

National Diabetes Audit 2013-2014 and 2014-2015

Report 1: Care Processes and Treatment Targets



- Version 1.0
- Published: 28 January 2016

Introduction

The National Diabetes Audit (NDA) continues to provide 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} in England and Wales. This report covers two years because of the acceleration programme to bring publication forward.

GP Practice and specialist service level information accompanies this report and can be found [here](#). This provides casemix adjusted bandings for each of the care processes. They show whether a service is achieving care process delivery and treatment target achievement at levels expected for their patient population. The bandings take into account age, gender, ethnicity, duration of diabetes and social deprivation.

The banding is not a measure of quality of care. A higher or lower than expected number of people completing care processes, should not immediately be interpreted as indicating good or poor performance. Instead it should be viewed as an alert which requires further investigation.

Introduction

Participation of GP practices is variable across the country. This may be due to the varied levels of support for participation offered to GP practices by Clinical Commissioning Groups (CCGs) following the increased complexity of registration and submission imposed by the new Information Governance 'opt in' requirements.

Participation for 2014-15 was around 4,700 GP practices (57 per cent) and 99 specialist services capturing information on 1.9 million people with diabetes.

"The NDA report is a very useful data source for identifying in which areas of diabetes care there are potential for improvement in general practice. The majority of the data is comparable with QOF which is already in the public domain, however it is a rich source of more detailed information and is presented in a different, clear and easy to compare format. The National Audit itself collects data from primary and secondary care"

Bill Taylor, Clinical Lead Quality Improvement, Clinical Innovation and Research Centre, Royal College of General Practitioners

Key Findings

- There are encouraging trends of improvement in blood pressure control for people with Type 1 and Type 2 diabetes and glucose control for Type 1 diabetes.
- People aged under 40 are much less likely to receive their care processes and those under 65 are less likely to achieve their treatment targets.
- There remain appreciable variations in care process completion and treatment target achievement between practices, between specialist services and between CCGs/LHBs.

We recommend that:

People with diabetes

- Attend invitations for annual care process checks with your GP or specialist service.
- Work with doctors and nurses to achieve the NICE recommended treatment targets.

Care Providers (General Practices and Specialist Services)

- Sustain focus on improving glucose and blood pressure control.
- Investigate reasons for underachievement in people of working age and younger. Consider new systems that could increase engagement.

Clinical Commissioning Groups (CCGs) and Local Health Boards (LHBs)

- Support all diabetes care providers to participate in the audit.
- Investigate reasons for CCG and GP/Specialist underachievement. Provide forums for shared learning from better performers.

National Diabetes Audit 2014-15

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

Participation

Key Finding

The overall number of General Practices participating in the 2013-14 / 2014-15 NDA is lower than in previous years, but there is significant variation between CCG/LHB's.

Table 1: Practice participation by audit year

Audit Year	Total number of practices	Number of participating practices	National participation rate
2012-13	8,476	5,991	70.7%
2013-14	8,232	4,699	57.1%
2014-15	8,198	4,696	57.3%

Participation: Comment

The wide variation may be due to differences in local prioritisation. More than a fifth of the CCGs/LHBs achieved over 90 per cent participation; 19 CCGs and 4 LHBs achieved 100 per cent in 2014-15.

Recommendations:

- **CCGs and LHBs should support GP practices to participate in the audit**
- **CCGs and LHBs with low participation should network with those who have high participation to understand how best to deliver the right encouragement and support**
- **CCGs and LHBs with low participation should consider the value of high participation for high quality diabetes care**

Registrations

Key Finding

The audit collects information from both primary care and secondary care; the vast majority of patients are registered in primary care with only a small number of patients (4.4 per cent) appearing only in secondary care submissions.

Table 2: Diabetes registrations and prevalence for all diabetes in England and Wales by source and audit year

Audit Year	Total number of registrations	Percentage of the population*	Registrations from Primary Care	Registrations from Specialist Care where GP not a participant
2012-13	2,075,123	4.9%	1,997,467	77,656
2013-14	1,763,446	4.8%	1,682,818	80,628
2014-15	1,894,887	5.1%	1,811,496	83,391

* Population is the participating GP practices list size

National Diabetes Audit 2014-15

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 program when diagnosed.

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

Responsibility of Diabetes Care Providers (included in the NDA 8 Care Processes)

1 - HbA1c (blood test for glucose control)	5 - Urine Albumin/Creatinine Ratio (urine test for kidney function)
2 - Blood Pressure (measurement for cardiovascular risk)	6 - Foot Risk Surveillance (foot 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 (screening register drawn from practices)

