National Diabetes Inpatient Audit
Hospital characteristics, 2018

England and Wales

9 May 2019

Hospital characteristics report

Foreword

The NaDIA Hospital Characteristics report covers the structures of care that are fundamental to achieving the standards of safe effective inpatient diabetes care. Achievement of these standards is measured by the bedside NaDIA snapshot audit and the new NaDIA-Harms audit a continuous measurement that commenced in July 2018. The first NaDIA-Harms report will be published in May 2019[1].

The analysis, findings and recommendations in this report are reinforced by important recent publications by Diabetes UK[2] and NHS England[3], including the NHS Long Term Plan[3] published in January 2019. It is good to see that issues identified by NaDIA – including specialist inpatient staffing and appropriate use of health technology – are high on the national healthcare agenda.

2018 was a NaDIA Quality Improvement Collaborative (QIC) year and as a result only the Hospital Characteristics survey was undertaken. In 2019 there will be another Bedside Audit and Patient Experience survey alongside the Hospital Characteristics element.

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.

Bob Young, Clinical Lead, National Diabetes Audit

Notes: **1**. NHS Digital, http://digital.nhs.uk/pubs/nadia-harms2018, 2019
2. Diabetes UK, Making hospitals safe for people with diabetes, 2018 **3**. NHS England, NHS Long Term Plan, 2019.

Introduction: Overview

- The National Diabetes Inpatient Audit (NaDIA) measures the quality of diabetes care provided to people with diabetes while they are admitted to hospital whatever the cause, and aims to support quality improvement.
- Because 2018 was a NaDIA Quality Improvement Collaborative year, only the Hospital Characteristics survey was undertaken. In 2019 the Bedside Audit and Patient Experience surveys will resume.
- The NaDIA 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).

Prepared in collaboration with:

HQIP
Healthcare Quality Improvement Partnership

NHS Digital

DIABETES UK
KNOW DIABETES. FIGHT DIABETES.

Supported by:

Public Health England

Introduction: Audit questions

2018 was a designated NaDIA Quality Improvement Collaborative (QIC) year. To reduce the burden on QIC participants, the NaDIA 2018 collection has focused on the Hospital Characteristics survey only. The Bedside Audit and Patient Experience surveys will be repeated for NaDIA 2019.

This report uses the Hospital Characteristics survey to answer the following questions:

- Have staffing levels for inpatient diabetes teams increased since 2015?
- Has take-up of care improvement initiatives and healthcare technologies for diabetes care increased since 2013?
- What additional transformation funding has been provided for inpatient diabetes teams in 2018?

The report will be of interest to the public, especially to people with diabetes. Health planners and policy makers, as well as acute NHS Trusts, Clinical Commissioning Groups (CCGs), Local Health Boards (LHBs), Sustainability and Transformation Partnerships (STPs), Clinical Networks (CNs; formerly Strategic Clinical Networks or SCNs) and other providers and commissioners of specialist diabetes services will also make use of the information in this report.

Introduction: Why is this report important? (1)

In October 2018 Diabetes UK published a report into **Making Hospitals Safe for People with Diabetes**[1]. The recommendations in this report overlap with much of the analysis in NaDIA 2018, reaffirming the importance of the NaDIA Hospital Characteristics collection:

Selected recommendations from Making Hospitals Safe for People with Diabetes[1]

Staffing levels:

All hospitals should have a fully staffed diabetes inpatient team, made up of the following:

- **Diabetes consultant**.
- Sufficient diabetes inpatient specialist nurses (**DISNs**) to run a daily and weekend service (**7 day service**).
- Access to a **diabetes specialist podiatrist**, **pharmacist** and **dietitian** and access to psychological support.

Care improvement initiatives:

- Effective **electronic prescribing** (EP) system for detecting, recording, and avoiding insulin and oral hypoglycaemic agent (OHA) prescribing errors should be used across hospitals.
- Web-linked blood glucose and ketone meters should be actively used to alert the diabetes inpatient team to out of range glucose values and to monitor glucometrics across the trust and at ward level (**remote blood glucose monitoring** [BGM]).
- All diabetes inpatient teams should host **mortality and morbidity meetings**.
- Basic **training** on the safe use of insulin and the main diabetes harms and how they can be prevented should be mandatory for all healthcare professionals caring for people with diabetes.
- **Training** should be provided to all undergraduate doctors and nurse trainees in the important aspects of inpatient diabetes care.

Notes: **1**. Diabetes UK, Making hospitals safe for people with diabetes, 2018

Introduction: Why is this report important? (2)

In January 2019 NHS England published the **NHS Long Term Plan**[1]. The recommendations in this report overlap with much of the analysis in NaDIA 2018, reaffirming the importance of the NaDIA Hospital Characteristics collection:

Selected recommendations from the NHS Long Term Plan[1]

Staffing levels:

The Plan will ensure that "all hospitals in future provide access to **Multi-disciplinary Foot Care Team** and **diabetes inpatient specialist nursing** teams to improve recovery and to reduce lengths of stay and future readmission rates".

Care improvement initiatives:

"Over the next five years, all providers will be expected to implement **electronic prescribing** systems to reduce errors by up to 30%."

The Plan will "accelerate the roll out of **Electronic Patient Record** systems and associated apps".

"*The NHS cannot fully embrace the opportunity offered by new technologies if many hospitals and services remain largely paper-based*."
NHS Long Term Plan, 2019

Notes: **1**. NHS England, NHS Long Term Plan, 2019

Introduction: Contents and acronyms

Acronyms

The following acronyms and abbreviations are used throughout the report and are not always defined on the slide. Further acronyms are outlined in the Glossary (Slide 41):

DISN = Diabetes inpatient specialist nurse
DSN = Diabetes specialist nurse
EP = Electronic prescribing
EPR = Electronic Patient Record
M&M = Diabetes Morbidity and Mortality meeting, including a regular M&M meeting where diabetes can be discussed.
MDFT = Multi-disciplinary Foot Care Team
Remote BGM = Remote Blood Glucose Monitoring

Key messages

Key messages: Summary

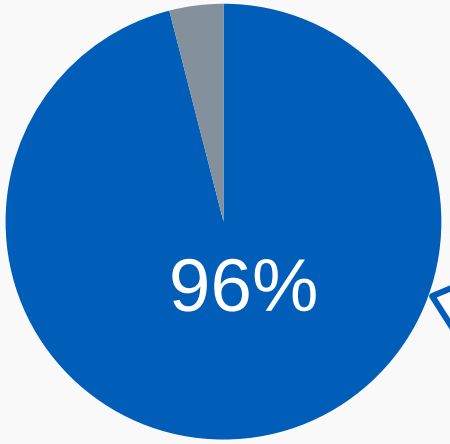
- All NaDIA sites should **participate** in the Hospital Characteristics survey, which continues to offer valuable insights into inpatient care even as a standalone collection. Over 20 NaDIA sites did not participate in NaDIA 2018.
- More than 90 per cent of organisations that have received **transformation funding** have used (or plan to use) the funding to **recruit new staff**.
- There have been substantial **increases** in inpatient **staffing levels** for almost all diabetes professionals since 2017. Diabetes inpatient specialist nurses (DISNs) hours have increased by 19 per cent per inpatient, diabetes consultants by 14 per cent, podiatrists by 47 per cent and specialist dietitians by 87 per cent.
- Nonetheless, it is concerning that **one fifth** (22 per cent) of NaDIA sites still have **no DISNs**. Access to diabetes specialist **pharmacists** continues to be **low**, averaging 3 minutes of input per inpatient per week.
- Although usage of electronic prescribing and Electronic Patient Records continues to increase, new **take-up of health technologies is slow**. For example, almost **two-thirds** (65 per cent) of NaDIA sites still do not fully-utilise electronic prescribing technology.

