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National Diabetes Insulin Pump Audit Report, 2013-15

England

The Healthcare Quality Improvement Partnership (HQIP). The National 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.

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This report may be of interest to members of the public, policy officials and other stakeholders to make local and national comparisons and to monitor the quality and effectiveness of services.

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Foreword

We welcome the publication of the first pump audit from the National Diabetes Audit (NDA), which carries on the work started by the national pump audit conducted by NHSE in 2012. Despite the limited data set with only 44 of the 183 pump services providing data in 2014-15, there is a suggestion that the uptake of pumps has increased over the last 3 years, although is still short of the levels suggested in NICE guidance. Insulin pump therapy has a pivotal role to play in the management of Type 1 diabetes; use in Type 1 diabetes is associated with improved quality of life and glycaemic control in addition to reductions in hypoglycaemia, DKA admissions and, according to more recent evidence, cardiovascular mortality.

As such, NICE provides clear guidance on the role of insulin pumps in Type 1 diabetes management. The roll out of this addition to the NDA represents a long awaited opportunity to gain insight into the real life impact of insulin pump technology.

Key messages from this audit are that
1- A slightly higher proportion start Continuous Subcutaneous Insulin Infusion (CSII) due to problematic hypoglycaemia than to improve control.
2- Despite this, there is an overall improvement in glucose control when we compared HbA1c before and after, with 18% more patients achieving HBA1c $\leq$ 58 mmol/mol (7.5%), although there are still up to 10% CSII users with HBA1c >= 86mmol/mol (10%). We still need to work on optimising pump therapy as a whole, with 61% not achieving HbA1c of $\leq$ 58 mmol/mol (7.5%) at all.
3- The current data collection system needs improvement, as evidenced by issues with coding, low response rates and limited information about hypoglycaemia reductions.

Audit and benchmarking of services are key tools in improving overall care and reducing geographical variations, as seen by the impact of the national in-patent audits and the Hvidore and Sweet programs in Paediatric diabetes. They allow sharing of best practice and protocols from teams with good results, and helping those not doing so well to learn, focus and possibly fight for resources where teams may be struggling. Finding ways to get more teams signed up to the audit and simplifying the data collection process are key challenges for the team for the next round. Countries such as Denmark, Sweden, Germany and Austria, with national registries for people with diabetes, are able to accurately report the impact of different technologies.

The NICE TA 151 did recommend that all pump units should be keeping audit data, and funders as well as clinicians need to know that decisions for CSII are yielding clinical benefit. It is reassuring to see that this is the case certainly among the 5,000 or so patients whose data were entered across the 44 participating sites. Through the Insulin Pump Network [IPN-UK], ABCD are looking to support the NDA in achieving a more complete dataset next year.

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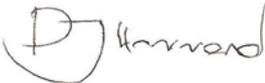
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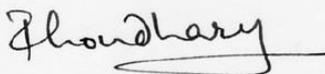
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Emma Wilmot, Peter Hammond and Pratik Choudhary are all founding members of the ABCD Insulin Pump Network UK (www.ipn-uk.co.uk)

Executive summary

Background

The Insulin Pump Audit is part of the National Diabetes Audit programme (NDA), and is commissioned by the Healthcare Quality Improvement Partnership (HQIP) as part of the National Clinical Audit programme (NCA). The NDA is managed by the Health and Social Care Information Centre (HSCIC) in partnership with Diabetes UK and is supported by Public Health England (PHE).

The Insulin Pump Audit collects information on the number and characteristics of people with diabetes using an insulin pump, the reason for going on an insulin pump and the outcomes achieved since starting the pump. This is the first time that the NDA has included the opportunity to submit pump data. This first report provides preliminary national and local feedback about pump use and also assesses the ways in which changes to the data submission process could improve the analysis, feedback and information for the future. Accordingly, there are a number of data quality issues to be aware of when looking at this report regarding coverage and so appropriate caution should be exercised when interpreting the analyses.

National standards for the use of insulin pumps were set out in National Institute for Health and Clinical Excellence (NICE) guidance - Continuous subcutaneous insulin infusion for the treatment of diabetes mellitus (NICE technology appraisal guidance [TA151] Published date: July 2008).

The guidance states that Continuous Subcutaneous Insulin Infusion (CSII) or 'insulin pump' therapy is recommended as a possible treatment for adults and children 12 years and over with Type 1 diabetes mellitus if:

- attempts to reach target haemoglobin A1c (HbA1c) levels with multiple daily injections result in the person having 'disabling hypoglycaemia', or
- HbA1c levels have remained high (70mmol (8.5%) or above) with multiple daily injections (including using long-acting insulin analogues if appropriate) despite the person and/or their carer carefully trying to manage their diabetes

CSII therapy is not recommended for the treatment of people with Type 2 diabetes mellitus.

Key findings

- It was feasible to collect data on insulin pump use as part of the NDA, however further investigation and communication is needed with insulin pump submitters to understand how the process can be improved for future years.

- Either people with Type 1 diabetes are being incorrectly classified as Type 2 or a substantial number of people with Type 2 diabetes are being treated with insulin pumps outside the NICE guidance.

- Although more males than females have diabetes, more females than males are treated with insulin pumps.

- The proportion of people on pumps is lower in areas with a higher degree of deprivation.

- Half of the people with Type 1 diabetes on a pump started within 17 years of diagnosis.

- The reason for starting pump treatment was not completed in a large number of records. Similarly there were frequent gaps in the records of whether treatment goals had been

attained. Among those with complete records a slightly higher proportion had started CSII due to problematic hypoglycaemia than to improve glucose control.

- People with Type 1 diabetes on an insulin pump are less likely to complete all 8 care processes than those not on a pump.

- The composite measure of attaining all three NICE treatment targets (HbA1c $\leq$58mmol/mol, BP $\leq$140/80, total cholesterol <5mmol/l) is more likely to be achieved by people with Type 1 diabetes on insulin pumps than those not on a pump.

- Although more people on pumps achieved HbA1c treatment targets, 10 per cent of patients using pumps had HbA1c levels $\geq$86mmol/mol (10%).

- Overall the data shows that pumps may be helping people with diabetes to control their long term blood sugar levels.

- The mean HbA1c reading is lower in people on an insulin pump compared to those not on an insulin pump.

- The spread of HbA1c values recorded both for people on pumps and people not on pumps shows that those on pumps are skewed to lower values.

Recommendations

- The National Insulin Pump Audit should be collected again for 2015-2016. HSCIC should work with insulin pump services to help improve the submission process

- HSCIC should review the data items collected and to look at collecting information about individual treatment targets.

- Services submitting data to the pump audit should ensure that they are also participating in the full NDA.

- Pump services should review the diagnostic classification of their patients currently coded as Type 2.

