shows the percentage of people with blood pressure within target (systolic ≤ 140) or above target who are prescribed antihypertensive drugs.

Figure 14: Percentage of people with blood pressure on or above target who are prescribed antihypertensive medication, by diabetes type, England and Wales, 2017-18*



Of people with Type 1 diabetes, around 11,000 have above target blood pressure but are not being prescribed medication.

Of people with Type 2 and other diabetes, around 108,000 fall into the same category.



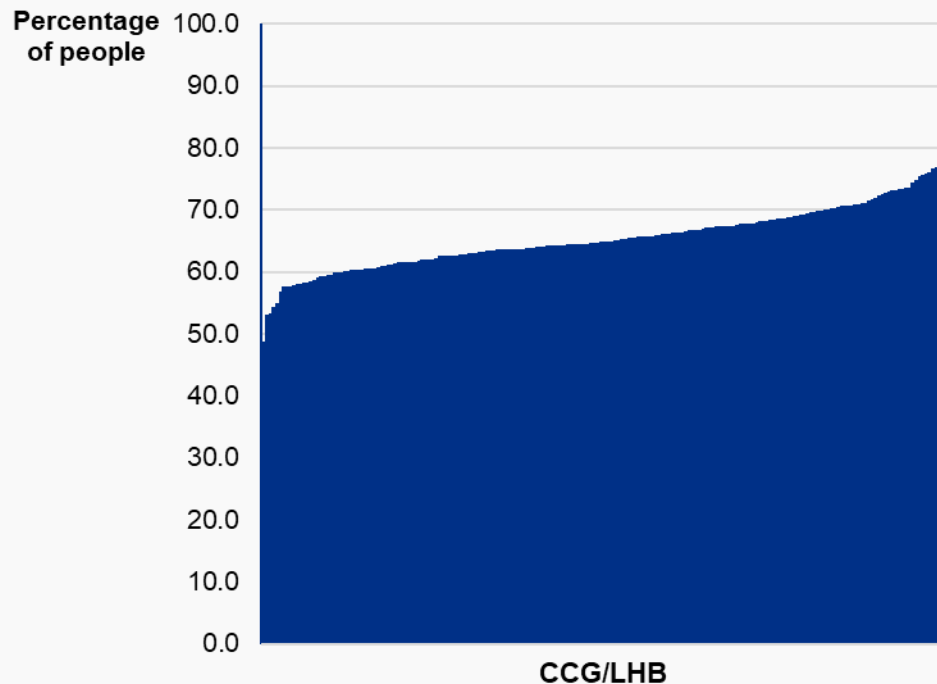
CVD Risk - Variation in Statin Prescribing for Primary Prevention

There is considerable geographic variation in the frequency of statin prescribing for primary prevention of CVD.

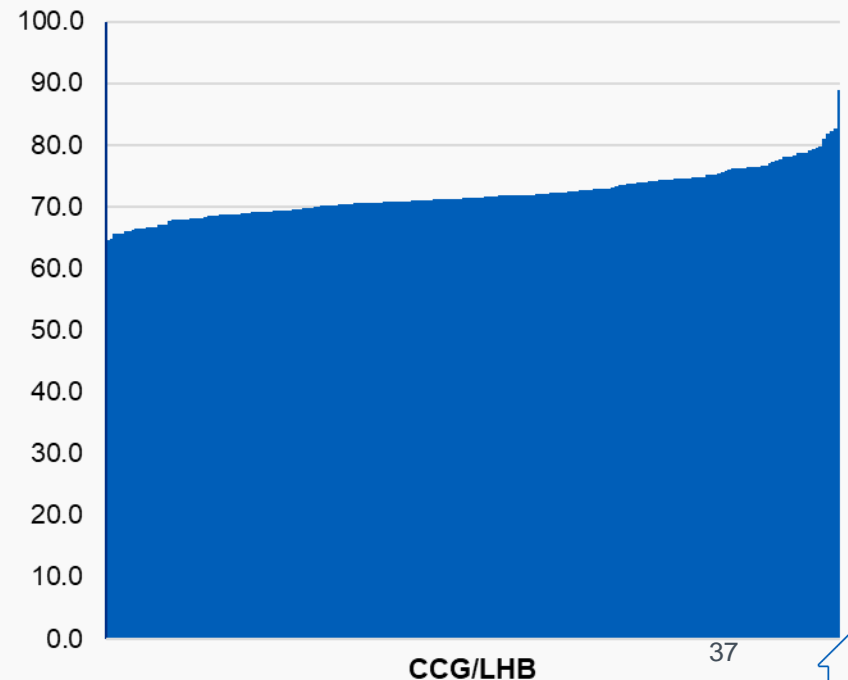
- For Type 1, it ranges from under 60% in some areas to 80% in others.
- For Type 2 and other, it ranges from 65% to over 80%.

