

# National Diabetes Inpatient Audit Harms, 2018

England

9 May 2019

## Participation report

# Foreword

The new National Diabetes Inpatient Audit – Harms (NaDIA-Harms) extension started in May 2018. It is designed to help reduce the serious inpatient harms identified by the NaDIA snapshot audits. Although there has been some reduction in the national point prevalence of both severe hypoglycaemia and inpatient-onset foot ulcers they remain common; inpatient-onset diabetic ketoacidosis (DKA) and hyperosmolar hyperglycaemic state (HHS) rates have shown no improvement. Yet all these serious, potentially life-threatening events are largely preventable.

The NaDIA-Harms audit will enable trust level monitoring of local rates. By linking to the power of the core National Diabetes Audit (NDA), case-mix adjusted benchmarking will be reported and risk adjusted long term outcomes identified. This will support local quality improvement (QI) work. Additionally, national characterisation of which patients are at highest risk will inform the development of better preventive care.

**The hard work of all participants is recognised. It can be difficult initially to set up systems to collate data on inpatient harms. But over the next few years NaDIA-Harms will make a real difference to both patients and the NHS.**

**Bob Young, Clinical Lead, National Diabetes Audit**

# Introduction: Overview

- The National Diabetes Inpatient Audit – Harms (NaDIA-Harms) is a new **continuous** collection of serious inpatient harms that only affect people with diabetes. Collection started on 1 May 2018.
- The objective of NaDIA-Harms is to help reduce the rates of serious inpatient harms by collecting and providing case-mix adjusted benchmarked feedback to hospital trusts to inform quality improvement work.
- All acute hospitals in England should participate.
- The NaDIA-Harms audit is part of the National Diabetes Audit (NDA) portfolio within the National Clinical Audit and Patient Outcomes Programme (NCAPOP), commissioned by the Healthcare Quality Improvement Partnership (HQIP).
- This report covers NaDIA-Harms data collected between May and October 2018.

Prepared in collaboration with:



Supported by:



Public Health  
England

# Introduction: Why is the audit important?

NaDIA-Harms aims to monitor, and in time help reduce, instances of four **life-threatening** diabetes specific inpatient harms:

**Hypoglycaemic rescue:** A hypoglycaemic episode (a hypo) is a potentially dangerous drop in a patient's blood glucose (BG) to below 4.0 mmol/L. Rescue treatment is required in severe cases of hypoglycaemia when the patient is either unconscious, too confused to obey instruction or unable to safely swallow because of danger of aspiration. Rescue treatment is applied using an injection of glucose or Glucagon.

*A patient whose BG levels are optimally managed should very rarely experience a severe hypoglycaemic episode or require rescue treatment during their hospital stay.*

**DKA:** Diabetic ketoacidosis (DKA) mainly occurs in people with Type 1 diabetes when a severe lack of insulin means the body cannot use glucose for energy and the body starts to break down other body tissue, releasing ketones as an alternative energy source. This can lead to ketoacidosis if the levels are too high.

*The development of DKA after admission suggests that the inpatient's insulin treatment was omitted, or insufficient levels of insulin were provided, for an appreciable time. DKA is a potentially life-threatening emergency which should not develop in hospital.*

**HHS:** Hyperosmolar hyperglycaemic state (HHS) mainly occurs in people with Type 2 diabetes who experience very high blood glucose levels (often over 40mmol/L). It can develop over a course of days or weeks through a combination of illness (e.g. infection) and dehydration.

*HHS is a potentially life-threatening emergency which should not develop in hospital.*

**Diabetic foot ulcer:** Patients with diabetes are at a higher risk of developing foot lesions (ulcers) because of associated blood flow (ischaemia) and nerve problems (neuropathy).

*Preventive care should stop new foot lesions developing in hospital.*

**These potentially life-threatening events are entirely preventable and every effort must be taken to avoid them.**

# Introduction: Why is this report important?

Submission to NaDIA-Harms will contribute to efforts to **reduce** the rates of serious and avoidable inpatient harms. In time, data collected by NaDIA-Harms will facilitate local **quality improvement** work, the production of **risk-adjusted outcomes** and the identification of **patients at risk**.



