

National Diabetes Audit, 2016-17

Report 1: Care Processes and Treatment Targets

England and Wales

14th March 2018

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.

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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.

Introduction

- The National Diabetes Audit (NDA) provides a comprehensive view of diabetes care in England and Wales and 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 blood cholesterol?
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 2017.

GP practice and specialist service level information accompanies this report, as well as supplementary reports on Severe Mental Illness and Learning Disability within diabetes, 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 comprehensive national pictures 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://diabetes-resources-production.s3-eu-west-1.amazonaws.com/diabetes-storage/migration/pdf/NDA%2520QI%2520Guide%2520for%2520Specialist%2520Services.pdf>

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= Further info (glossary)

Key Findings

- **Participation**
 - Primary care participation increased to 95.3 per cent from 82.4 per cent in 2015-16, with 7,375 GP practices providing a full submission to the NDA; 99 specialist services also participated.
- **Variation**
 - All measurements showed marked geographical and between service variation.
- **Annual Care Processes**
 - Foot surveillance and urine albumin care process checks are completed less frequently than other checks across all types of diabetes*. The lower levels of BMI recording that started in 2013-14 are unaltered.
 - Most other care processes remain well completed, though less frequently in Type 1 patients overall and in younger people with any type of diabetes.
- **Achievement of the Treatment Targets (HbA1c, Blood Pressure, Cholesterol)**
 - Greater than 10 per cent improvements in HbA1c for Type 1 diabetes and BP for Type 2 diabetes over the 6 year period 2011-12 to 2016-17.
 - People of working age and younger are almost half as likely to achieve treatment targets as their older counterparts.
- **Structured Education**
 - Records of structured education offered continue to improve but this is not yet matched by records of attendance/completion.
- **Severe Mental Illness (SMI) and Learning Disability (LD)**
 - Some differences from the general diabetic population in care process completion but people with SMI and LD who have diabetes are equally likely to achieve their treatment targets.

* It has been identified that foot surveillance data could have been under-reported for a number of GP practices who use the TPP SystmOne clinical system in 2016-17, which may account for some of the fall in foot surveillance completion in 2016-17.



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; every service and locality has 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 those overall doing worst - 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 2016-17

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



Registrations

Table 1: Diabetes registrations and prevalence for all diabetes by source, 2016-17

England and Wales

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
2016-17	3,192,745	6.7%	3,136,070	56,675

The National Cardiovascular Intelligence Network (NCVIN) published a diabetes prevalence model for local authorities and CCGs. These estimate the total diagnosed and undiagnosed for people 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

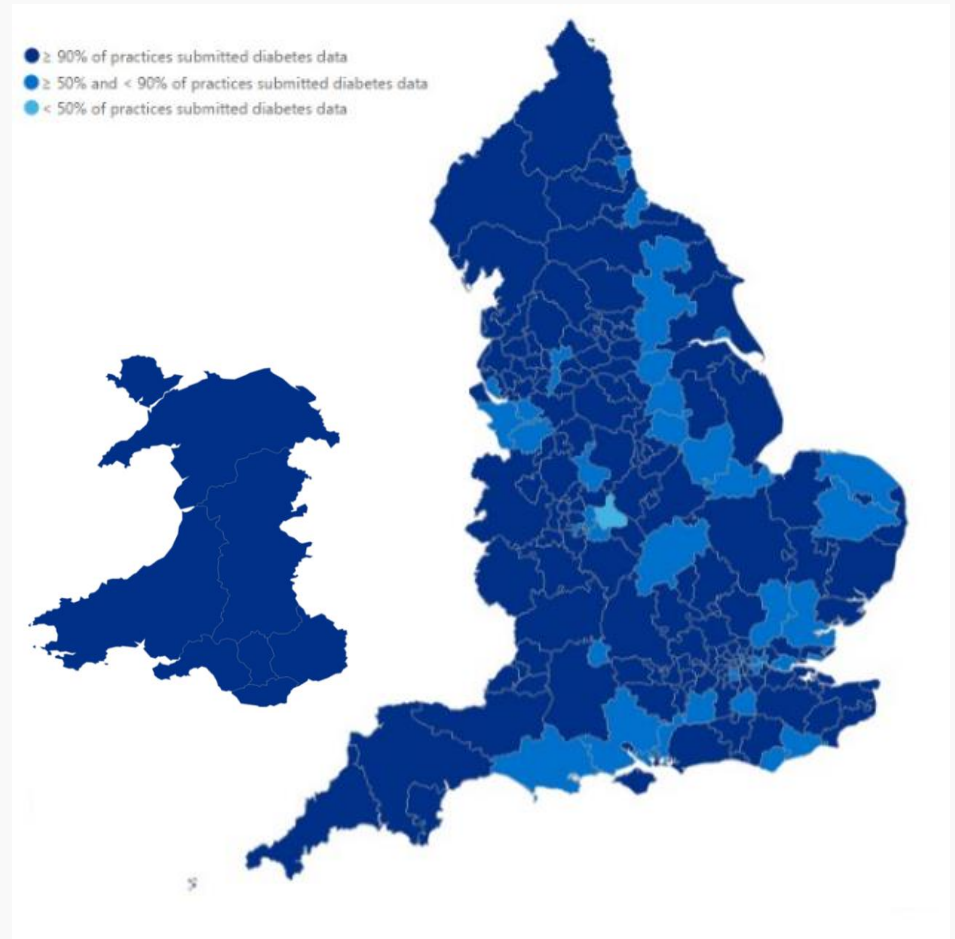


Primary Care Participation

Primary care participation increased in 2016-17 to 95.3 per cent in England and Wales.

The map shows that participation was 90 per cent and over in the vast majority of CCGs and LHBs (176 of 214). Participation was less than 50 per cent in only one CCG and caution should be taken when looking at the information for this locality.