Key messages: Summary (Infographic 1)

All NaDIA sites should participate in the Hospital Characteristics survey, which continues to offer valuable insights into inpatient care even as a standalone collection.

21

21 NaDIA sites that submitted data in 2017 did not submit any data in 2018.



96 per cent[1] have used or intend to use transformation funding to recruit more staff

The large majority (more than 90 per cent) of organisations that have received **transformation funding** have used (or plan to use) the funding to recruit new staff.

Notes: **1**. Of organisations receiving transformation funding.

Key messages: Summary (Infographic 2)

There have been substantial increases in inpatient staffing levels for almost all diabetes professionals, including diabetes inpatient specialist nurses (DISNs), diabetes consultants, podiatrists and dietitians.

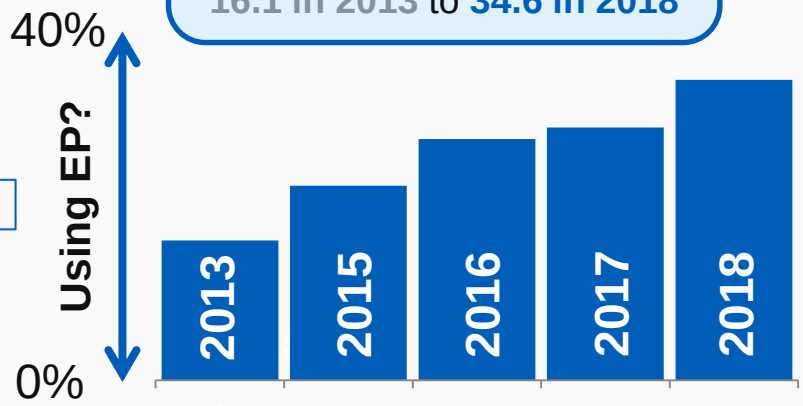
For DISNs, this equates to a rise from 2017 to 2018 of:

0.61 → **0.73**

hours per week per inpatient.

Nonetheless, it is concerning that **one fifth** of NaDIA sites still have no DISNs. Access to diabetes specialist pharmacists continues to be low, averaging 3 minutes of input per inpatient per week.

The percentage of NaDIA sites using electronic prescribing (EP) rose from **16.1 in 2013** to **34.6 in 2018**



However, new take-up of electronic prescribing and the Electronic Patient Record is slow. For example, **over half** of NaDIA sites still do not use electronic prescribing technology.

Key messages: Recommendations

For commissioners

The top priority should be to achieve diabetes inpatient specialist nurse (DISN) and Multi-disciplinary Foot Care Team (MDFT) provision in every acute hospital.

For healthcare providers

- It is vitally important that all NaDIA sites participate in the Hospital Characteristics survey, which continues to offer valuable insights into inpatient care even as a standalone collection.
- Pharmacy teams should work with diabetes teams to support safe insulin use.
- Hospitals without Electronic Patient Records (EPR), electronic prescribing (EP), remote blood glucose monitoring (BGM) and junior doctor/nurse training programmes should plan to implement all of these initiatives as soon as possible.

NaDIA supports Diabetes UK and NHS England's recommendations on inpatient specialist staffing and care improvement initiatives, as outlined in Making Hospitals Safe for People with Diabetes[1] (2018) and the NHS Long Term Plan[2] (2019).

Notes: **1**. Diabetes UK, Making hospitals safe for people with diabetes, 2018 **2**. NHS England, NHS Long Term Plan, 2019.

1. Participation

Participation: Overview

Audit question:

How many hospital sites participated in the audit?

Why is this important?

Participation in NaDIA 2018 is essential to answer key audit questions around the funding, staffing levels and structures of care for inpatients with diabetes.

The results from the audit can be used to drive improvements in inpatient care, though the implementation of audit recommendations and local Quality Improvement initiatives. The end goal is to improve the inpatient experience, minimise harms and improve outcomes.

Key finding

21 hospital sites that took part in NaDIA 2017 did not participate in NaDIA 2018.

Recommendation

It is vitally important that all NaDIA sites participate in the Hospital Characteristics survey, which continues to offer valuable insights into inpatient care even as a standalone collection.

How is data collected?

Each participating hospital site completed a **Hospital Characteristics** questionnaire providing information on additional funding, staffing levels and care initiatives for inpatient diabetes care.

Participation: Submissions

Table 1.1: NaDIA organisational participation, England and Wales, 2011-18

Audit year	Number of sites[1]	NHS Trusts/ LHBs
2018 England	169	122
2018 Wales	16	6
2018 total	**185**	**128**
2017	208	
2016	209	
2015[b]	206	
2013[b]	211	
2011	206	

Findings

The audit is open to participation from acute hospitals in England and Wales that treat inpatients with diabetes. The inclusion criteria for patients is outlined in Slide 36.

- 185 hospital sites (representing 122 NHS Trusts in England and 6 Local Health Boards in Wales) took part in the 2018 audit.
- 21 NaDIA sites that submitted a Hospital Characteristics form in 2017[2] did not participate in NaDIA 2018.
- 2 NaDIA sites participated in 2018 that did not take part in NaDIA 2017.

Non-participants

Are the 2018 non-participating sites different from consistent participants? This question has been addressed by comparing results between 2017 (all participants) and 2017 (with 2018 non-participants removed). A substantial difference would suggest that there is a real difference between the groups. Results are discussed alongside the relevant outputs.

Notes: b = break in time series. **1**. A NaDIA 'site' may represent a single hospital, multiple hospitals or an entire NHS Trust /Local Health Board. Because NaDIA site aggregations vary over time, year-on-year changes in number may not represent real changes in participation. **2**. In 2017, hospital sites that submitted Patient Experience or Bedside Audit forms could take part in NaDIA without submitting a Hospital Characteristics form.

2. Transformation Funding

Transformation funding: Overview

Audit questions:

- How many hospital sites received diabetes transformation funding to improve access to DISNs and MDT?
- Has diabetes transformation funding been used to fund additional posts in diabetes care?

Why is this important? In 2016 NHS trusts and CCGs in England could apply for a share of £44 million of transformation funding to improve diabetes care. Funds were allocated by NHS England the following year, including for the following two interventions most relevant to NaDIA:

- **Improving access to diabetes inpatient specialist nursing teams:** Whatever reason someone with diabetes is in hospital, these teams make sure people get the care they need and have a better and shorter stay in hospital[1].
- **Improving access to a foot care team for people with diabetic foot disease:** Foot problems for people with diabetes can develop rapidly. Being able to see to foot care team quickly plays a vital part in preventing amputations[1].

Key findings

- Two fifths of NaDIA sites received transformation funding to improve access to an MDFT.
- One quarter of NaDIA sites received transformation funding to improve access to DISNs.
- The large majority (more than 90 per cent) of organisations that have received transformation funding have used (or plan to use) the funding to recruit new staff.