- Pump services should:
    - Ensure their patients get all annual care processes
    - Record accurately the treatment goals for starting pump treatment
    - Record reliably whether the treatment goal has been achieved, especially hypoglycaemia minimisation
    - When the HbA1c is in the high risk range consider whether pump treatment remains the best option

.

Participation

The pump audit data covers two audit periods and hospitals submitted data directly to the HSCIC for each period (2013-14 and 2014-15).

29 and 44 hospitals provided pump data in 2013-14 and 2014-15 respectively, with 22 providing data for both audit periods.

Table 1 shows the number of hospitals that submitted to both the NDA and Insulin Pump Audit, the number of hospitals that submitted insulin pump data only, and the number of hospitals that submitted to the NDA only.

Table 1: Hospital Participation in the NDA and Insulin Pump Audit for 2013-14 and 2014-15

Audit Participation	Number of Hospitals Participating	
	2013-2014	**2014-2015**
Insulin pump and NDA	26	42
Insulin pump only	2	2
NDA only	51	57

*one hospital supplied information but had no people on insulin pump and therefore have not been included in the report.

During the NDA collection window the insulin pump data was collected alongside the NDA care processes and treatment target data using a single excel proforma. The Insulin Pump Team were required to liaise with their wider Diabetes Team and clinical audit/information departments to ensure that the correct information was submitted to cover both audits for both audit years. Unfortunately an error occurred during submission of this file which consequently caused the insulin pump data to become corrupted.

As a result, participating organisations were contacted and asked to re-submit their insulin pump data. A new proforma was created that only included the insulin pump data. The data was then linked at the HSCIC to the corresponding NDA care process and treatment target records.

Both submission methods highlighted issues. As this is a new audit, many questions were raised about how to collate the information and how to submit the data. In particular, hospitals participating in both the insulin pump audit and the NDA expressed confusion over how to submit the data when presented with just one proforma containing both sets of data and additionally who they needed to contact within their own hospital to collate the corresponding information. Allowing the departments to submit the insulin pump data separately and then linking the data to the NDA at the HSCIC worked well in terms of ease of participation, however this was not without issues related to matching hospital codes etc (see methodology document).

Key Finding: It was feasible to collect data on insulin pump use as part of the NDA, however further investigation and communication is needed with insulin pump submitters to understand how the process can be improved for future years.

Data collection

The majority of the data for the insulin pump audit was collected and submitted by hospitals' diabetes pump units.   This information was then matched to the same hospital / units National Diabetes Audit (NDA) submission. The NDA data provided the patient characteristics and the care process and target completion data for before and after the person started insulin pump therapy.

Methodology

There were 28 organisations in 2013-14 and 44 organisations in 2014-15 that submitted data for patients on an insulin pump.

The pump data was then matched to the relevant National Diabetes Audit (NDA) period, where it was found that a number of hospitals only participated in the pump audit and not the NDA.

Overview of data quality concerns:-

- Matching by NHS Number, Organisation code and Audit period to the NDA records has meant that two hospitals in 2013-14, and two hospitals in 2014-15 did not have corresponding NDA data. This meant that their data could not be included in this report. In 2013-14 one hospital provided data covering more than one NDA submission period and one hospital did not match any NDA secondary care records. In 2014-15 both hospitals provided data covering more than one NDA submission period.

- Therefore in total, 26 organisations for 2013-14 and 42 organisations for 2014-15 are included in this report.

- Two organisations in 2013-14 and six organisations in 2014-15 had submitted an organisation code that did not match to the NDA records. On investigation, we were able to map these organisations so that their data could be included in this report.

Throughout this report the people classed as 'not on pump' are those people that are attending a specialist service which has participated in the pump audit and also participated in the NDA but the person is not receiving insulin pump therapy.

Data Quality

Table 2 shows the number of completed records for each item submitted. The reason for starting pump and what the treatment goal was were not completed for all records. This includes information for people on insulin pumps captured as part of the audit linked to the NDA.

**Table 2: Completeness of the pump data submitted, linked to the NDA**

Column on the collection form	2013-14		2014-15	
	Response	**Percentage Completed**	**Response**	**Percentage Completed**
Reason for starting Pump				
Hypoglycaemia Reduction	915	27.5	1,531	28.8
Glucose Control	810	24.4	1,494	28.1
Other	211	6.3	359	6.8
Treatment Goals				
Hypoglycaemia Reduction	1,635	49.2	2,744	51.7
Glucose Control	1,770	53.3	2,936	55.3
Year started Using Pump	3,070	92.4	4,981	93.8

Characteristics of people included in the audit

Type of diabetes

Figure 1 shows that the majority of people on pumps are recorded as having Type 1 diabetes (4,348). However 964 people on pumps (18.1 per cent) were recorded as having Type 2 or other diabetes in 2014-15. Exploration of different data sources (e.g. specialist and GP submissions) does not reveal significant discrepancies in coding of diabetes type. However uncertainty remains as to whether these are genuinely people with Type 2 or other diabetes or whether they have been mis-coded.

