

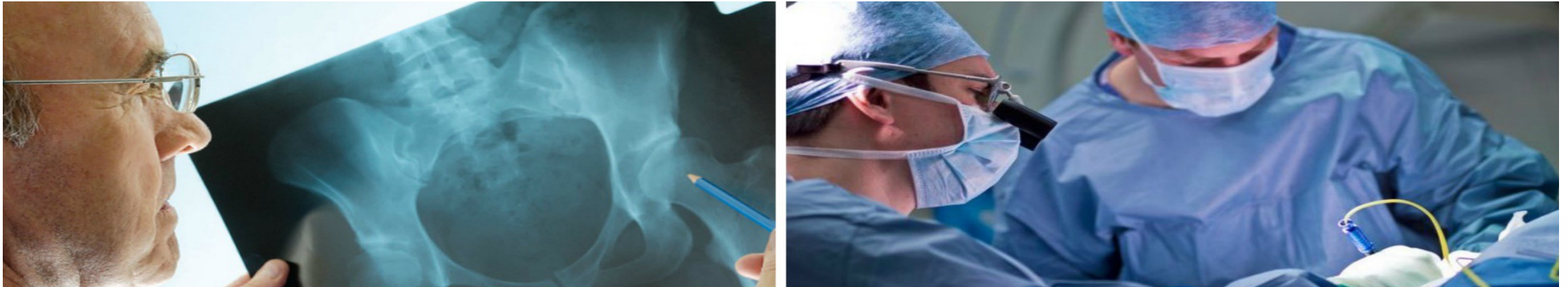
# Tacking inequalities in Diabetes Care- reducing variation through National Programmes

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**Prof Gerry Rayman and Prof Partha Kar**

**GIRFT Leads for Diabetes- NHSE**



# Outline

- GIRFT Diabetes Improvement Programme
- NHSE Diabetes
- DiabetesUK, ABCD, JBDS, RCP

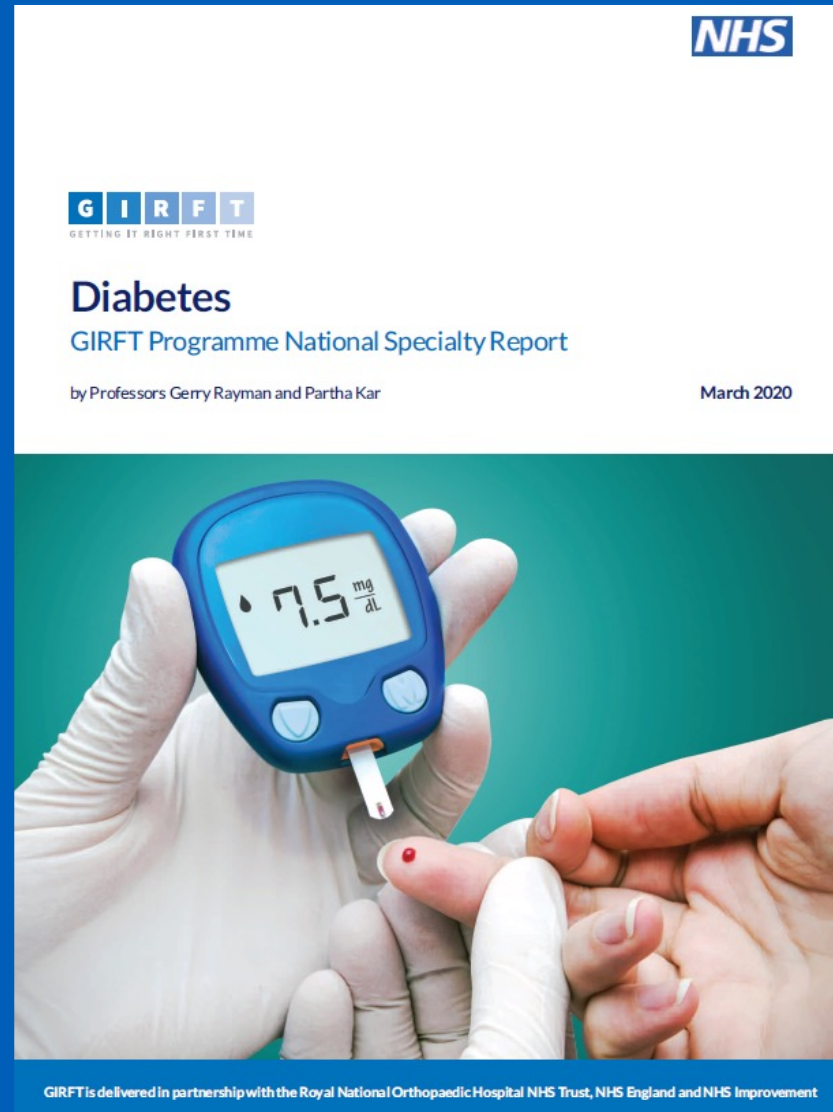
# GIRFT Diabetes

- What did we review?
  - Diabetic foot disease
  - Inpatient Diabetes care
  - Type 1 diabetes and transitional care

# The GIRFT Report

## March 2020

Based on over 104 visits, NaDIA, NDA, HES Data and individual trust feedback





# Why foot services?

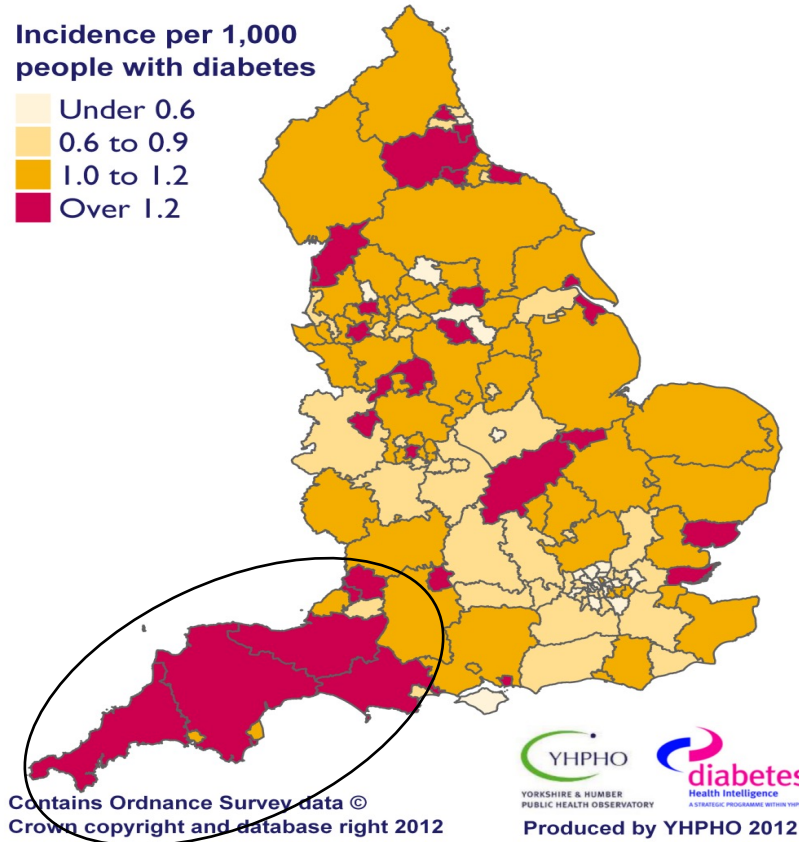


## Major amputation rates in people with diabetes

Sources: The Quality and Outcomes Framework (QOF) 2007/08 to 2009/10,  
Hospital Episode Statistics (HES) 2007/08 to 2009/10,  
The NHS Information Centre for health and social care

### Incidence per 1,000 people with diabetes

- Under 0.6
- 0.6 to 0.9
- 1.0 to 1.2
- Over 1.2



## Atlas of Health Care Variation


2x difference in regions

10x difference across PCTs  
(populations of ~300,000)

Contributing factors: race,  
deprivation

## Variation in Service Provision and Practice


## Diabetes-related major lower limb amputation incidence is strongly related to diabetic foot service provision and improves with enhancement of services: peer review of the South-West of England

R. B. Paisey<sup>1</sup> , A. Abbott<sup>2</sup>, R. Levenson<sup>3</sup>, A. Harrington<sup>4</sup>, D. Browne<sup>5</sup>, J. Moore<sup>3</sup>,

### South west: 10 key requirements for an effective diabetes foot services

- 1 Patient education at annual review
- 2 Regular community healthcare professional education
- 3 Adequate podiatry community staffing with rotation in to MDFT
- 4 Job planned MDFT weekly
- 5 Administrative support
- 6 Pathways and communication of plan of care to patient
- 7 Identification of diabetic inpatients and their foot checks
- 8 Orthotist an integral part of MDFT
- 9 Urgent vascular opinion available to foot clinic staff
- 10 Ulcer database and root cause analysis of all amputations

## Diabetes-related major lower limb amputation incidence is strongly related to diabetic foot service provision and improves with enhancement of services: peer review of the South-West of England


R. B. Paisey<sup>1</sup> , A. Abbott<sup>2</sup>, R. Levenson<sup>3</sup>, A. Harrington<sup>4</sup>, D. Browne<sup>5</sup>, J. Moore<sup>3</sup>,

Number of key services provided in 2013	Major amputations/1000/year (CI) 2009/2012
8	1 (0.6:1.6)
7	1 (0.8:1.3)
7	1.2 (0.8:1.6)
6	0.8 (0.5:1.2)
6	1.1 (0.8:1.4)
5	1.4 (1.0:1.8)
5	1.2 (0.8:1.6)
5	1.2 (0.9:1.5)
5	1.1 (0.8:1.6)
4	1.1 (0.8:1.5)
3	2 (1.5:2.5)
3	1.3 (0.9:1.6)
2	1.5 (1.2:1.8)
2	2 (1.5:2.5)

Significant negative relationship between major amputation incidence and service provision

$P = 0.0005$ ,  $R^2 = 0.62$

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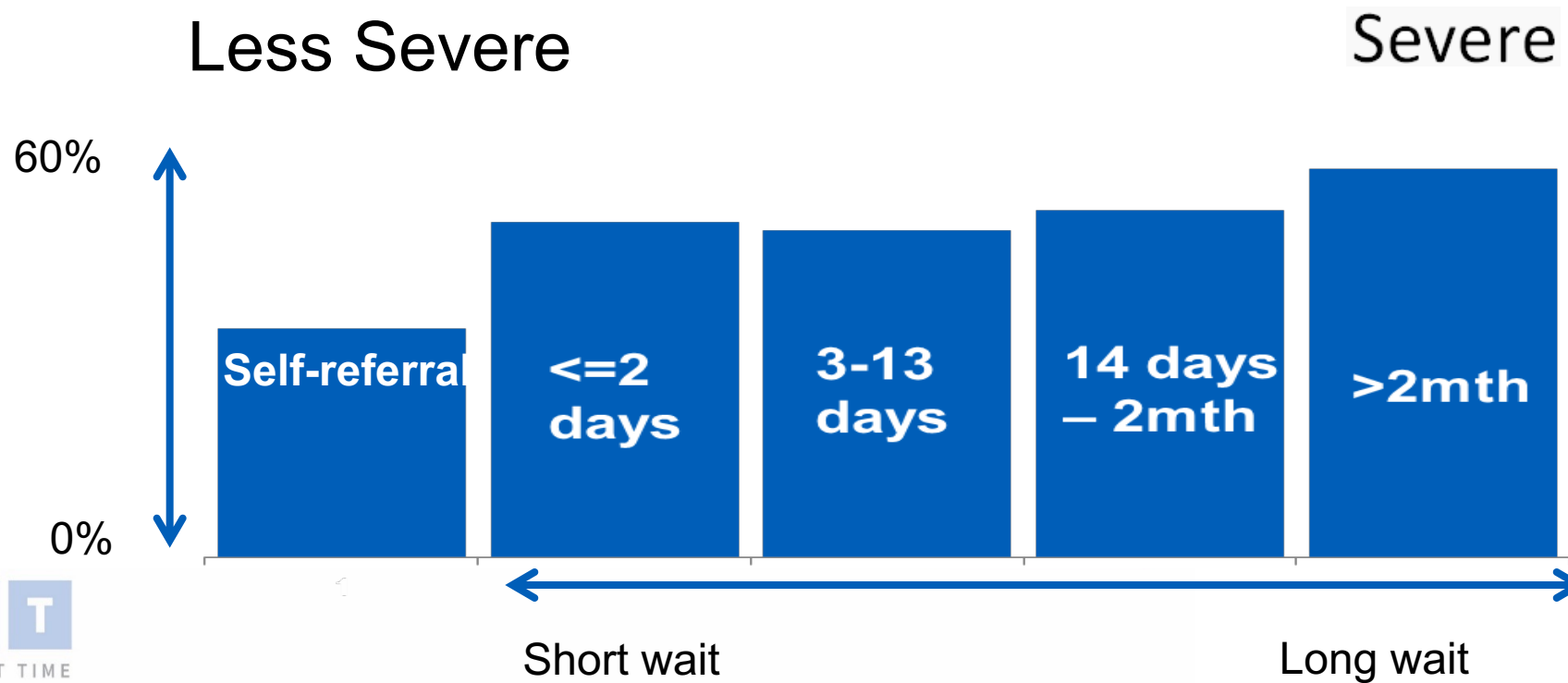
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8	1 (0.6:1.6)	8	0.5 (0.2:0.8)
7	1 (0.8:1.3)	8	0.9 (0.7:1.1)
7	1.2 (0.8:1.6)	7	0.9 (0.3:1.6)
6	0.8 (0.5:1.2)	9	0.4 (0.2:0.7)
6	1.1 (0.8:1.4)	6	1 (0.7:1.2)
5	1.4 (1.0:1.8)	9	0.7 (0.4:1.1)
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5	1.1 (0.8:1.6)	5	1 (0.8:1.4)
4	1.1 (0.8:1.5)	9	0.6 (0.4:0.9)
3	2 (1.5:2.5)	7	1.3 (1.0:1.6)
3	1.3 (0.9:1.6)	2	1.4 (1.0:1.8)
2	1.5 (1.2:1.8)	9	0.9 (0.7:1.2)
2	2 (1.5:2.5)	3	1.6 (1.1:2.1)
	0.9 (0.8:1.0)		0.8 (0.7:0.9)

Significant negative relationship between major amputation incidence and service provision

$P = 0.0005$ ,  $R^2 = 0.62$

# NDFA- Key findings – Referral and ulcer severity

- Self-referring patients were less likely to have severe ulcers.
- Patients not seen for two months or more were most likely to have severe ulcers.

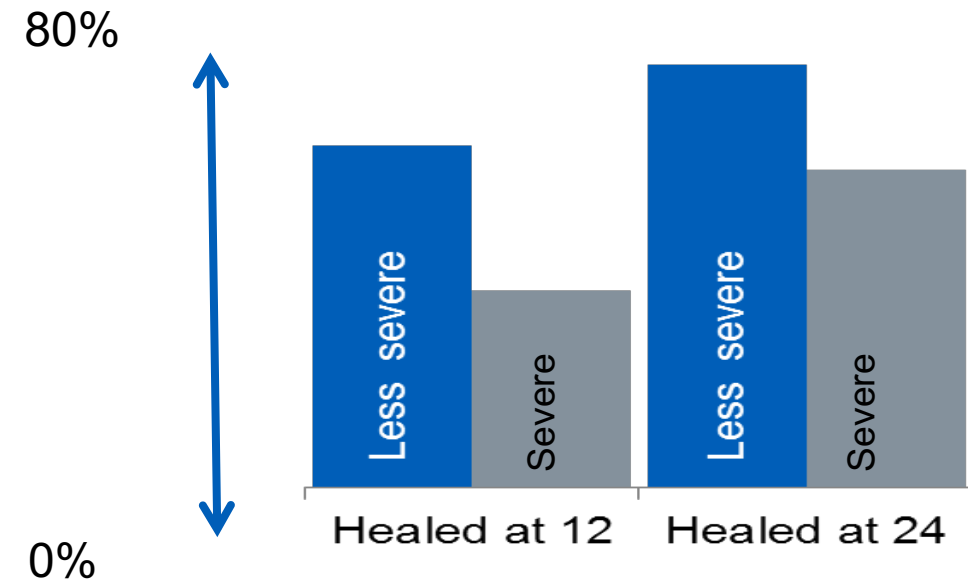




# NDFA Key findings – Outcomes

## Proportion being ulcer-free at 12 and 24 weeks

- People with less severe ulcers are more likely to be healed at both 12 and 24 weeks.