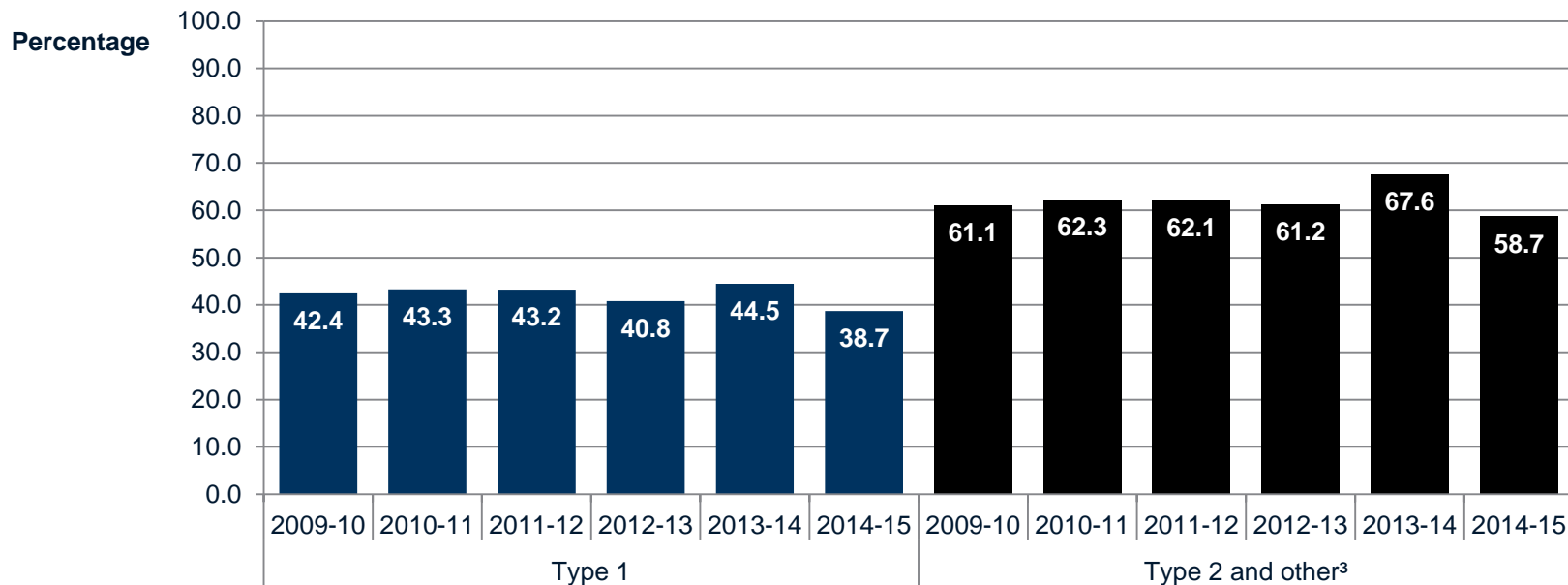
9 - Digital Retinal Screening
Photographic eye test for eye risk

All Eight Care Processes

Key Findings

People with Type 1 diabetes are less likely than people with Type 2 diabetes to receive all of the eight care processes.

Figure 1: Percentage of people with diabetes in England and Wales receiving all eight NICE recommended care processes by diabetes type and audit year



Care Processes – Time Series

Key Finding

Blood tests (Hba1c, serum creatinine, cholesterol) and blood pressure are more reliably performed than other care processes.

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

	Type 1						Type 2 and other ³					
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
HbA1c	85.7	86.0	83.0	79.8	80.9	83.2	92.7	93.1	90.9	93.1	93.5	94.8
Blood pressure	88.9	88.7	88.4	87.7	87.0	89.0	95.8	95.7	95.6	95.4	94.9	96.1
Cholesterol	79.1	78.8	77.8	77.3	77.4	78.7	92.9	92.8	92.1	91.9	92.4	92.8
Serum creatinine	81.0	81.2	81.1	80.3	78.8	80.5	93.6	93.5	93.5	93.2	93.4	94.5
Urine albumin*	56.2	58.4	59.2	56.5	63.9	55.9	73.9	76.7	77.5	74.7	84.4	74.6
Foot surveillance	71.7	71.5	72.8	71.5	70.7	72.4	85.3	85.5	86.4	85.8	86.2	86.7
BMI	83.6	83.4	83.7	83.3	76.8	74.9	90.8	90.5	90.9	90.9	85.7	83.1
Smoking	80.8	78.6	79.0	79.2	77.4	77.9	87.5	85.4	85.7	86.3	85.5	85.2
Eight care processes⁴	42.4	43.3	43.2	40.8	44.5	38.7	61.1	62.3	62.1	61.2	67.6	58.7

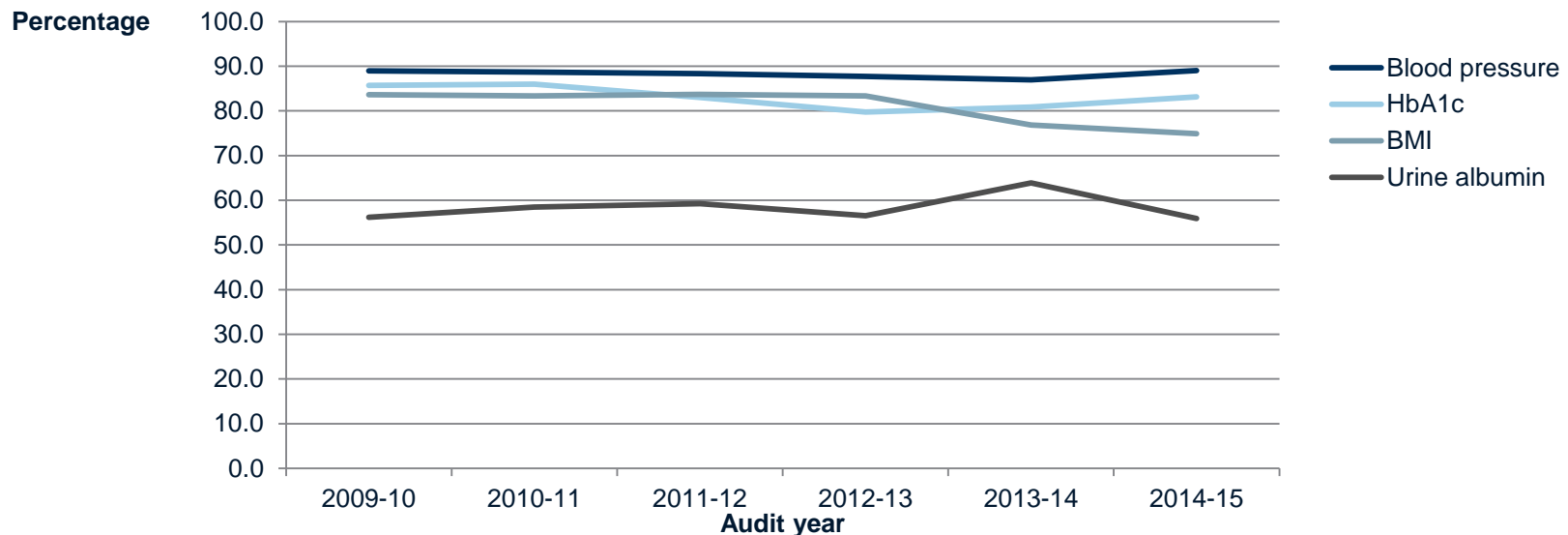
* There is a 'health warning' regarding the screening test for early kidney disease (Urine Albumin Creatinine Ratio, UACR) prior to 2013-14; please see the [NDA Data Quality statement](#)

Care Processes – People with Type 1 Diabetes

Key Findings

Care process completion for blood pressure and HbA1c are stable. BMI measurement was stable but has declined. Urine albumin declined between 2013-14 and 2014-15.