How is data collected? The NaDIA 2018 Hospital Characteristics form included two questions about transformation funding in relation to MDFT and DISN interventions.

Notes: **1** Diabetes UK: Campaign win: £40 million more for diabetes care in England. 2017

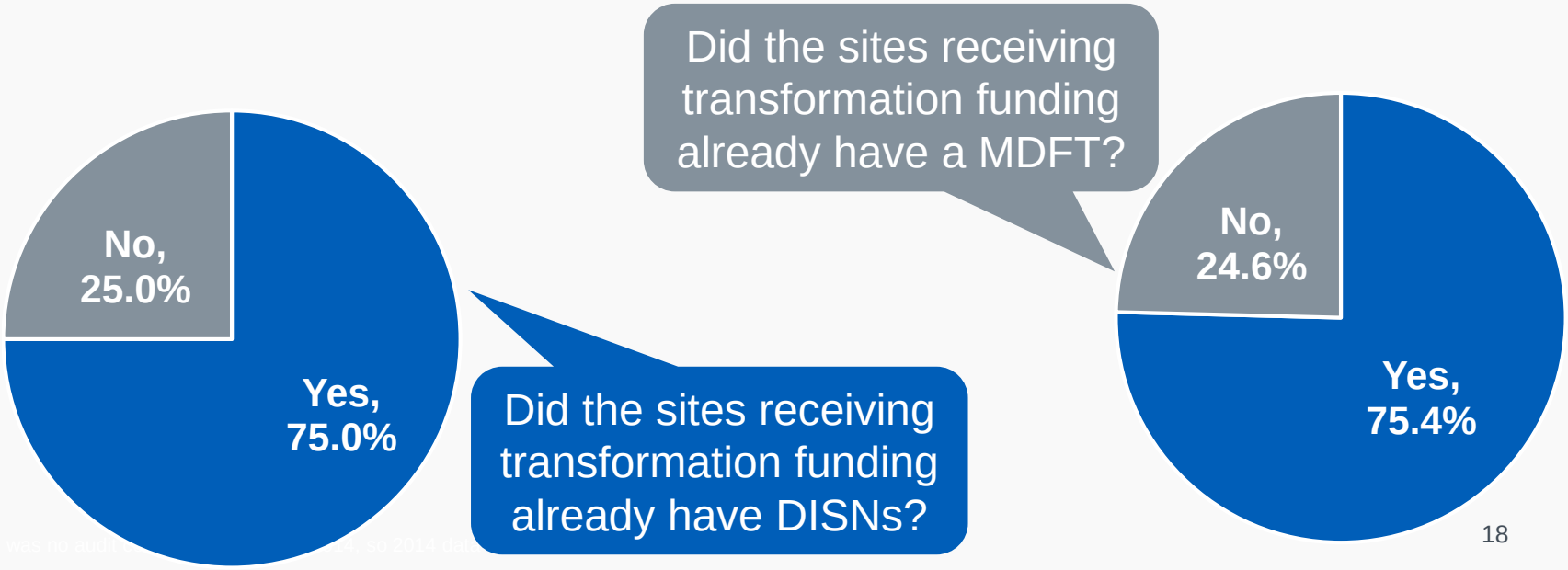
Transformation funding: Received

Table 2.1: Percentage of sites that received transformation funding, England, 2018

Percentage of sites with funding for:	2018	
	n	Per cent
• Improving access to a Multi-disciplinary Foot Care Team (MDFT)	61	40.1
• Improving access to Diabetes Specialist Nurses (DISNs)	40	25.8

Findings

- Two fifths of NaDIA sites received transformation funding to improve access to an MDFT.
- One quarter of NaDIA sites received transformation funding to improve access to DISNs.



Transformation funding: Usage

Table 2.2: Percentage of sites that that used transformation funding for new[1] posts, England, 2018

Funding used for new[1] posts?	Sites receiving MDFT funding		Sites receiving DISN funding	
	n	Per cent	n	Per cent
• Yes – some or all new staff in post	50	82.0	36	90.0
• Yes – but staff not yet in post	2	3.3	4	10.0
• No – but plan to	3	4.9	0	0.0
• No – and do not plan to	4	6.6	0	0.0
• Don't know / Not applicable	2	3.3	0	0.0

Finding

- More than 90 per cent of organisations that have received transformation funding have used (or plan to use) the funding to recruit new staff.

Notes: **1. '**New posts' includes sites without MDFT / DISN staffing in place that used transformation funding to employ their first posts in these areas and sites with MDFT / DISN staffing where the transformation funding was used to add posts to an existing service.
2.. DISN = Diabetes inpatient specialist nurse. MDFT = Multi-disciplinary Foot Care Team.

3.
Staffing levels

Staffing levels: Overview

Audit question:

What specialist staff are available to look after people with diabetes when they are admitted to hospital?

Why is this important? Caring for people with diabetes in hospital requires specialist knowledge about treatments and medication, and an understanding of how a patient's care may be affected by their diabetes.

It is important that hospitals have enough specialist staff with this knowledge to help to look after patients with diabetes and to support other ward staff in delivering good diabetes care.

How is this measured? Hospitals were asked to estimate the amount of staffing time spent each week on inpatient diabetes care. Stated hours, derived from whole time equivalents, was compared to the numbers of admitted people with diabetes reported by each hospital last year.

The NaDIA team acknowledge the difficulty of estimating staff hours. Caution is therefore advised when interpreting staffing levels, particularly at site level.

Key findings

- Staffing levels for inpatient diabetes care have **increased** for all professions between 2017 and 2018, apart from pharmacists.
- Access to podiatry services has **improved**: the proportion of hospital sites with no podiatry services has **halved** since 2017, from 32 to 16 per cent.
- There has been an **increase** in the proportion of sites with 7 day DISN provision since 2017 (from 9 to 12 per cent), which tallies with the increase in DISN staffing levels found elsewhere.
- Nonetheless, more than a **fifth** of hospital sites have no diabetes inpatient specialist nurses (22 per cent).
- The proportion of sites with 7 day Diabetes Physician access has **decreased** by almost 4 percentage points.
- **One sixth** of hospital sites do not have a Multi-disciplinary Foot Care Team, though this proportion has **halved** since 2011.

Staffing levels: Results

Table 3.1: Average staffing for care of inpatients with diabetes[1], England and Wales, 2015-18

Profession	Hours per week of inpatient care per inpatient with diabetes			
	2015[2]	2016[2]	2017[3]	2018[3,4]
• Diabetes inpatient specialist nurse (DISN)	0.50	0.49	0.61	0.73
• Diabetes specialist nurse (DSN)	0.17	0.17	0.23	0.35
• Any diabetes specialist nurse (DISN and DSN)	0.67	0.66	0.84	1.08
• Diabetes consultant	0.19	0.19	0.29	0.34
• Podiatrist	0.11	0.11	0.16	0.23
• Specialist diabetes dietitian	0.03	0.03	0.04	0.08
• Non-specialist dietitian	0.06	0.05	0.05	0.09
• Any dietitian	0.09	0.08	0.09	0.16
• Diabetes specialist pharmacist	0.03	0.04	0.07	0.05

Notes:
1. The stated figures are derived from the total number of hours of inpatient care per week divided by the total number of Bedside Audit forms. The NaDIA team acknowledge the difficultly of estimating staff hours. Caution is therefore advised when interpreting staffing levels, particularly at site level. Please see the explanatory note (top right) about data collection changes in this year's audit..
2. Staffing originally collected in hours.
3. Staffing originally collected as whole time equivalents.
4. Since no Bedside Audit was conducted in 2018, staff hours are divided by the number of Bedside Audit forms collected by each organisation in 2017.