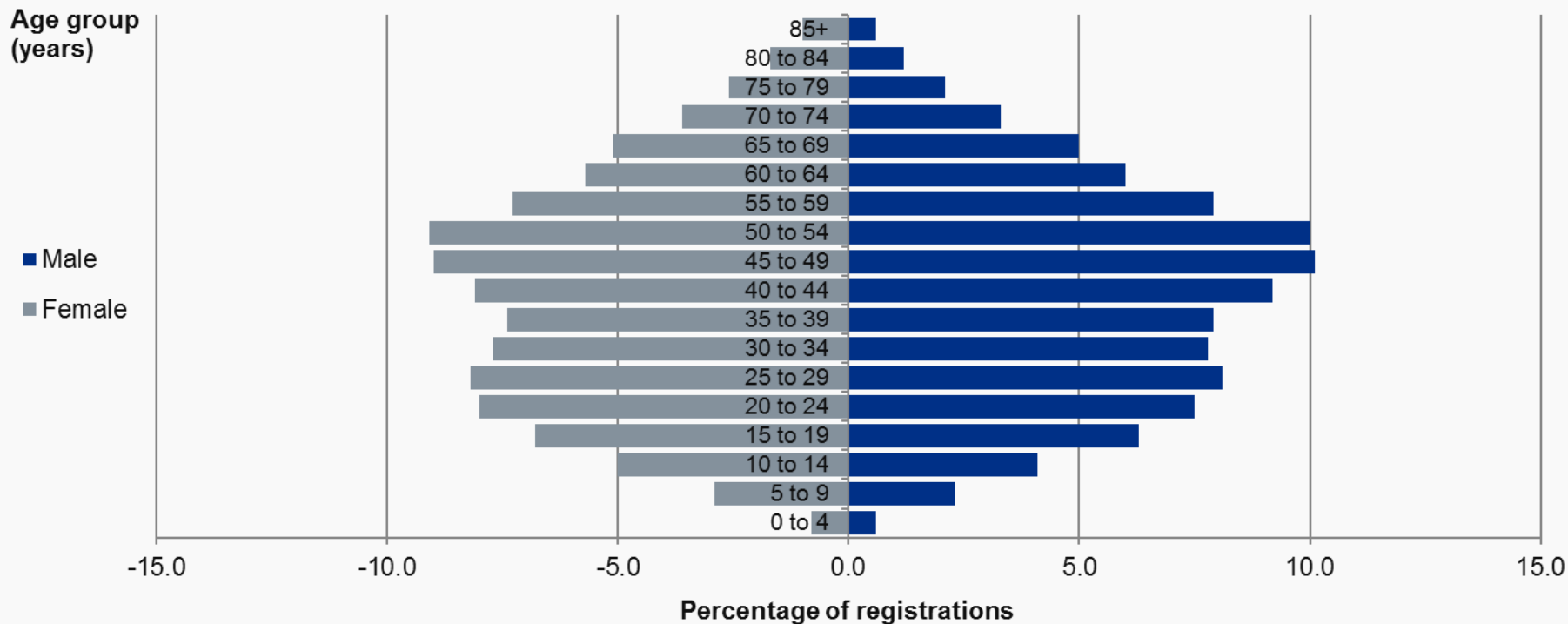
For more information on the level of participation in 2016-17 by CCG and LHB please see the [participation report](#).



Type 1 Registrations - Characteristics

There is a higher proportion of males in those with Type 1 diabetes.

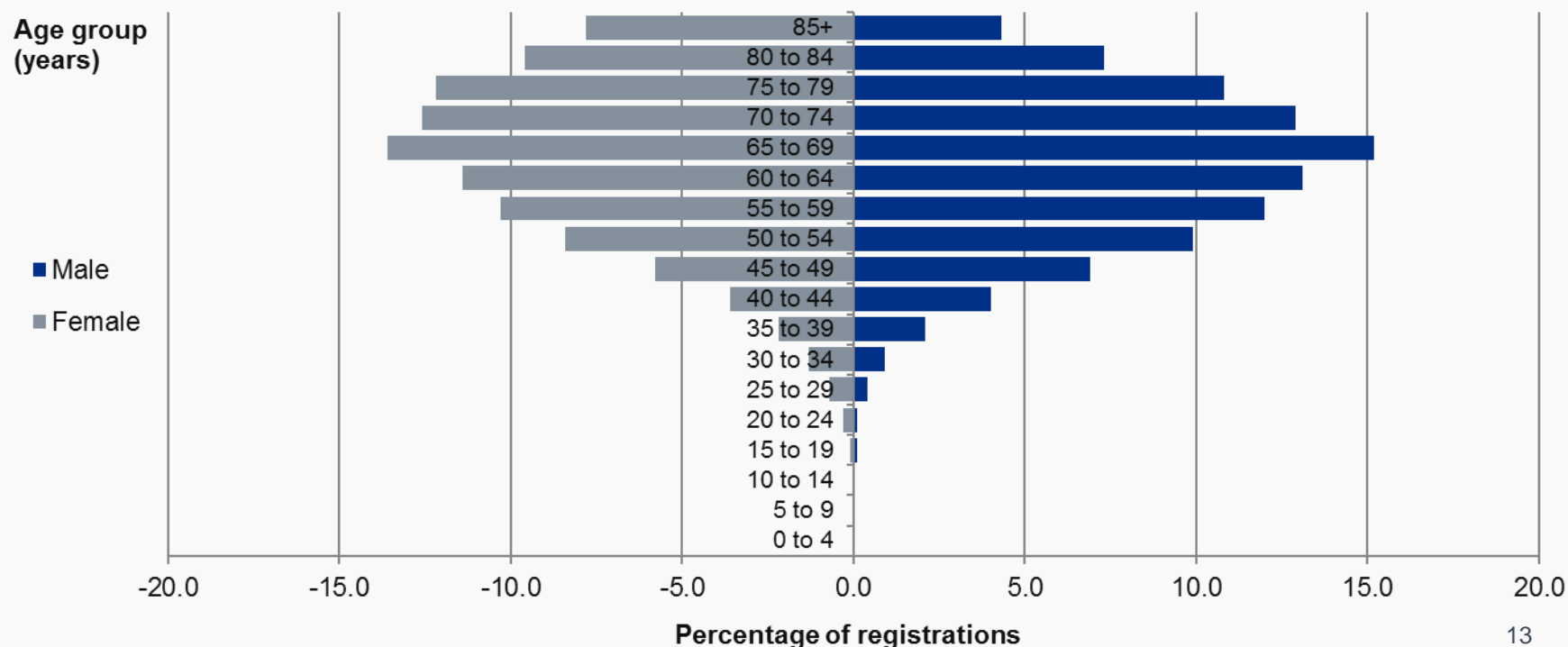
Figure 1: Age and gender of patients with Type 1 diabetes in England and Wales, 2016-17



Type 2 and Other Registrations - Characteristics

There is a higher proportion of males in those with Type 2 diabetes. People with Type 2 diabetes are older than those with Type 1 diabetes.

Figure 2: Age and gender of patients with Type 2 and other diabetes in England and Wales, 2016-17



Specialist Service Participation

99 specialist services participated in 2016-17 in England*.

- 55 services submitted both NDA core dataset and the insulin pump data set
- 18 services submitted the insulin pump data set only
- 13 services submitted only NDA core data set data
- 13 services submitted patient NHS numbers only

Specialist services generally lead Type 1 diabetes services so their more comprehensive involvement is important to help drive improvements for these patients.



National Diabetes Audit 2016-17

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 (included in the NDA 8 Care Processes)

1. HbA1c
(blood test for glucose control)

2. Blood Pressure
(measurement for cardiovascular risk)

3. Serum Cholesterol
(blood test for cardiovascular risk)

4. Serum Creatinine
(blood test for kidney function)

5. Urine Albumin/Creatinine Ratio
(urine test for risk of kidney disease)

6. Foot Risk Surveillance
(examination for foot ulcer risk)

7. Body Mass Index
(measurement for cardiovascular risk)

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 and other diabetes receive their annual checks. Urine albumin and foot surveillance are most often missed out and the lower levels of BMI recording that started in 2013-14 are unaltered.