## What's in the report?

This report provides a snapshot of the level of **participation** after the first 6 months of data collection. The number of **submissions** of each harm is also shown. More-complicated analysis and comparisons with other data sources (e.g. the NaDIA snapshot or Hospital Episode Statistics) will be undertaken when more data has accumulated.

**The audit team appreciate the hard work of all submitters and recognise that it can initially be difficult to set up systems that collate data on inpatient harms.**

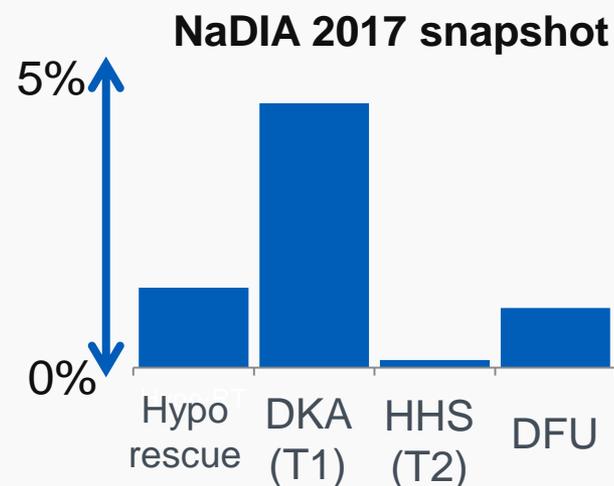


# Introduction: NaDIA snapshot audit

Since 2010 information about the four patient harms has been collected in the **NaDIA snapshot audit**, which takes place on a given day in late September.

The [2017 NaDIA](#) snapshot report found that:

- Around 1 in 80 inpatients with diabetes require **hypoglycaemic rescue** in the last 7 days of their hospital stay (1.3 per cent).
- Around 1 in 25 inpatients with Type 1 diabetes develop **DKA** during their hospital stay (4.3 per cent).
- Around 1 in 800 inpatients with Type 2 diabetes develop **HHS** during their hospital stay (0.12 per cent).
- Around 1 in 100 inpatients with diabetes develop a **diabetic foot ulcer** during their hospital stay (1.0 per cent).



**Comparability:** The snapshot nature of the main NaDIA collection, combined with the low incidence of the four harms, means that continuous collection is necessary to enable robust monitoring at local level.

In theory the snapshot and continuous collections are directly comparable. However, when adjusted to standardise the collection periods, it is clear that more harms are reported to the NaDIA snapshot data than to NaDIA-Harms. This is to be expected in this early stage of the NaDIA-Harms collection and, though planned for future reports, direct comparisons between datasets would not be useful at this point.

# Introduction: Contents and acronyms

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## Acronyms and abbreviations

The following acronyms and abbreviations are used throughout the report and are not always defined on the slide:

**DFU** = Diabetic foot ulcer

**DKA** = Diabetic ketoacidosis

**HHS** = Hyperosmolar hyperglycaemic state

**Hypoglycaemic rescue** = A severe hypoglycaemic episode requiring injectable rescue treatment

**NaDIA** = National Diabetes Inpatient Audit

**NDA** = National Diabetes Audit

**QI** = Quality improvement

# National Diabetes Inpatient Audit: Harms 2018

## Key messages



# Key messages: Participation

## Participation

All acute hospitals in England should participate in NaDIA-Harms.