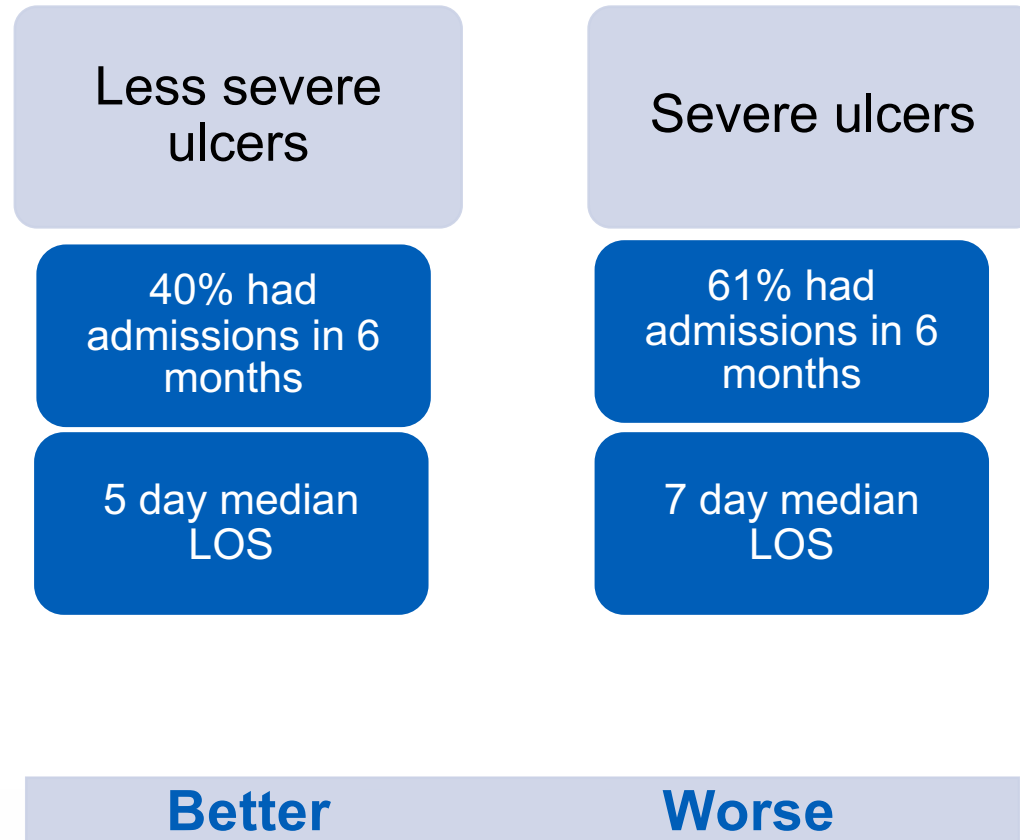


# NDFA admissions: Overview



## Findings

People with less severe ulcers less likely to be admitted in the next 6 months and have a shorter length of stay





## NICE Ng 19 should be in place in all diabetes services

- Training of primary care staff to identify those at risk
- Foot protection teams in the community
- Rapid referral of the ulcerated, ischaemic and/infected foot MDFT including to vascular surgery
- MDFT in all trusts
- All admissions to have a foot examination

**What did we find? Very significant variations in service provision across the country**

## List of recommendations

---

### Diabetic footcare

#### Effective diabetic footcare services

**11.** All trusts should have a dedicated multi-disciplinary footcare service (MDFS) as stated in the NHS Long Term Plan and NICE NG19. The service should be well integrated with the community footcare protection service (FPS), and with hospital renal wards and dialysis units given the increased risk of amputation for diabetic patients in these areas. CCGs and STPs should ensure that community foot protection teams are trained to carry out foot screening and that the community service is structured to deliver the standards recommended in NG19.

#### Vascular networks

**12.** Everyone with a diabetic footcare emergency requiring admission should be assessed the same day by the MDFS. If the MDFS identifies vascular impairment, they should have same day access to a vascular opinion, according to NICE NG19, whether the hospital is a vascular service hub or a spoke. If the MDFS is not present, the patient must still be assessed same day, which may require transfer to the vascular service.

# Staffing levels: Having hospital specialist podiatry (MDFT)



Percentage of sites with staff deficiencies, England, 2010-19

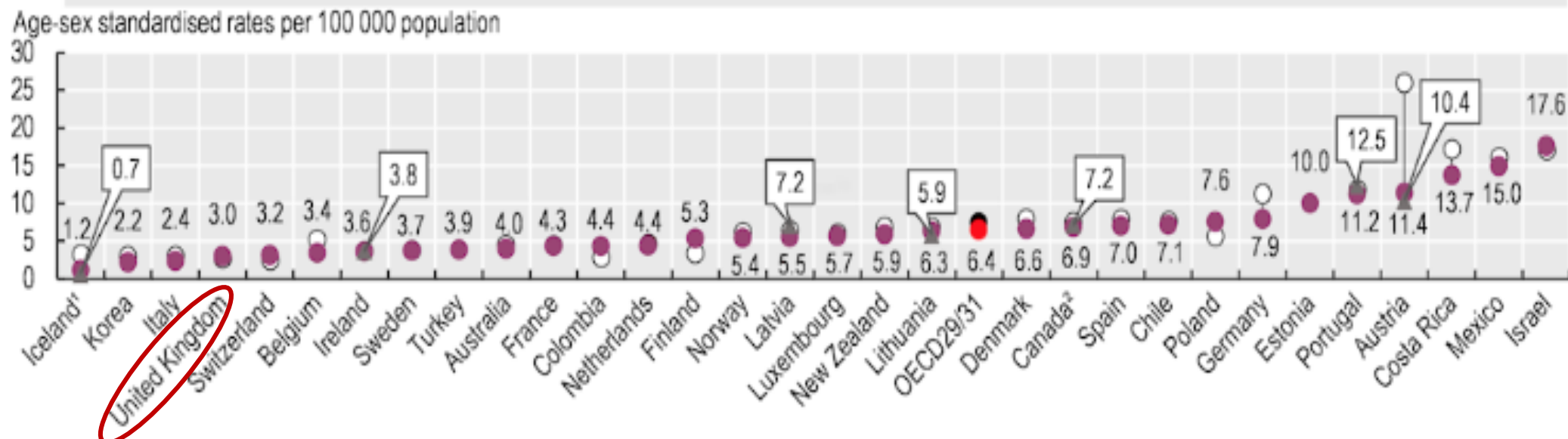
NHSE Transformation Funds

## NaDIA

Percentage of sites with:	2010	2013	2015	2017	2019	2021
• no inpatient podiatry service for people with diabetes	26.8	33.3	25.5	32.3	18.2	4.3

All but 6 of the 137 trusts have MDFTs

Figure 6.14. Major lower extremity amputation in adults



1. Three-year average. 2. 2020 estimate based on provisional 1 April to 30 September data from all jurisdictions except Quebec.

Source: OECD Health Statistics 2021.



# Why Inpatient Diabetes Care?

- Poor patient experience
- Longer LOS, increased readmission rates.
- Increased morbidity from pneumonia, sepsis, myocardial infarction, AKI, hospital acquired foot lesions, surgical site infections
- Increased mortality



## Poor care is a major factor

Inpatient diabetes care cost £2.5b/y = 11% of all inpatient spend  
M Kerr (2012)

# Why Inpatient Diabetes Care?



29 August 2013 Last updated at 16:43

## Stafford Hospital prosecuted over Gillian Astbury death

Mid Staffordshire NHS Trust is to be prosecuted over a patient who died after entering a diabetic coma, the Health and Safety Executive has said.

Gillian Astbury, 66, died at Stafford Hospital in April 2007 when two nurses did not spot she needed insulin.



A Nursing and Midwifery Council panel found Ann

## Doctor struck off for "disgraceful" conduct

BMJ | 26 Mar 15 |



A junior doctor who made two "potentially dangerous" prescribing errors within days and then committed a string of petty crimes while excluded from work has been struck off the UK medical register.

Prashen Pillay was a foundation year 1 trainee doing a rotation in geriatric medicine in Sussex when he wrote 250 milligrams instead of 250 micrograms on a digoxin prescription—effectively multiplying the dose by 1000. A nurse, realising that such a dose was impossible, administered 2.5 milligrams, still 10 times the intended dose. The 76 year old patient, Joan Dixon, died of a heart attack within hours.

Pillay had made a similar error two weeks previously, transcribing "4 units" of fast acting insulin as "40 units," although the 82 year old patient escaped with a mild hypoglycaemic episode.



## Inquest told of junior doctors 'ignorance of insulin syringe'

### Doctor gives fatal insulin dose

A 92-year-old man died of a heart attack after a junior doctor gave him a drugs overdose, an inquest has heard.

### Patient given 'insulin overdose'

Doctors in NI are to receive fresh guidance on how to administer insulin. It follows an inquest into the death of an elderly woman who was given ten times the dose of insulin she needed.



## Fatal insulin overdose nurse suspended for year

A community nurse who gave a diabetic pensioner a fatal overdose of insulin has been suspended for a year.

A community nurse from Pembrokeshire has been suspended for a year after giving a diabetic pensioner a fatal overdose of insulin.

Mrs Thomas, 55, from Pembrokeshire, died on 10 June 2011.

A Nursing and Midwifery Council (NMC) panel in Cardiff ordered against striking off the nurse's name from the register.

Chairman Jane Matthews said they accepted there had been mitigating circumstances leading to Mrs Thomas' fatal overdose but said there was an "ongoing risk" to patients if she continued working.

"We are satisfied that she is not competent in the administration of insulin," the panel said.

"We consider there is an ongoing risk to patients - the NMC must take confidence in the suspension."



9 September 2013 Last updated at 19:45

## Hospital 'failed to monitor' diabetic woman's blood sugar

Hospital staff failed to properly monitor the blood sugar levels of a diabetic woman who later died after going into a coma, an inquest heard.

Claire Harry, 36, died at the Royal Cornwall Hospital in Truro in 2010.

Coroner Dr Emma Carlyon heard Ms Harry, from Penzance, fell into the coma after staff did not notice her blood sugar level had dropped, causing irreversible brain damage.



Claire Harry never regained consciousness after falling into the coma



13 August 2013 Last updated at 00:12

## Redditch diabetic's death leads to payout by health trust



Mrs Pitt's 62-year-old husband, David, said she was "let down so badly" by the nurses that were employed to care for her and make her better

An undisclosed settlement has been paid by a health trust to the family of a woman who died after a hospital failed to treat her diabetes.

Related Stories



## National Diabetes Inpatient Audit (NaDIA)

- More PWD in hospital than previously reported (14.9%)  
NaDIA 2019 18.1%, 2023 ??
- ~1/3 are over 80yr
- >1/3 are insulin treated
- >1/3 on insulin have a treatment error
- **>1/4 (26%) experienced a hypoglycaemic episode**
- ~1/50 (2.2%) developed a foot complication in hospital
- 1 in 4 with type 1 diabetes develops DKA



## 25 Recommendations for Inpatient Services

Emily Watts and Gerry Rayman (2018)



# Inpatient Care- List of recommendations

## **Dedicated multi-disciplinary inpatient diabetes teams (MDiTs)**

5. All trusts must have a dedicated multi-disciplinary team of specialist diabetes inpatient practitioners as indicated in the NHS Long Term Plan. Trusts should work towards providing base level specialist diabetes cover at weekends where this does not exist.

6. The MDiT should meet regularly to discuss day-to-day errors and safety issues, and report to a quarterly trust-level diabetes safety board which reviews the overall quality of the inpatient service, with support from IT, based on incident reporting, local and national audits of patient harms, diabetes medication errors, length of stay and readmissions.

## **Identifying diabetes on admission and ensuring rapid referral**

7. All trusts should have a robust system to identify all people with diabetes on admission to hospital, including emergencies and elective and non-elective surgery, and a triage system to identify those at risk and rapidly refer them to the diabetes team. This should be an electronic system, integrated with web-linked blood glucose meters which provide an alert system for staff when any out-of-range reading is recorded.

## **Reducing insulin errors**

8. Training should be provided for every healthcare professional who dispenses, prescribes and/or administers insulin, appropriate to their level of responsibility, including an assessment of competency.

## **Improving care through perioperative pathways**

9. All hospital trusts should have clear, audited perioperative pathways from pre-assessment through to discharge. These should be broadly in line with NCEPOD recommendations.

## **Supporting self-management in hospital**

10. All trusts should have and promote a self-management policy, which supports patients who want to self-manage their diabetes to safely do so while in hospital, as clinically appropriate and in line with wider NHSE and NHSI policies on inpatient self-management.

# Recommendation 5- Dedicated MDiT - DISN

Percentage of sites with staff deficiencies, England, 2010-19

Percentage of sites with:	2010	2013	2015	2017	2019
<ul style="list-style-type: none"> <li>no <b>dedicated</b> DISNs</li> </ul>	<b>31.5</b>	30.2	29.3	25.9	<b>18.2</b>

# Recommendation 5- Dedicated MDiT - DISN

Percentage of sites with staff deficiencies, England, 2010-19

NHSE Transformation Funds

Percentage of sites with:	2010	2013	2015	2017	2019	2021	2023
<ul style="list-style-type: none"> <li>no <b>dedicated</b> DISNs</li> </ul>	31.5	30.2	29.3	25.9	18.2	7.2	??



# Recommendation 5-

## Diabetes does not go away at the weekend



NHSE Transformation Funds

Percentage of sites with:	2015	2017	2019	2021	2023
• 7 day DISN provision	7.0	9.5	17.1	32.0	?

**68%** of sites do not have a 7 day DISN service

# Recommendations 6 & 7

Identification, triage and web-linked meters

## Data from NDISA Structural Survey

Systems to identify all people with diabetes on admission to hospital

51% - room for improvement

A triage system to identify those at risk and rapidly refer them to the diabetes team

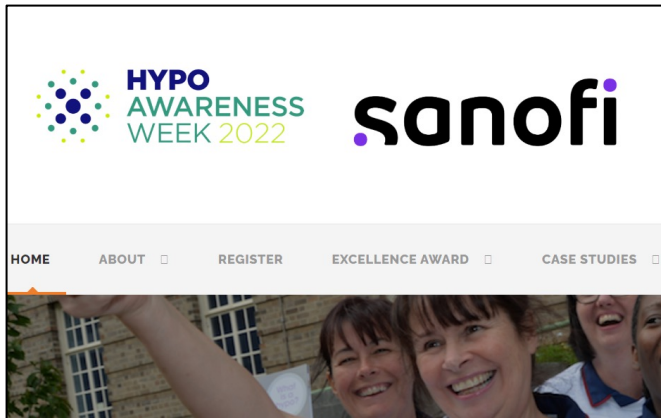
71%- room for improvement

Use of web-linked BG meters which provide an alert system for out-of-range readings?

56%- room for improvement

# Recommendation 8

## Reducing insulin errors and harm through staff training



## Diabetes Quality Improvement Training

Royal College of Physicians

NHS Digital

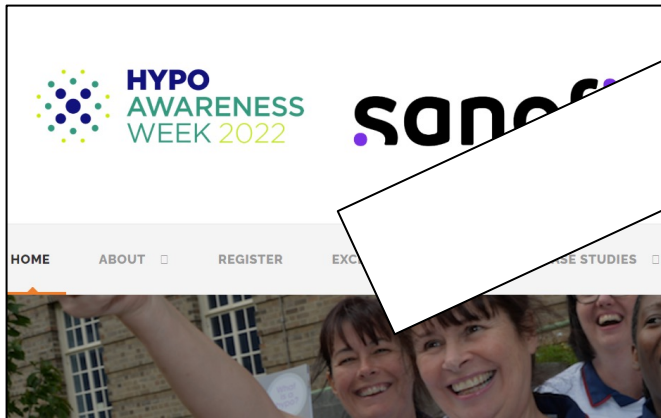
DiabetesUK

# Recommendation 8

## Reducing insulin errors and harm through staff training



Still not mandatory



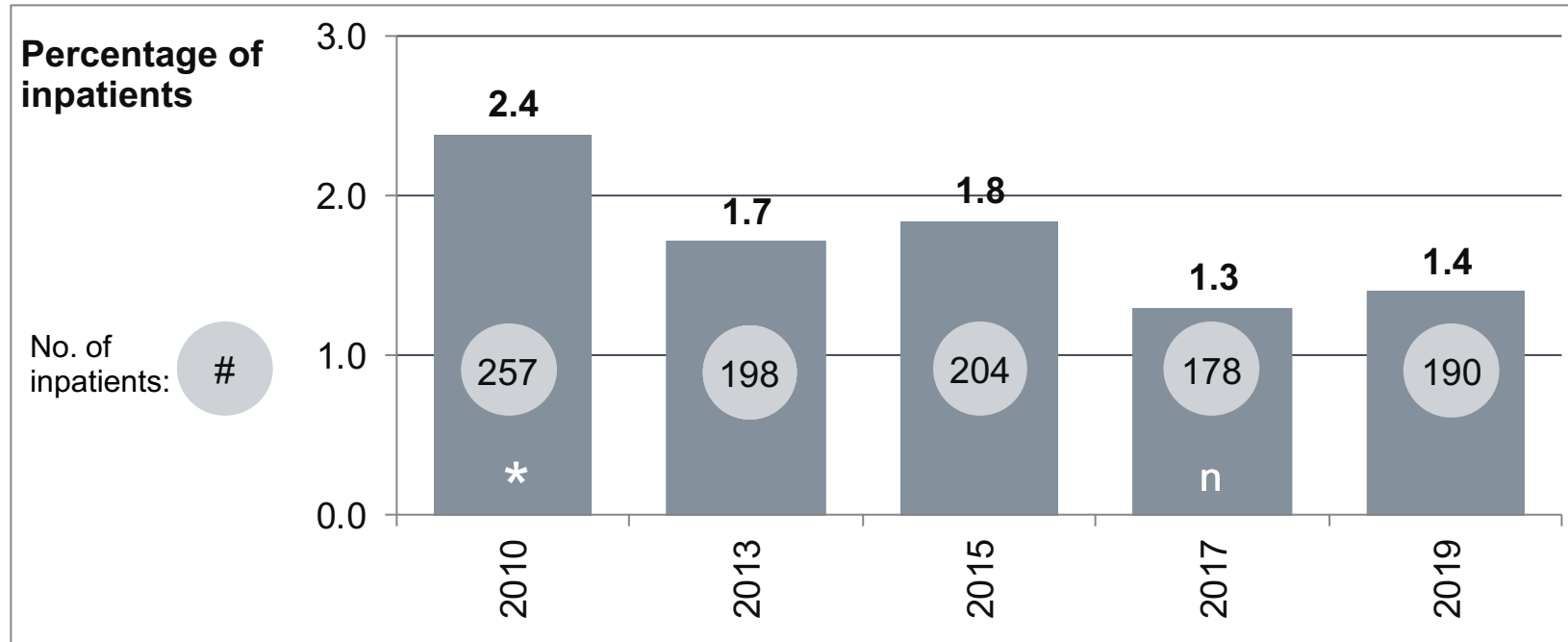
### Diabetes Quality Improvement Training