Figure 2: Percentage of people with Type 1 diabetes in England and Wales receiving certain care processes by audit year



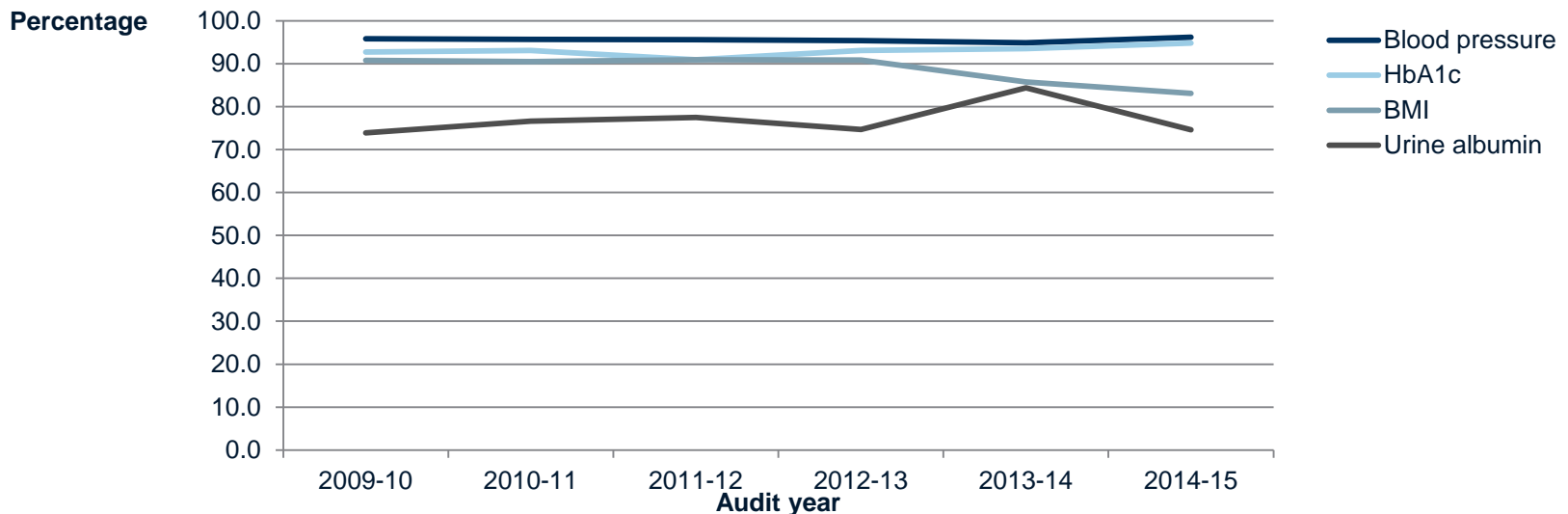
* There is a 'health warning' regarding the screening test for early kidney disease (Urine Albumin Creatinine Ratio, UACR) prior to 2013-14; please see the [NDA Data Quality statement](#)

Care Processes – People with Type 2 Diabetes

Key Findings

Care process completion for blood pressure and HbA1c are stable. BMI measurement was stable but has declined. Urine albumin declined between 2013-14 and 2014-15.

Figure 3: Percentage of people with Type 2 and other diabetes in England and Wales receiving certain care processes by audit year



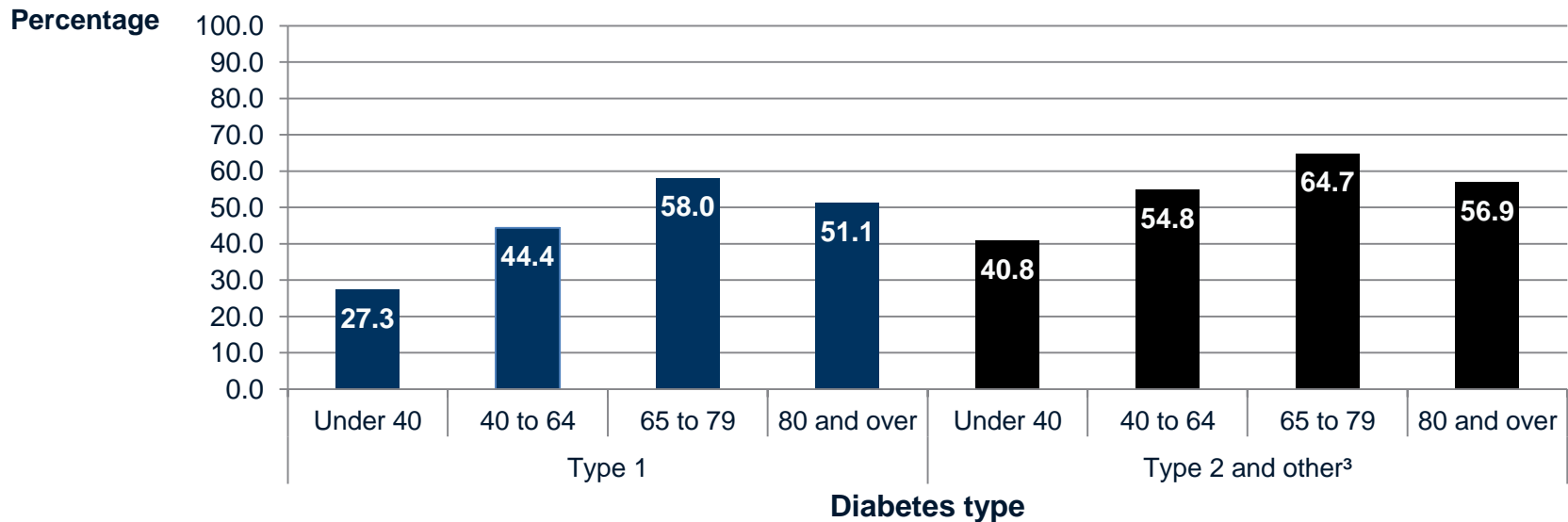
* There is a 'health warning' regarding the screening test for early kidney disease (Urine Albumin Creatinine Ratio, UACR) prior to 2013-14; please see the [NDA Data Quality statement](#)