Figure 1: The distribution of diabetes type for those on pump and all people with diabetes attending specialist services, 2014-15
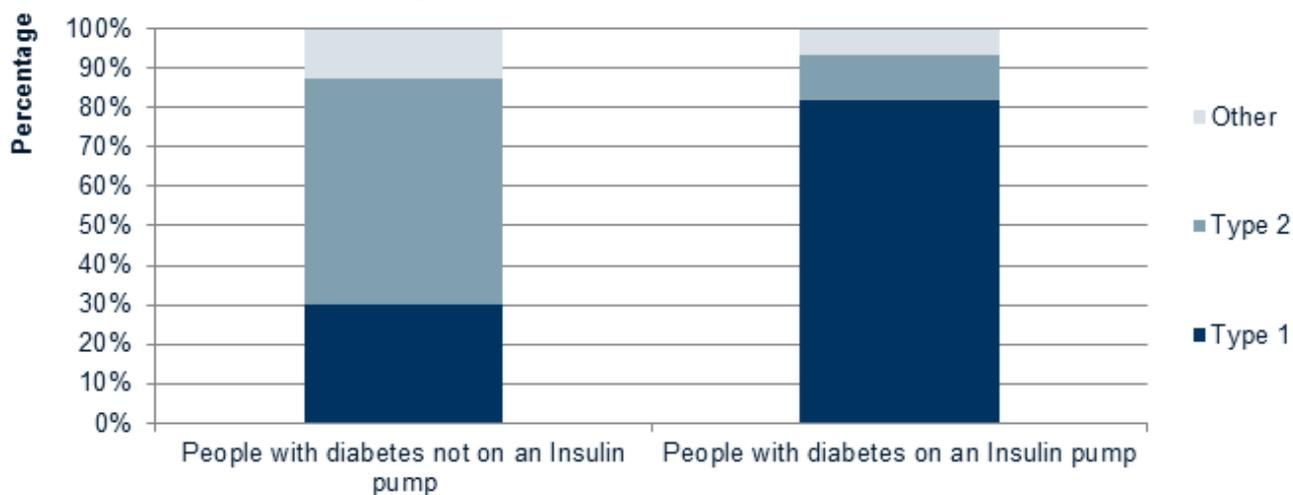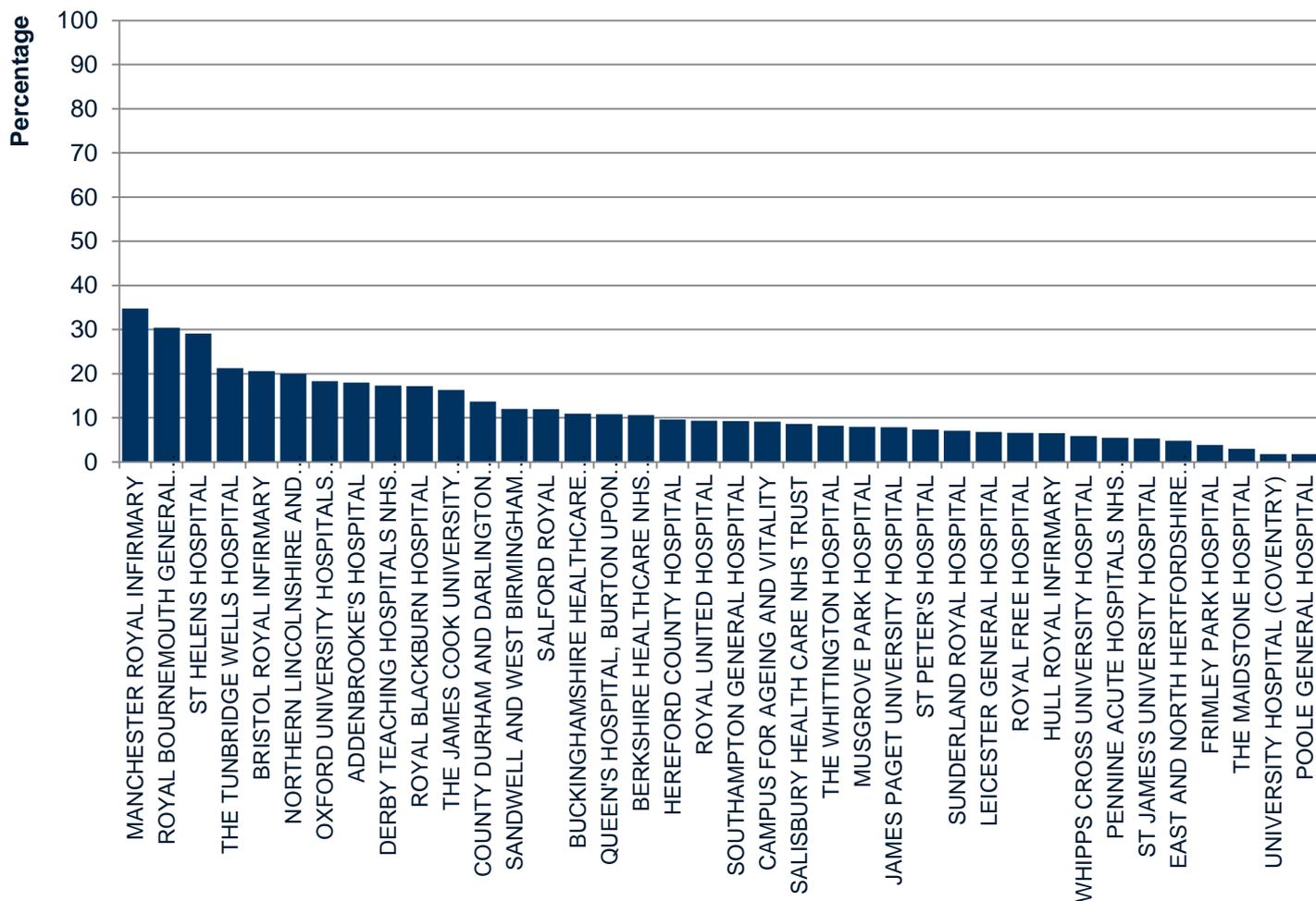

Key Finding: Either people with Type 1 diabetes are being incorrectly classified as Type 2 or a substantial number of people with Type 2 diabetes are being treated with insulin pumps outside the NICE guidance.

As we have concerns as to whether Type 2 patients are correctly coded we have removed Type 2 patients from the following charts. Only results for people with Type 1 diabetes are shown.

Figure 2 shows a large variation in the proportion of pump treatment among all people with diabetes attending each of the participating specialist services. Four specialist services appear to have provided data only for their pump patients (these are not all 100% due to the nature of the matching to the NDA, some individuals may have been matched to another participating NDA specialist service), therefore, excluding these outliers, the range varies from 34.8 per cent to 1.8 per cent for people with Type 1 diabetes.

Figure 2: Percentage of people on pump by participating specialist service, Type 1 diabetes, 2014-15

In 2014-15, the proportion of people with Type 1 diabetes attending participating specialist services and treated with an insulin pump is 12.2 per cent (the four specialist services highlighted as outliers are not included in this calculation).

Recommendation: Services submitting data to the pump audit should ensure that they are participating in the full NDA.

Age and gender

Figure 3 shows the age distribution of people on an insulin pump compared to those not on a pump. The age distribution for people with Type 1 diabetes follows a similar pattern for those on an insulin pump versus those not on an insulin pump.