Non-participants

Removing 2018 non-participants from the results has a negligible effect on overall 2017 staffing levels, differing by less than 0.02.

This suggests that year-on-year comparisons between 2017 and 2018 are **robust**.

Finding

- At national level staffing levels for inpatient diabetes care have **increased** for all professions between 2017 and 2018, apart from pharmacists.

Staffing levels: Delivery of diabetes care

Table 3.2: Percentage of sites with staff deficiencies,
England and Wales, 2011-18

Percentage of sites with:	2011	2013[b]	2015[b]	2017 [b, r]	2018
• no inpatient DISNs[1]	31.9	31.7	31.1	28.2	21.6
• no specialist inpatient dietetic provision for people with diabetes	70.8	71.2	71.4	73.3	65.9
• no inpatient podiatry service for people with diabetes	33.6	34.1	26.2	32.0	15.7

Findings

- More than a **fifth** of hospital sites have no diabetes inpatient specialist nurses (22 per cent).
- The proportion of hospital sites with no podiatry services has **halved** since 2017.

Non-participants

Removing 2018 non-participants from the 2017 results does have a small effect on the outputs, differing by a maximum of two percentage points, though the underlying downward trends do not change.

This suggests that **year-on-year trends** between 2017 and 2018 **are robust,** though the actual 2018 percentages may be affected slightly by the non-participants.

Notes:
b = break in time series. **r** = revised. 7A6AV erroneously excluded from 2017 analysis – now included.
1. DISN = Diabetes inpatient specialist nurse.

Staffing levels: 7 day care provision

Table 3.3: Percentage of sites with 7 day DISN provision[1], England and Wales, 2015-18

Percentage of sites with:	2015	2016	2017[r]	2018
• 7 day DISN provision	6.4	7.7	8.7	12.4

Table 3.4: Percentage of sites with 7 day Diabetes Physician access, England and Wales, 2016-18

Percentage of sites with:	2016	2017	2018
• 7 day Diabetes Physician access	15.2	25.2	21.6

Findings

- There has been an **increase** in the proportion of sites with 7 day DISN provision since 2017 (from 9 to 12 per cent), which tallies with the increase in DISN staffing levels found elsewhere.
- The proportion of sites with 7 day Diabetes Physician access has **decreased** by almost 4 percentage points since 2017.

Non-participants

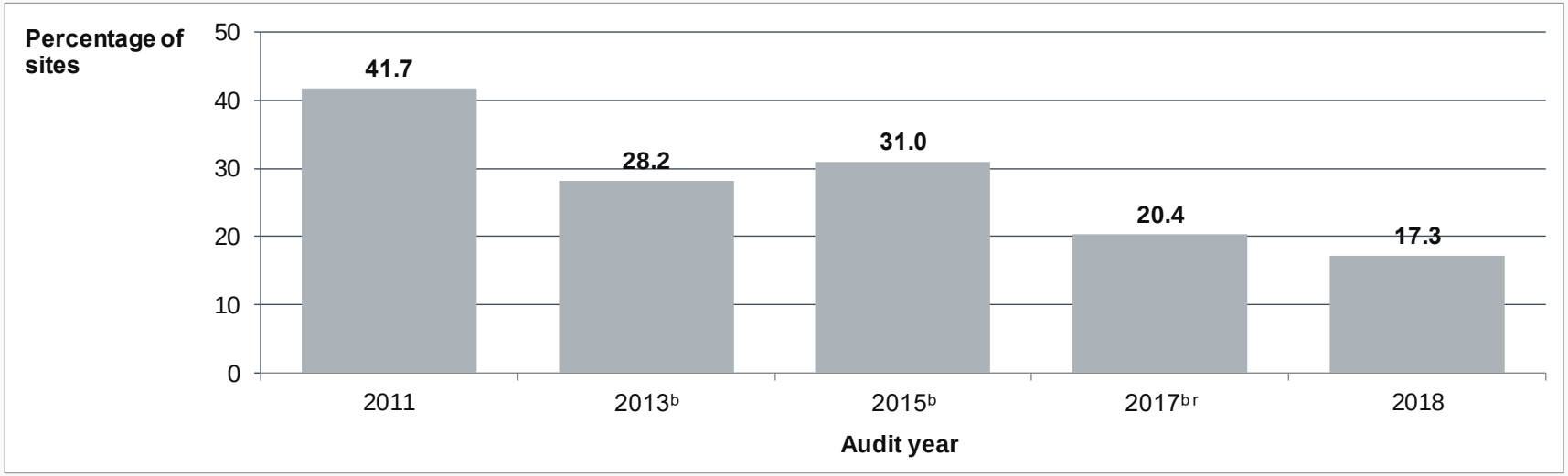
Removing 2018 non-participants from the 2017 results only has a small effect on the outputs, differing by a maximum of 0.2 percentage points.

This suggests that **year-on-year comparisons** between 2017 and 2018 **are robust**.

Notes: **r** = revised. 7A6AV erroneously excluded from 2017 analysis – now included.
1. DISN = Diabetes inpatient specialist nurse

Staffing levels: Multi-disciplinary Foot Care Team

Figure 3.1 Percentage of sites not having a Multi-disciplinary Foot Care Team, England and Wales, 2011-18



Findings

- **One sixth** of hospital sites do not have a Multi-disciplinary Foot Care Team.
- The proportion of hospital sites not having a Multi-disciplinary Foot Care Team has more than **halved** since 2011.

Non-participants

Removing 2018 non-participants from the 2017 results has a small effect on the outputs, increasing the proportion of sites not having an MDFT in 2017 by 0.7 percentage points.

This suggests that **year-on-year trends** between 2017 and 2018 **are robust** (i.e. downwards)**,** though the actual 2018 percentage may be affected slightly by the non-participants.

* There was no audit collection or report in 2014. So 2014 data are not available.

Notes: **b** = break in time series. **r** = revised. 7A6AV erroneously excluded from 2017 analysis – now included.

Staffing levels:
Clinical comment and recommendations

The overall trends towards increased provision of basic inpatient diabetes care, especially by DISNs, is encouraging.

It is of concern, however, that although the proportions are lower each year, **one in five** hospitals still do not have dedicated **Diabetes Inpatient Specialist Nurse** (DISN)[1] provision and **one in six** still do not have a **Multi-disciplinary Foot Care Team** (MDFT).

Furthermore, there remains a very low and concerning lack of pharmacist time in inpatient diabetes care, given that 33% of the medical errors that caused death within 48 hours of the error involved insulin therapy (Barker et al 2015).

NaDIA team

Recommendations

- The top priority should be to achieve DISN and MDFT provision in every acute hospital.
- Pharmacy teams should work with the diabetes teams to support safe insulin use.

NaDIA supports Diabetes UK's recommendations[1] that:

All hospitals should have a fully staffed diabetes inpatient team, made up of the following:

- **Diabetes consultant**.
- Sufficient **DISNs** to run a daily and weekend service (**7 day service**).
- Access to a **diabetes specialist podiatrist**, **pharmacist** and **dietitian** and access to psychological support.