Figure 15: Percentage of people with diabetes prescribed statins for primary prevention of CVD, by diabetes type and CCG/LHB, England and Wales, 2017-18

Type 1



Type 2 and other

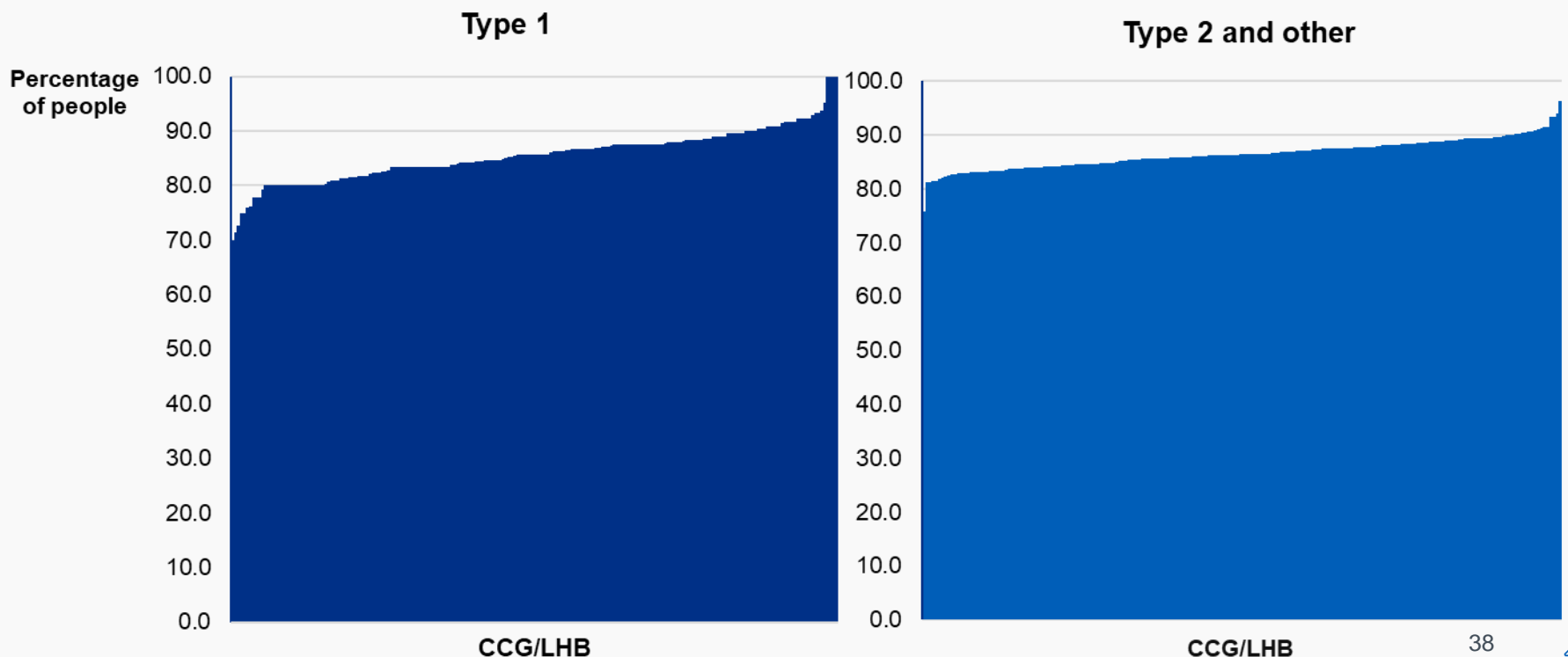


CVD Risk - Variation in Statin Prescribing for Secondary Prevention

There is considerable geographic variation in the frequency of statin prescribing for secondary prevention of CVD.