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					
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
HbA1c	83.0	79.8	80.9	83.2	83.7	84.3	90.9	93.1	93.5	94.8	95.0	95.1
Blood pressure	88.4	87.7	87.0	89.0	89.1	90.3	95.6	95.4	94.9	96.1	95.7	96.2
Cholesterol	77.8	77.3	77.4	78.7	79.1	79.9	92.1	91.9	92.4	92.8	92.7	92.7
Serum creatinine	81.1	80.3	78.8	80.5	81.5	82.7	93.5	93.2	93.4	94.5	94.7	95.0
Urine albumin*	59.2	56.5	63.9	55.9	50.2	50.1	77.5	74.7	84.4	74.6	66.7	65.2
Foot surveillance**	72.8	71.5	70.7	72.4	72.9	69.5	86.4	85.8	86.2	86.7	86.7	79.4
BMI	83.7	83.3	76.8	74.9	75.2	75.3	90.9	90.9	85.7	83.1	82.7	83.1
Smoking	79.0	79.2	77.4	77.9	78.5	79.2	85.7	86.3	85.5	85.2	85.2	85.5
Eight care processes⁴	43.2	40.8	44.5	38.7	36.5	33.7	62.1	61.2	67.6	58.7	53.7	47.6

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 has been identified that foot surveillance data could have been under-reported for a number of GP practices who use the TPP SystmOne clinical system in 2016-17

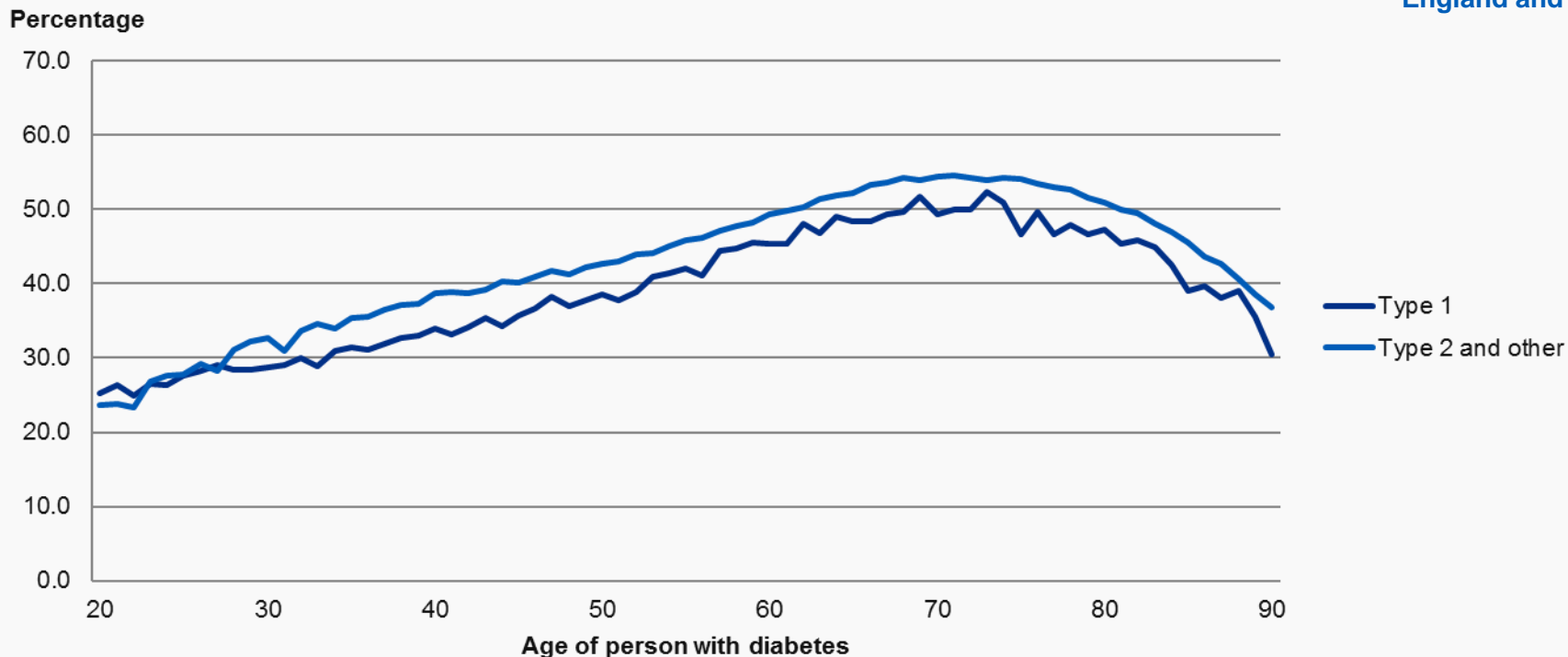


Care Processes – Age

Younger people with either Type 1 or Type 2 and other diabetes continue to be less likely to receive their annual diabetes checks than their older counterparts.

Figure 3: Percentage of all people with diabetes receiving all eight NICE recommended care processes⁴ by age and diabetes type, 2016-17

England and Wales



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

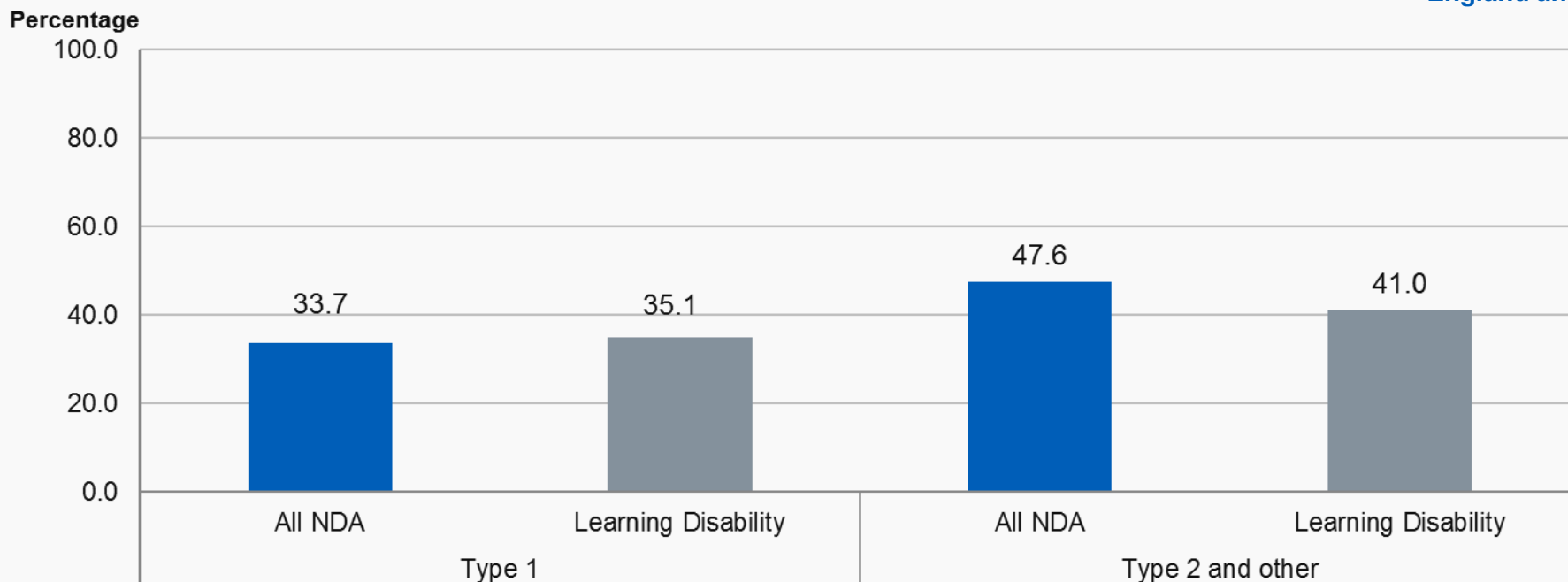


Care Processes – Learning Disability

Compared to the general diabetes population, people with a learning disability* who have Type 1 diabetes are more likely to receive their annual checks whilst those with Type 2 and other diabetes are less likely to receive them.