Royal College of Physicians

NHS Digital

DiabetesUK

# Hypoglycaemic episodes requiring injectable rescue treatment



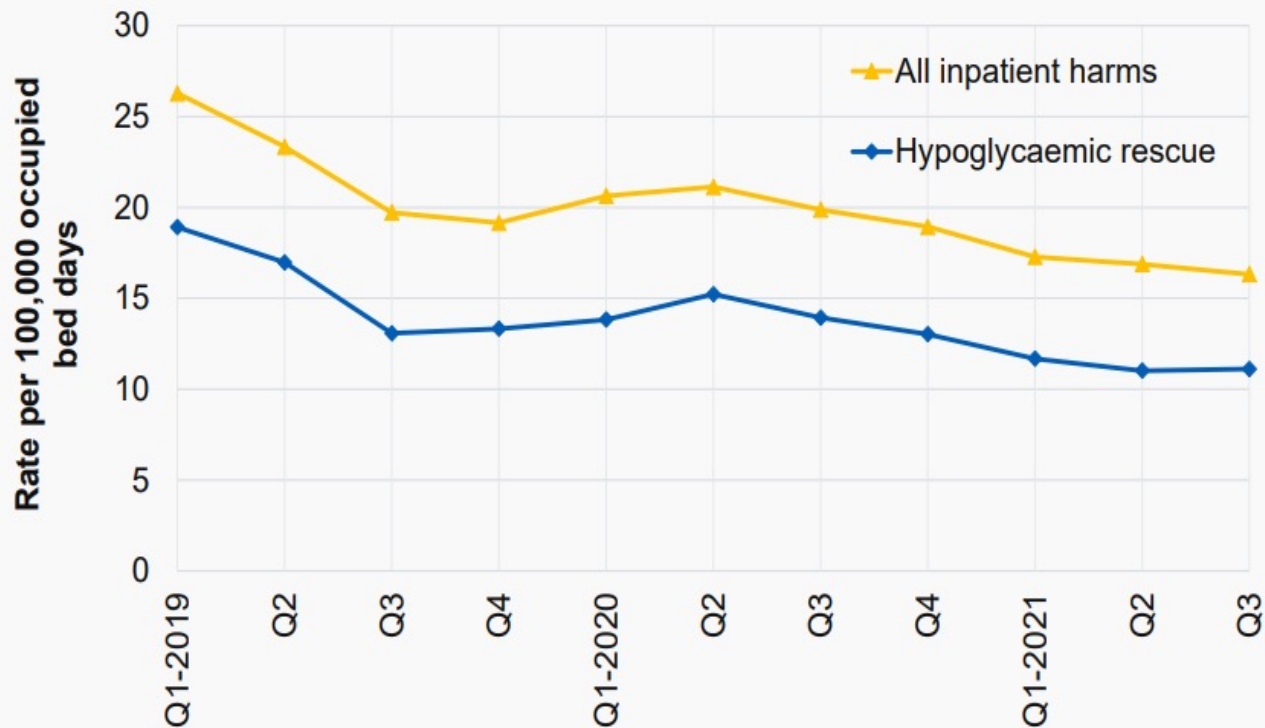
## Findings

- The incidence inpatients with diabetes requiring hypoglycaemic rescue has **decreased** from 1 in 40 to 1 in 70 since 2010



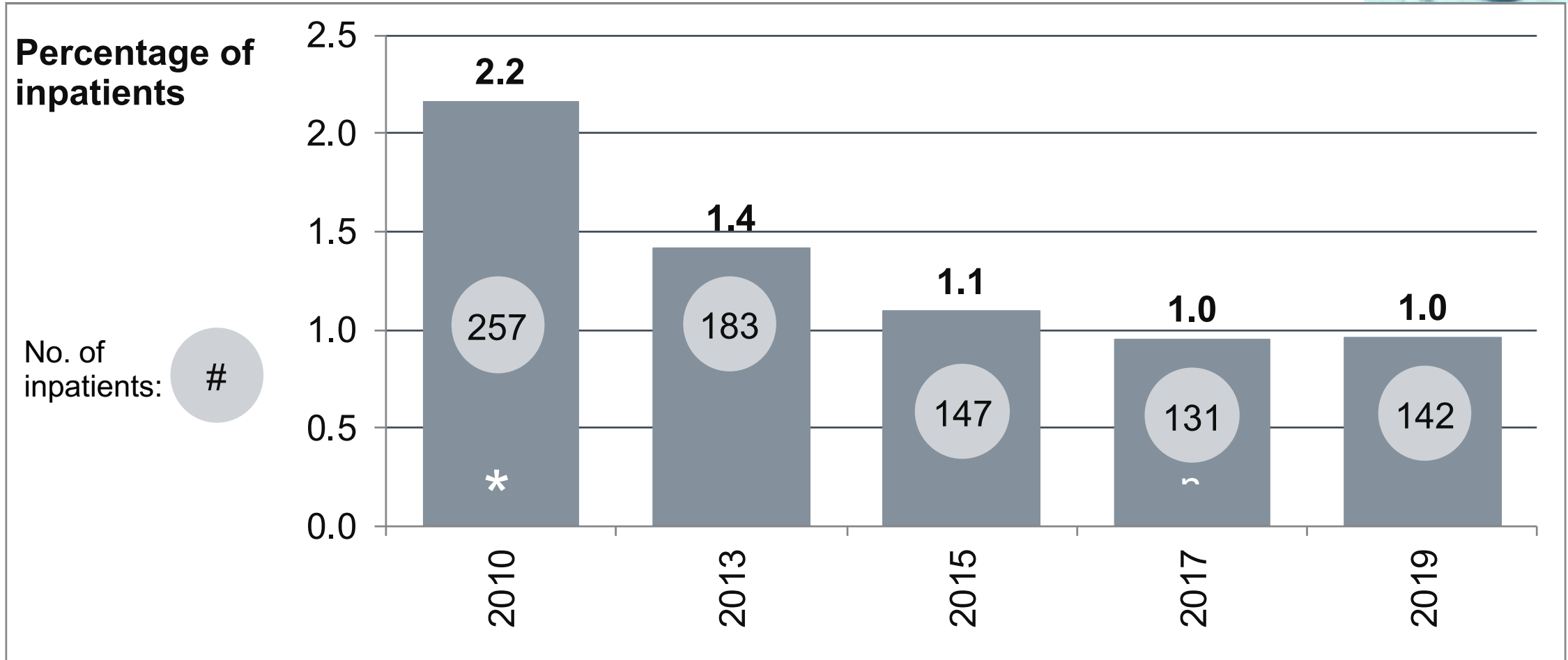
## 4. Inpatient harms: Rate of inpatient harms by quarter: Hypoglycaemic rescue

Chart 4.2: Inpatients with diabetes, by quarter: rate of all inpatient harms and hypoglycaemic rescue<sup>2,3</sup>, England, January 2019 - September 2021 (rounded<sup>1</sup>)



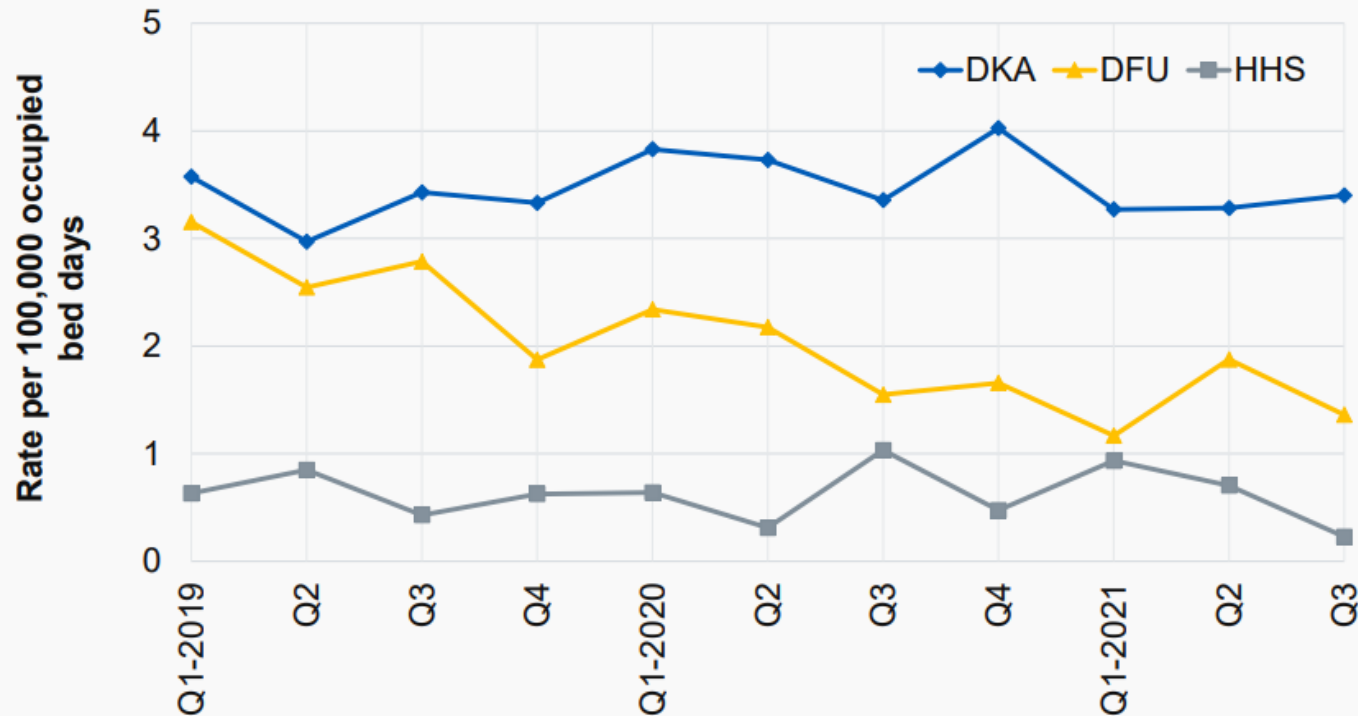


# Hospital acquired diabetic foot lesions

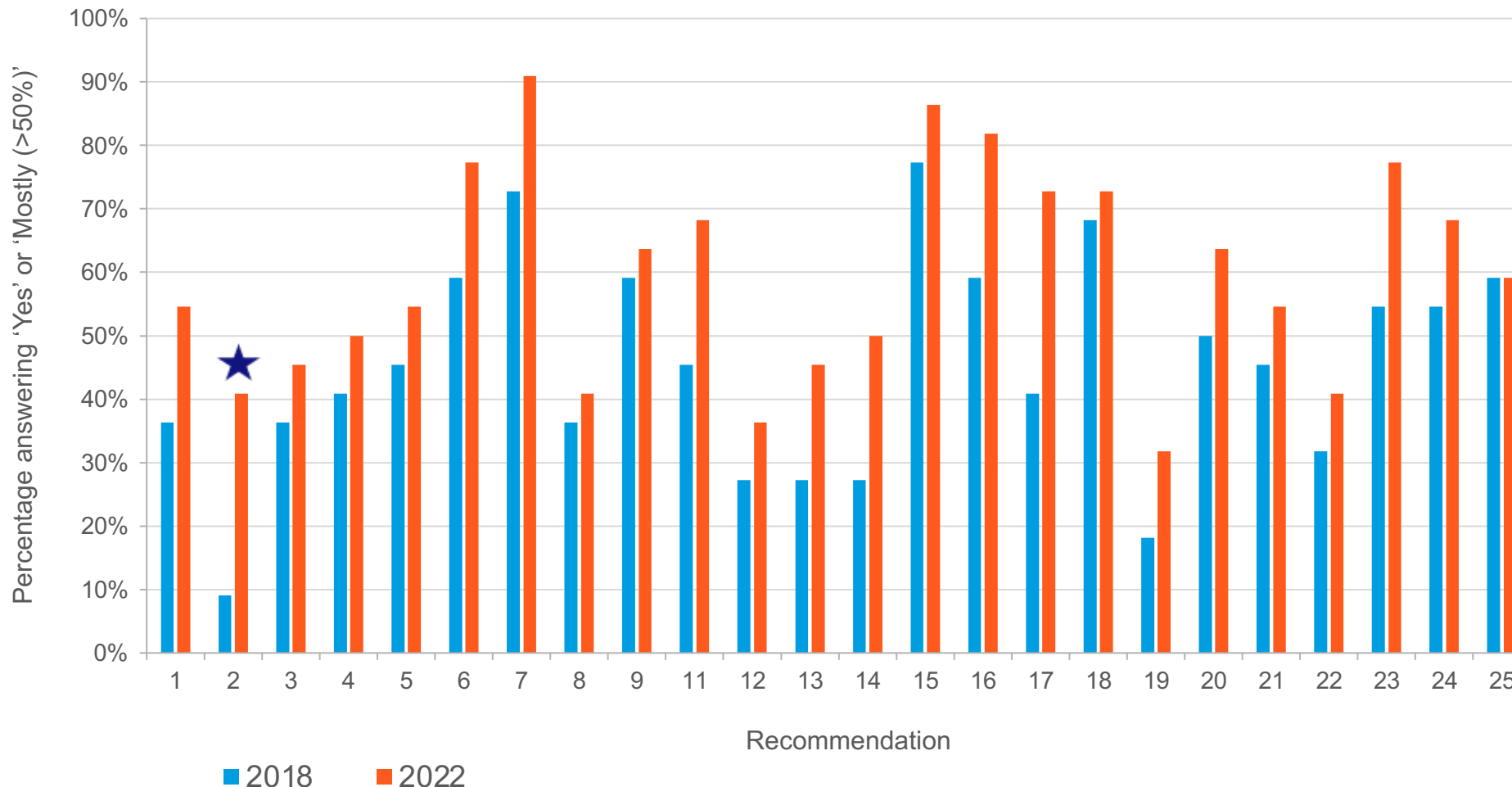


## 4. Inpatient harms: Rate of inpatient harms by quarter: DKA, DFU and HHS

Chart 4.3: Inpatients with diabetes, by quarter: rate of DKA, DFU and HHS<sup>2,3</sup>, England, January 2019 - September 2021 (rounded<sup>1</sup>)



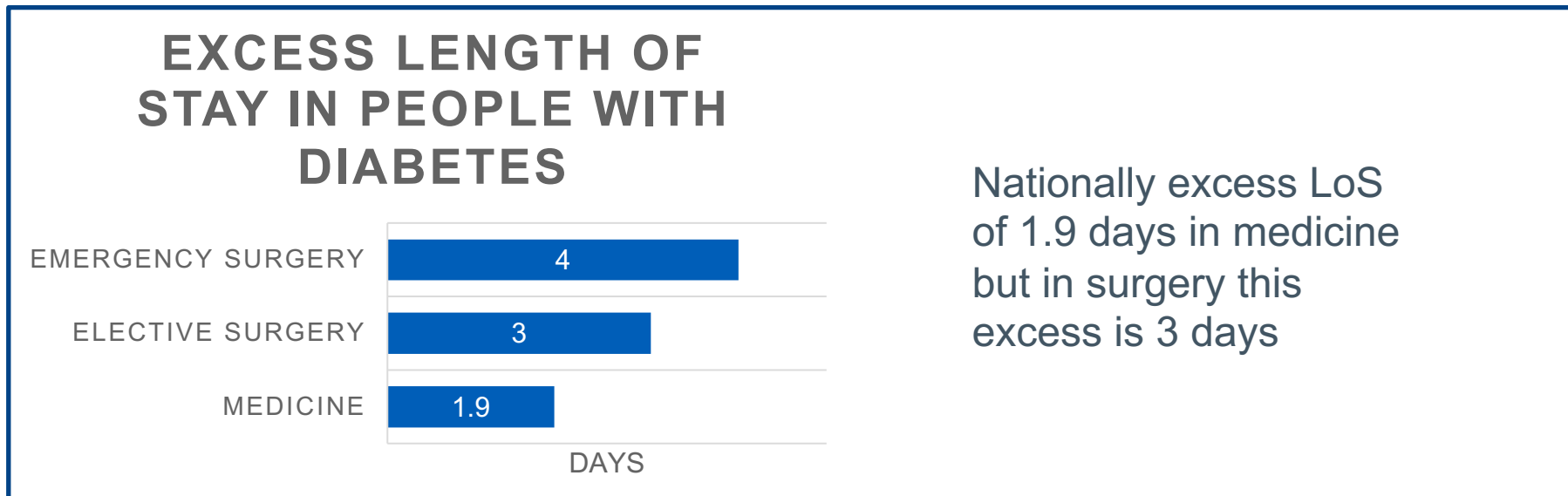
# Results for 25 recommendations\*



- 1 Fully staffed inpatient team
- 2 Peri-op teams
- 3 Quarterly diabetes safety boards
- 4 Weekly inpatient team meeting
- 5 Leadership training for seniors
- 6 JBDS guidelines implemented
- 7 HCP to promote self-management
- 8 Training in safe use of insulin- all
- 9 Basic training for all undergraduates
- 10 -
- 11 Patients supported in self management
- 12 Care plans
- 13 Appropriate meal times and meal quantity
- 14 CHO content on menus
- 15 Access to snacks
- 16 Identification and referral pathways for of all inpatients with diabetes
- 17 Electronic prescribing
- 18 Web-linked meters with alerts
- 19 Electronic safe discharge check list
- 20 Systems for admission prevention
- 21 Audit of key indicators e.g. hypos
- 22 Audit activity e.g. LoS, readmission
- 23 Reporting dashboard for harms
- 24 Participate National Inpatient Audits
- 25 Host Diabetes M&M meetings

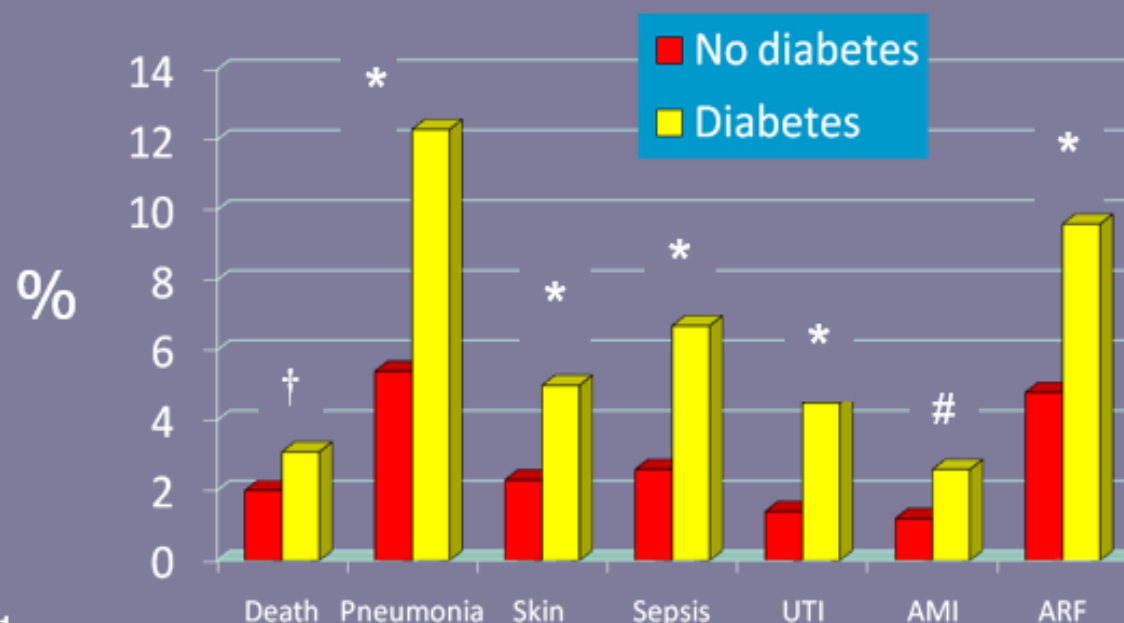
# Recommendations 9

## Perioperative Diabetes Team



- GIRFT data shows considerable variation in their length of stay (LoS)