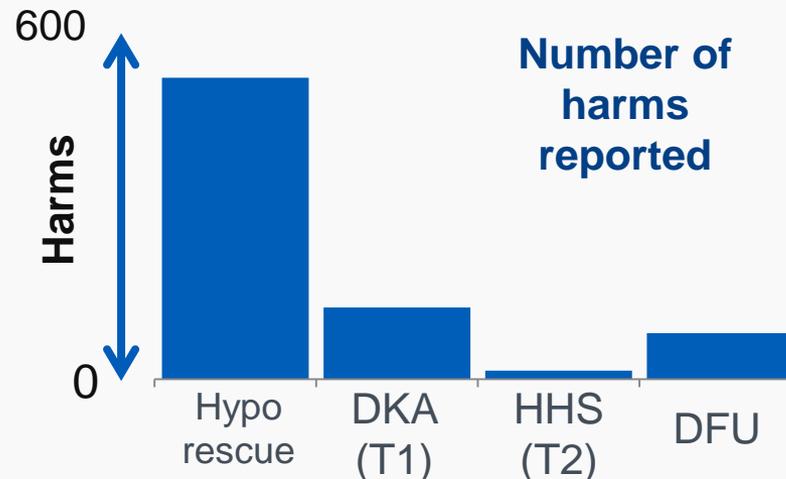
- 99 NHS trusts in England have registered for the NaDIA-Harms audit.
- 77 NHS trusts in England have started to submit to the NaDIA-Harms audit.

**134 NHS trusts in England submitted to the 2017 NaDIA snapshot audit.**

## Submissions

- 750 harms were submitted between May and October 2018.
- The majority of harms submitted were hypoglycaemic rescue (525).

**The actual number of patient harms is likely to be considerably higher, though an assessment of completeness has not been undertaken at this early stage.**



## Recommendations:

**NHS trusts** should contribute comprehensively to the NaDIA-Harms audit.



# National Diabetes Inpatient Audit: Harms 2018

## Results



# Results: Overview

## Audit questions

How many NHS trusts participated in the 2018 NaDIA-Harms audit? How many serious inpatient harms were recorded?

## How is data collected?

The NaDIA-Harms collection opened in May 2018.

NHS trusts in England were encouraged to report instances (NHS number, date, hospital site) of four serious patient harms (hypoglycaemic rescue, DKA, HHS, diabetic foot ulcer) that had developed during the patient's stay.

Trusts are also able to confirm where no harms had occurred during each calendar month.

## Why is this important?

Data collected by NaDIA-Harms will facilitate local quality improvement work, the production of risk-adjusted outcomes and the identification of patients at risk. These inpatient harms are preventable and hospitals should endeavour to reduce the number of harms that occur.

## Key findings

- 99 NHS trusts in England have registered for the NaDIA-Harms audit.
- 77 NHS trusts in England have submitted to the NaDIA-Harms audit.
- 750 harms were submitted between May and October 2018.
- The majority of harms submitted were hypoglycaemic rescue (525).