Figure 4: Percentage of all people with diabetes receiving all eight NICE recommended care processes⁴ by diabetes type and learning disability diagnosis, standardised by age and sex, 2016-17

England and Wales



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

* For more information on people with diabetes with a learning disability, please see supplementary slides found [here](#)



Care Processes – Severe Mental Illness

Compared with the general diabetes population, people with a Severe Mental Illness (SMI)* and Type 1 diabetes receive similar or more care checks. But those who have Type 2 diabetes are less likely to receive their annual checks, especially for urine albumin and foot risk.

Table 3: Percentage of people with diabetes receiving NICE recommended care processes by care process, diabetes type and SMI diagnosis, 2016-17

England and Wales

	Type 1		Type 2 and other ³	
	All NDA	SMI	All NDA	SMI
Number of people	236,165	2,450	2,899,910	61,470
HbA1c	84.3	91.2	95.1	93.5
Blood pressure	90.3	94.8	96.2	96.2
Cholesterol	79.9	85.8	92.7	90.9
Serum creatinine	82.7	89.8	95.0	93.5
Urine albumin**	50.1	49.1	65.2	55.2
Foot surveillance	69.5	71.6	79.4	75.4
BMI	75.3	80.0	83.1	83.0
Smoking	79.2	88.9	85.5	88.5
Eight care processes ⁴	33.7	34.9	47.6	40.6

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

* For more information on people with diabetes with SMI, please see supplementary slides found [here](#)

** 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

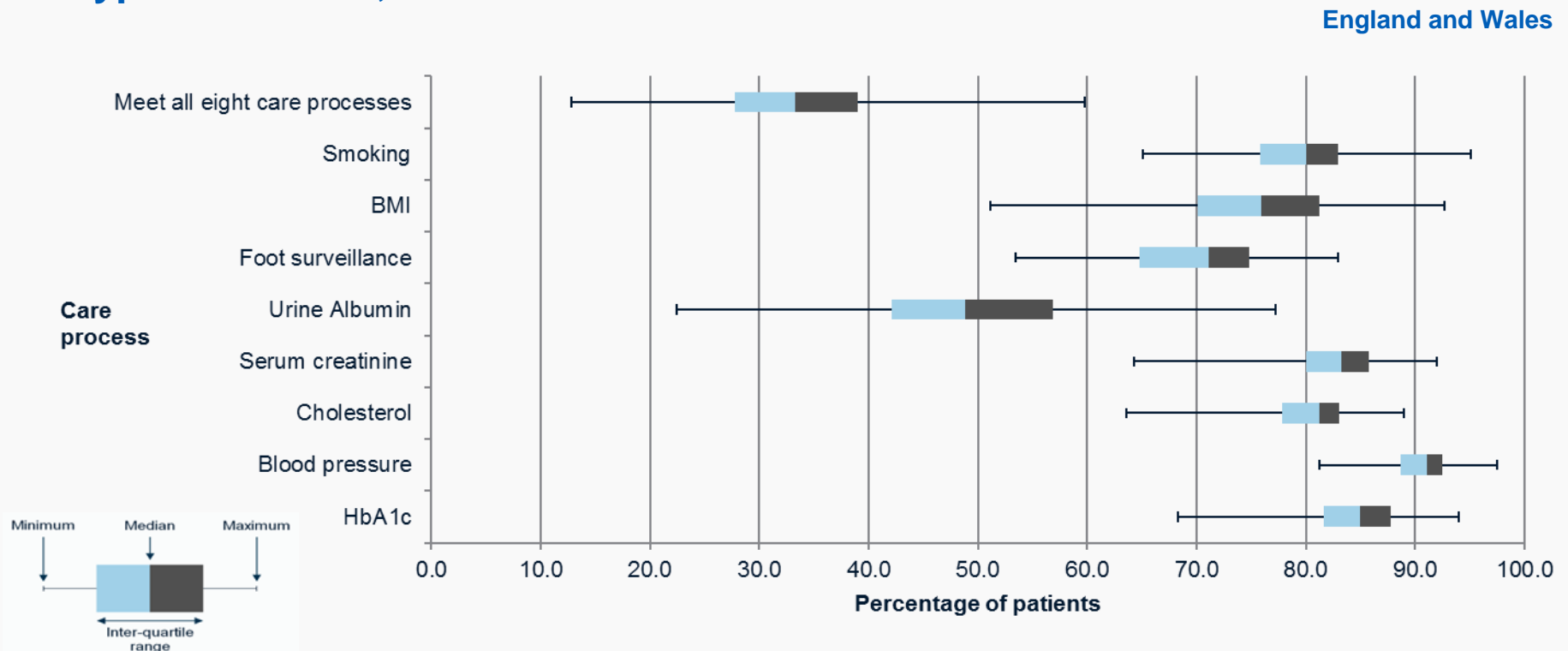
[NDA Data Quality statement](#)



Care Processes - Locality Variation, Type 1

The geographic variation is striking and is evident also between similar specialist services (see service level reports*).

Figure 5: The range of CCG/LHB care process completion for people with Type 1 diabetes, 2016-17**



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

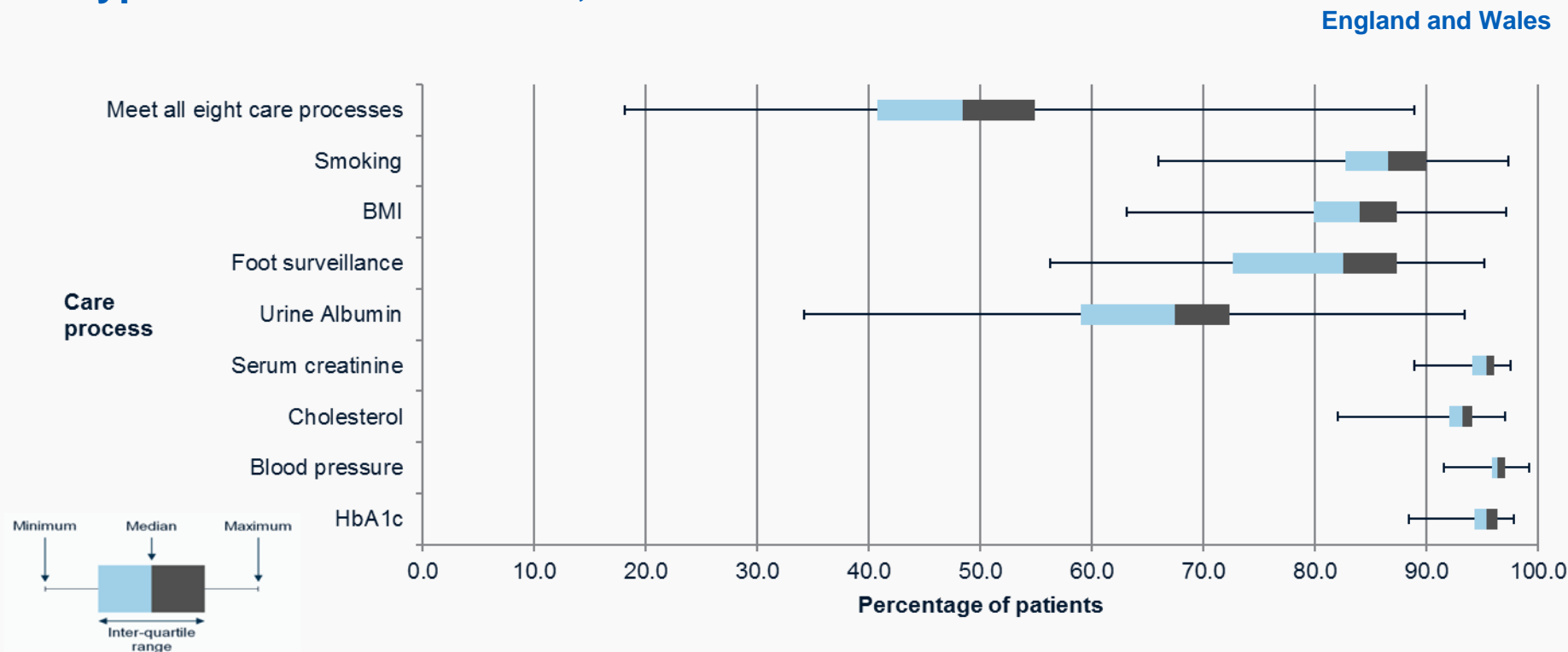
** Care processes are presented with case-mix adjusted bandings and show whether a service is achieving care process delivery levels expected for their patient population.²¹
The bandings take into account age, gender, ethnicity, duration of diabetes and social deprivation.