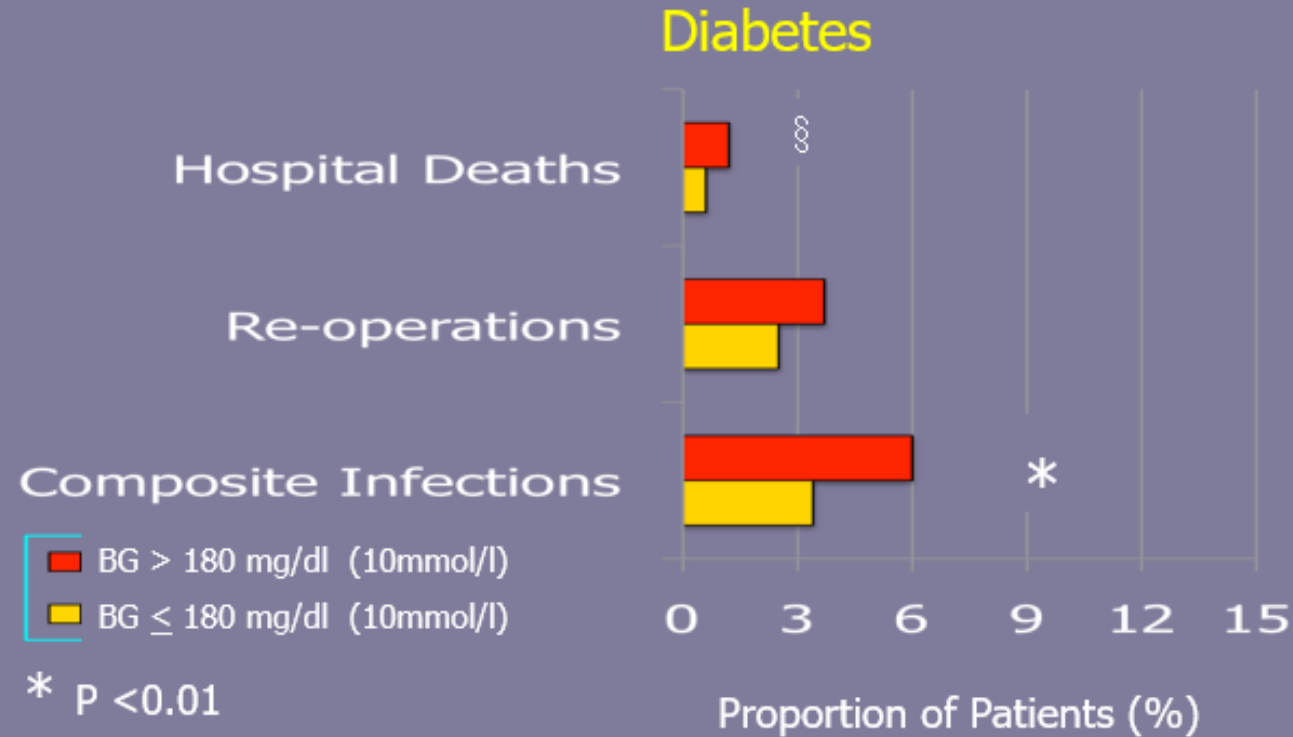
## 30 day Mortality and in-hospital Complications in diabetes and non-diabetes subjects undergoing surgery



†p = 0.1  
 \* p= 0.001  
 #p=0.017

A Frisch et al. Diabetes Care, May 2010

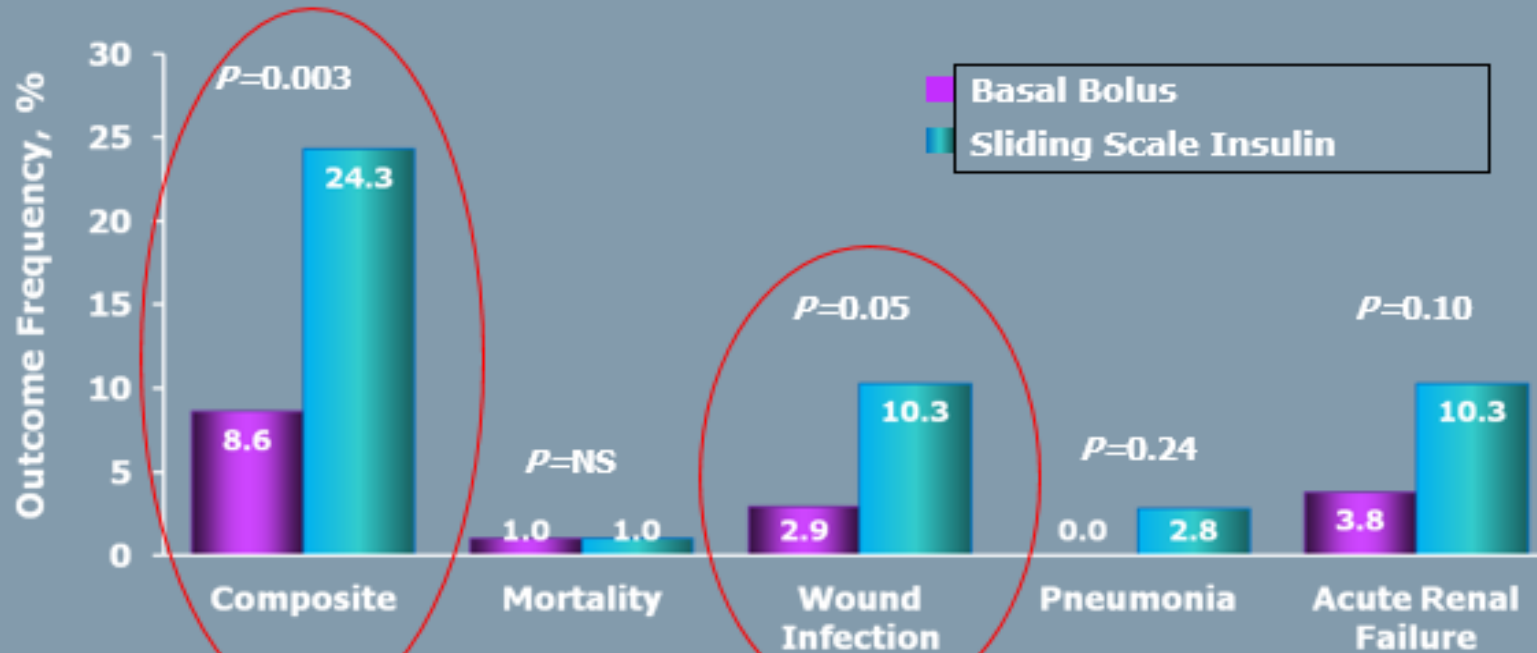
# Adverse Events Stratified by Perioperative Hyperglycemia



BG at any point on the day of surgery, post-op day 1 and 2  
 N= 11,633, colorectal and bariatric surgery;  
 29.1% with hyperglycemia

Kwon et al. Ann Surg 2013

## Postoperative Complications

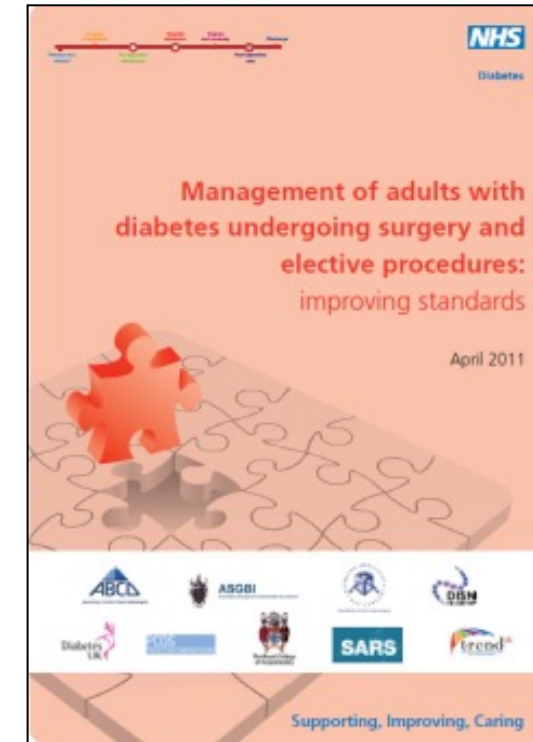


\* Composite of hospital complications: wound infection, pneumonia, respiratory failure, acute renal failure, and bacteremia.



# Joint British Diabetes Societies Guidance on Perioperative care

## Comprehensive care pathway for peri-operative management of diabetes



Ketan Dhatariya  
Nicholas Levy  
Dileep Lobo  
Gerry Rayman

Consultant in Diabetes, Norfolk & Norwich University Hospital  
Consultant Anaesthetist, West Suffolk Hospital  
Professor of Gastrointestinal Surgery, Nottingham University Hospitals  
Consultant in Diabetes, Ipswich Hospital



Percentage of cases reviewed

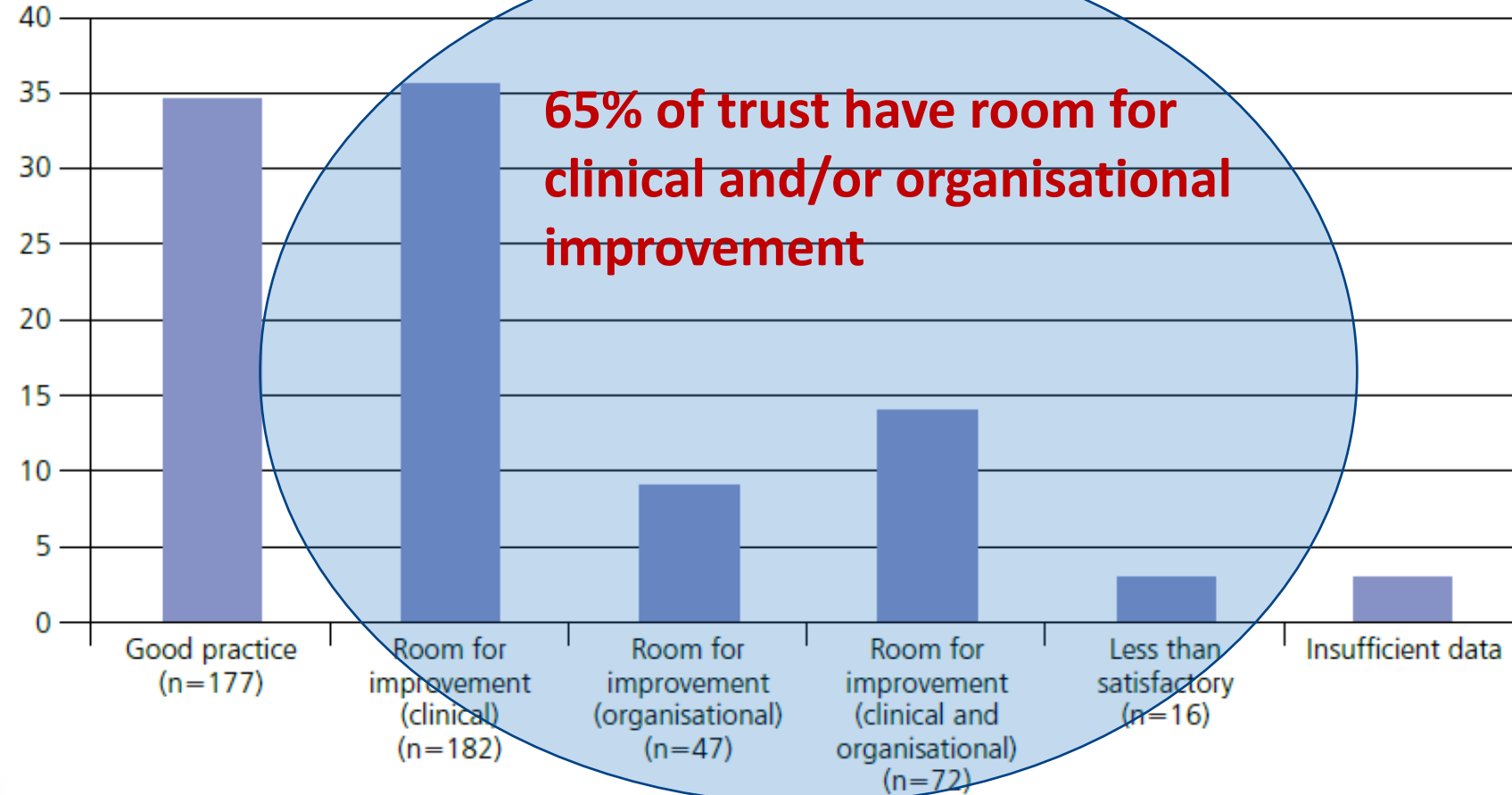


Figure 8.1 Overall quality of care (n=509)

Guideline for  
Perioperative Care  
for People with  
Diabetes Mellitus  
Undergoing Elective  
and Emergency  
Surgery

February 2021

## Multidisciplinary-

Anaesthetics- CPOC & RCoA

Surgery- RCS

Primary Care- PCDS & RCGP

Diabetes- DiabetesUK, JBDS, GIRFT

Diabetes Nursing- RCN

Care of the elderly

Patients and patient organisations

Pharmacists- UK Clinical Pharmacy  
Association

# Implementation

Initial response from  
the surgical and  
anaesthetic  
department



# Implementation

## Patient Power





## My Diabetes Passport: Planning for Surgery



Name: .....

Proposed date of operation: .....

***This booklet has been provided for you by the Ipswich Hospital Diabetes Team***

**Diabetes and Endocrine Centre**  
Tel: 01473 704180

**Pre-op Assessment Unit**  
Tel: 01473 703294



Issue 1: August 2015    Review date: September 2018  
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## The Perioperative Passport and Implementation of the Perioperative Pathway

**Gerry Rayman**

**Emma Page-  
Programme Manager**





## What to do with your medication before surgery

### Tablet or GLP-1 Injections

The following table will tell you what to do with your tablets/injections. If you are taking more than one, please refer to the instructions for each of them.

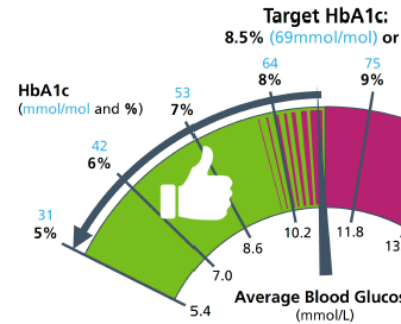
Name of tablet	If your operation is in the morning
Acarbose	Skip morning dose
Repaglinide, Nateglinide	Skip morning dose
Metformin	Take as usual unless specifically advised not to
Gliclazide, Glibenclamide, Glipizide, Glimepiride, Gliquidone	Skip morning dose
Pioglitazone	Take as usual
Sitagliptin, Saxagliptin, Vildagliptin, Alogliptin, Linagliptin	Take as usual
Dapagliflozin, Canagliflozin	Skip morning dose
GLP-1 injections or tablets	
Exenatide, Liraglutide, Exenatide SR, Lixisenatide	Take as usual

## Blood glucose control

High blood glucose can increase the risk of complications. Good blood glucose control has also been shown to lead to faster healing after surgery.

HbA1c is a blood test that gives an overall picture of your blood glucose levels over the past 3 months.

**We recommend that your HbA1c should be 8.5% (69mmol/mol) or less before your operation – the lower the better.** For certain operations, a lower target HbA1c may be required. Your HbA1c will be tested at your preoperative assessment and nurses will be able to advise you on what to do. If it is high your operation may have to be postponed until it improves.



Your blood glucose will be checked on the day of your operation. If it is unstable, the healthcare team will correct it first.



## Blood glucose control in hospital

When in hospital it is not uncommon to experience difficulty with blood glucose control, including high glucose levels.

There are a variety of reasons for this including:

- changed medication and meal times;
- altered portion sizes;
- being less active;
- new medications such as steroids;
- periods of fasting such as before and after surgery;
- the stress of being unwell; and
- infection.

Maintaining good control can be difficult. In hospital, your blood glucose targets may change for safety reasons. However, if your blood glucose is kept within reasonable limits, your recovery will be quicker. For this reason, if your blood glucose is raised above 17 you may need extra treatment, including insulin, even if you normally control your diabetes by tablets alone.

Please ask a member of staff on the ward if you have any questions or concerns about your blood glucose levels.



## IV infusions

### What is an intravenous (IV) insulin infusion?

This is a way of giving insulin directly into the bloodstream in order to establish and maintain good control of your blood glucose. This is usually achieved using a pump which drives a syringe of insulin connected to a small cannula (slim plastic tube) inserted into a vein in the arm. Insulin acts very rapidly when given directly into the bloodstream. By varying the rate of the insulin infusion very good diabetes control can be achieved when linked to hourly or two-hourly finger-stick blood glucose measurements.



We realise this will result in a disturbed night but it is important to have these regular blood glucose checks for the infusion to be used safely. The insulin infusion will be accompanied by a drip containing a glucose solution to keep you fed. If you are on a background (also called basal) insulin, this will usually be continued while you are on the insulin infusion but other insulins will be stopped.

### Who will require an insulin IV infusion?

If you will not be eating or drinking for a prolonged period, for example if you are having a major operation or if you become too ill to eat or drink sufficiently, then an intravenous insulin infusion is the best way to maintain good diabetes control.

### How long will I be on the insulin IV infusion?

As soon as you are able to eat and drink normally the infusion should be discontinued – if not, ask why not. The sooner you are back on your usual treatment the better.