Figure 3: The percentage of those on pump in each age group compared to the overall hospital percentage, Type 1 diabetes, 2014-15
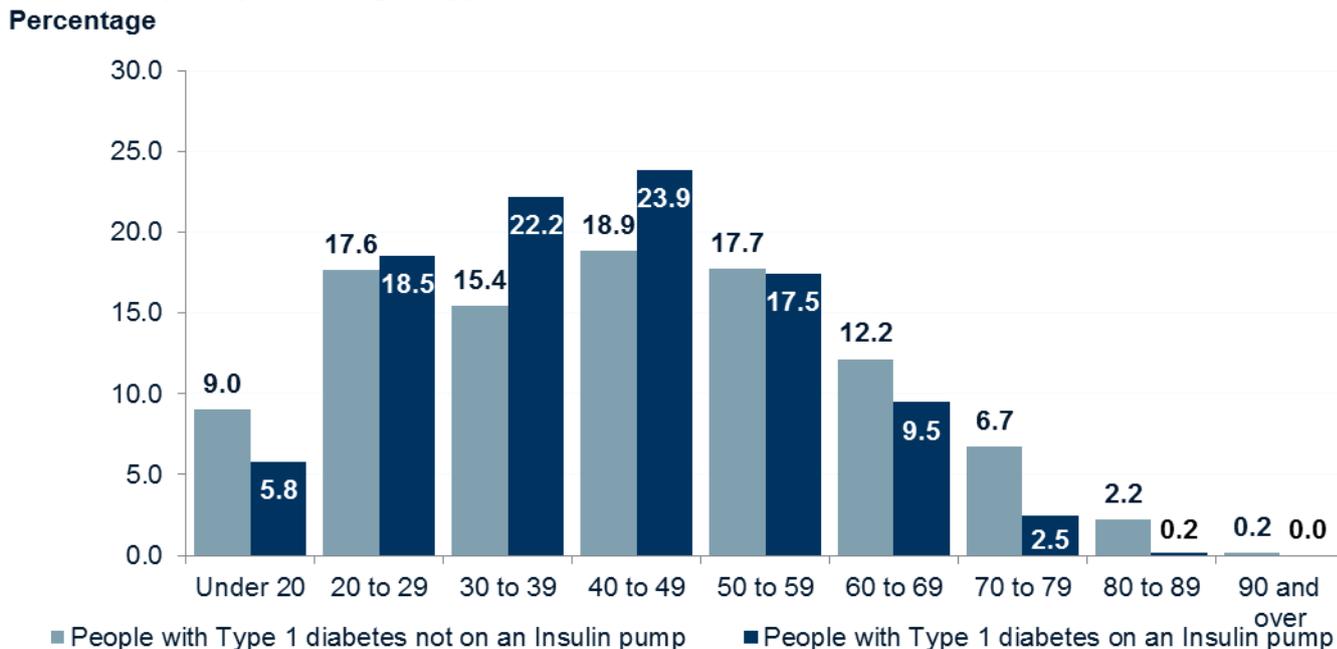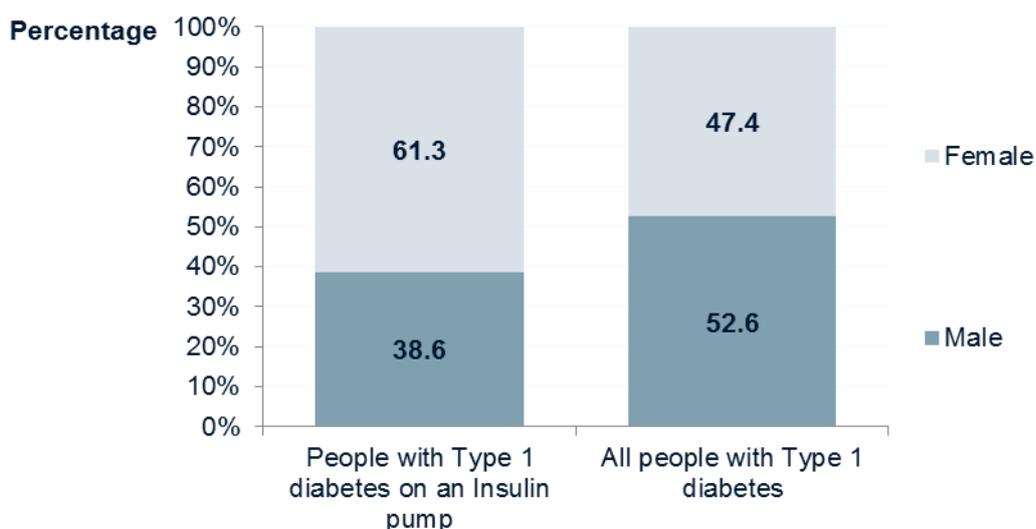
Percentage

■ People with Type 1 diabetes not on an Insulin pump ■ People with Type 1 diabetes on an Insulin pump

Figure 4: The percentage of those on pump by sex and diabetes type compared to the overall hospital percentage, Type 1 diabetes, 2014-15


Key Finding: Although more males than females have diabetes, more females than males are treated with insulin pumps (Figure 4).

Deprivation

Figure 5 shows the distribution of deprivation quintiles among people with diabetes on pump compared to those not on pumps.

**Figure 5: The percentage of those on pump in each IMD quintile compared to those not on pump, Type 1 diabetes, 2014-15**

■ People with Type 1 diabetes not on an Insulin pump   ■ People with Type 1 diabetes on an Insulin pump
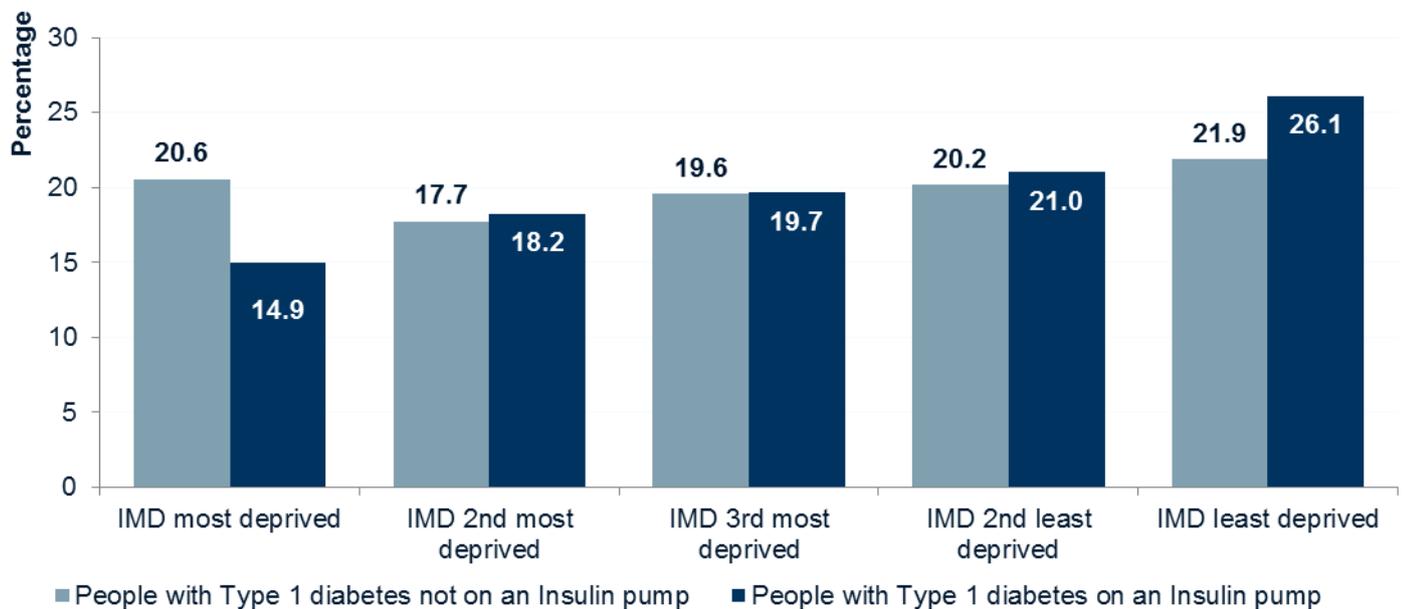
Key Finding: The proportion of people on pumps is lower in areas with a higher degree of deprivation.