Care Processes - Locality Variation, Type 2

The geographic variation is striking and is evident also between similar General Practices within CCGs/LHBs (see service level reports*).

Figure 6: The range of CCG/LHB care process completion for people with Type 2 and other diabetes, 2016-17**



* 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 such as:

- Between services to reduce the striking variation
- Services for young people with both Type 1 and Type 2 and other diabetes
- Services for people with Type 1 diabetes
- Services for people with Type 2 and other diabetes who have a learning disability or SMI

Recommendations

- **Commissioners:**
 - Support services that are in the lowest quartile
 - Support trials of new approaches to care for 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 identify opportunities
 - Develop and implement improvement plans

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

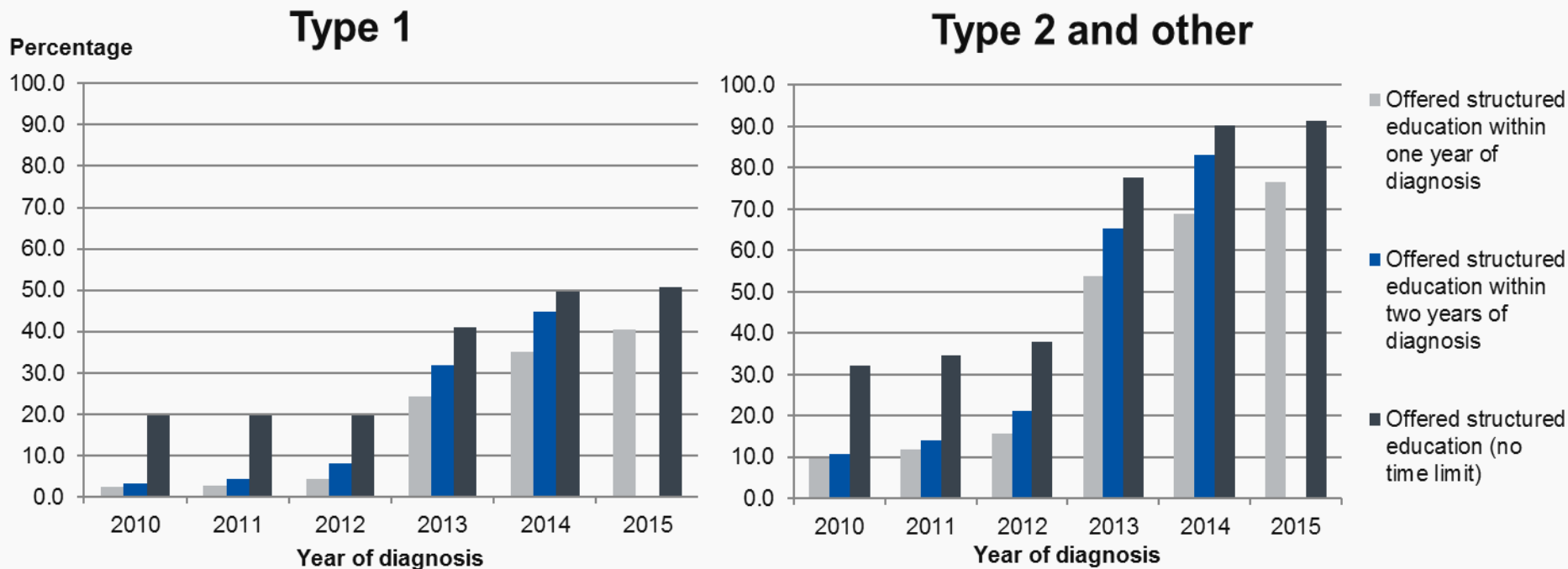


Structured Education - Offered

Recorded offers of structured education have increased over the last four years. The majority of offers are within one year of diagnosis.

Figure 7: Percentage of people diagnosed with diabetes that were offered structured education, by year of diagnosis and diabetes type, 2016-17*