## Key: PeriopDSN

Recruitment of a 0.5wte perioperative diabetes specialist nurse whose roll was to:

- support the new pathway*
- provide education and support to patients pre and post operatively*
- improve diabetes education amongst surgical staff*



Rachel Allen

- From Surgical Background
- 6 months shadowing diabetes and pre-op colleagues, data/auditing-clear understanding of where improvement is needed
- Feedback knowledge gained into DISN team and surgical departments/wards

Significant reduction in surgical length of stay (4.8 days to 3.3 days)

Significant reduction in post op complications from 28.1% to 16.3%

- Readmissions (30 day) did not increase

Well received by patients


Well received by staff and significant improvements in staff knowledge and confidence

## Key Outcomes at Ipswich

Can these benefits be realised at other hospitals??

# Improving the Perioperative Pathway for People with Diabetes undergoing surgery (IP3D)

**Prof Gerry Rayman, GIRFT Co-Lead**  
**Emma Page, GIRFT delivery manager**

- 
- Manchester University NHS Foundation Trust
  - Stockport NHS Foundation Trust
  - James Paget University Hospital
  - The Hillingdon Hospitals NHS Foundation Trust
  - St Georges University Hospital
  - Royal United Hospital Bath
  - University Hospitals of Leicester
  - Northampton General Hospital Trust
  - Hull University Teaching Hospitals
  - Portsmouth Hospitals NHS Trust

# GIRFT Outcomes- Glycaemia

Reductions in-	Baseline	Implementation	OR (95% Ci), significance	Percent change
• One or more hypoglycaemic events	156 (8.5%)	71 (6.1%)	0.67 (0.49 to 0.93), p = 0.016	<b>-33%</b>
• Recurrent hypoglycaemia	75 (4.1%)	27 (2.3%)	0.57 (0.35 to 0.93), p = 0.025	<b>-43%</b>
• One or more <u>severe</u> hypoglycaemic events	14 (0.8%)	4 (0.3%)	0.60 (0.18 to 1.98), p = 0.405	<b>-40%</b>
• One or more severe hyperglycaemic events	231 (12.6%)	109 (9.4%)	0.75 (0.58 to 0.98), p = 0.037	<b>-25%</b>
• Recurrent severe hyperglycaemic events	147 (8.0%)	60 (5.2%)	0.64 (0.45 to 0.91), p = 0.012	<b>-36%</b>

# GIRFT Outcomes- LoS and complications

Reductions in	Baseline	Implementation	OR (95% Ci), significance	Percent change
• Median LoS (elective and day cases)	2.1 (IQR 1.0 to 4.5)	1.4 (0.4 to 3.5)	0.75 (0.69 to 0.81), p < 0.001	<b>-25%</b>
• Admissions to critical care	211 (11.5%)	99 (8.5%)	0.68 (0.50 to 0.93), p = 0.018	<b>-32%</b>
• Composite of diabetes complications (DKA, HHS, hospital acquired foot lesions, dysglycaemia)	185 (10.1%)	40 (3.4%)	0.31 (0.21 to 0.46), p < 0.001	<b>-69%</b>
• Post-procedural wound complications	122 (6.6%)	50 (4.3%)	0.52 (0.36 to 0.76), p = 0.001	<b>-48%</b>

# Staff Knowledge and Confidence

- **Highly statistically significant improvements across all 8 confidence questions and all 15 knowledge questions post-project**
- **Confidence scores (scale 1-7)**
  - pre study scores ranged from **3.78 to 5.36**
  - post project ranged from **5.03 to 5.74**
- **Knowledge- Percentage of correct responses**
  - pre implementation ranged from **29% to 93%**
  - post implementation ranged from **75% to 98%**

Greatest improvement was in the two questions on managing hyperglycaemia



# Patient Experience

7 of the 9 questions that were specific to diabetes perioperative care showed statistical improvement

*The perioperative DSN was great - she spoke to the Surgeon about my better levels before my admission date so it all went ahead on the day  
Thank you”*

“Thank you for your intervention, it has really made a difference”

“I feel like a king compared to what I did”

*“Did not realise self-administration of medication (SAM'S) was a policy for Diabetics on insulin so they can self-manage their diabetes – it made my operation less stressful. Dani sorted it for me”*

# IP3D Periop DSNs





**UNIVANTS™**  
OF HEALTHCARE EXCELLENCE

# Award Celebration

Tue:

## Winning Team

- Rachael Allen
- Ruth Deroy
- Gerry Rayman
- Emma Page
- Alison Czarnota



**Ipswich Hospital East Suffolk and North Essex, NHS Foundation Trust**  
Ipswich, England, United Kingdom  
Rachel Allen • Ruth Deroy • Gerry Rayman • Emma Page • Alison Czarnota



## GIRFT support to roll out to other sites

Webinars delivered to 6 of 7 regions

Attendance 272

66 Trusts planning to implement

Monthly peer support open to any PeriopDSN

Interested? Contact [emma.page8@nhs.net](mailto:emma.page8@nhs.net)

**WEBINAR SERIES**

**GIRFT**  
GETTING IT RIGHT FIRST TIME

**IP3D**  
**Improving the Perioperative Pathway of People with Diabetes**

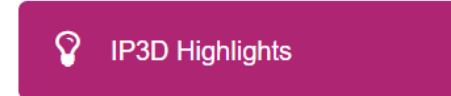
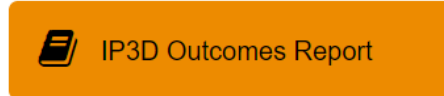
Gerry Rayman, GIRFT clinical lead for diabetes

Emma Page, GIRFT workstream manager for diabetes

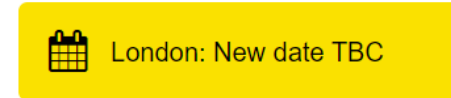
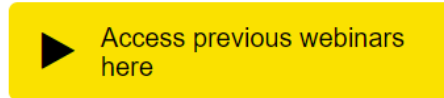
North East and Yorkshire	10th January 2023, 12:30 - 13:30
Midlands	17th January 2023, 12:30 - 13:30
South East	19th January 2023, 12:30 - 13:30
London	24th January 2023, 12:30 - 13:30

All resources including the webinars business cases, implementation strategies, passports, are available on the GIRFT webpage

Click here to download the Outcomes report and IP3D highlights



### Regional IP3D Webinars

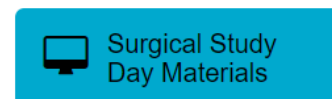
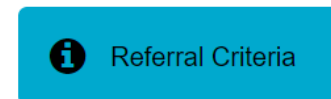
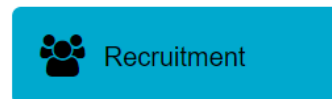
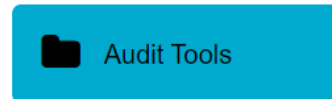


Want to find out how your Trust could benefit from the adoption of the IP3D programme? Then click on the yellow buttons to access previous webinars.

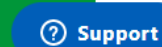
### Library of Resources

There are a number of resources that were developed to help support Trusts implement an effective diabetes perioperative pathway. These are available for NHS providers to use and adapt locally for the purpose of enhancing the care they offer to people with diabetes.

We encourage you to ask questions, share documents/templates,



The leaflet contains information to help people with diabetes stay healthy in the lead-up to elective surgery. The leaflet is hosted



# Tracking Changes in Diabetes Service Provision and Outcomes

National Audits (NDA, Type 1 audit, NDFA , NDISA,  
(National Diabetes Inpatient Safety Audit)

## GIRFT Gateway reviews utilising Model Health System data



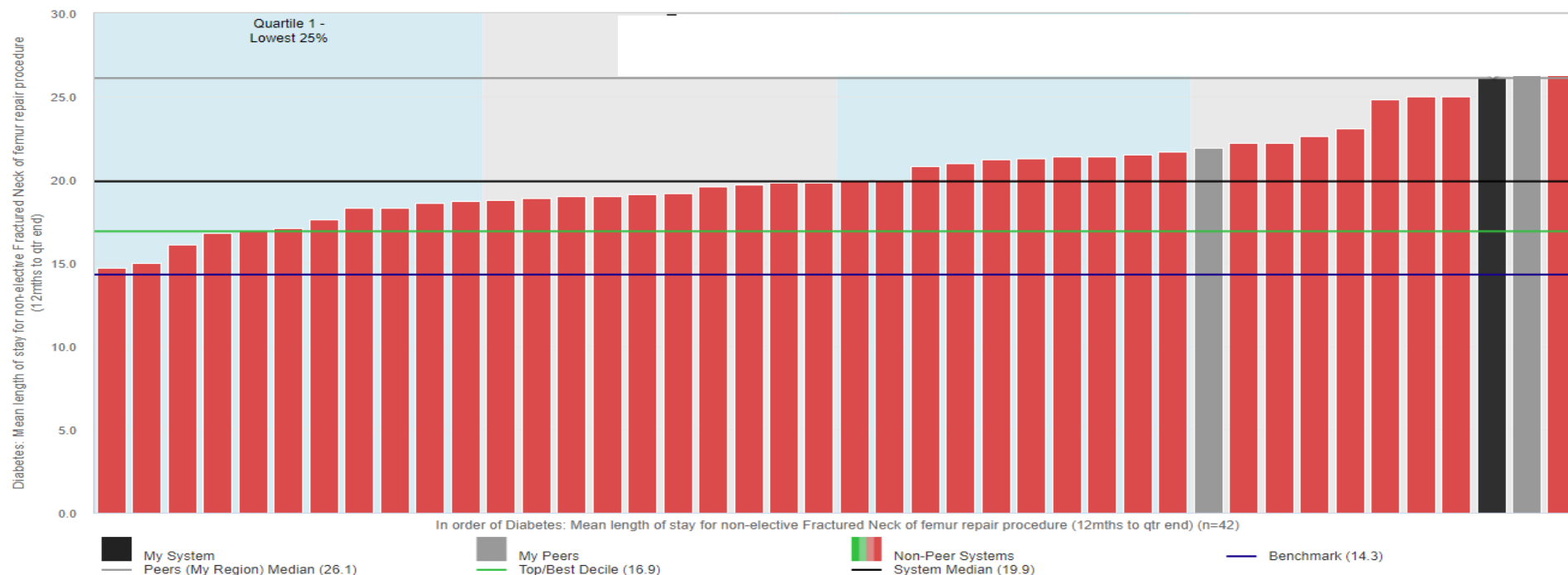
# The GIRFT Gateway and Model Health System Structures to deliver Diabetes IP care



GIRFT DIABETES GATEWAY Specialist Care yearly		
Service questions	Do you have a dedicated multi-disciplinary team of specialist diabetes inpatient practitioners	Access to a QISMET-accredited, quality controlled structured education programme (face to face and/or digital) for all people with type 1 diabetes
	Do you provide base level specialist diabetes cover at weekends	Is there training for healthcare professionals involved in type 1 diabetes care and using technology.
	Do you have same day access to a vascular opinion for patients identified by MDFs as having vascular impairment	Access to a dedicated multi-disciplinary footcare service (MDFS)
	Is there training for all healthcare professionals for prescribing and/or administering insulin?	Same day access to a vascular opinion for patients identified by MDFs as having vascular impairment
	Is there a self management policy in place?	Submitting data to National Diabetes Foot Audit
	Is there access to electronic system to identify diabetic patients on admission, integrated with web-linked blood glucose meters which provide an alert system for staff when any out-of-range reading is recorded.	Submitting data to National Diabetes Audit
	Access to a dedicated transition service with a clear pathway between paediatric and 16-18 services, a named lead clinician for 16-18 patients, and a service for 19-25 year olds	Submitting data to National Diabetes Type 1 Audit
		Submitting data to National Diabetes Inpatient Audit
	Submitting data to National Diabetes Pregnancy Audit	

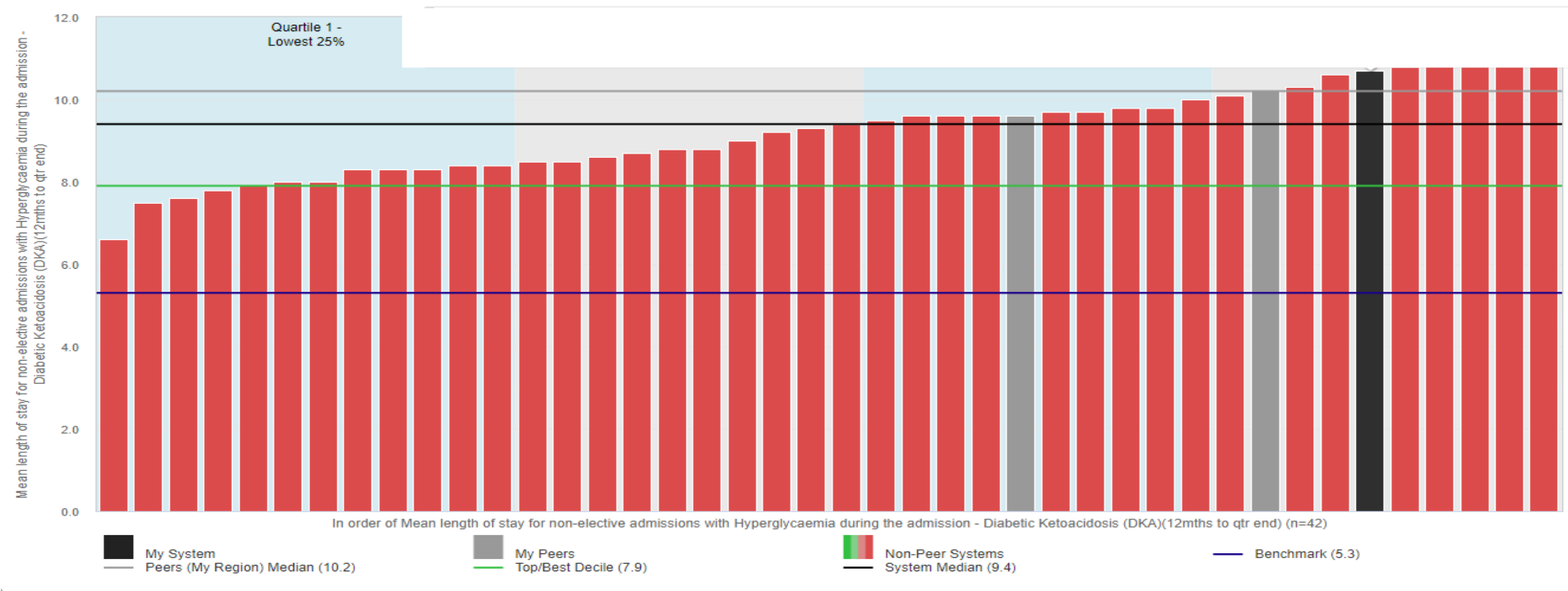
# System Level

# LoS Fracture neck of Femur



System value	Peer median	Benchmark value
<b>26.1</b>	<b>26.1</b>	<b>14.3</b>

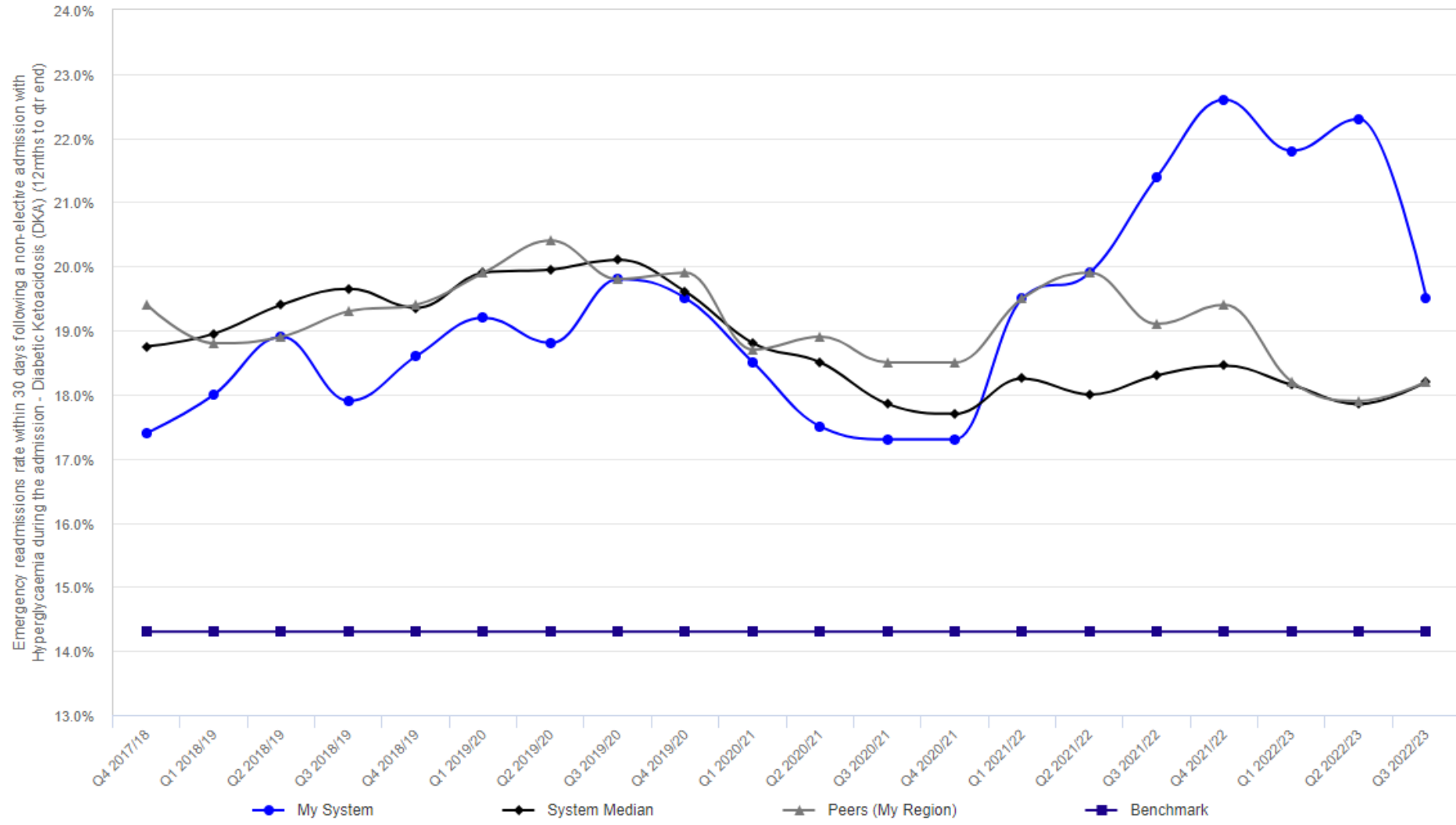
# System Level LoS Diabetic Ketoacidosis