And NHS England's policy aim[2] that:

"All hospitals in future provide access to **MDFT** and **DISN** teams to improve recovery and to reduce lengths of stay and future readmission rates".

Notes: **1**. Diabetes UK, Making hospitals safe for people with diabetes, 2018 **2**. NHS England, NHS Long Term Plan, 2019.

4. Care improvement initiatives

Care improvement initiatives:
Overview

Audit question: Which initiatives have hospitals introduced in order to improve the care of people with diabetes?

Why is this important?

The introduction of initiatives to improve the care received by inpatients with diabetes may help improve the overall patient experience and reduce the harms experienced during admission.

For example, NaDIA 2017 found that inpatients with diabetes were less likely to have prescription errors if an Electronic Patient Record was used (although causation cannot be confirmed).

Key findings

- An **increasing** proportion of hospital sites are now fully-utilising electronic prescribing (EP) and remote blood glucose monitoring (BGM). The proportion having regular ward staff training has also increased.
- Nonetheless, **take-up** of these technologies is still **slow**. For example, only 4 in 10 sites fully-utilise an Electronic Patient Record (EPR), with one third fully-utilising EP.

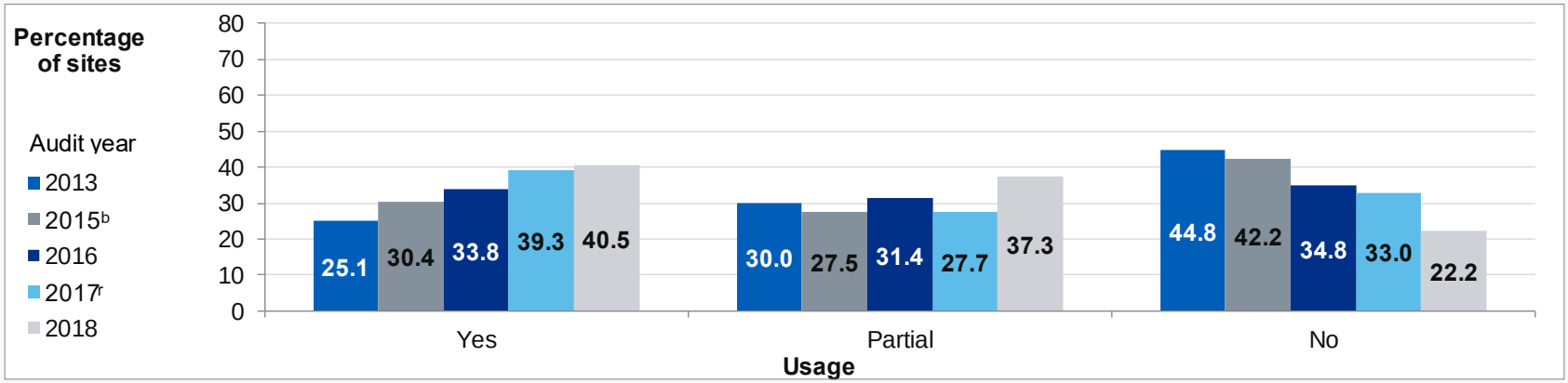
How is this measured?

Hospital staff were asked to provide information on:

- Their use of technologies such as Electronic Patient Record (EPR), electronic prescribing (EP) and remote blood glucose monitoring (BGM).
- Whether regular ward nurse diabetes training was carried out.
- Whether diabetes Mortality and Morbidity meetings are undertaken.

Care improvement initiatives: EPR

Figure 4.1: Percentage of sites using an Electronic Patient Record (EPR)[1], England and Wales, 2013-18



Findings

- The proportion of sites fully-utilising the Electronic Patient Record (EPR) in 2018 is **similar** to that in 2017.
- **Less than half** of sites fully-utilise EPR, but the proportion of sites with no EPR use continues to **decrease** (22 per cent in 2018).

Non-participants

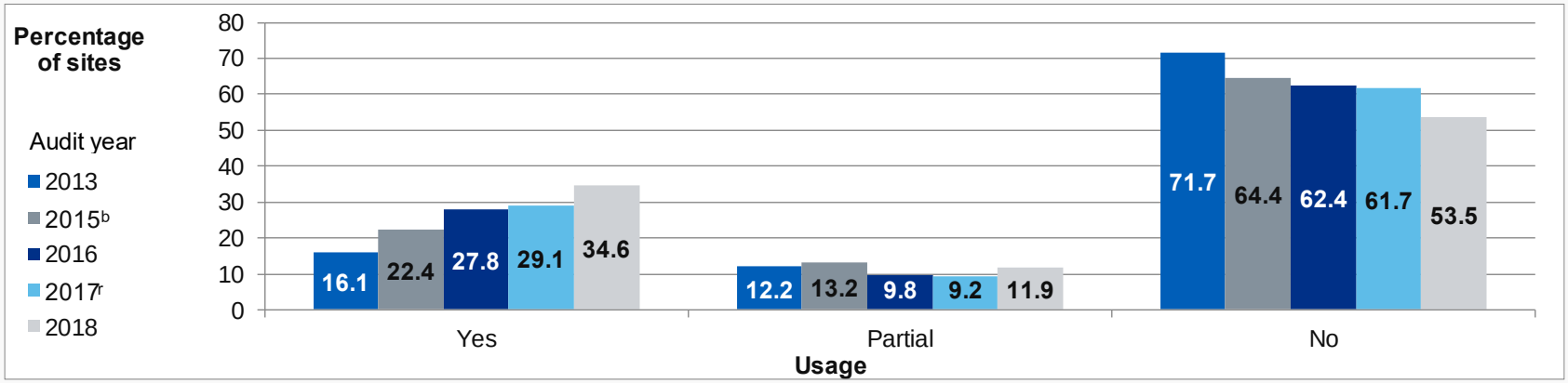
Removing 2018 non-participants from the 2017 results has a small effect on the outputs, raising the proportion of sites using EPR in 2017 by 0.7 percentage points.

Because the adjusted 2017 figure is very close to the 2018 figure (within 0.6 per cent), it can be inferred that the **year-on-year trend** between 2017 and 2018 is **static**.

Notes:
b = break in time series.
r = revised. 7A6AV erroneously excluded from 2017 analysis – now included. **1**. Data for all comparable years is shown.

Care improvement initiatives: EP

Figure 4.2: Percentage of sites using electronic prescribing (EP)[1],
England and Wales, 2013-18



Findings

- The proportion of sites fully-utilising electronic prescribing (EP) has **increased** since 2017.
- Only **one third** of sites fully-utilise EP.