England and Wales



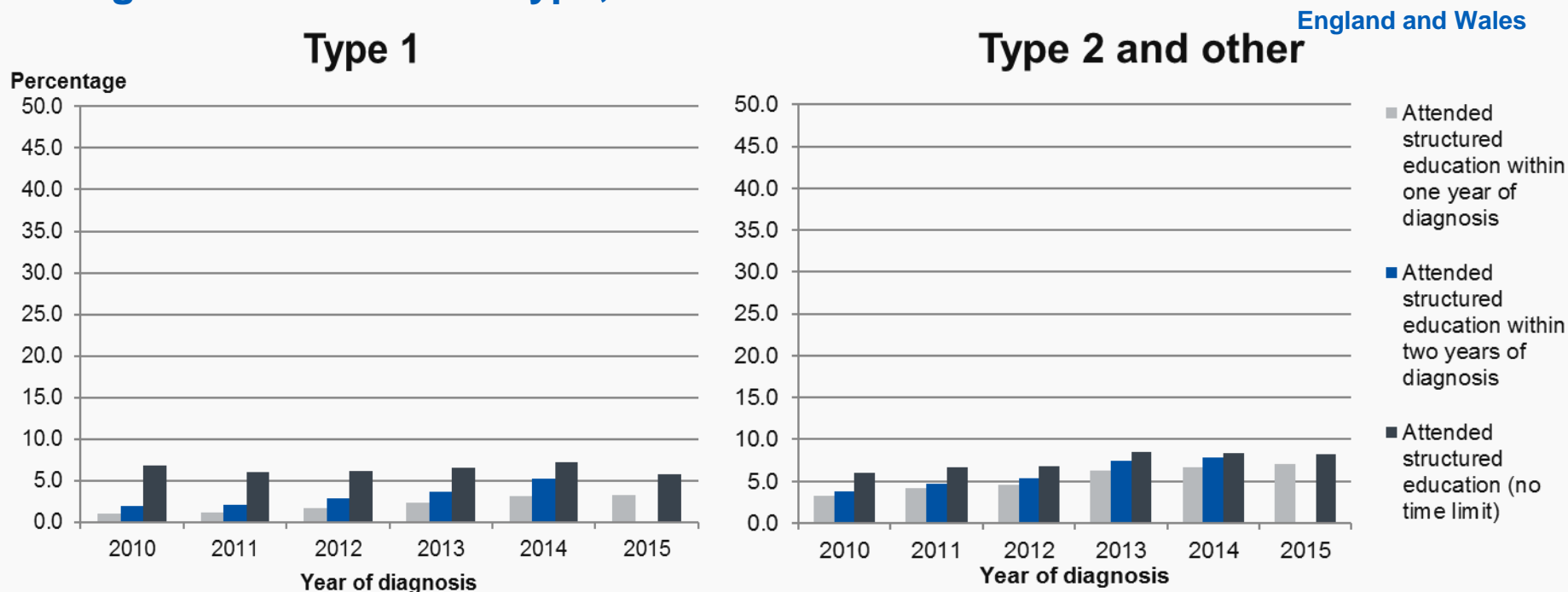
* 'Offered structured education within 2 years of diagnosis' data is not reported for people diagnosed with diabetes in 2015 – this is because the 2016-17 NDA data (latest audit period) ends in March 2017, meaning that anyone diagnosed after March 2015 would not have the full 2 year opportunity to be 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 underestimate.

Figure 8: Percentage of people diagnosed with diabetes that have a recorded structured education programme attendance, by year of diagnosis and diabetes type, 2016-17**



* It is hoped that an early 2017 initiative to improve communication between education course providers and General Practices (link [here](#)) will feed through to more reliable results for 2017-18.

** 'Attended structured education within 2 years of diagnosis' data is not reported for people diagnosed with diabetes in 2015 – this is because the 2016-17 NDA data (latest audit period) ends in March 2017, meaning that anyone diagnosed after March 2015 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 with no periods of remission. 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 2016-17

What percentage of people registered with diabetes achieved the NICE defined treatment targets for glucose control, blood pressure and blood cholesterol?



Treatment Targets

NICE recommends treatment targets for HbA1c (glucose control), blood pressure and serum cholesterol:

- Target HbA1c reduces the risk of all diabetic complications.
- Target blood pressure reduces the risk of vascular complications and reduces the progression of eye disease and kidney failure.
- Target cholesterol* reduces the risk of vascular complications.

* NICE cardiovascular risk reduction guidance (link [here](#)) now focuses on the use of statins rather than achieved cholesterol levels ('Offer atorvastatin 20 mg for the primary prevention of CVD to people with type 2 diabetes who have a 10% or greater 10-year risk of developing CVD and consider for all people with Type 1 diabetes'). The NDA will be able to report against these new standards from 2017-18. Meanwhile, to maintain continuity, attainment of the old Total Cholesterol <5mmol/l target is reported for 2016-17 as before.



Treatment Targets – Time Series

There have been improvements in the combined three treatment target achievement for both Type 1 and Type 2 and other diabetes. Over 6 years, there have been greater than 10% increases in target achievement for HbA1c in Type 1 diabetes and for blood pressure in Type 2 and other diabetes.

Glucose control targets are, however, achieved in Type 1 diabetes less than half as often as in Type 2 and other diabetes.

Table 4: Percentage of people with diabetes achieving their treatment targets by diabetes type and audit year

England and Wales

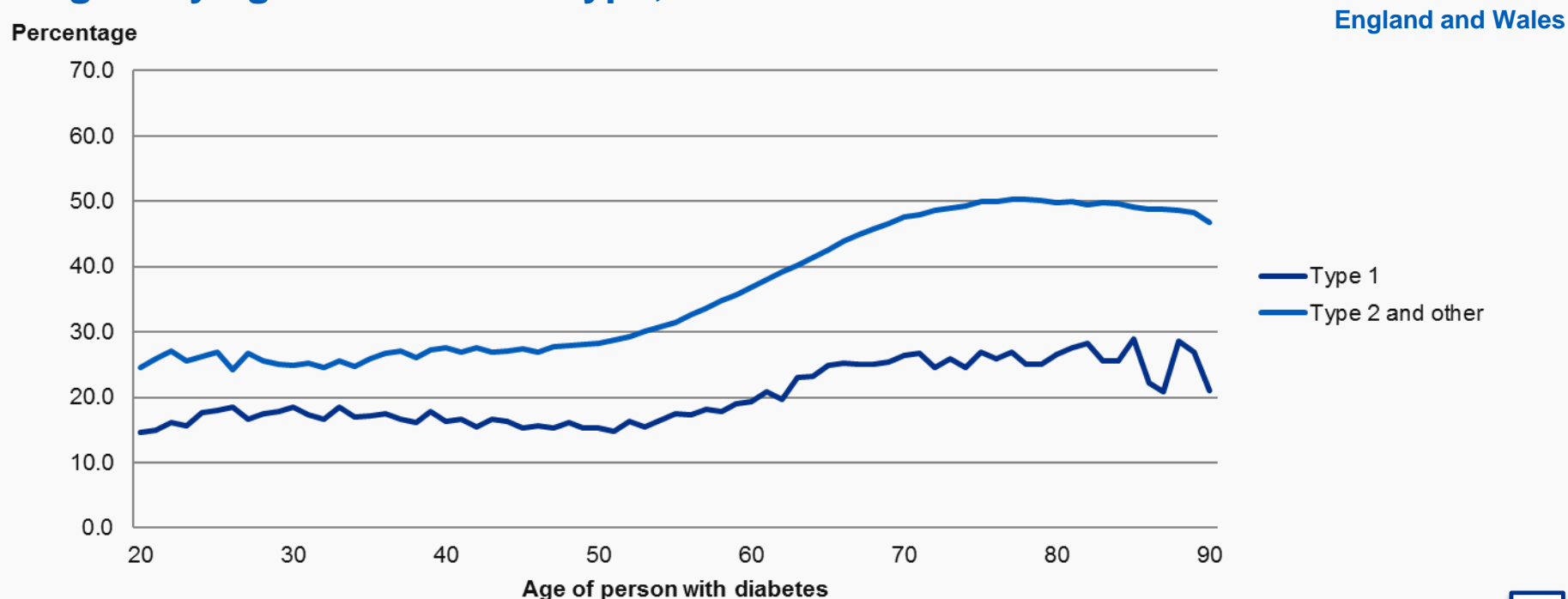
	Type 1						Type 2 and other ³					
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
HbA1c ≤ 58 mmol/mol	27.0	27.2	29.4	29.9	29.2	30.2	65.8	64.9	66.8	66.1	65.7	66.8
Blood pressure ≤ 140/80*	72.2	73.4	76.4	76.4	74.2	75.8	66.6	68.6	73.6	74.2	73.6	74.2
Cholesterol < 5mmol/L	71.1	70.2	71.5	71.3	70.8	69.3	77.4	76.7	77.8	77.5	77.1	76.0
Meeting all three treatment targets	16.5	16.1	18.6	18.9	18.1	18.9	37.4	37.3	41.4	41.0	40.2	40.8



Treatment Targets – Age

Younger people with either Type 1 or Type 2 and other diabetes are less likely to achieve all three treatment targets than their older counterparts. This is primarily due to poorer glucose and cholesterol control in those aged under 65 years. There has been no change over the past 5 years.