## Context

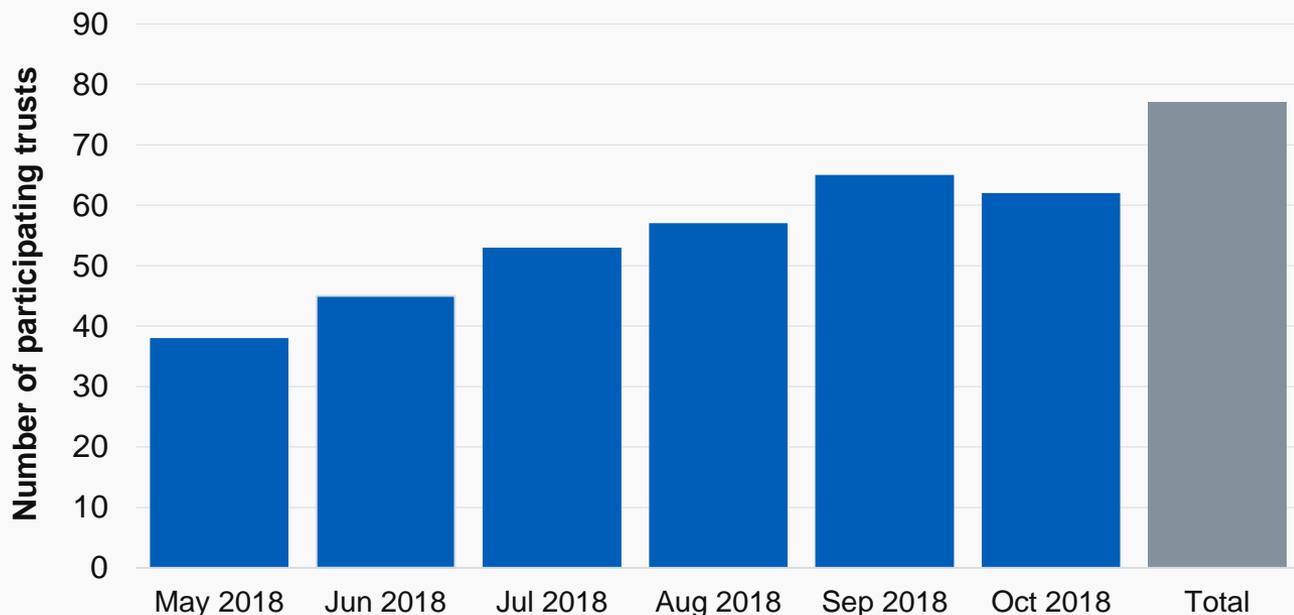
134 NHS trusts in England submitted to the 2017 NaDIA snapshot audit.

**The total number of patient harms is likely to be considerably higher, though an assessment of completeness has not been undertaken at this early stage.**



# Results: Participation

Figure 1: Number of participating NHS trusts, by month, England, May-October 2018



## Context

134 NHS trusts in England submitted to the 2017 NaDIA snapshot audit.

99

NHS trusts have **registered** for the NaDIA-Harms audit

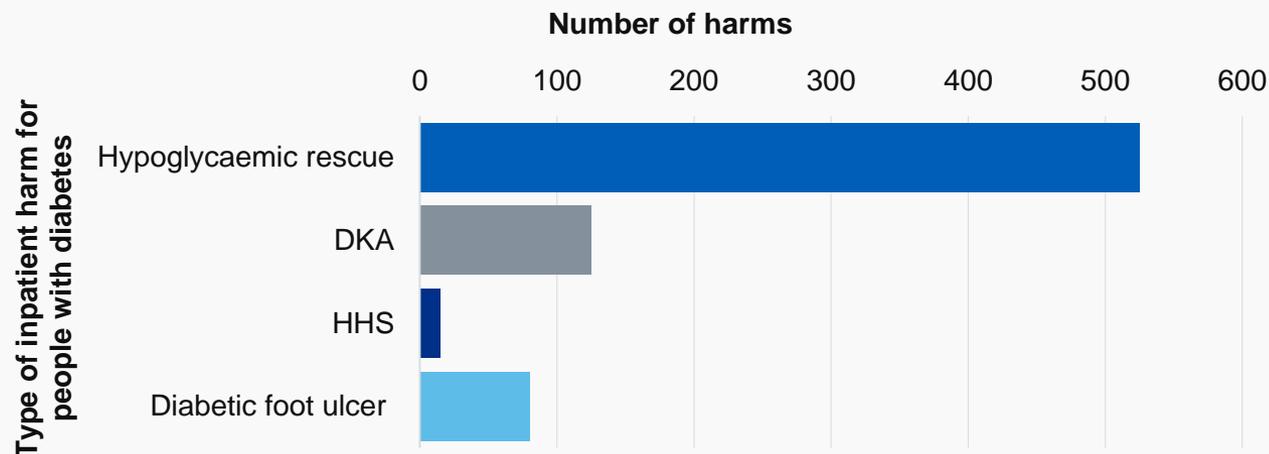
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NHS trusts have **participated** in the NaDIA-Harms audit