Non-participants

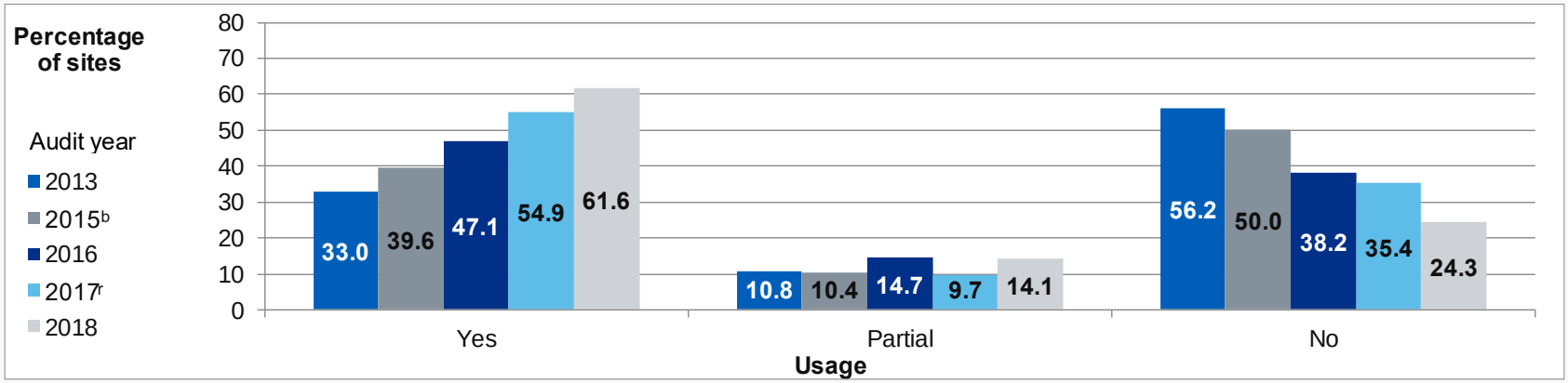
Removing 2018 non-participants from the 2017 results has an effect on the outputs, raising the proportion of sites using EP in 2017 by 1.7 percentage points.

Because the adjusted 2017 figure is still substantially below the 2018 figure (3.8 per cent), it appears that **year-on-year trends** between 2017 and 2018 **are robust** (i.e. upwards)**,** though the actual 2018 percentages may be affected by the non-participants.

Notes:
b = break in time series.
r = revised. 7A6AV erroneously excluded from 2017 analysis – now included. **1**. Data for all comparable years is shown.

Care improvement initiatives: Remote BGM

Figure 4.3: Percentage of sites using remote blood glucose monitoring (BGM)[1], England and Wales, 2013-18



Findings

- The proportion of sites fully-utilising remote blood glucose monitoring (BGM) has **increased** since 2017.
- **Less than two-thirds** of sites fully-utilise remote BGM.

Non-participants

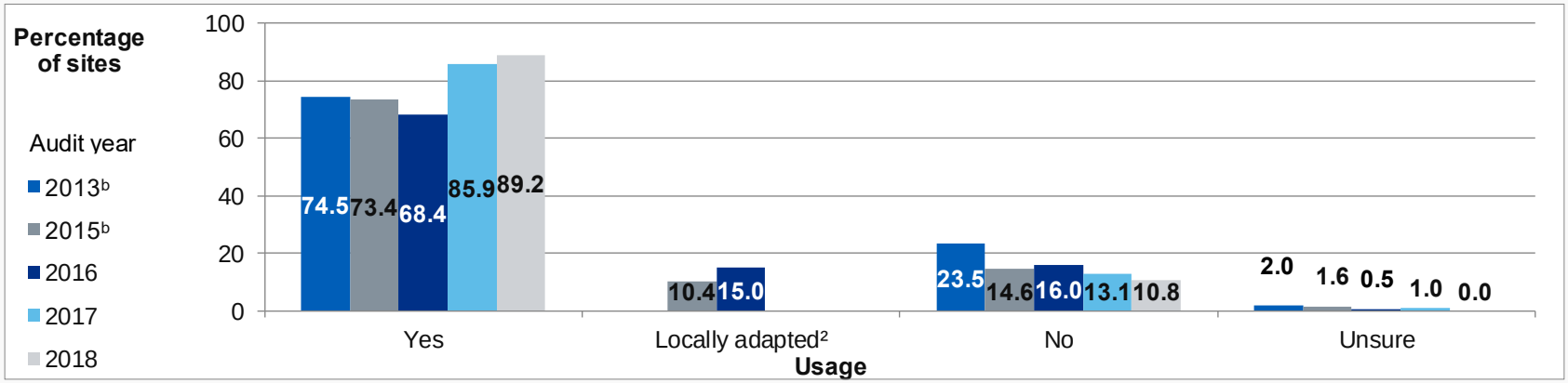
Removing 2018 non-participants from the 2017 results has an effect on the outputs, raising the proportion of sites using remote BGM in 2017 by 1.4 percentage points.

Because the adjusted 2017 figure is still substantially below the 2018 figure (5.4 per cent), it appears that **year-on-year trends** between 2017 and 2018 **are robust** (i.e. upwards)**,** though the actual 2018 percentages may be affected by the non-participants.

Notes:
b = break in time series. **r** = revised. 7A6AV erroneously excluded from 2017 analysis – now included.
1. Data for all comparable years is shown.

Care improvement initiatives: Training

Figure 4.4: Percentage of sites with regular ward nurse training carried out[1], England and Wales, 2013-18



Findings

- The proportion of sites having regular ward nurse training has **increased** since 2017.
- Almost 90 per cent of sites have regular ward nurse training.

Non-participants

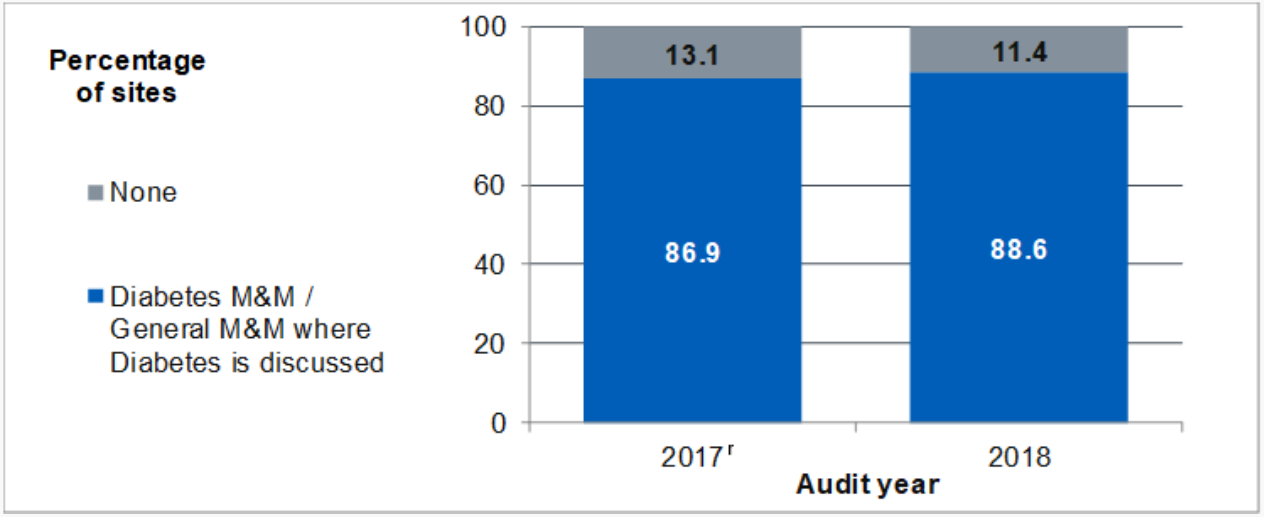
Removing 2018 non-participants from the 2017 results has a negligible effect on the outputs, raising the proportion of sites having regular ward nurse training in 2017 by less than 0.1 percentage points.