Care Processes – By Age

Key Finding

People with Type 1 and Type 2 diabetes aged under 40 are less likely to receive all their annual care processes.

Figure 4: Percentage of all people with diabetes in England and Wales receiving all eight NICE recommended care processes⁴ by age and diabetes type, in 2014-15

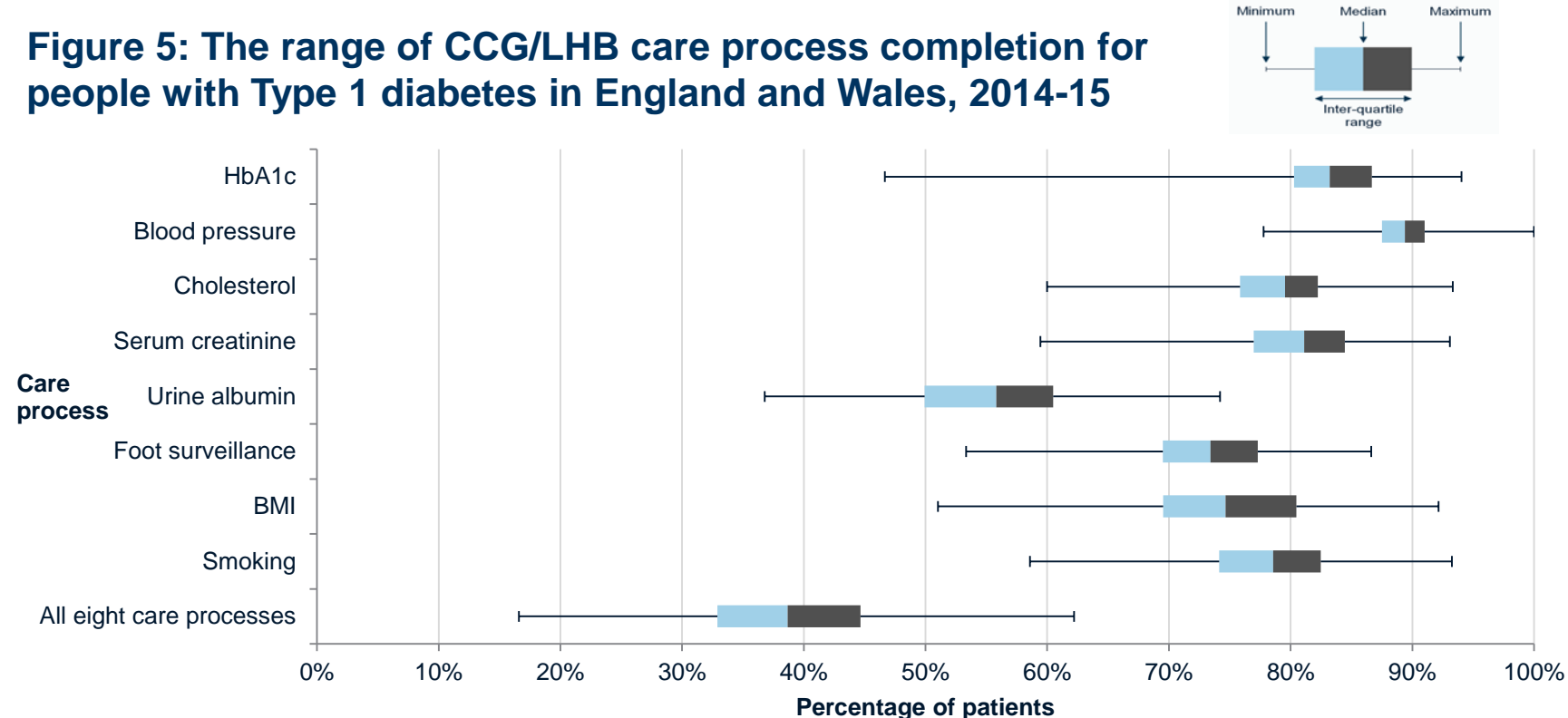


Locality Variation: Care Processes, Type 1 Diabetes

Key Finding

For people with Type 1 diabetes there is a large variation in care process completion performance between CCGs or LHBs.