# Results: Submissions

**Figure 2: Number of inpatient harms recorded, by harm type, England, May-October 2018, (rounded<sup>1</sup>)**



**Table 1: Number of inpatient harms recorded, by harm type, by month, England, May-October 2018, (rounded<sup>1</sup>)**

Inpatient Harm	May	Jun	Jul	Aug	Sep	Oct	Total
Hypoglycaemic rescue	45	70	90	110	100	110	<b>525</b>
DKA	5	15	25	30	25	25	<b>125</b>
HHS	0	5	5	5	5	5	<b>15</b>
Diabetic foot ulcer	10	10	20	15	10	15	<b>80</b>
<b>Total</b>	<b>65</b>	<b>100</b>	<b>135</b>	<b>155</b>	<b>140</b>	<b>155</b>	<b>750</b>

## Context

The real number of inpatient harms is likely to be considerably higher, though an assessment of completeness has not been undertaken at this early stage.

As this is a new collection, monthly changes in the rate of harms are more likely to reflect participation trends than real changes in incidence.



**Note: 1.** Counts have been rounded. Counts between 1 and 7 are represented as a 5. All counts greater than 7 have been rounded to the nearest five. Percentages are derived from rounded values.

## Additional information



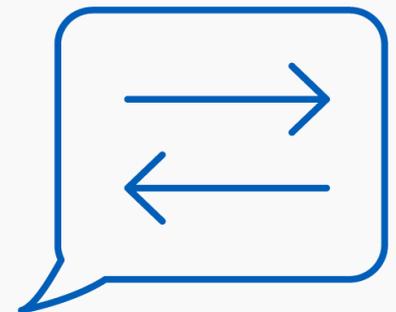
# Additional information: Future plans

## Next steps

- Circulate this report to the inpatient diabetes community and promote the project to those not participating.
- Write to the clinical teams not currently participating to identify their barriers and offer support.
- Identify good practice from good submitters, create case studies and promote to other services.

## Future plans

- Correlate harms submissions with NaDIA snapshot audit results.
- Identify services with good practice to support other services in managing and reducing harms in patients with diabetes.



# Additional information: Acknowledgements

**The NaDIA team would like to thank all the people and teams who have worked hard to contribute to this unique and valuable insight into the inpatient care of people with diabetes.**

Development and delivery of the NaDIA is guided by a multi-professional advisory group of clinicians and patient representatives, chaired by Gerry Rayman. The NaDIA Advisory Group members include:

Gerry Rayman	<b>Consultant Diabetologist and National Clinical Lead for Inpatient Diabetes</b>
Bob Young	<b>NDA Specialist Clinical Lead</b>
Belinda Allan	<b>Consultant Diabetologist, Michael White Centre for Diabetes and Endocrinology (Hull)</b>
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David Roberts	<b>Patient Representative</b>
Debbie Stanisstreet	<b>Lead Nurse for Diabetes and Endocrinology (Lister Hospital) and Diabetes Inpatient Specialist Nurse Network</b>
Michael Sykes	<b>Quality Improvement Lead, Diabetes UK</b>
Garry Tan	<b>Consultant Diabetologist, Oxford Centre for Diabetes, Endocrinology and Metabolism</b>
Andrew Whitehead	<b>Audit Coordinator, NHS Digital</b>
Arthur Yelland	<b>Senior Information Analyst, NHS Digital</b>



# Prepared in collaboration with:



**The Healthcare Quality Improvement Partnership (HQIP).** The National Diabetes Inpatient Audit - Harms (NaDIA-Harms) audit 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.



**Digital**

**NHS Digital** is the new name for the Health and Social Care Information Centre. NHS Digital managed the publication of the 2018 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:



**Public Health  
England**

The National Cardiovascular Intelligence Network (NCVIN) is a partnership of leading national cardiovascular organisations which analyses information and data and turns it into meaningful timely health intelligence for commissioners, policy makers, clinicians and health professionals to improve services and outcomes.

# National Diabetes Inpatient Audit: Harms 2018

**Published by NHS Digital**  
**Part of the Government Statistical Service**

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