This suggests that **year-on-year comparisons** between 2017 and 2018 **are robust.**

Notes:
b = break in time series. **1**. Data for all comparable years is shown. **2**. The option 'Locally adapted' was only available for NaDIA 2015 and NaDIA 2016. Consequently results in 2015 and 2016 are not directly comparable to other years, where the 'Locally adapted' option was not available.

Care improvement initiatives: M&M

Figure 4.5: Percentage of sites holding diabetes Mortality and Morbidity meetings[1], England and Wales, 2017-18



Initiative	2013 to 2018	2017 to 2018
• EPR	**Up**	Similar
• EP	**Up**	**Up**
• Remote BGM	**Up**	**Up**
• Ward nurse training	**Up**	**Up**
• M&M	**–**	Similar

Findings

- The proportion of sites having diabetes M&M meetings in 2018 is **similar** to that in 2017.
- Almost **90 per cent** of sites have diabetes M&M meetings.

Non-participants

Removing 2018 non-participants from the 2017 results has a small effect on the outputs, raising the proportion of sites having diabetes Mortality and Morbidity meetings in 2017 by just 0.1 percentage points.

This suggests that **year-on-year comparisons** between 2017 and 2018 **are robust**.

Notes: **r** = revised. 7A6AV erroneously excluded from analysis in 2017 report – now included.
1. Data for all comparable years is shown.

Care improvement initiatives:
Clinical comment and recommendations

The overall trend to improvements in the use of care improvement initiatives in hospital sites – Electronic Patient Records (EPR), electronic prescribing (EP), remote blood glucose monitoring (BGM) – is encouraging.

But the rate of improvement is slow and the take up of technologies is still uneven.

Recommendation

Hospitals without Electronic Patient Record (EPR) systems, electronic prescribing (EP), remote blood glucose monitoring (BGM) and junior doctor/nurse training programmes should plan to implement all of these initiatives as soon as possible.

NaDIA supports Diabetes UK's recommendations[1] on care improvement initiatives (see Slide 5 above).

And NHS England's policy aims[2] to:

- Ensure providers implement **electronic prescribing** systems.
- Accelerate the roll out of **Electronic Patient Record** systems and associated apps.

Notes: **1**. Diabetes UK, Making hospitals safe for people with diabetes, 2018 **2**. NHS England, NHS Long Term Plan, 2019.

Glossary

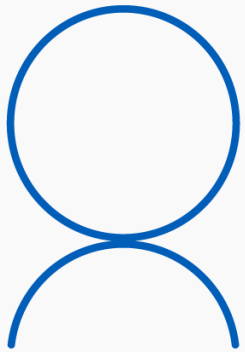
Glossary: NaDIA data collection

Data collection

Each participating hospital site completed a **Hospital Characteristics** (HC) questionnaire providing information on the hospital's resources and staffing structure. In 2019 there will be a **Bedside Audit** and **Patient Experience** survey alongside the Hospital Characteristics questionnaire, following a process similar to that undertaken in previous NaDIA years (2010, 2011, 2012, 2013, 2015, 2016, 2017).

Which patients are included in the audit?

A patient was included in the inpatient audit (NaDIA) if they had been admitted to a hospital bed for 24 hours or more. Patients on an Obstetric or Paediatric ward were excluded from this audit. Mental Health wards were also excluded due to the high prevalence of long stay patients. Other exclusions included:



- Patients who were hyperglycaemic but not yet formally diagnosed with diabetes
- Accident and Emergency
- Day case ward
- Day surgery unit patients
- Observation ward (if patients had been admitted for less than 24 hours)
- Surgical short stay unit (if patients had been admitted for less than 24 hours)
- Palliative care centres and community hospitals

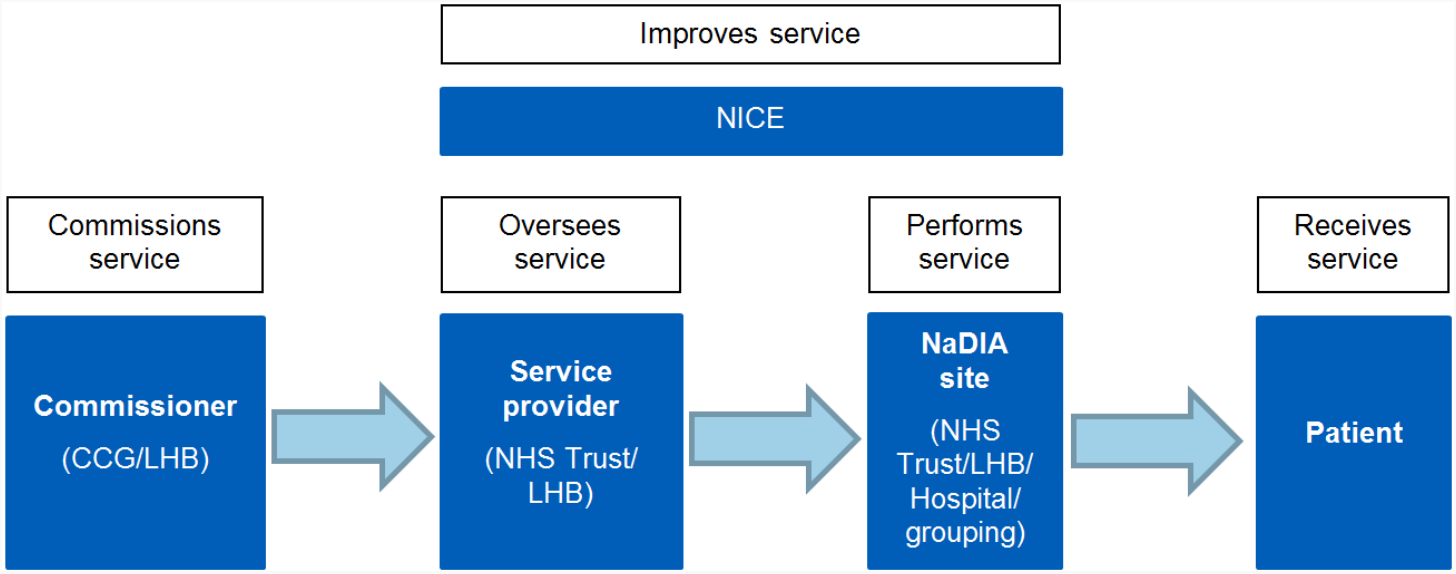
Glossary: Healthcare providers

NaDIA data is collected and submitted by healthcare professionals that work on applicable hospital wards in England and Wales.

For NaDIA Hospital Level Analysis, data is aggregated by **NaDIA site**, which may be an **NHS Trust**, Welsh **Local Health Board** (LHB), an individual hospital or a grouping of hospitals that have chosen to have their results aggregated together.

Commissioners decide what health services are needed and ensure that they are provided. Clinical Commissioning Groups (CCGs) in England and LHBs in Wales are responsible for commissioning healthcare services.

The National Institute for Health and Care Excellence (**NICE**) produces guidelines for the treatment of diabetes. All diabetes inpatient services should follow these guidelines, so that people with diabetes receive the best possible healthcare.