Figure 5: The range of CCG/LHB care process completion for people with Type 1 diabetes in England and Wales, 2014-15

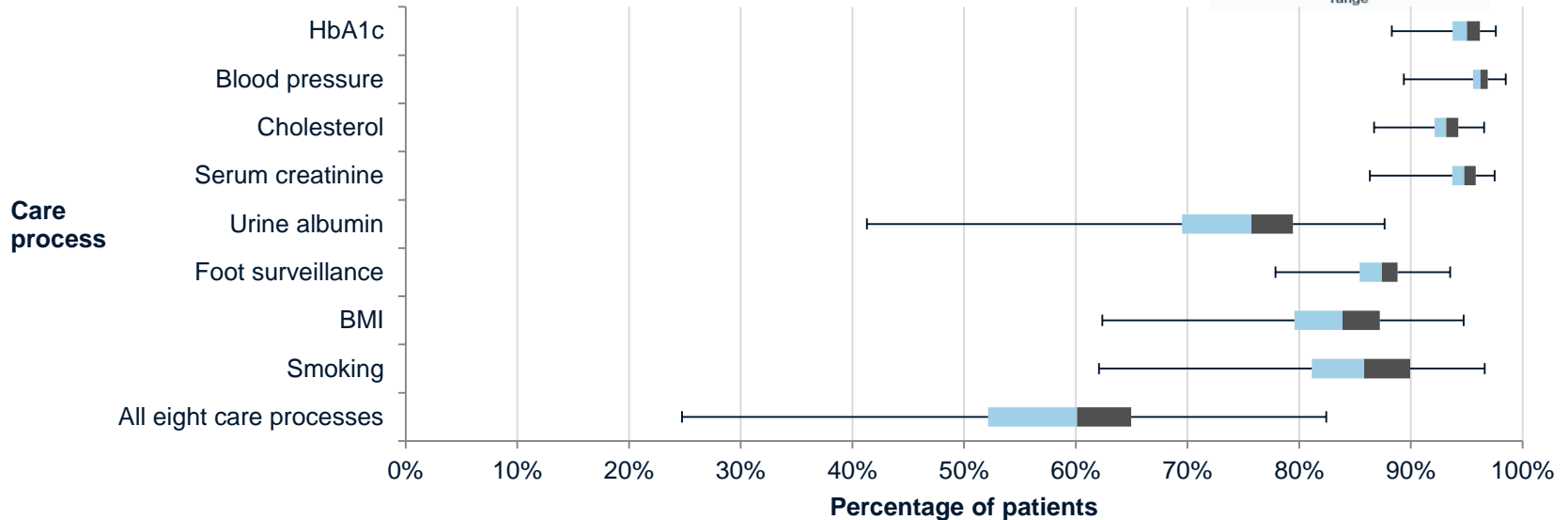


Locality variation: Care Processes, Type 2 diabetes

Key Finding

For people with Type 2 diabetes blood tests (Hba1c, cholesterol and serum creatinine) and blood pressure checks are performed much more reliably than other care processes.

Figure 6: The range of CCG/LHB care process completion for people with Type 2 diabetes in England and Wales, 2014-15



Care Processes: Comment

BMI measurement fell in 2013-14 and urine albumin checks dropped in 2014-15. These changes may reflect retirement of the respective QOF indicators and a consequent change in focus for GP practices.

Care process completion rates still vary appreciably between localities, between practices within localities, between Type 1 and Type 2 diabetes and by age. Encouragingly, however, the range of variation is narrowing.

Recommendations:

- **CCGs and LHBs should network and learn about which systems best support high levels of care process delivery**
- **Within localities practices should be encouraged to share successful care process delivery systems**
- **Commissioners should consider the impact on core diabetes care of changing pay for performance mechanisms such as QOF**

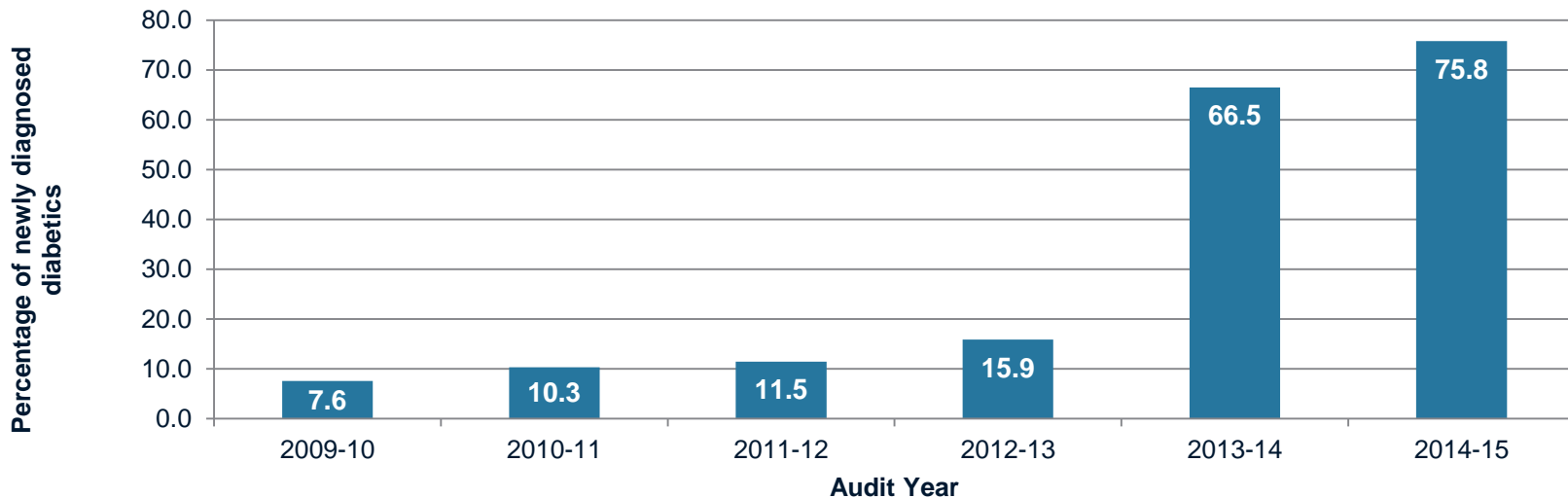
Structured Education

Key Findings

There has been a large increase in records of structured education being offered within one year of diagnosis.