Length of time on Insulin pump

The average length of time on insulin pump for people in the audit is 5 years. The majority of people have started pump treatment during the last 9 years, which coincides with improvements in pump technology and the introduction of the NICE guidance (2008).

Figure 6: Number of people by duration on pump, Type 1 diabetes, 2014-15
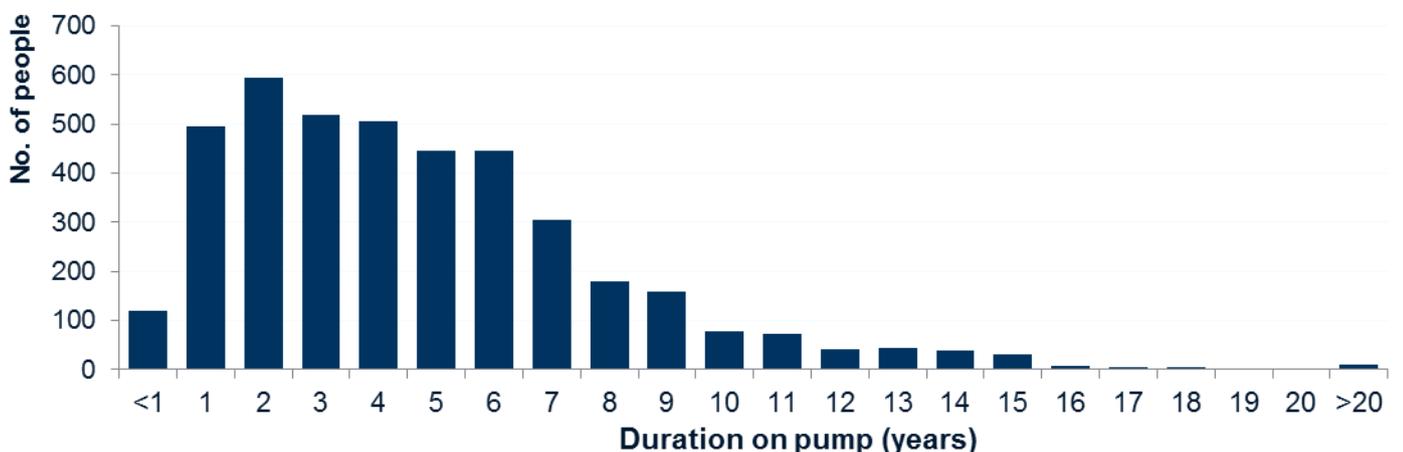
Duration of diabetes before starting on Insulin pump

Figure 7: Number of people by duration of diabetes prior to starting pump, Type 1 diabetes, 2014-15
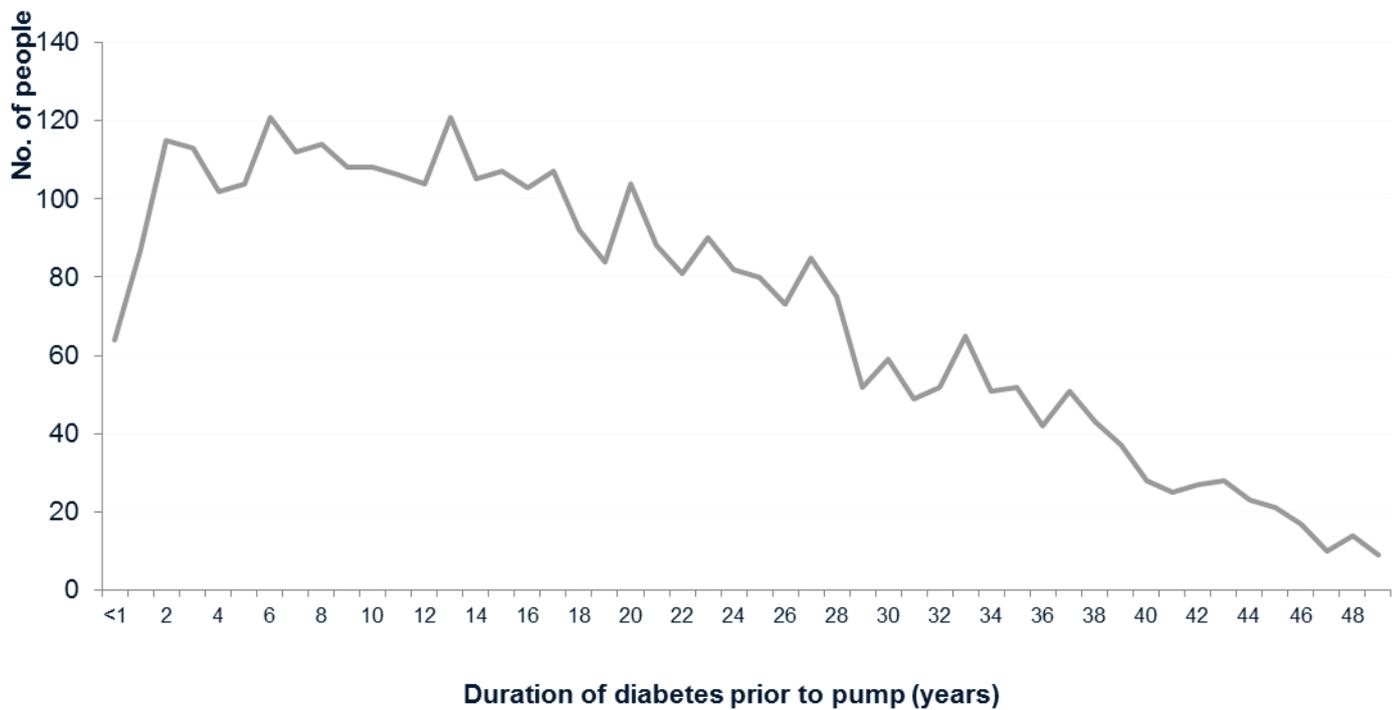
Key Finding: Half of those people with Type 1 diabetes on a pump started within 17 years of diagnosis (Figure 7).

Reason for Starting Pump and Treatment Goal Achievement

Information for 3,323 people on insulin pump treatment in 2013-14 and 5,312 people in 2014-15 was linked to the NDA database and included in this report. The tables below include information for all people with diabetes and is not limited to those with Type 1 diabetes. These tables illustrate the reason the person started their pump therapy and whether they have achieved their personal treatment goals.

The Insulin Pump Audit collected information for the reason the person was put on insulin pump treatment and whether they achieved their treatment goals. There were issues around the quality of this data as not all records were completed.

For those records completed, Table 3 shows the number of people that were put on an insulin pump for either hypoglycaemia reduction or glucose control in the 2013-14 and 2014-15 audits. Individuals may be included in more than one reason. Table 4 and 5 show the number of people reaching their personal treatment goals for reducing the cases of hypoglycaemia and controlling their blood glucose levels. These tables are not limited by the reason the person was put on a pump as a person may have started pump therapy for one or more reasons.