Q4 2022/23

System value	Peer median	Benchmark value
<b>10.7</b>	<b>10.2</b>	<b>5.3</b>

# 30 day readmission for Diabetic Ketoacidosis



# Diabetes- Best Practice Pathways



Clinical Lead – Gerry RAYMAN  
GIRFT Programme Manager - Emma PAGE



Email: [info@gettingitrightfirsttime.co.uk](mailto:info@gettingitrightfirsttime.co.uk)

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## 'Front Door' Pathways

Sophie Harris  
Ketan Dhatariya  
Caroline Davies  
Kath Higgins  
Elizabeth Camfield  
Esther Walden

Suma Sugunendran  
Andrea Lake  
Rajiv Gandhi  
Daniel Lasserson  
Umesh Dashora  
Alistair Lumb

## Diabetes

Essential safety checks for people with diabetes >

Management of patients presenting to ED with a **foot problem** >

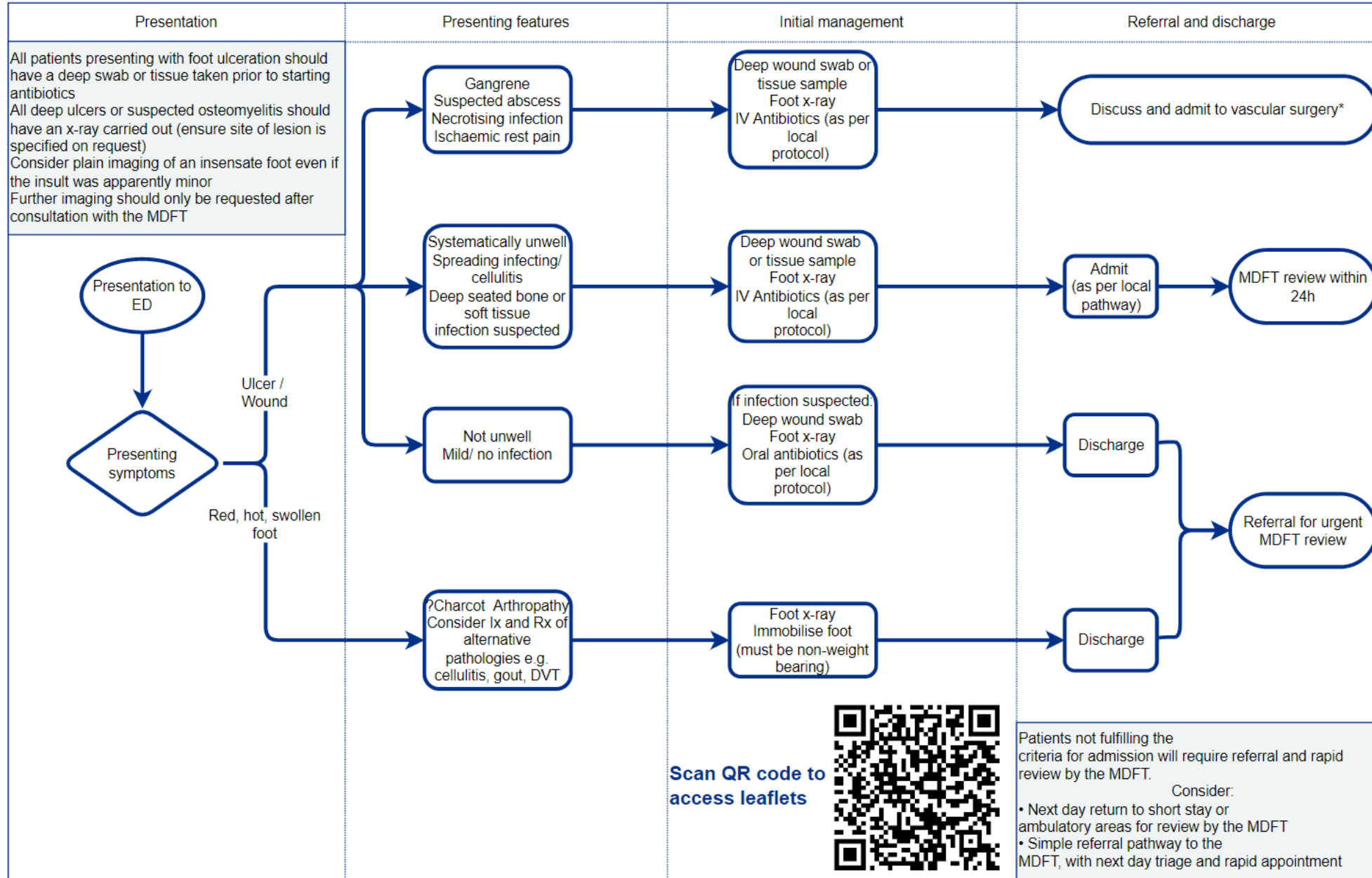
Initial management of **hyperglycaemia** in adults in the ED >

Management of patients admitted in **hypoglycaemia** >

## Front Door Virtual Pathways App

<https://andrewb380.sg-host.com/>





<https://andrewb380.sg-host.com/>

# Diabetes- Best Practice Pathways



Clinical Lead – Gerry RAYMAN  
GIRFT Programme Manager - Emma PAGE



Email: [info@gettingitrightfirsttime.co.uk](mailto:info@gettingitrightfirsttime.co.uk)

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Kath Higgins	Daniel Lasserson
Elizabeth Camfield	Umesh Dashora
Esther Walden	Alistair Lumb

## Discharge Pathway

Esther Walden  
Sophie Allston  
Sarah-Jane Gregory  
Ketan Dhatariya  
Umesh Dashora  
Andrea Lake  
Laura Gilligan

## Emergency Surgery Pathway

Rachel Allen	Stephen Chalkley	Karen Leyden
Cath Robinson	Howson Kim	Amy Miller
Danielle Bruce	Jacqueline Toombs	Megan Preston
Thomas Clarke	Rachel Buckland	David Jones
Rebecca Elder	Ines Fonseca	Katie Boyd
Gemma Allen	Amy Glover	Karen Leyden
Emma Morris	David Jones	Megan Preston
Louise Wong	Katie Boyd	



# Accreditation of Inpatient Diabetes Services



Prof Mike Sampson – Chair of JBDS



Emily Watts – DiabetesUK Inpatient Care Programme Manager



Elizabeth Bennett- Head of EOE Diabetes Clinical Network



**DIABETES UK**  
KNOW DIABETES. FIGHT DIABETES

Making hospitals safe for people with diabetes

Every stay for someone with diabetes in hospital should be safe. At the moment it's not. Let's change that.

**DIABETES UK**  
KNOW DIABETES. FIGHT DIABETES.

**CareQuality Commission**

Royal College of Physicians | Diabetes Care Accreditation Programme (DCAP)

# Accreditation standards

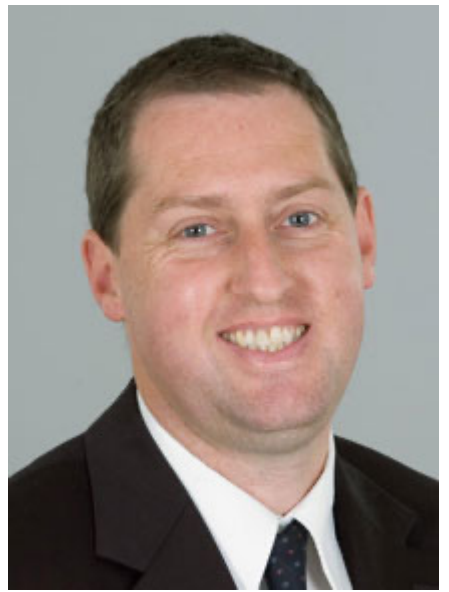
For pilot April 2022

Supported by:

**DIABETES UK**  
KNOW DIABETES. FIGHT DIABETES.

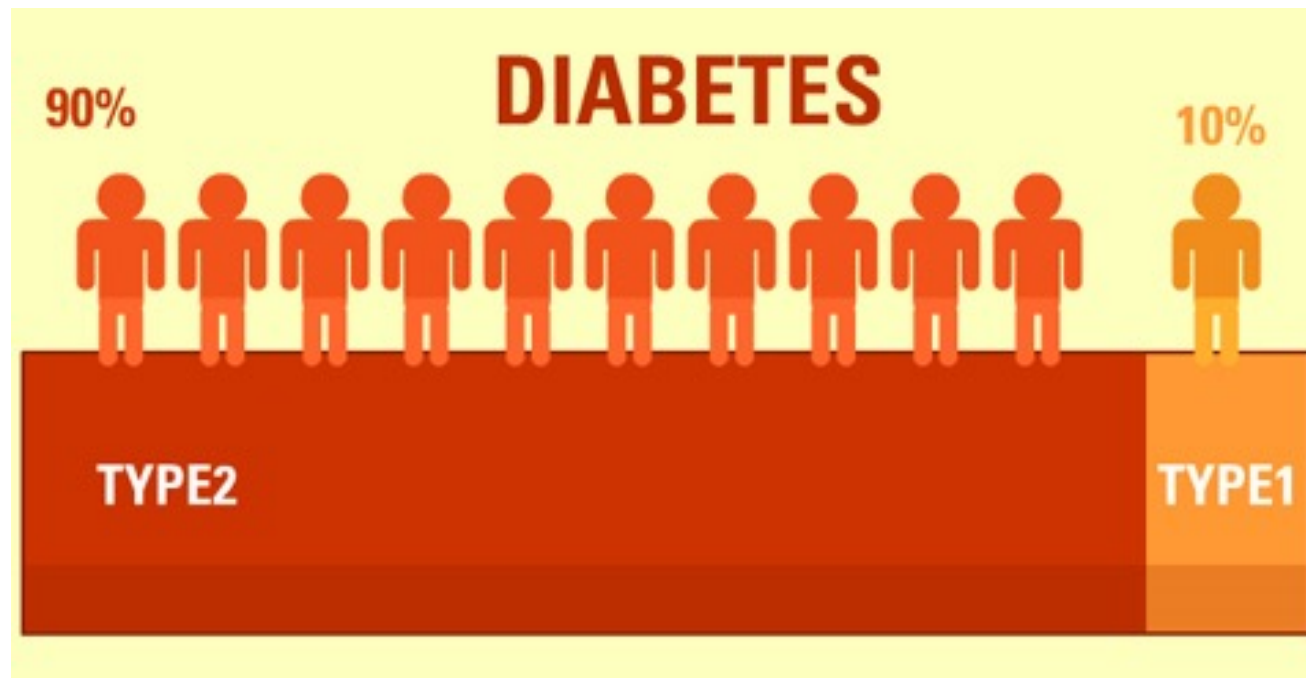
**GIG CYMRU NHS WALES** | Grŵp Gweithredu Diabetes Diabetes Implementation Group

**NHS**  
East of England Diabetes Network



Daniel Flanagan

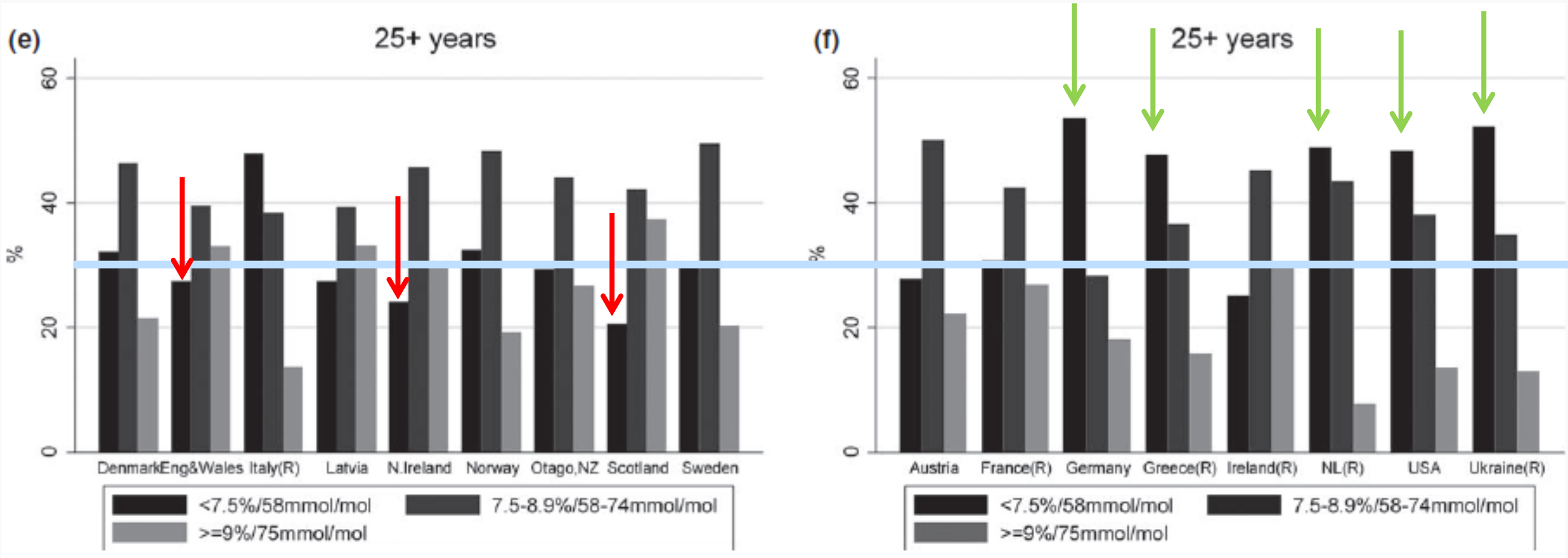
# Why type 1 diabetes and transition?





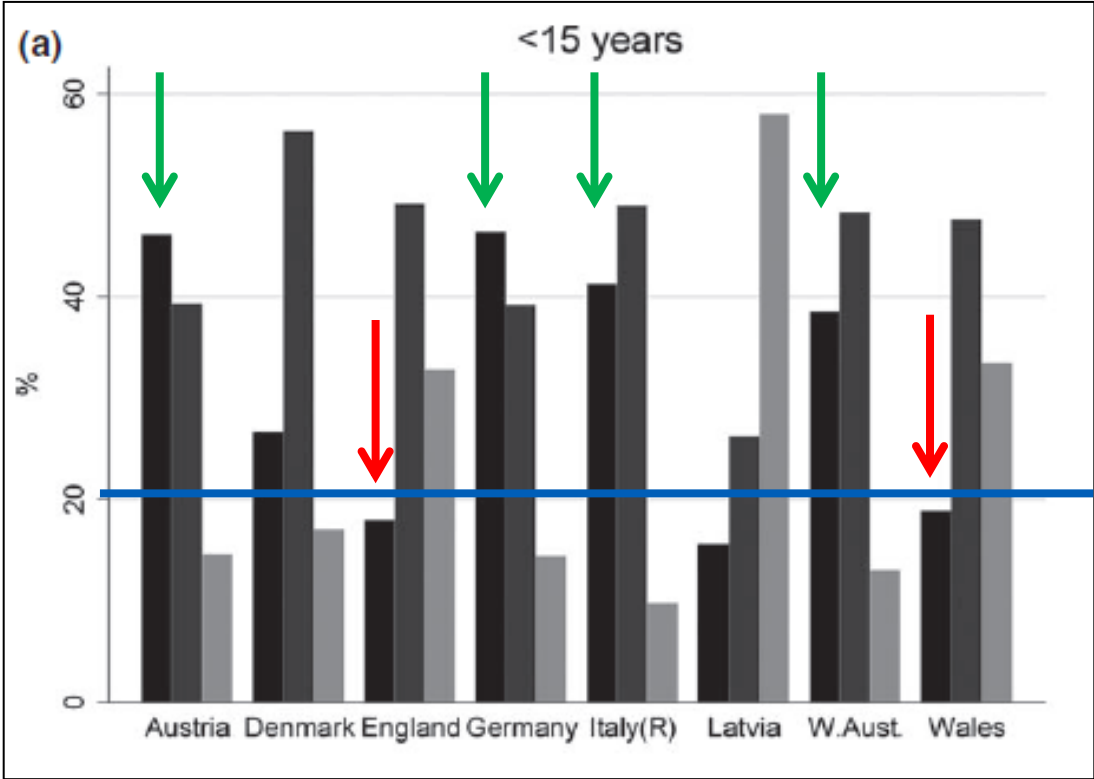
# Countries with patients achieving an HbA1c of <7.5% (2015)

(<30% of Eng & Wales, Scotland, N Ireland, Ireland, Austria, Latvia)  
 (>44% Germany, NL, USA, Ukraine)



# Countries with of **children** achieving an HbA1c of <7.5%

(<20% Eng & Wales, Latvia)  
(>40% Austria, Germany, Italy)



# Why is the UK not achieving as good glycaemic control as in other European countries?



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## Society

### New 'tsar' to lead anti-diabetes drive

The government has appointed one of Britain's leading authorities on diabetes care to oversee its plans to tackle the disease, a growing epidemic in the UK.

Health minister David Lammy today announced the appointment of Sue Roberts, a consultant physician based at the diabetes resource centre of Northumbria health care trust, as the new national clinical director for diabetes.

As the diabetes tsar, Dr Roberts will be responsible for promoting best practice and ensuring that local NHS services meet the standards set in the national service framework for diabetes care launched last month, including targets for eye screening and check-ups.

David Batty

Wed 26 Feb 2003 14.03 GMT

f t e ...