More people with Type 2 diabetes are recorded as being offered education (78%) than people with Type 1 (32%).

Figure 7: Percentage of people newly diagnosed with diabetes being offered structured education in England and Wales by audit year



Structured Education – A Patients View

Records of attending structured education have increased only slightly from 3.4 per cent in 2012-13 to 5.3 per cent in 2014-15. People with diabetes want and need education to manage their condition.

“Going on the DESMOND course made a big difference. It took the worry away. It reduced my HbA1c. It reduced my cholesterol. I lost three stone in weight. My blood pressure came down. I am still scuba diving at the age of 69. Now I understand the condition I don't worry. It doesn't stop me doing anything I want to do.”

Malcolm, 69 years old, has Type 2 – attended a DESMOND course

“Meeting other people with diabetes was a real strong point of DAFNE. Being able to talk to other people who had the same sort of fears made me feel a lot more able to confront them. What I found the course really good for was that dedicated time to reflect on what is actually going on and getting to know my diabetes again. I left feeling more in control of my own life”

Charlotte, 27 years old, has Type 1 – attended a DAFNE course

“I have lived with type 1 diabetes for over 20 years, yet only received education when I was placed on an insulin pump. What I learnt about carb counting was invaluable, and if I had known that 20 years ago it would have changed how I self-managed”.

Grant, has Type 1, 53 years old – attended a DAFNE course

Recommendations

Commissioners and providers of diabetes care should investigate the reasons for the increased disparity between structured education offers and structured education attendances.

The focus of all should be on how to increase the number of people who attend structured education. The value is evident in the quotes.

National Diabetes Audit

What percentage of people registered with diabetes achieved 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

Treatment Target – Time Series

Key Findings:

For people with Type 2 diabetes, HbA1c and cholesterol target achievement rates are stable but blood pressure target achievement rates have improved steadily.

For those with Type 1 diabetes, cholesterol target achievement rates have been stable, HbA1c may show a slight improvement but blood pressure target achievement has improved steadily.

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

	Type 1						Type 2 and other					
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
HbA1 _c ≤ 58 mmol/mol	28.7	28.1	27.0	27.2	29.4	29.9	66.6	66.5	65.8	64.9	66.8	66.1
Blood Pressure ≤ 140/80*	68.5	68.8	72.2	73.4	76.4	76.4	60.8	61.4	66.6	68.6	73.6	74.2
Cholesterol < 5mmol/L	72.6	72.0	71.1	70.2	71.5	71.3	78.2	78.0	77.4	76.7	77.8	77.5
Meeting all three treatment targets	16.9	16.5	16.5	16.1	18.6	18.9	35.0	35.1	37.4	37.3	41.4	41.0

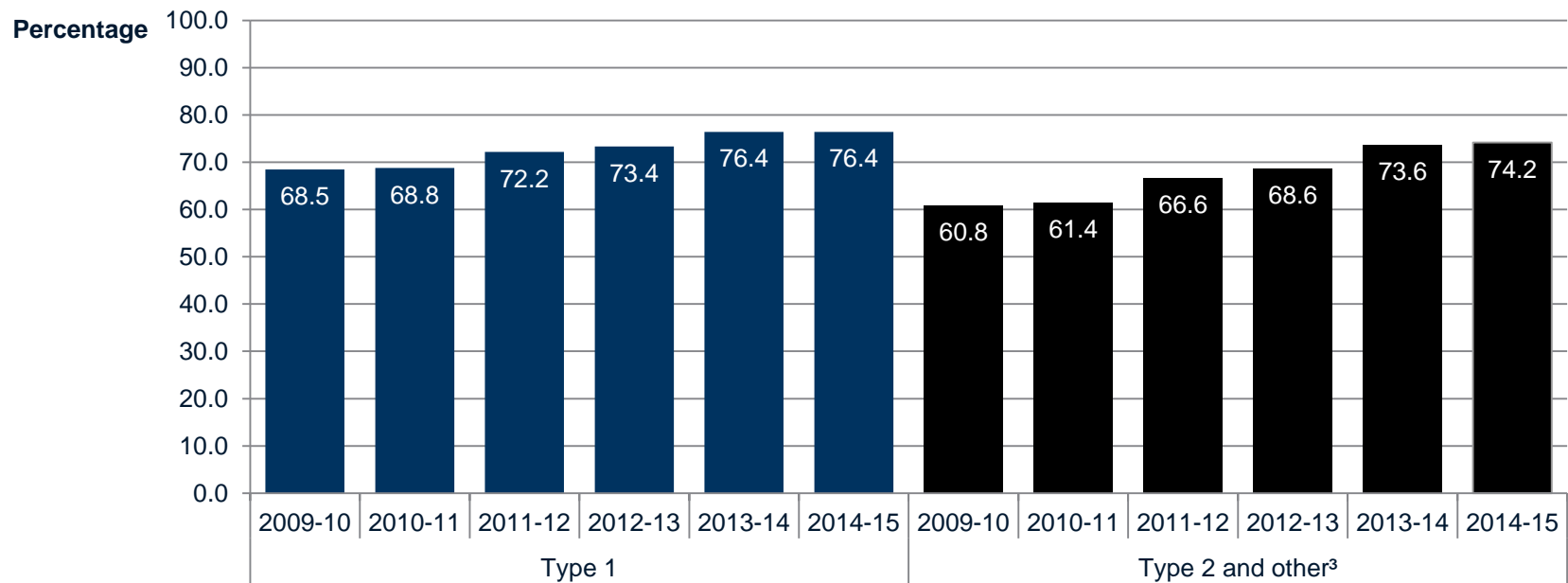
* The blood pressure target does not exactly match NICE (<140/80) but was changed to align with the relevant QOF indicator (≤140/80) . More information can be found [here](#)

Treatment Target – Blood Pressure

Key Finding

Blood pressure treatment target achievement ($\leq 140/80$) has been steadily improving over time.