Table 3: The reason for starting pump, for all diabetes types

Reason for Starting Pump	Number of people 2013-14	Number of people 2014-15
Hypoglycaemia Reduction	915	1,531
Glucose Control	810	1,494

Table 4: The number of people that reached their hypoglycaemia reduction treatment goals following starting pump, for all diabetes types

Treatment Goal attained	Number of people 2013-14	Number of people 2014-15
Yes	792	1,609
No	101	247
N/A	215	200
Unknown	527	688
Missing	1,688	2,568
Total	**3,323**	**5,312**

Table 5: The number of people that reached their glucose control treatment goal following starting pump therapy, for all diabetes types

| Treatment Goal attained	2013-14	2014-15
Yes	712	1,492
No	204	557
N/A	143	143
Unknown	711	744
Missing	1,553	2,376
Total	**3,323**	**5,312**

Key Finding: The reason for starting pump treatment was not completed in a large number of records. Similarly there were frequent gaps in the records of whether treatment goals had been attained. Among those with complete records, a slightly higher proportion had started CSII due to problematic hypoglycaemia than to improve glucose control.

Care processes and treatment targets

The following analysis covers the people in both audit periods, and groups the data for both audit years together, this is to provide more robust data and enhance the potential for identifying differences of statistical significance.

Figure 8: The care process completion rates for people with Type 1 diabetes on an insulin pump compared to those not on a pump in audit period 2013-15
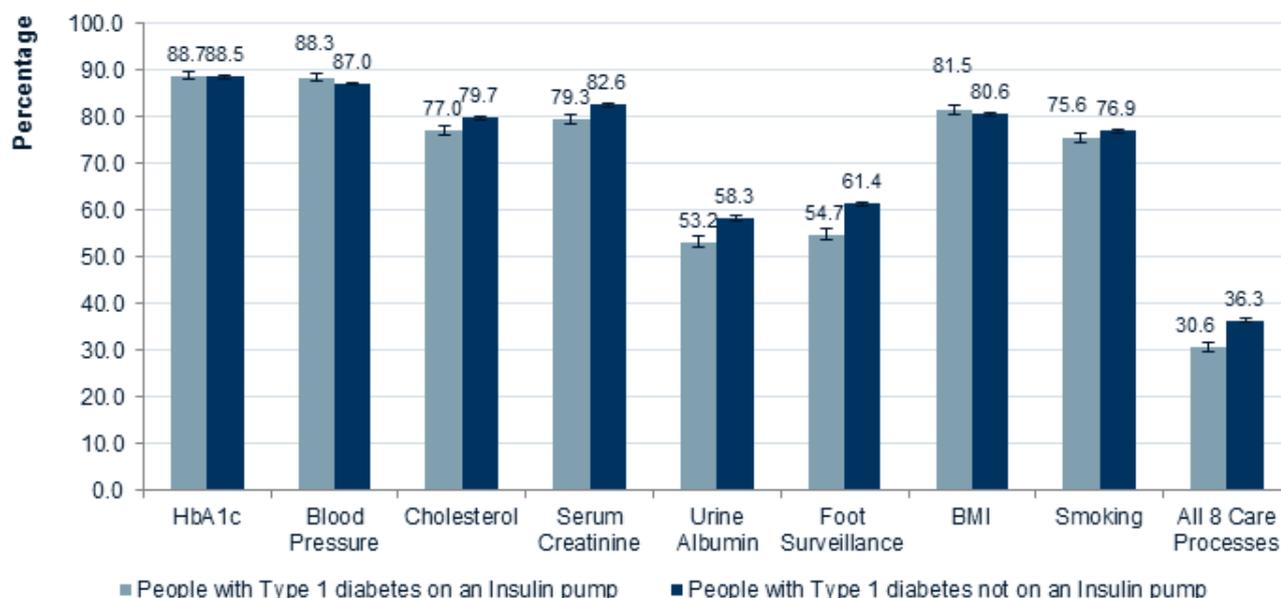
Key Finding: People with Type 1 diabetes on an insulin pump are less likely to complete all 8 care processes than those not on a pump

Figure 9: The treatment target achievement rates for people with Type 1 diabetes on an insulin pump compared to those not on a pump in audit period 2013-15
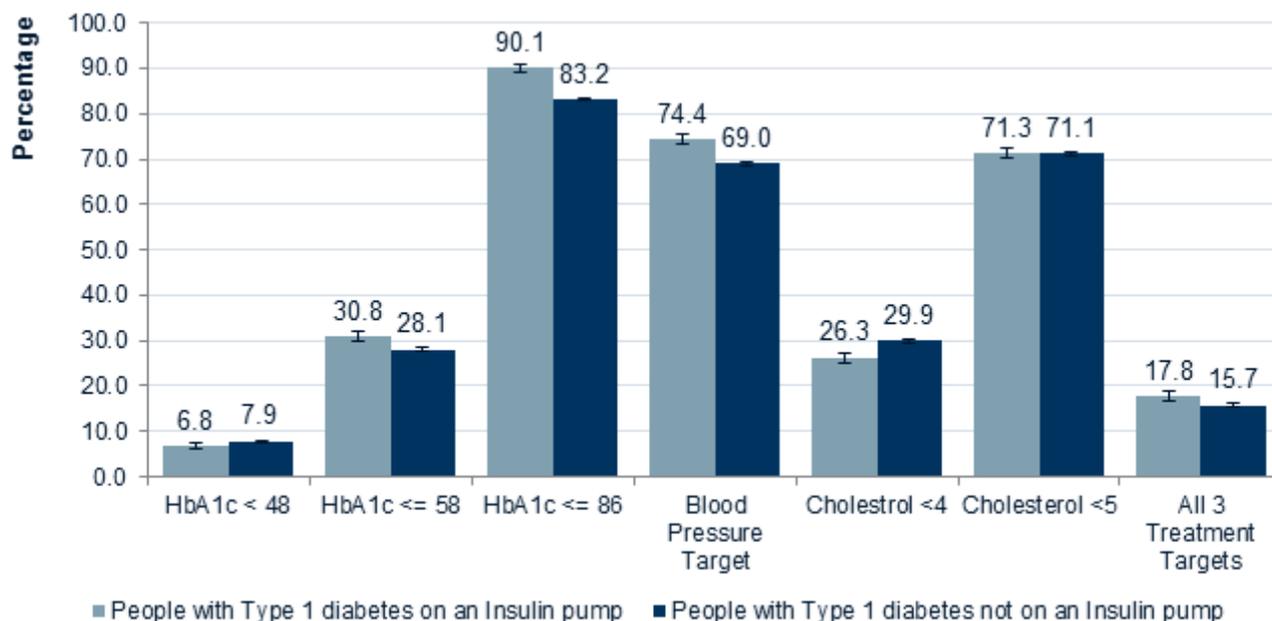
The insulin pump data was matched to the NDA data to understand if people with diabetes on an insulin pump were more likely to reach the NICE treatment targets for blood pressure, cholesterol and HbA1c. The insulin pump audit did not collect information about whether people had been set individual targets.