<

### Focus on Type 2 diabetes, diabetes care in the community by primary care and diabetes prevention- Disempowered Specialist Diabetes Services, Type 1 Diabetes Service and Inpatient Diabetes Care

# Transitional and Young Adult Care



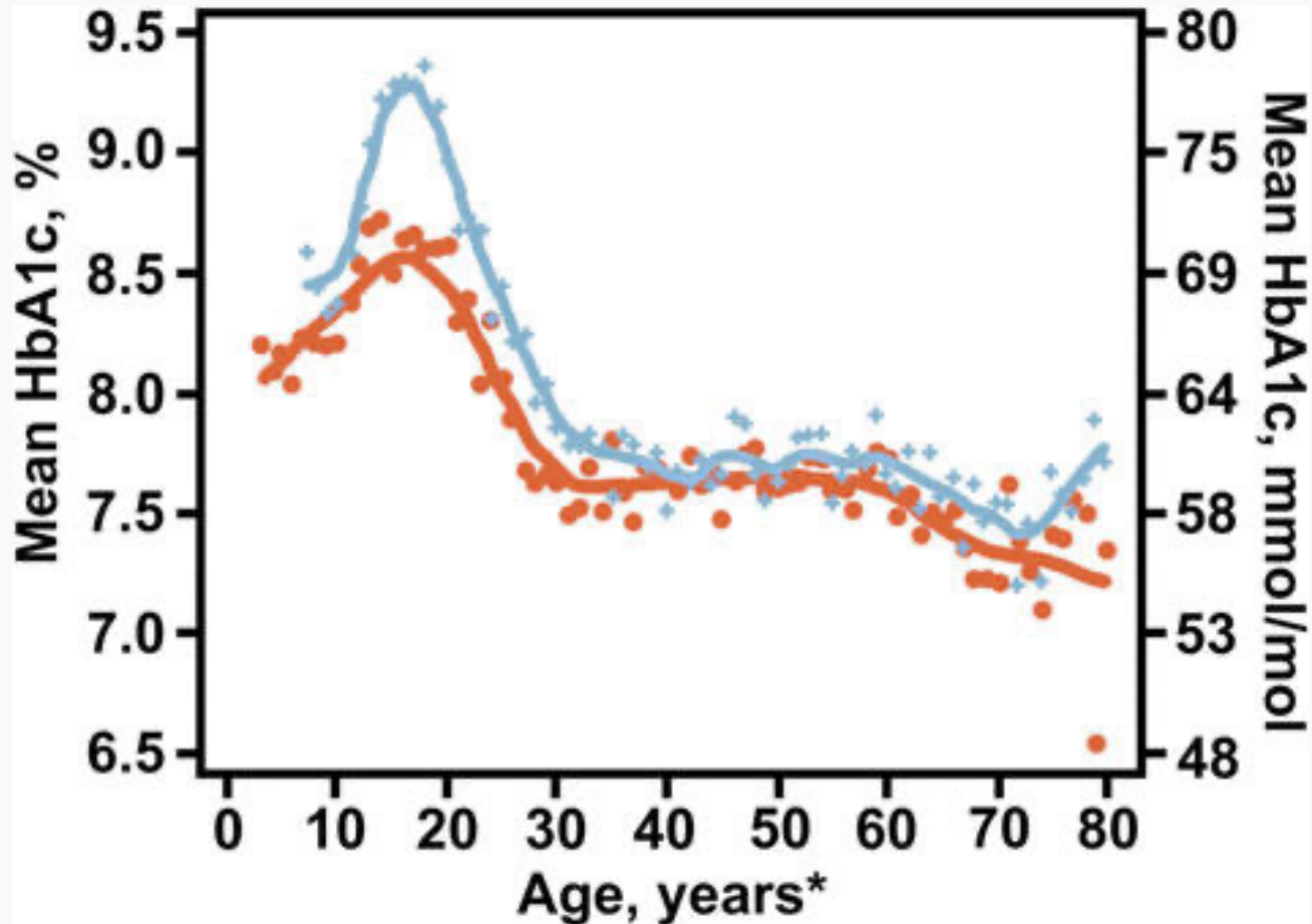


# Transitional Care

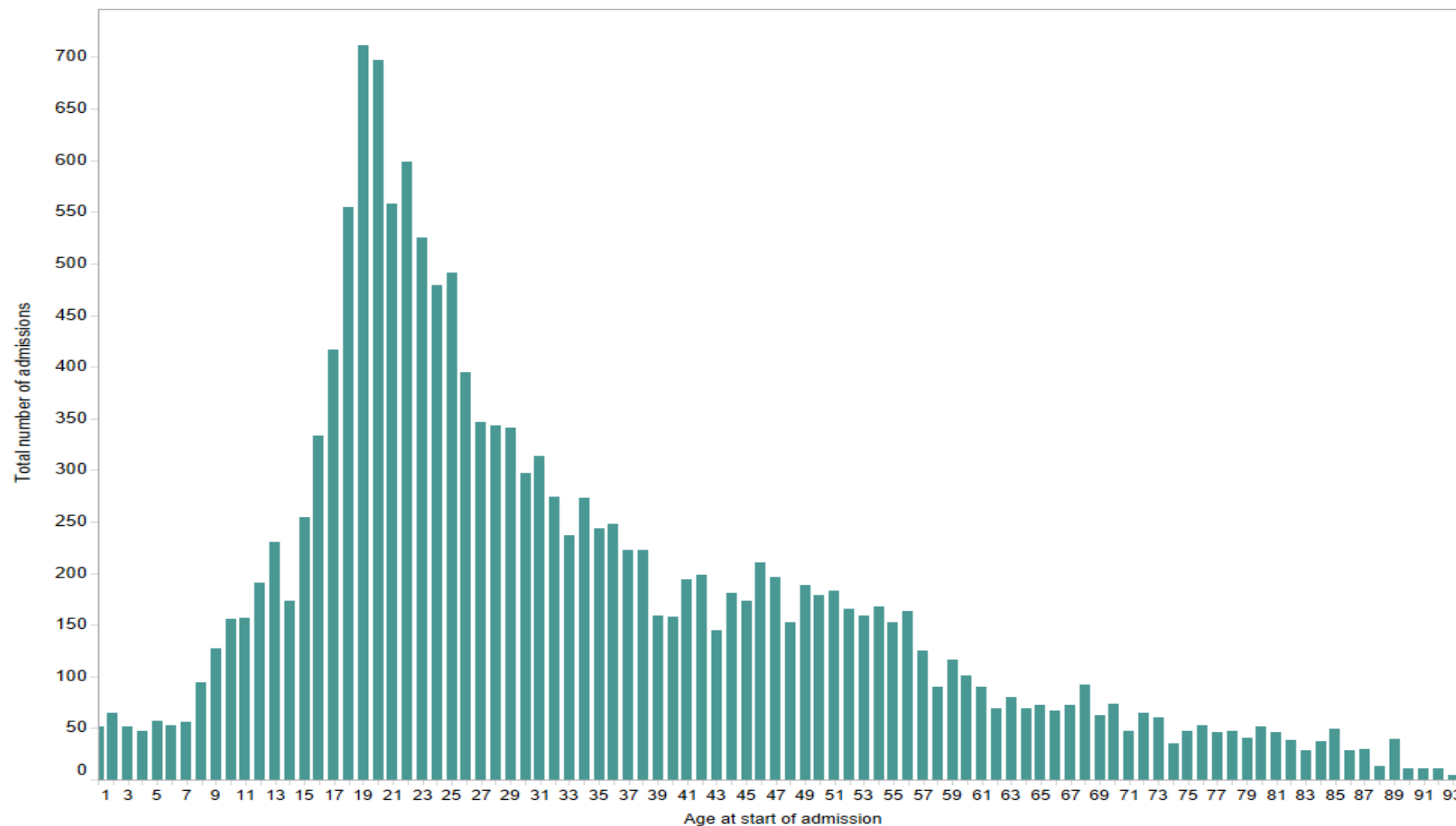
HbA1c by age 2010-12 (---) v 2016-18 (---)

**State of Type 1 Diabetes Management and Outcomes from the T1D Exchange in 2016–2018**

DIABETES TECHNOLOGY & THERAPEUTICS  
Volume 21, Number 2, 2019  
© Mary Ann Liebert, Inc.  
DOI: 10.1089/dia.2018.0384



Count of admissions with primary diagnosis of Diabetic Ketaocidosis in T1DM by age  
HES APC Apr 17 - Mar 18





# DIABETES TRANSITION AND YOUNG ADULT CARE PILOT PROGRAMME

## Pilot sites workshop

Ipsos and The Strategy Unit

24 October, 2023



GAME CHANGERS

The  
Strategy  
Unit.





## August 2017



- Total Libre uptake: 0%
- Total CGM uptake: 4%
- Pump uptake: Children 30%; Adults: 9%



### NICE TA151 2008

- Socioeconomic gaps
- Ethnicity gaps



# A PROMISE MADE....

**1.** 20% of T1D population to get Libre

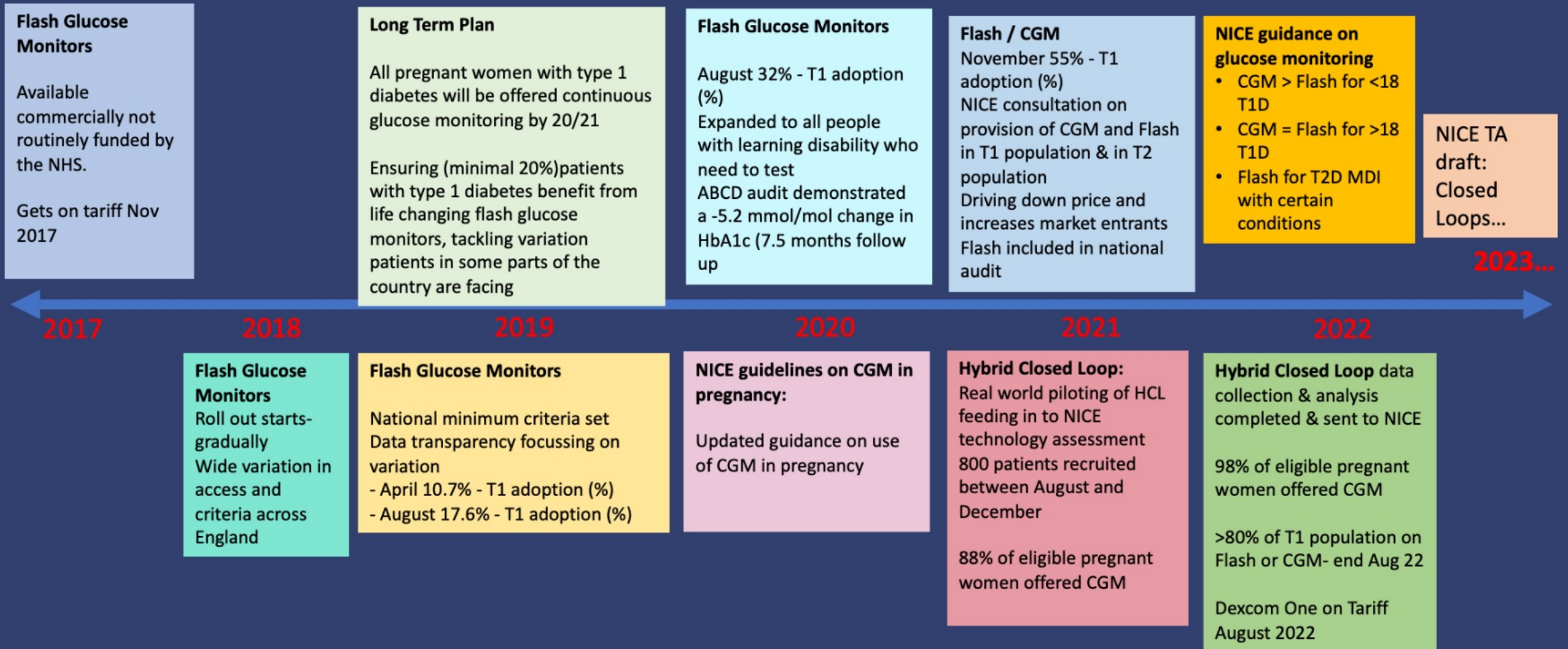
**2.** CGM for all T1D pregnancy

**3.** All T1D patients to have access to online self management platform

**NHS Long Term Plan 2019**



# EVOLUTION OF TECHNOLOGY PROVISION





# AUGUST 2023

- 94 % of all type 1 diabetes on CGM
- 98% of type 1 diabetes pregnancy offered CGM
- Pediatric type 1 diabetes audit: best A1c achievement < 7.5% since records began
- Adult type 1 diabetes audit: Best 1c achievement < 7.5% since records began
- DKA rates in type 1 diabetes dropping

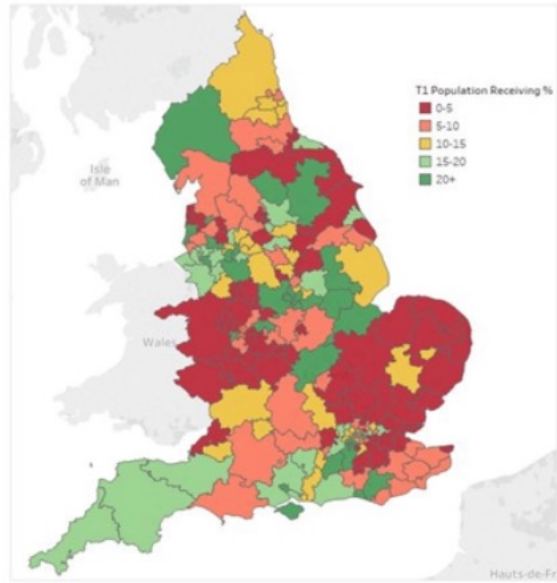


# FreeStyle Libre Prescribing

FreeStyle Libre  
T1 % Adoption 2019

*Primary and Secondary  
Care Prescribing*

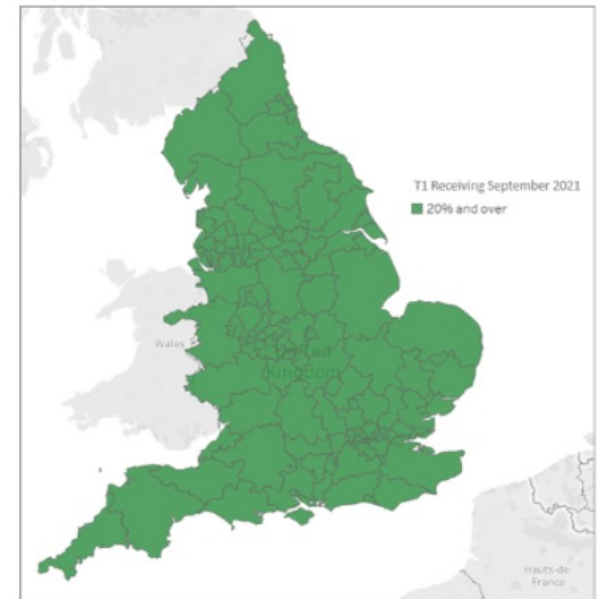
**April 10.7%**



FreeStyle Libre  
T1 % Adoption 2021

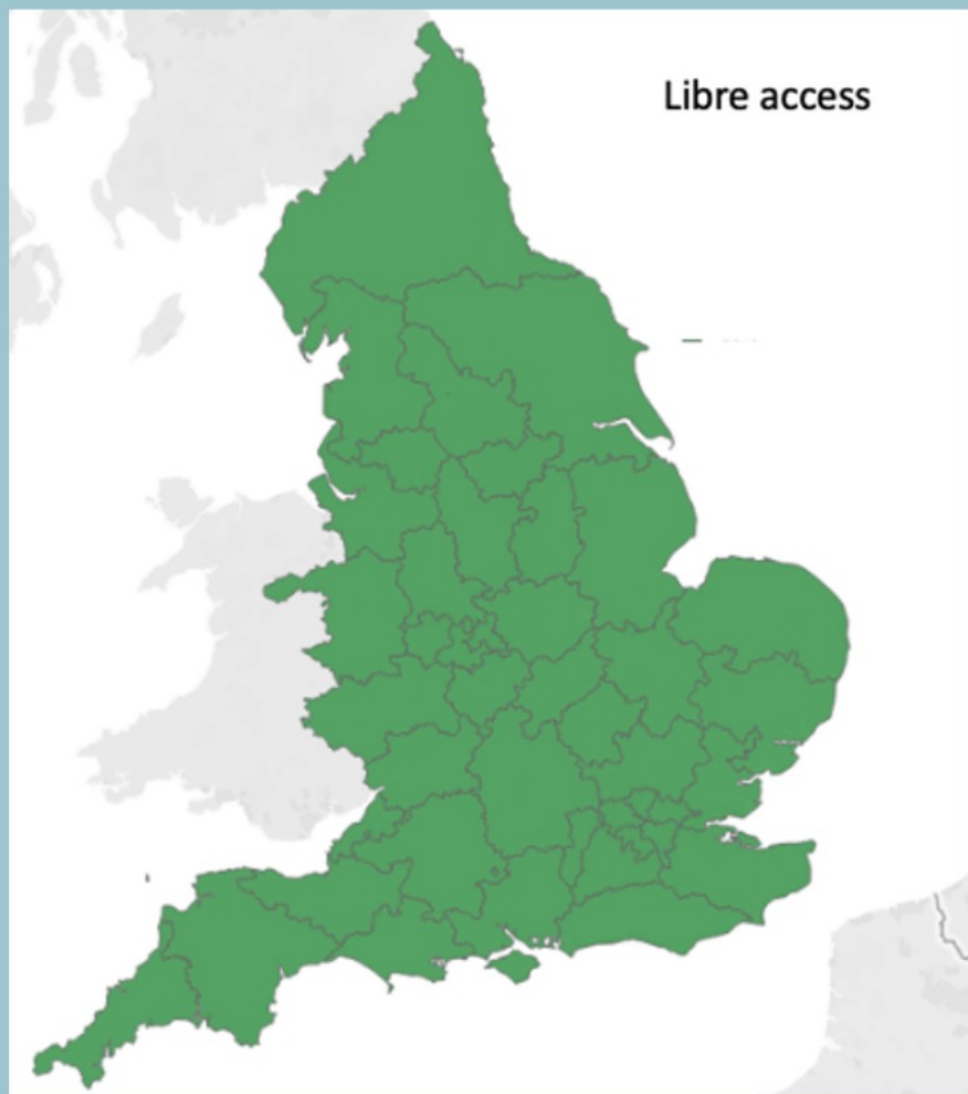
*Primary and Secondary  
Care Prescribing*