- For Type 1, it ranges from 70% in some areas up to 100% in others.
- For Type 2 and other, it ranges from around 80% to over 90%.

Figure 16: Percentage of people with diabetes prescribed statins for secondary prevention of CVD, by diabetes type and CCG/LHB, England and Wales, 2017-18

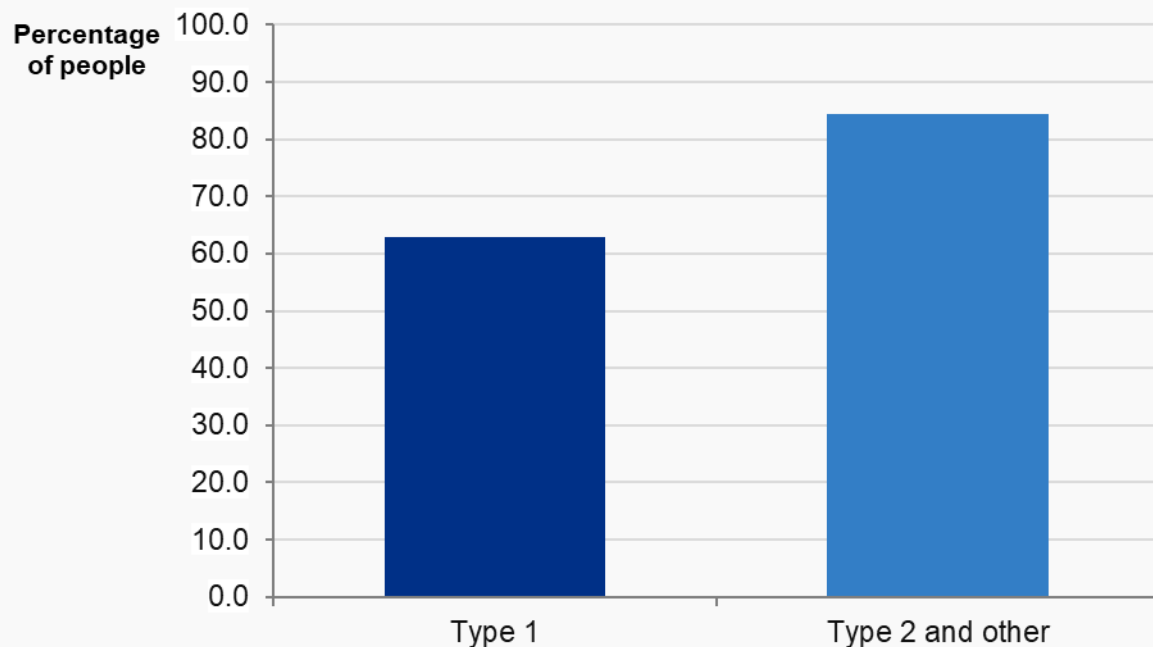


CVD Risk – Diabetes and Overweight/Obesity

In people with Type 1 diabetes, the prevalence of overweight and obesity is similar to that of all people in England as a whole.

However, for people with Type 2 diabetes, overweight and obesity are more common than in England as a whole.

Figure 17: The percentage of people with diabetes who are overweight or obese, by diabetes type, England and Wales, 2017-18



The Health Survey for England 2017* reported that 64 per cent of people in England were overweight or obese.

The National Survey for Wales 2017-18** reported that 60 per cent of people in Wales were overweight or obese.