Figure 9: Percentage of all people with diabetes achieving all three treatment targets by age and diabetes type, 2016-17.

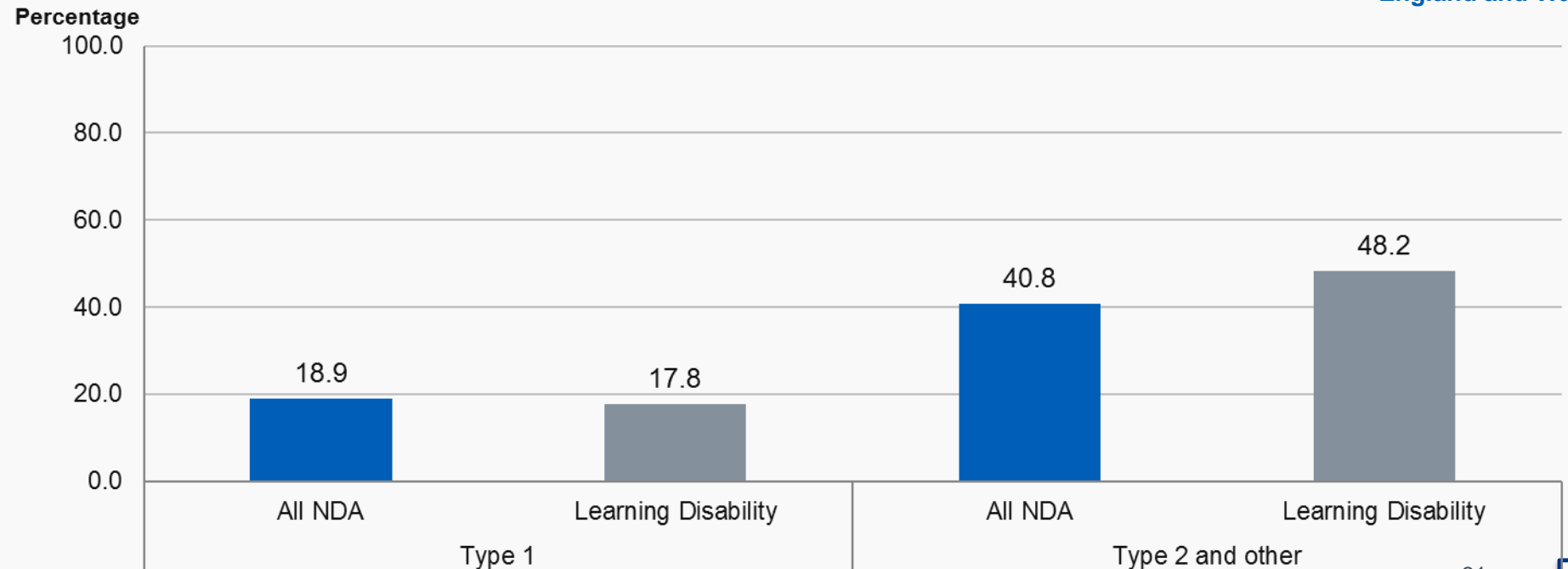


Treatment Targets – Learning Disability

People with a learning disability* who have Type 2 and other diabetes are more likely to achieve all three of their treatment targets compared to their peers. The reverse is true for people who have Type 1 diabetes.

Figure 10: Percentage of all people with diabetes achieving all three treatment targets by diabetes type and learning disability diagnosis, standardised by age and sex, 2016-17

England and Wales



* For more information for those people with diabetes with a learning disability, please see supplementary slides found [here](#)



Treatment Targets – Severe Mental Illness

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

Table 5: Percentage of people with diabetes achieving their treatment targets, by diabetes type and SMI diagnosis, 2016-17**

England and Wales

	Type 1		Type 2 and other ³	
	All NDA	SMI	All NDA	SMI
HbA _{1c} ≤ 58 mmol/mol	30.2	31.3	66.8	66.7
Blood pressure ≤ 140/80*	75.8	77.6	74.2	74.9
Cholesterol < 5mmol/L	69.3	68.2	76.0	74.2
Meeting all three treatment targets	18.9	19.2	40.8	40.7

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

* For more information on people with diabetes with a SMI, please see supplementary slides found [here](#)

** Hospital inpatients are not included within this analysis.



Treatment Targets – Multiple Readings

A new initiative in the NDA for 2016-17 is to collect data on all treatment target readings throughout the audit year. A summary is presented below of treatment target achievement across the NDA* using the current method (latest reading in the audit year) and an alternative method of using the average (arithmetic mean of all readings in the audit year).

Using an average of a person's readings during the year reduces target achievement rates, particularly for blood pressure and especially in people with Type 2 and other diabetes. The clinical implications of these differences will be further investigated in the future.

Table 6: Percentage of people with diabetes achieving their treatment targets, by diabetes type and reading method used, 2016-17

England and Wales

	Type 1		Type 2 and other ³	
	Treatment target achievement – latest reading*	Treatment target achievement – average reading	Treatment target achievement – latest reading*	Treatment target achievement – average reading
HbA1c \leq 58 mmol/mol	30.2	27.4	66.8	63.1
Blood pressure \leq 140/80*	75.5	69.6	74.1	60.2
Cholesterol < 5mmol/L	69.3	69.6	76.1	75.7
Meeting all three treatment targets	18.4	15.0	40.8	31.6

