



Health & Social Care
Information Centre

National Diabetes Insulin Pump Audit

Data Quality Statement, 2013-15



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This report is of particular interest to healthcare providers and commissioners to monitor the quality and effectiveness of services, researchers and charities working on this subject and to members of the public.

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Introduction

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 (CSII) 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.

Through participation in the audit, local services are able to benchmark their performance and identify where they are performing well, and improve the quality of treatment and care they provide. On a national level, wide participation in the audit also provides an overview of the quality of care being provided in England.

Relevance

Data is collected via manual extraction from Pump Specialist Services. The audit is a voluntary audit, there were 99 hospitals which participated in 2014-15 to the National Diabetes audit and the data for 42 pump specialist services were included in the report (2014-15). Table 1 shows the number of hospitals that submitted to the NDA and insulin pump audit, the number that submitted only insulin pump data, and the number that participated in the NDA only.

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

Audit Participation	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 so have not been included in the report.

The information collected from specialist services for the audit are individual level data and so contained variables used to link data to the NDA. The demographic information such as age, sex, ethnicity, diabetes duration and some geographic variables such as postcode, were matched from the relevant audit year from the NDA. A few hospitals participated in only the Insulin Pump and this information has not been included within the report.

During the NDA collection window the insulin pump data was collected alongside the NDA care processes and treatment target data. A single excel proforma was used. This meant that the insulin pump team needed to liaise with the wider Diabetes Team and their clinical audit/information departments to ensure that the correct information was submitted to cover both audits. Unfortunately an error occurred during submission of this file causing the insulin pump data to corrupt on submission.

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 there were lots of questions raised about how to collate the information and how to submit the data. In particular, hospitals participating in both insulin pump audit and the NDA seemed to be confused about how to submit data when the data was all on one proforma, and 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.

Accuracy and Reliability

The audit covers participating specialist services in England

There are a number of data quality issues the reader needs to be made aware of when looking at the data included in the report.

1. Participation

There were 4 pump specialist services that provided only information on their Insulin pump patients and so their proportion of people on insulin pump is 100 per cent or very close to 100 per cent (given differences in matching people to the NDA)

2. Data Matching to the NDA

There were a number of pump services that provided data that could not be matched to the data collected as part of the NDA, this may be due to the pump service providing an inconsistent organisation code to the specialist service that submitted to the NDA, or that the specialist service did not take part in the NDA, or the person's GP practice did not participate in the NDA. Where an inconsistent organisation code was provided if a large number of people matched to a different but similar organisation that participated in the NDA the NDA organisation code was used for the pump data.

3. Duplicate Records

A number of organisations provided duplicate records for their insulin pump patients; these were removed from the raw data.

4. The Coding of people in the audit with Type 2 diabetes.

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. But uncertainty remains about whether these are genuinely people with Type 2 or other diabetes or whether they are mis-coded. People coded as having Type 2 diabetes were excluded from the majority of the analysis contained within the report.

Timeliness and Punctuality

For this report there was a slight delay due to the issues with the data collection and the time lag is 12 months after the audit year ends.

Accessibility and Clarity

Key findings and recommendations are presented in a pdf report and an interactive specialist service level report and data is provided in excel format.

The key elements of the data collection are presented in the report document on the HSCIC website.

Link to the report and data files: <http://www.hscic.gov.uk/pubs/ndareport1>

Coherence and Comparability

This is the first publication of the Insulin Pump Audit from the NDA, which carries on the work started by the national pump audit conducted by NHSE in 2012. The main aim for this first collection was to determine if collecting insulin pump data was feasible. 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.

Assessment of User Needs and Perceptions

The National Diabetes Advisory group (consisting of patient representatives, Diabetes UK, clinicians, GP representatives, researchers and interested analysts from the HSCIC and Public Health England) provide advice on both analysis and content of the reports as well as the direction and development of the audit. Advice and guidance was also sought from the ABCD Insulin Pump Network UK (www.ipn-uk.co.uk).

The NDA team has an active role in the National Cardiovascular Health Intelligence Network (NCVIN) workshops to gain a better understanding of how the CCG's and localities use the data and how we can improve the publication and supporting information. These workshops are conducted quarterly and are co-ordinated by Public Health England (PHE) and bring together epidemiologists, analysts, clinicians and patient representatives.

The HSCIC is keen to gain a better understanding of the users of this publication and of their needs. Your feedback is welcome and may be sent to enquires@hscic.gov.uk (please include 'National Diabetes Audit' in the subject line).

Alternatively you can call our contact centre on 0300 303 5678 or write to HSCIC, 1 Trevelyan Square, Boar Lane, Leeds, LS1 6AE.

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