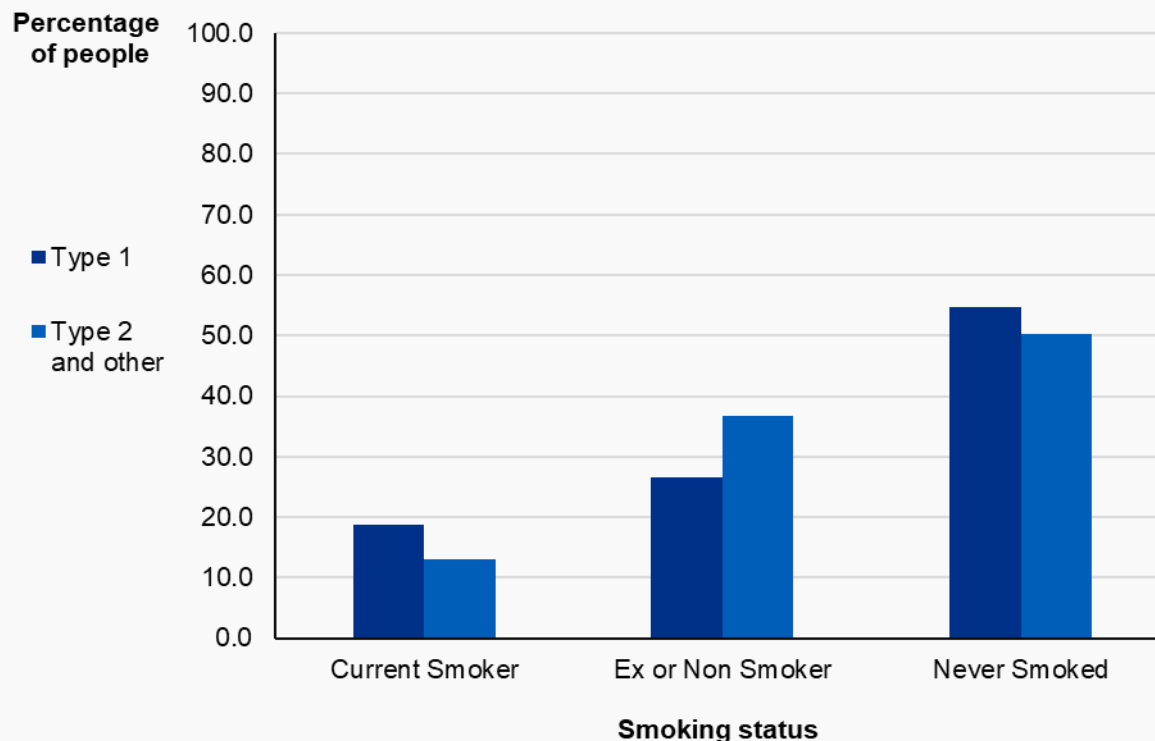
* <https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2017>

** <https://gov.wales/docs/statistics/2018/180627-national-survey-2017-18-population-health-lifestyle-en.pdf>

CVD Risk – Diabetes and Smoking Status

In people with Type 1 diabetes, the prevalence of smoking is similar to that in English adults but in those with Type 2 and other diabetes it is lower.

Figure 18: The percentage of people aged 16 years and over with diabetes, by smoking status* and diabetes type, England and Wales, 2017-18



In the Health Survey for England 2017*, 17 per cent of people aged 16 and over in England self-reported as current smokers.

In the National Survey for Wales 2017-18**, the equivalent figure is 19 per cent.