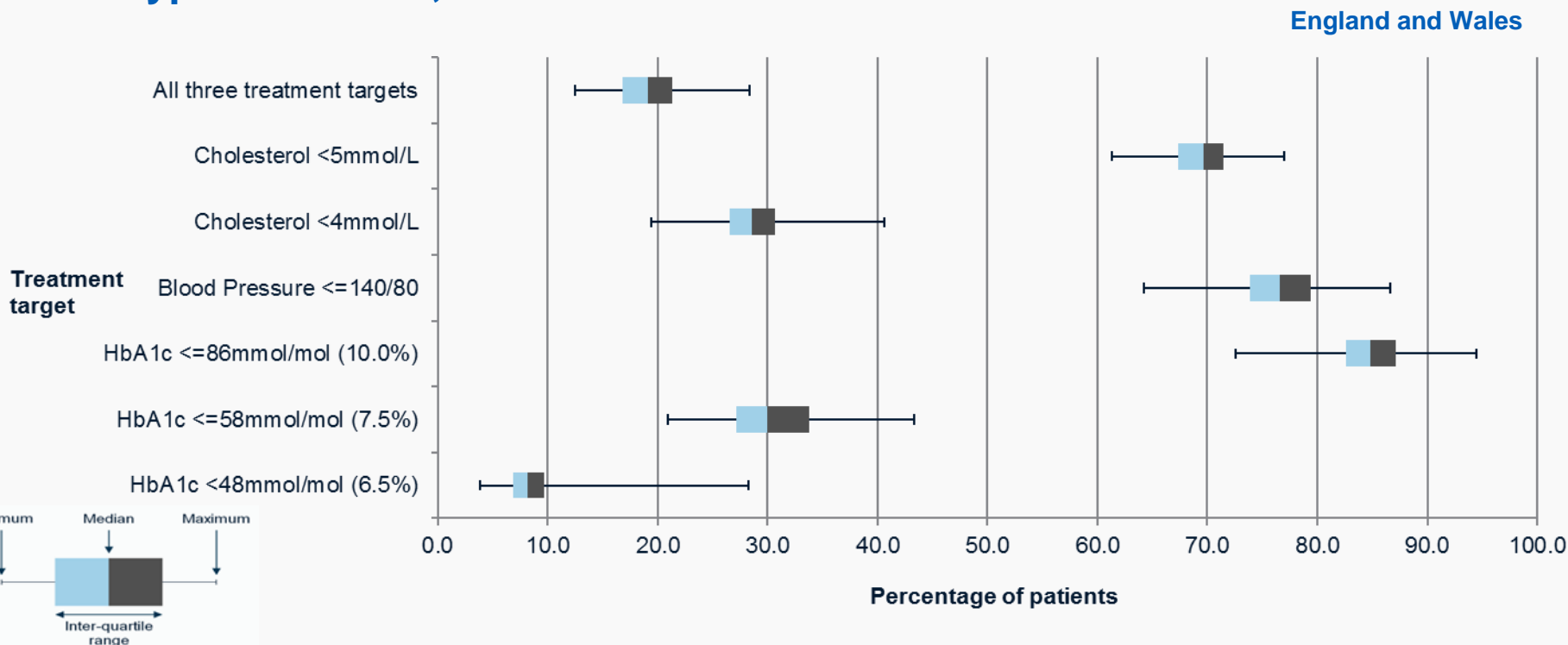
* This analysis is limited to people in the 2016-17 NDA who had one or more reading with non-null values. Multiple readings submissions from GP practices who use the Vision clinical system have been excluded from this analysis due to a technical issue. Therefore, overall achievement percentages differ very slightly to those reported in other areas of this report.



Treatment Targets - Locality Variation, Type 1

The geographic variation is striking and is evident also between similar specialist services (see service level reports*).

Figure 11: The range of CCG/LHB treatment target achievement for people with Type 1 diabetes, 2016-17



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

Treatment target achievement variation is not explained by the case-mix of the diabetic populations.

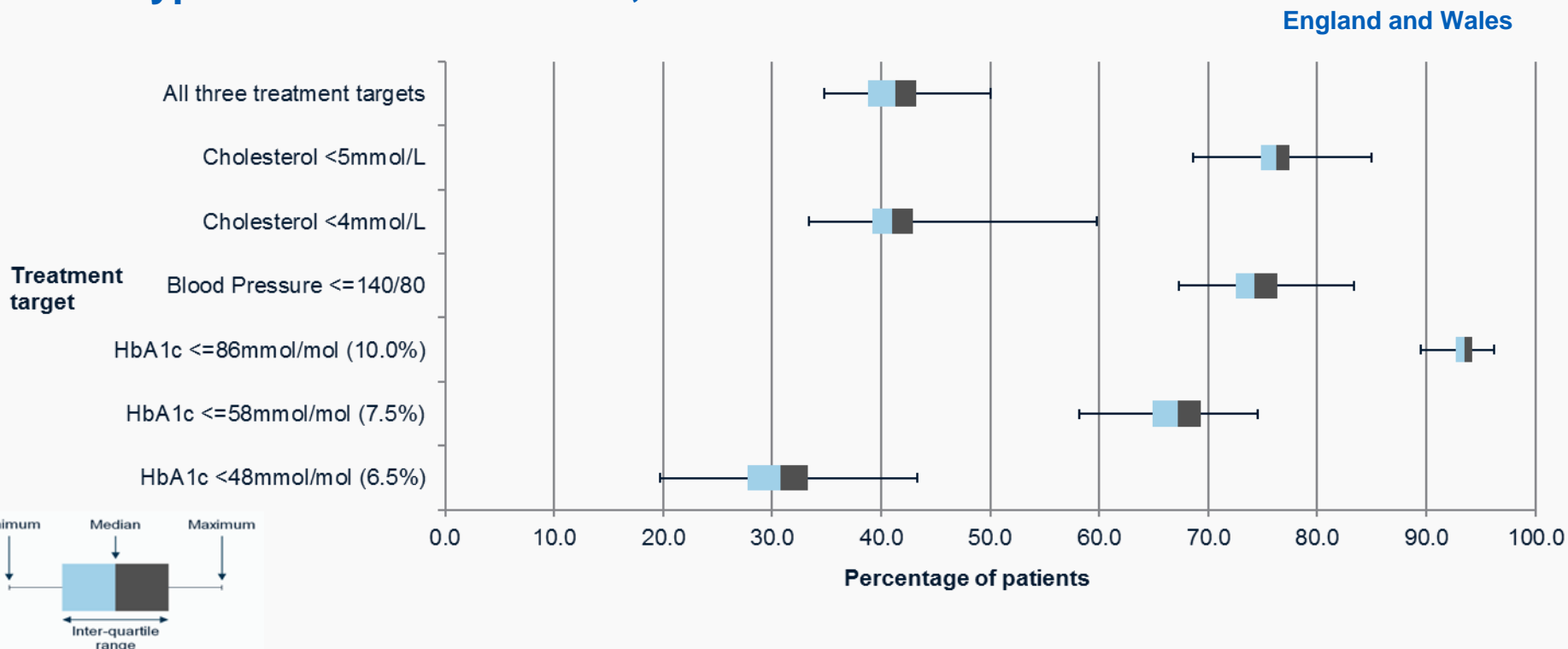
Treatment target achievement forms one of the indicators in the [CCG improvement and assessment framework 2017/18](#).



Treatment Targets - Locality Variation, Type 2

The geographic variation is striking and is evident also between similar General Practices within CCGs/LHBs (see service level reports*).

Figure 12: The range of CCG/LHB treatment target achievements for people with Type 2 and other diabetes, 2016-17



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

Treatment target achievement variation is not explained by the case-mix of the diabetic populations.

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 differences in patient demographics do not explain the extent of this variation.
- Differences between specialist services and between general practices are also substantial and again the differences in patient demographics do not explain the extent of the variation.
- Younger people continue to achieve treatment targets much less often.
- Changes that reduced variation and improved average 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 to care for 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 2016-17

**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 and overweight.

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.

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/ndauditcorerep1617>

- Supporting data in Excel
 - Supporting Information – National tables and charts
 - Supporting Information – Learning Disability tables and charts
 - Supporting Information – Severe Mental Illness tables and charts
 - CCG/GP practice level interactive spreadsheet
 - LHB level interactive spreadsheet
 - Specialist Service (England) interactive spreadsheet
- PowerPoint version of this report
- PowerPoint version of the Learning Disability supplementary report (including pdf version)
- PowerPoint version of the Severe Mental Illness supplementary report (including pdf version)
- One page summary of the NDA 2016-17 key findings and recommendations (pdf)
- Data Quality Statement (pdf)
- Methodology Report (pdf)



National Diabetes Audit

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