Figure 8: Blood pressure treatment target achievement rate for people with diabetes in England and Wales by diabetes type and audit year

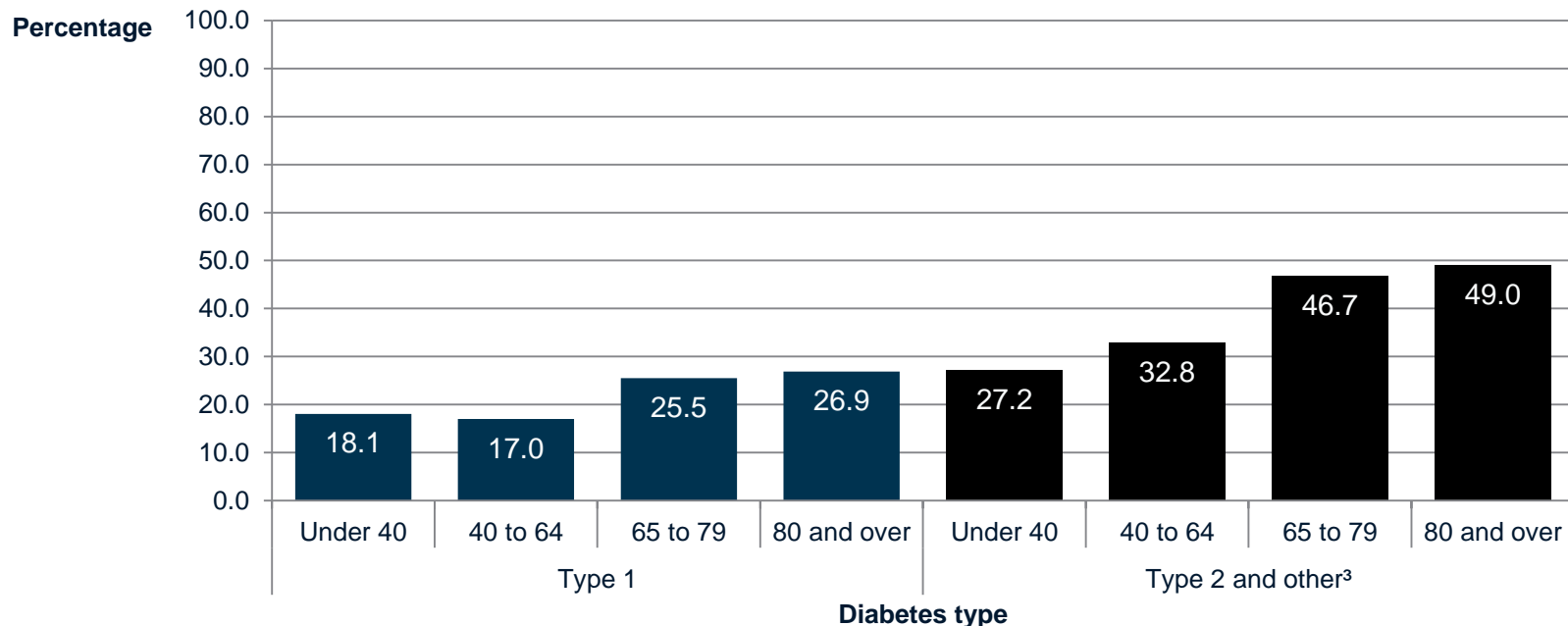


Treatment Target – By Age

Key Finding:

People aged under 65 with either Type 1 or Type 2 diabetes are much less likely to achieve the NICE treatment targets.

Figure 9: Percentage of all people with diabetes in England and Wales achieving all three treatment targets (HbA1c \leq 58 and BP \leq 140/80 and Cholesterol $<$ 5) by diabetes type and age group, 2014-15