Key Finding: The composite measure of attaining all three NICE treatment targets (HbA1c ≤58mmol/mol, BP ≤140/80, total cholesterol <5mmol/l) is more likely to be achieved by people with Type 1 diabetes on insulin pumps than those not on a pump.

Key Finding: Although more people on pumps achieved HbA1c treatment targets, 10 per cent of patients using pumps had HbA1c levels ≥86mmol/mol (10%).

Figure 10: Mean HbA1c score for those on an insulin pump compared to those not on a pump in audit period 2013-15, Type 1 diabetes
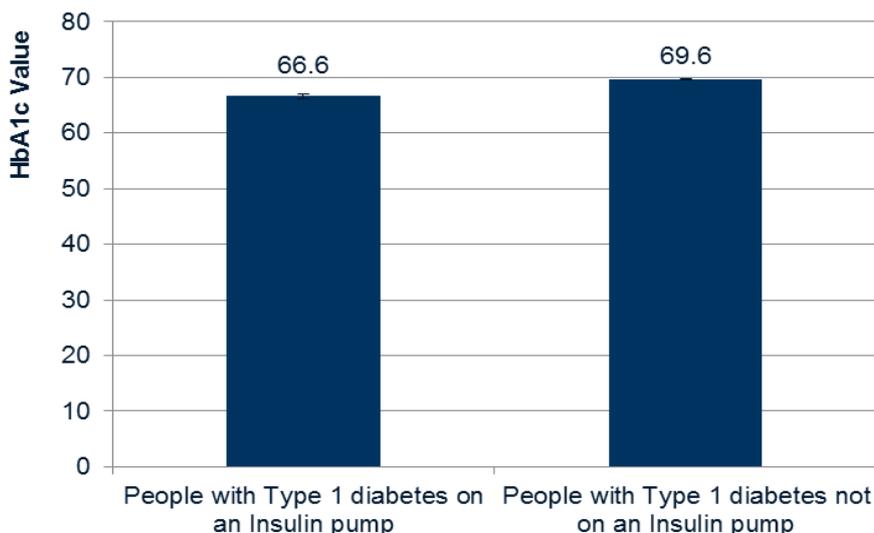
Key finding: The mean HbA1c reading is lower in people on an insulin pump compared to those not on an insulin pump

Cohort Analysis

A cohort of people that had HbA1c values recorded in NDA in the year (or two) before and after they started their pump therapy were used in the following analysis; these are people that had a HbA1c reading in the year (or two) prior to starting Insulin pump and had a reading in the year (or two) following the start of their pump therapy. Readings within the same year as starting insulin pump therapy where not included in this analysis.

Table 6: The percentage of people with Type 1 diabetes achieving the HbA1c treatment targets before and after going on pump, 2013-15

	Type 1	
	Before	After
HbA1c < 48 mmol/mol (6.5%)	4.7	6.5
HbA1c ≤58 mmol/mol (7.5%)	21.1	32.4
HbA1c ≤86 mmol/mol (10.0%)	84.3	91.2

Figure 11: The distribution of HbA1c readings for people with Type 1 diabetes prior to pump therapy and after starting pump therapy, 2013-15
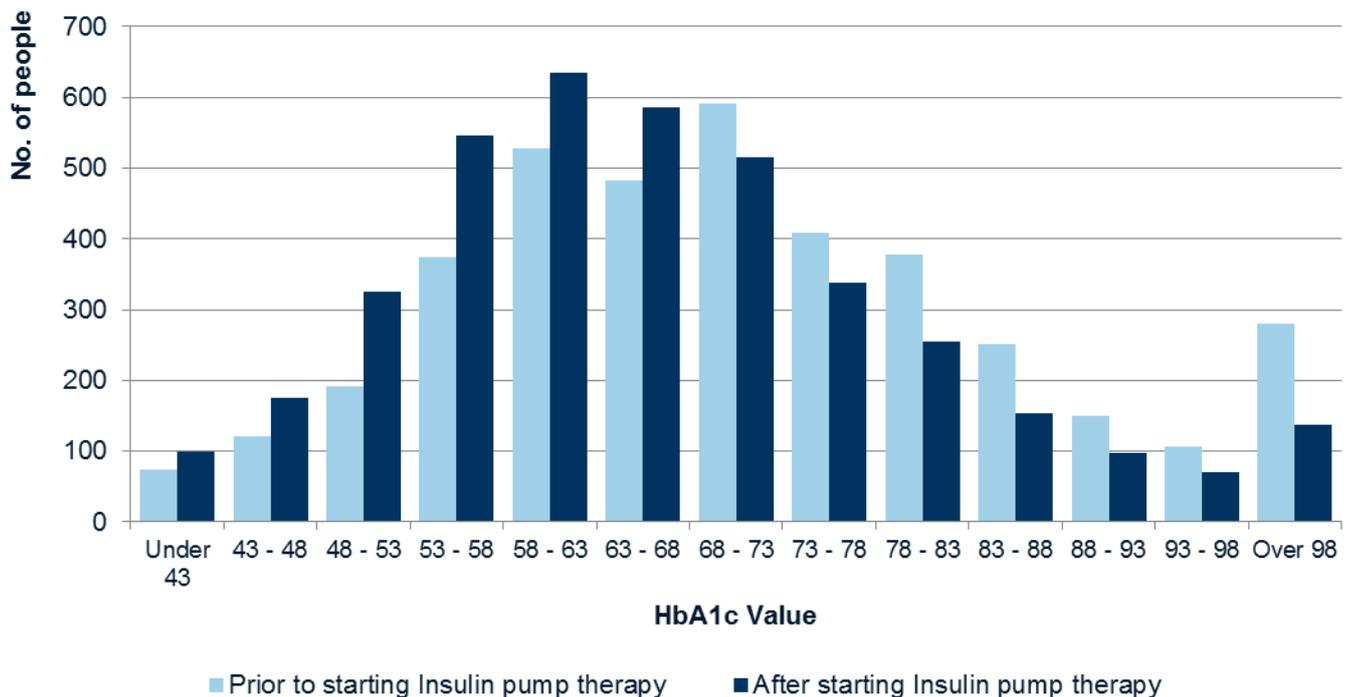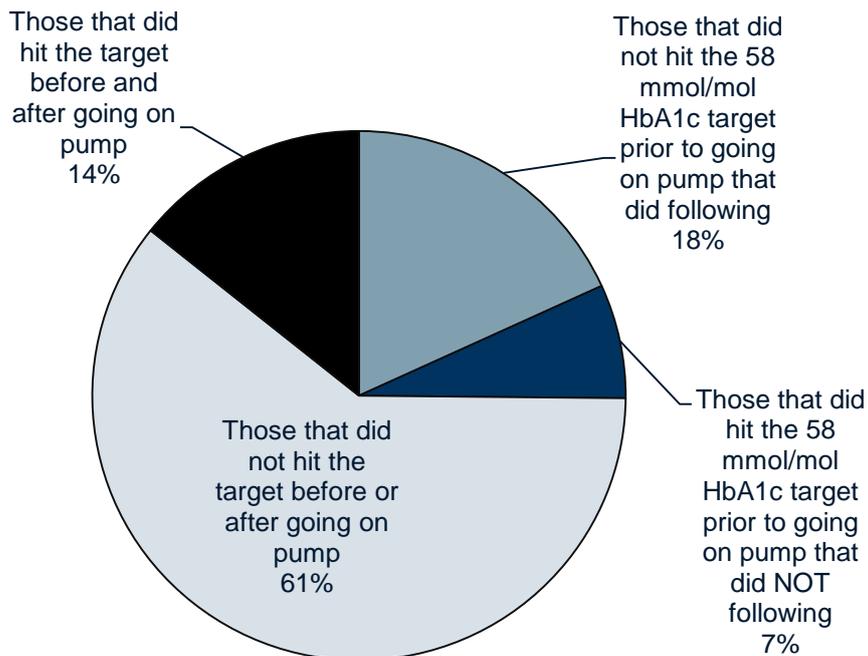