Glossary: Healthcare professionals

A wide variety of healthcare professionals are involved in the care of inpatients with diabetes, including (but not restricted to) the following professions:

- **Diabetes consultants** are senior hospital physicians who diagnose and treat patients with diabetes. Diabetes consultants are specialists in diabetology and endocrinology (the specialism concerning the glands and hormones).
- **Diabetes specialist nurses** (DSN) work to meet the needs of people with diabetes and provide experience and expertise as part of dedicated diabetes teams. DSNs work wholly in diabetes care. A **diabetes specialist inpatient nurse** (DISN) provides hospital inpatient care[1].
- A **dietitian** is a healthcare professional with expertise in diet and nutrition. A **specialist diabetes dietitian** advises people with diabetes on the most suitable diet to control and manage their diabetes.
- **Podiatrists** are healthcare professionals that specialise in conditions of the feet and lower limbs. This includes the prevention, management and treatment of foot complications commonly experienced by people with diabetes (e.g. diabetic foot disease).
- **Diabetes specialist pharmacists** are healthcare professionals that specialise in the safe and effective management of medication for controlling and treating diabetes.

Notes: **1**. Diabetes UK (2014) Position Statement: Diabetes Specialist Nurses: Improving Patient Outcomes and Reducing Costs

Glossary: Healthcare technologies

Hospitals may use some or all of the following healthcare technologies which support inpatient care:

- An **Electronic Patient Record** (EPR) is a computer system designed to collect and store patients' clinical and health information in one place, replacing paper-based health records and multi-platform data collection. Hospital staff involved in patient care can access and update the EPR system at different points in the patient's care. A variety of EPR systems are used. More than one third of hospitals use an EPR system.
- Hospital **electronic prescribing** (EP) is a computer system designed to allow prescriptions to be sent to pharmacies through IT systems, rather than through paper prescriptions. Almost one third of hospitals use EP.
- **Remote blood glucose monitoring** (BGM) tools allow remote access to the measurement of patient blood glucose (BG) levels. Results can be transmitted to patients and caregivers in real time, providing an early warning if BG levels are outside the expected levels. More than half of hospitals use remote BGM.

Glossary: Healthcare teams

"Specialists involved in the delivery of diabetes care must work in Multi-disciplinary Foot Care Teams for care to be truly effective. They should have received extensive training accredited at a national level." **Diabetes UK**[1]

Healthcare professionals form multi-disciplinary specialist teams in hospitals to co-ordinate diabetes care, including (but not restricted to):

- Inpatient specialist **diabetes teams** co-ordinate diabetes care in hospitals. *diabetes teams usually consist of diabetes consultants, diabetes specialist (inpatient) nurses (DSN/DISN), podiatrists and dietitians, who will also work with other specialists who might also form part of the team (e.g. pharmacists and clinical psychologists).*
- Inpatient **Multi-disciplinary Foot Care Teams** (MDFT) co-ordinate diabetes foot care in hospitals. *MDFTs meet weekly and consist of a diabetes consultant (diabetologist), a podiatrist with skills in managing the diabetic foot and a surgeon (general, orthopaedic or vascular surgeon). MDFTs will also work with other specialists who might be incorporated into the team (e.g. DSN/DISNs, podiatrists, interventional radiologists, microbiologists, tissue viability nurses). About three quarters of hospitals have MDFTs.*

About half of hospitals host regular diabetes **Mortality and Morbidity meetings** (M&M) for healthcare professionals to discuss patient deaths and adverse incidents relating to diabetes, and another third of hospitals discuss diabetes cases at general M&M meetings. *At M&M meetings staff can discuss incidents in detail, report problems and share lessons to prevent the recurrence of adverse incidents.*

Notes: **1**. Diabetes UK (2010): Commissioning specialist diabetes service for adults with diabetes

Glossary: Acronyms

BA form = NaDIA Bedside Audit form

BG = Blood glucose

CCG = Clinical Commissioning Group

DISN = Diabetes inpatient specialist nurse

DKA = diabetic ketoacidosis

DSN = Diabetes specialist nurse

EP = Electronic prescribing

EPR = Electronic Patient Records

HC form = NaDIA Hospital Characteristics form

HHS = hyperosmolar hyperglycaemic state

HQIP = The Healthcare Quality Improvement Partnership

LHB = Welsh Local Health Board

M&M meeting = Mortality and Morbidity meeting

MDFT = Multi-disciplinary Foot Care Team

NaDIA = National Diabetes Inpatient Audit

NCAPOP = National Clinical Audit Patient Outcomes Programme

NCVIN = National Cardiovascular Intelligence Network

NDA = National Diabetes Audit

NICE = National Institute for Health and Care Excellence

PE form = NaDIA Patient Experience form

QOF = Quality and Outcomes Framework

Remote BGM = Remote blood glucose monitoring

Glossary: NaDIA data collection

Data collection

Each participating hospital site completed a **Hospital Characteristics** (HC) questionnaire providing information on the hospital's resources and staffing structure.

Additional information

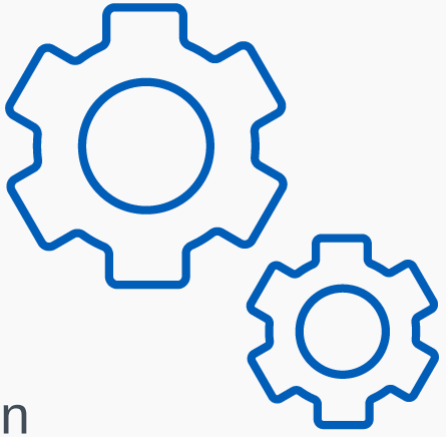
Additional information: Summary

The following documents are available from http://content.digital.nhs.uk/pubs/nadia2018

- A one page executive summary of this report.
- A PowerPoint version of this report.
- Hospital site level 2010-2018 data
- Supporting data in Excel format
- Data Quality Statement
- Methodology

Additional information: Future plans

Future plans:



- A full NaDIA will be implemented in September 2019 including the Hospital Characteristics, Bedside Audit and Patient Experience questionnaires.
- A review of the NaDIA dataset is underway to ensure the questions are relevant and the burden on service providers is minimised.
- The audit team is working with Diabetes UK following publication of their report ‘Making hospitals safe for people with diabetes’ (2018) to ensure the audit supports implementation of the recommendations.
- Working with the teams involved in the Quality Improvement Collaborative (QIC) to ensure that the audit supports measurement of actions implemented to improve patient care, for example, increased use of electronic prescribing (EP) and staff training.

Additional information: References

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- NHS Digital: National Diabetes Inpatient Audit (NaDIA) 2017: http://digital.nhs.uk/pubs/nadia2017
- NHS England: NHS Long Term Plan (2019): https:/www.longtermplan.nhs.uk/wp-content/uploads/2019/01/nhs-long-term-plan.pdf

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:

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Michael Sykes	**Quality Improvement Lead, Diabetes UK**
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Andrew Whitehead	**Audit Coordinator, NHS Digital**
Arthur Yelland	**Senior Information Analyst, NHS Digital**

Prepared in collaboration with:

HQIP
Healthcare Quality Improvement Partnership

The Healthcare Quality Improvement Partnership (HQIP). The National Diabetes Inpatient Audit (NaDIA) 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.

NHS 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
KNOW DIABETES. FIGHT DIABETES.

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 2018

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