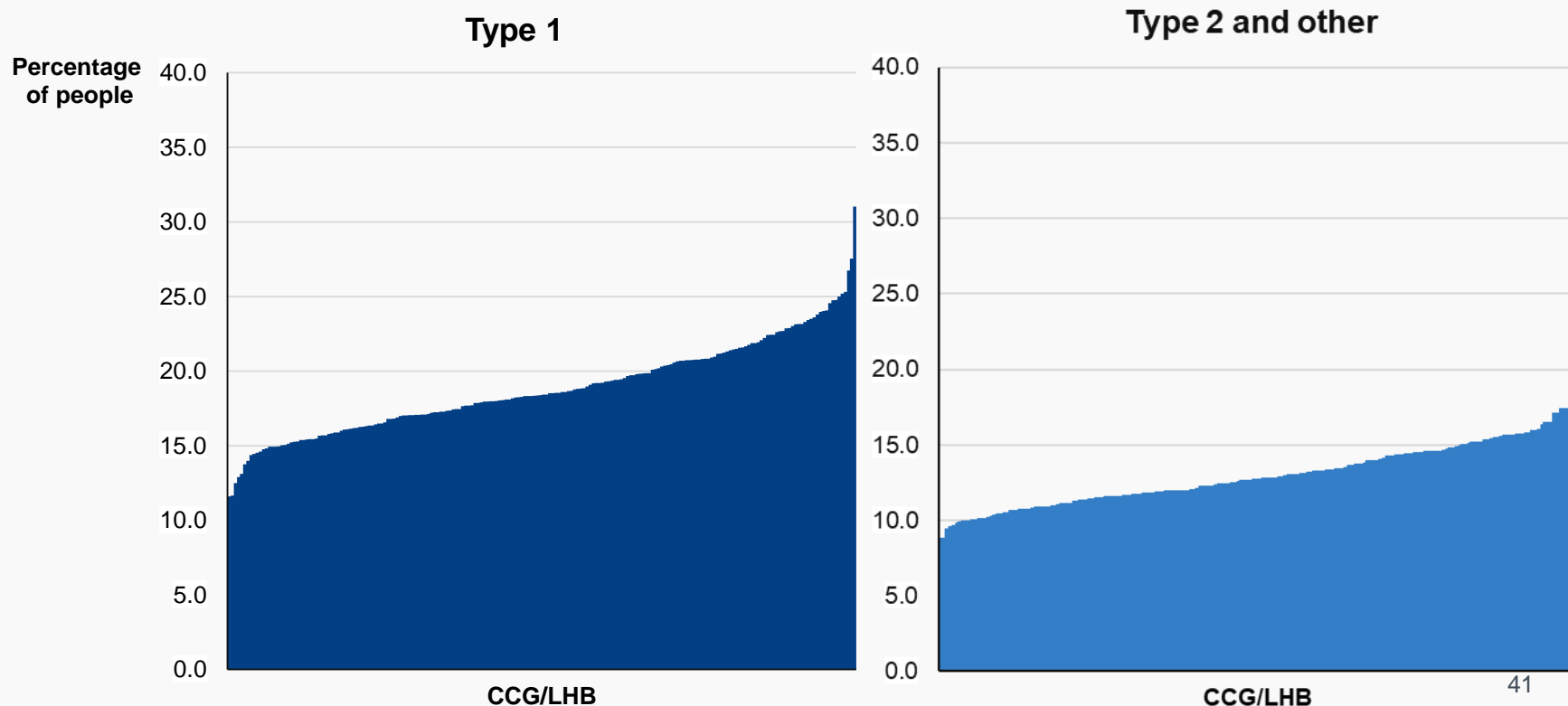
* <https://digital.nhs.uk/data-and-information/publications/statistical/health-survey-for-england/2017>

** <https://gov.wales/docs/statistics/2018/180627-national-survey-2017-18-population-health-lifestyle-en.pdf>

CVD Risk – Variation in smoking status

Current smoking rates vary across CCGs and LHBs to a greater extent in people with Type 1 diabetes than in people with Type 2 and other diabetes.

Figure 19: The percentage of people with diabetes who are current smokers, by diabetes type and CCG/LHB, England and Wales, 2017-18



National Diabetes Audit 2017-18

**Definitions, footnotes,
data sources and
further reading**



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).

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 calculated from weight and height to classify under, normal, overweight and obese.

Serum creatinine – this blood test is used as 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.



Definitions

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.

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.

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 dieticians; it may also include clinical psychologists.



Footnotes

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>
NICE Clinical Guidelines – NG17: Type 1 diabetes in adults: diagnosis and management <http://www.nice.org.uk/guidance/ng17>
NICE Clinical Guidelines – NG28: Type 2 diabetes in adults: management <http://www.nice.org.uk/guidance/ng28>
NICE – Diabetes in Adults Quality Standard <http://guidance.nice.org.uk/QS6>
3. Type 2 diabetes includes people with Maturity-onset Diabetes of the Young (MODY), other and non specified diabetes type.
4. The eye screening care process is not included; therefore ‘eight care processes’ comprises of eight care processes excluding eye screening.



Additional Information

The following documents are available from <http://www.digital.nhs.uk/pubs/ndauditcorerep1718>

- 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
- PowerPoint version of this report
- One page summary of the NDA 2017-18 key findings and recommendations (pdf)
- Data Quality Statement (pdf)
- Methodology Report (pdf)



National Diabetes Audit, 2017-18

Report 1: Care Processes and Treatment Targets

Published by NHS Digital
Part of the Government Statistical Service

For further information

digital.nhs.uk

0300 303 5678

enquiries@nhsdigital.nhs.uk



Copyright © 2019, Health and Social Care Information Centre.

NHS Digital is the trading name of the Health and Social Care Information Centre.

This work may be re-used by NHS and government organisations without permission.