64.8 per cent of the Type 1 cohort showed a decrease in HbA1c following starting pump therapy and 33.4 per cent showed an increase.

Key Finding: The spread of HbA1c values recorded both for people on pumps and people not on pumps shows that those on pumps are skewed to lower values.

Figure 12 shows that 18 per cent of people in the cohort were not achieving the HbA1c treatment target before they started pump therapy, but subsequently did. There are a large percentage of people in the cohort that did not achieve the target before or after they started pump therapy, however earlier analysis does show that the average HbA1c levels for those on pumps are lower than those not on a pump even though it is above the target of 58 mmol/mol.

Figure 12: Change in achievement of 58 mmol/mol HbA1c treatment target for people with Type 1 diabetes following pump therapy, 2013-15

Those that did hit the target before and after going on pump
14%

Those that did not hit the 58 mmol/mol HbA1c target prior to going on pump that did following
18%

Those that did not hit the target before or after going on pump
61%

Those that did hit the 58 mmol/mol HbA1c target prior to going on pump that did NOT following
7%

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.

Insulin pump Therapy - also known as continuous subcutaneous **insulin** infusion (CSII), involves wearing a device (**insulin pump**) which provides a steady stream of **insulin** into your body.

Confidence interval
A range of values that assesses the level of uncertainty in an estimate that is caused by only obtaining values for a sample from the population. The 95 per cent confidence interval gives the range in which you would expect the true value to fall 95 times if 100 samples were selected. These are shown as error bars in the figures as appropriate.

Further information on NICE guidelines and technical documents

1. NICE recommended care processes http://www.nice.org.uk/guidance/conditions-and-diseases/diabetes-and-other-endocrinal--nutritional-and-metabolic-conditions/diabetes
2. National Service Framework (NSF) for Diabetes https://www.gov.uk/government/publications/national-service-framework-diabetes

3. NICE Clinical Guidelines – 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
4. NICE guidance - Continuous subcutaneous insulin infusion for the treatment of diabetes mellitus (NICE technology appraisal guidance [TA151] Published date: July 2008).
https://www.nice.org.uk/guidance/ta151

Screen Shot of Data Collection Proforma

Pump audit template (2) - Microsoft Excel

	A	B	C	D	E	F	G	H	I	J
1										
2										
3	How to complete this spreadsheet									
4										
5	Work Sheets									
6	Please use Pump data template 13_14 for your 2013-14 data									
7	Please use Pump data template 14_15 for your 2014-15 data									
8										
9	Questions	Response								
10	Patient's NHS number	10 digit number								
11	Organisation code	ODS organisation code. Please complete for all records								
12	Is the patient on Insulin Pump?	1 Yes, 2 No								
13	Reason for patient being put on a pump	Complete with a '1' for all reasons which apply								
14	Have treatment Goals been achieved for: Hypos, Glucose contr	1 Yes, 2 No, 3 Not Applicable, 4 Unknown								
15	Year started Using Pump	format YYYY								
16										
17										
18	How to return this spreadsheet back to the National Diabetes Audit									
19										
20	Please add your org code to the filename. If you do no know your organisation code, you can use this online tool to search for your code:						http://nww.hscic.gov.uk/ods/enquiries/searchonpcad/			
21										
22	Once you have completed your insulin pump patients information refresh the Data Depot page, the 'Upload' link should become blue and available to click. You can then use this to upload your data.									
23										

Pump audit template (2) - Microsoft Excel

	A	B	C	D	E	F	G	H	I	J	K
1				Reason for patient being put on a pump				Have treatment Goals been achieved for:			
2	NHSNumber	Organisation code	Is patient on an insulin pump?	Hypoglycaemia Reduction	Glucose Control	Other	Unknown	Hypos	Glucose control	Year started Using Pump	
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List of Participating Specialist Services

Abbey Court
Addenbrooke's Hospital
Berkshire Healthcare NHS Foundation Trust
Berkshire Healthcare NHS Trust Headquarters
Bradford Teaching Hospitals NHS Foundation Trust
Bristol Royal Infirmary
Buckinghamshire Healthcare NHS Trust
Campus For Ageing And Vitality
County Durham And Darlington NHS Foundation Trust
Derby Teaching Hospitals NHS Foundation Trust
East And North Hertfordshire NHS Trust
Frimley Park Hospital
Hereford County Hospital
Hull Royal Infirmary
James Paget University Hospital
Kingston Hospital
Leicester General Hospital
Manchester Royal Infirmary
Musgrove Park Hospital
Northern Lincolnshire And Goole NHS Foundation Trust
Oxford University Hospitals NHS Foundation Trust
Pennine Acute Hospitals NHS Trust
Poole General Hospital
Queen's Hospital, Burton Upon Trent
Royal Blackburn Hospital
Royal Bournemouth General Hospital
Royal Free Hospital
Royal United Hospital
Russells Hall Hospital
Salford Royal
Salisbury Health Care NHS Trust
Sandwell And West Birmingham Hospitals NHS Trust
Sandwell General Hospital
Southampton General Hospital
St George's Hospital (Tooting)
St Helens Hospital
St James's University Hospital
St Peter's Hospital
Sunderland Royal Hospital
The James Cook University Hospital
The Maidstone Hospital
The Royal London Hospital
The Tunbridge Wells Hospital
The Whittington Hospital
University Hospital (Coventry)
Whipps Cross University Hospital

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