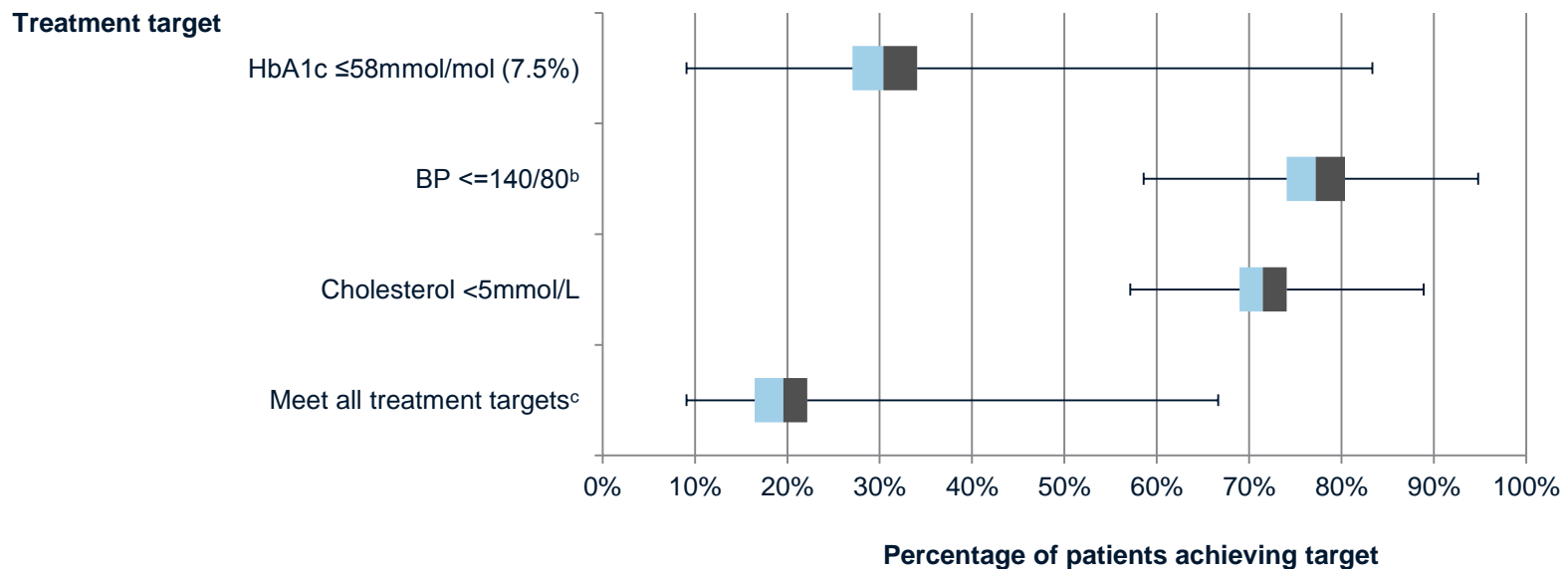


Local Variation - Treatment Target – Type 1 Diabetes

Key Finding

For people with Type 1 diabetes there is a large variation in treatment target performance between CCGs and LHBs.

Figure 10: The range of CCG/LHB treatment target achievement for people with Type 1 diabetes in England and Wales, 2014-15

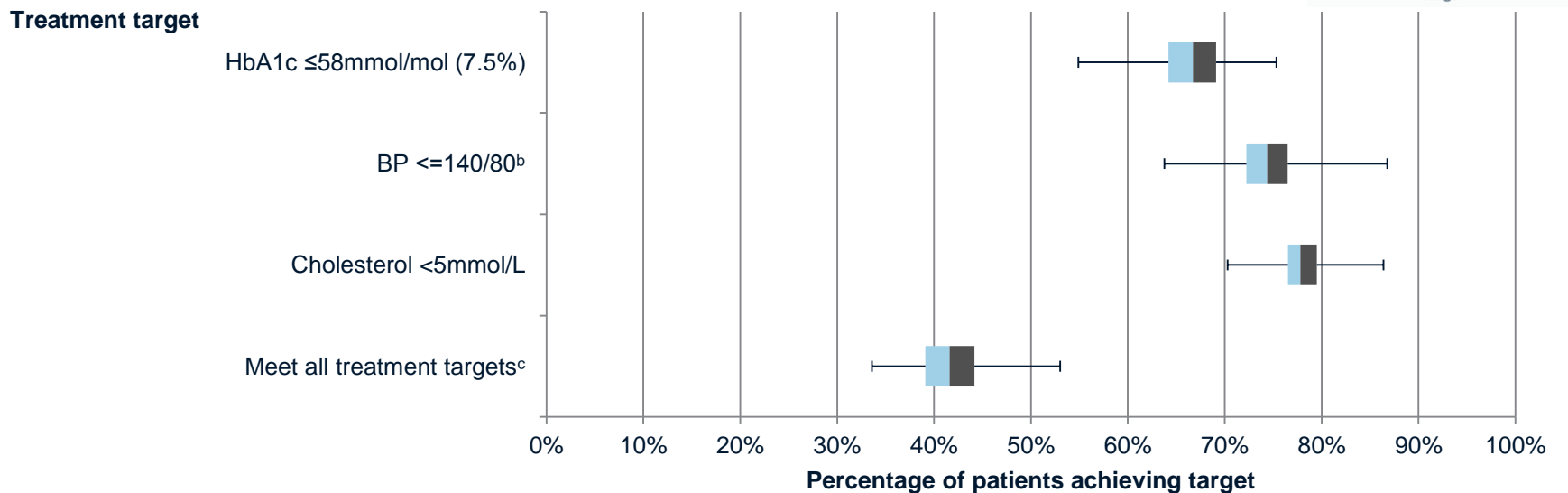


Local variation - Treatment Target – Type 2 Diabetes

Key Finding

For people with Type 2 diabetes the range of variation in treatment target achievement is still appreciable but less than for people with Type 1.

Figure 11: The range of CCG/LHB treatment target achievement for people with Type 2 and other diabetes in England and Wales, 2014-15



Treatment Targets: Comment

The improvement in blood pressure results, prioritised for improvement in earlier NDA reports, are an important and substantial achievement. They will mean fewer heart attacks and strokes and less acceleration of eye and kidney disease.

However, blood glucose control remains high risk in most people with Type 1 diabetes and in all younger people with diabetes.

Recommendations:

- **Continue to prioritise improved blood pressure management**
- **Seek out better ways of achieving lower risk blood glucose levels in people with diabetes of working age and younger**
- **Foster local and regional networks to share successful systems of care and reduce variation**

National Diabetes Audit

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

Definitions

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 over-weight

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.

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 – GN17: 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 MODY, other and non specified diabetes type.
4. The eye screening care process is not included in this table; therefore 'eight care processes' comprises the eight care processes that are listed above.

Additional Information

For more information and the accompanying excel documents and data please visit the HSCIC website.

<http://www.hscic.gov.uk/pubs/ndauditcorerep1415>

- National Report (pdf)
- Power point slide set
- Excel version of the tables and charts found in this report
- The GP practice level data spreadsheet for England, including an interactive report
- The Local Health Board level data spreadsheet for Wales, including an interactive report
- The Specialist Service level data spreadsheet for participating services, including an interactive report
- The data quality statement
- The methodology document

Prepared in collaboration with:



The Healthcare Quality Improvement Partnership (HQIP). The National Pregnancy in Diabetes Audit is commissioned by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit Programme (NCA). 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 NCA 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.



The Health and Social Care Information Centre (HSCIC) is the trusted source of authoritative data and information relating to health and care. The HSCIC managed the publication of the annual report.



Diabetes UK is the largest organisation in the UK working for people with diabetes, funding research, campaigning and helping people live with the condition.

Supported by:



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.

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