**September 50%**





# ACCESS...WITHOUT VARIATION





# New “artificial pancreas” technology set to change the lives of people having difficulty managing their type 1 diabetes

Around 105,000 people with type 1 diabetes could benefit from NICE’s draft recommendation

10 January 2023

RESEARCH: Healthcare Delivery

## Real world use of hybrid-closed loop in children and young people with type 1 diabetes mellitus—a National Health Service pilot initiative in England

Sze May Ng✉, Neil P. Wright, Diana Yardley, Fiona Campbell, Tabitha Randell, Nicola Trevelyan, Atrayee Ghatak, Peter C. Hindmarsh

Diabetes Care



## Hybrid Closed Loop Therapy in Adults With Type 1 Diabetes and Above-Target HbA<sub>1c</sub>: A Real-World Observational Study

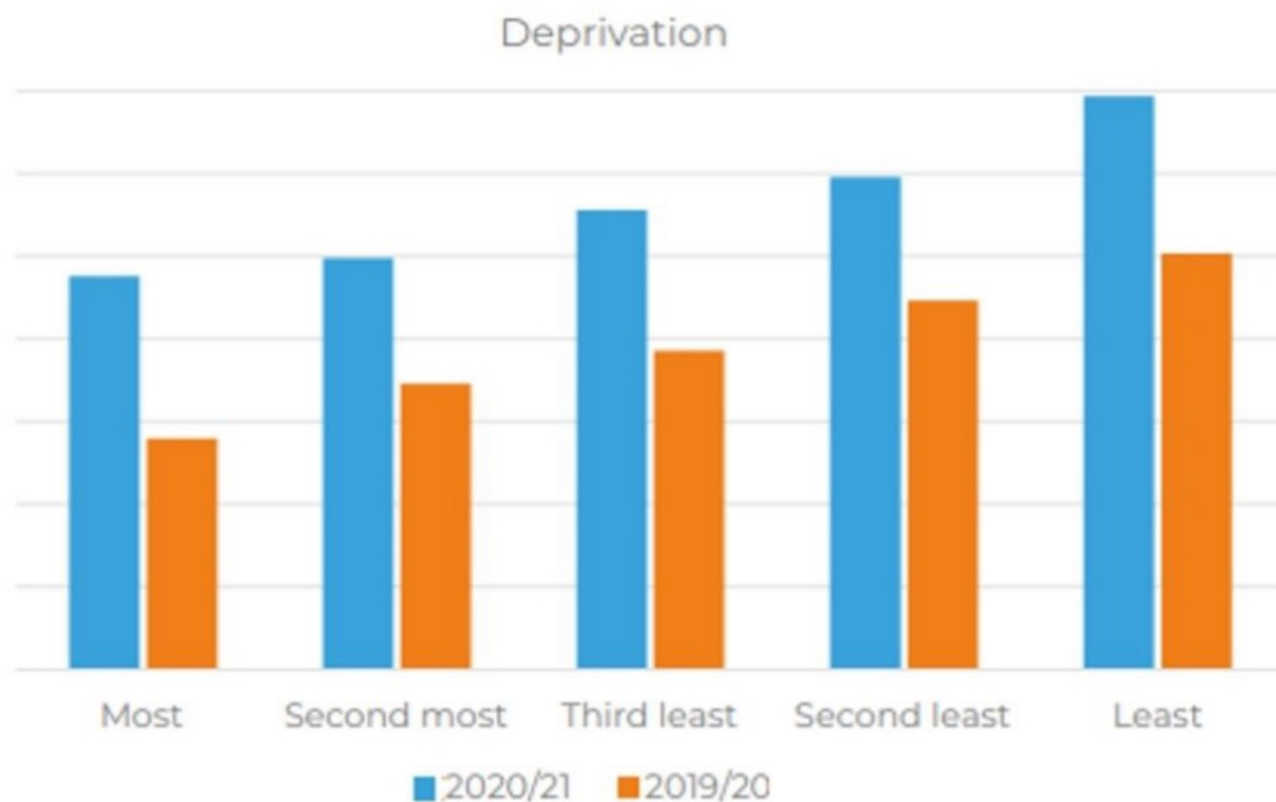
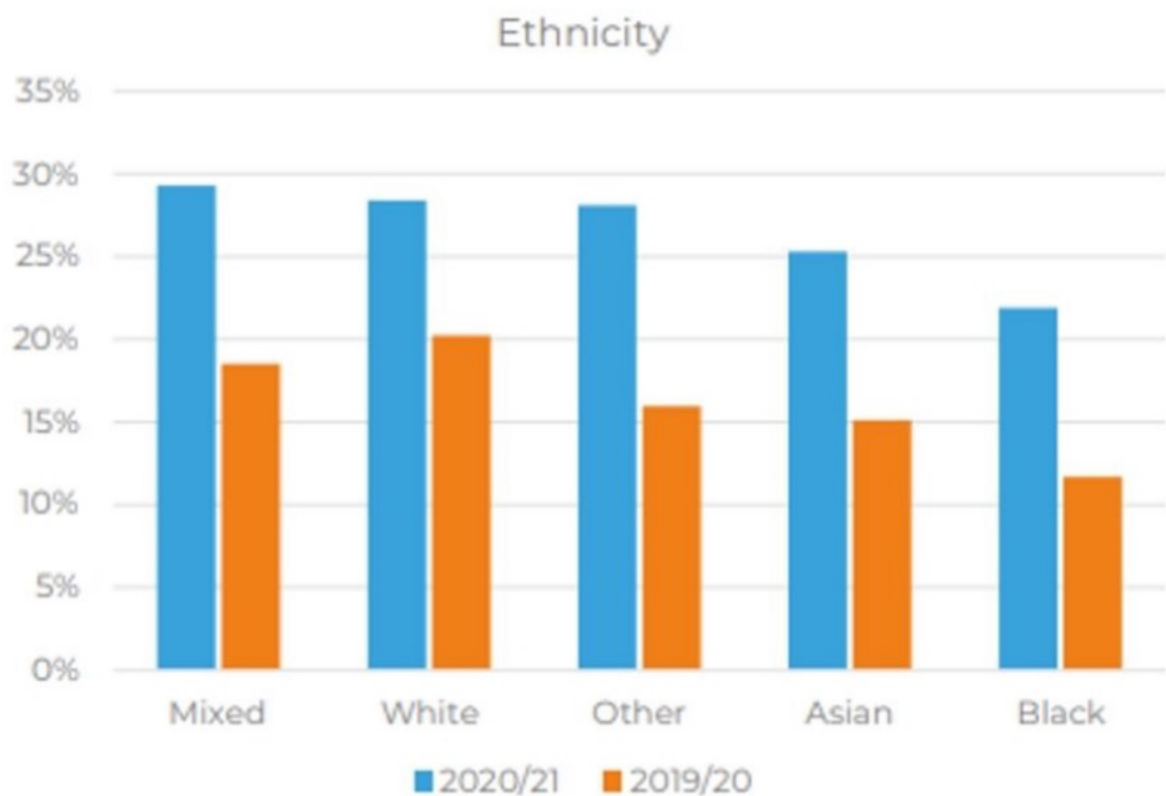
Thomas S.J. Crabtree, Tomás P. Griffin, Yew W. Yap, Parth Narendran, Geraldine Gallen, Niall Furlong, Iain Cranston, Ali Chakera, Chris Philbey, Muhammad Ali Karamat, Sanjay Saraf, Shafie Kamaruddin, Eleanor Gurnell, Alyson Chapman, Sufyan Hussain, Jackie Elliott, Lalantha Leelarathna, Robert E.J. Ryder, Peter Hammond, Alistair Lumb, Pratik Choudhary, Emma G. Wilmot, on behalf of the ABCD DTN-UK Closed Loop Audit Contributors

REAL WORLD  
DATA...  
WORKING  
WITH NICE

# INEQUITY IN USAGE OF DIABETES TREATMENT TECHNOLOGIES

## – RTCGM

Percentage of children and young people with Type 1 Diabetes using a rtCGM by ethnic group and deprivation quintile, 2019/20 – 2020/21



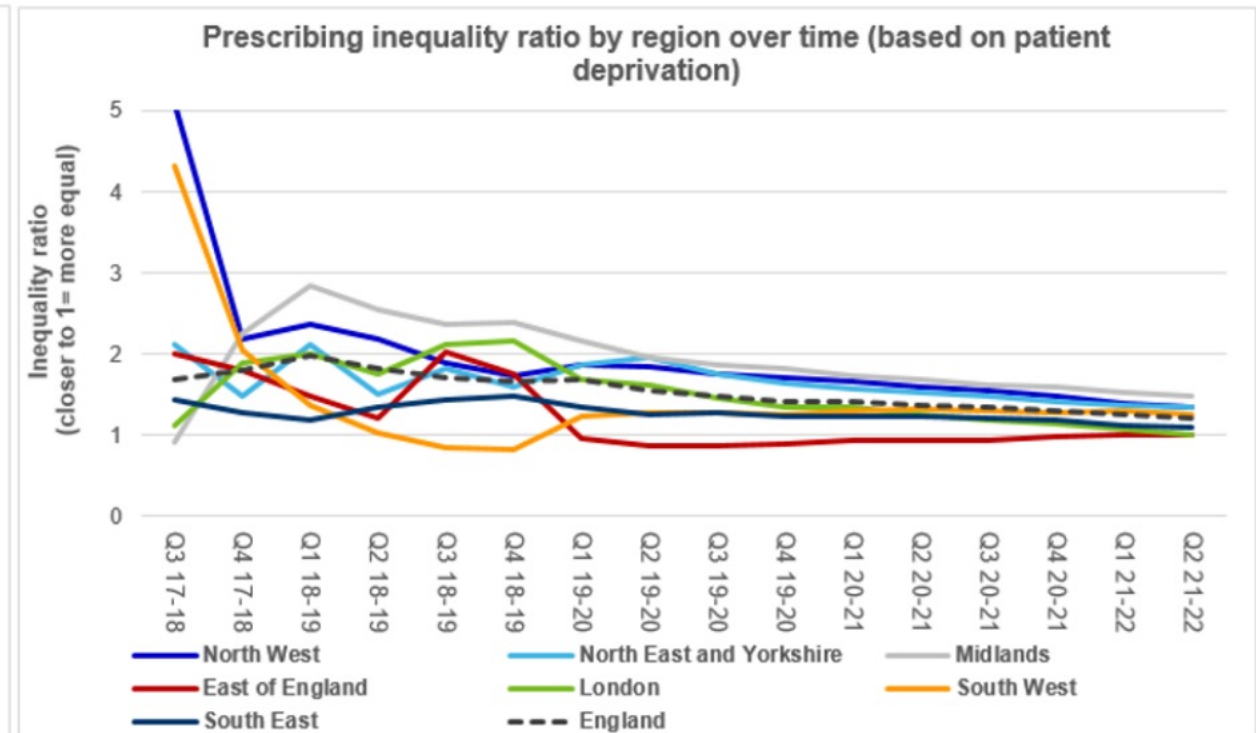
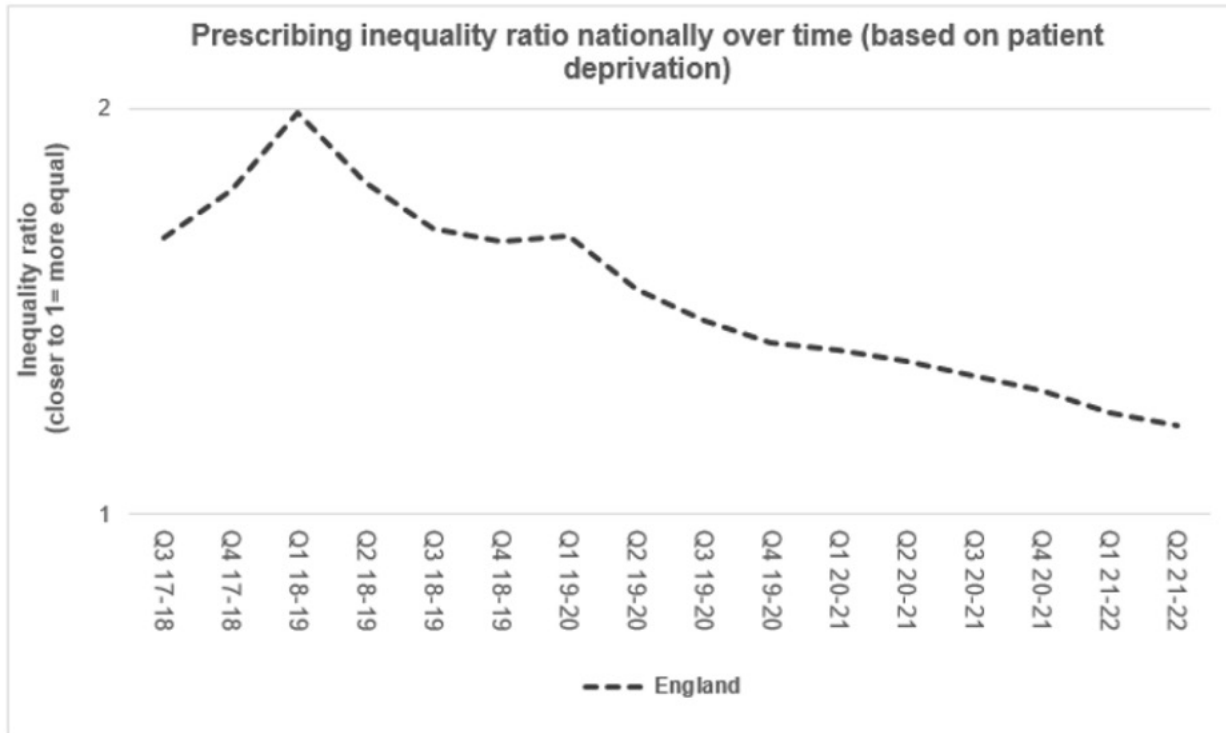


## MEAN HBA1C FOR CHILDREN AND YOUNG PEOPLE WITH TYPE 1 DIABETES BY ETHNICITY AND DEPRIVATION

Ethnicity	most deprived	second most deprived	third least deprived	second least deprived	least deprived
White	67.5	64.9	64.3	62.2	60.7
Asian	67.7	64.0	64.4	63.8	60.6
Black	71.9	71.0	69.2	66.9	71.4
Mixed	70.9	67.3	66.1	64.7	63.3
Other	65.2	63.6	63.7	60.2	58.9

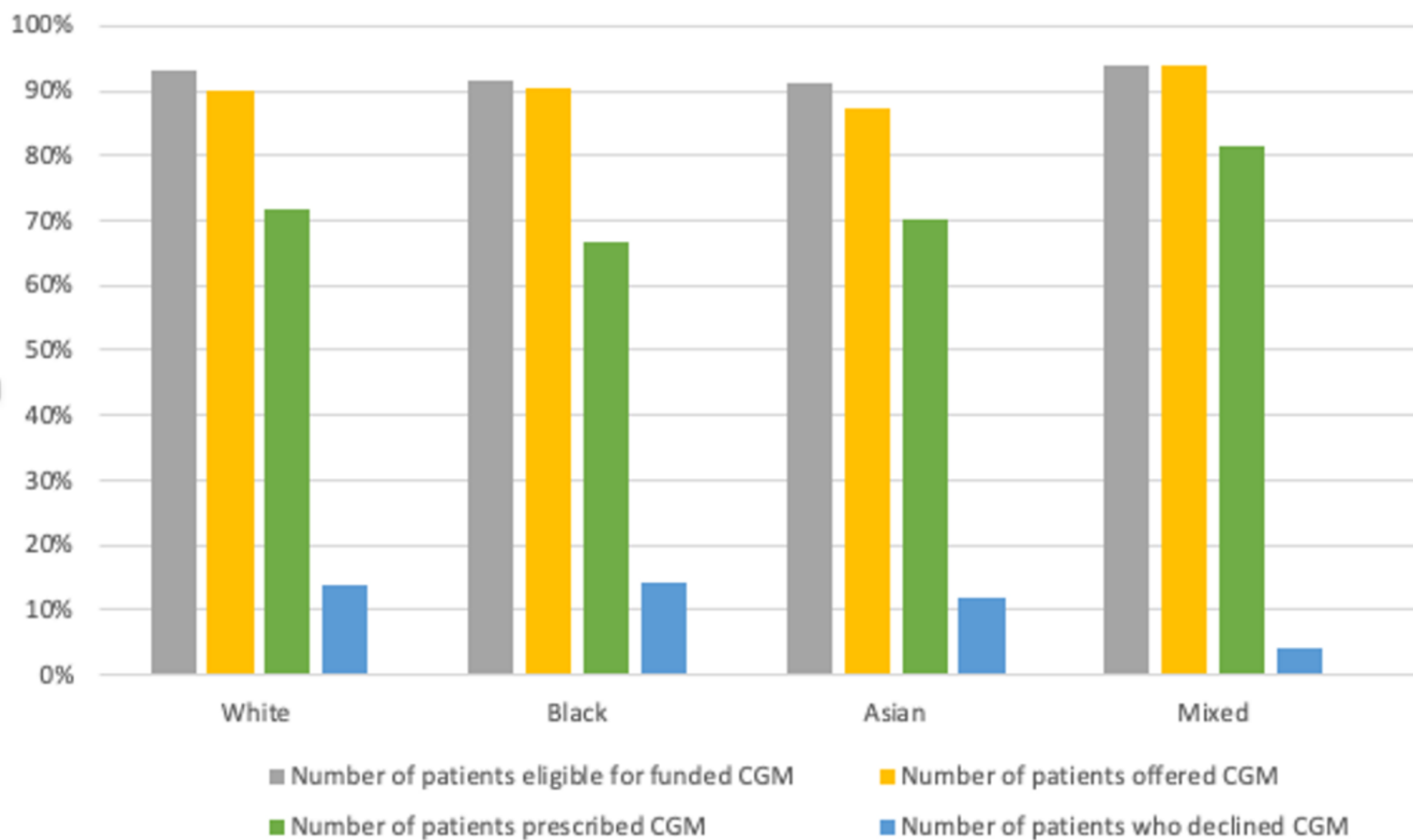
\*The (red-white-green) colour scale indicates (higher-mid-lower) mean HbA1c levels

# IS IT POSSIBLE?





### Proportion of CGM Activity split by ethnicity, England



# NICE TA on HCL

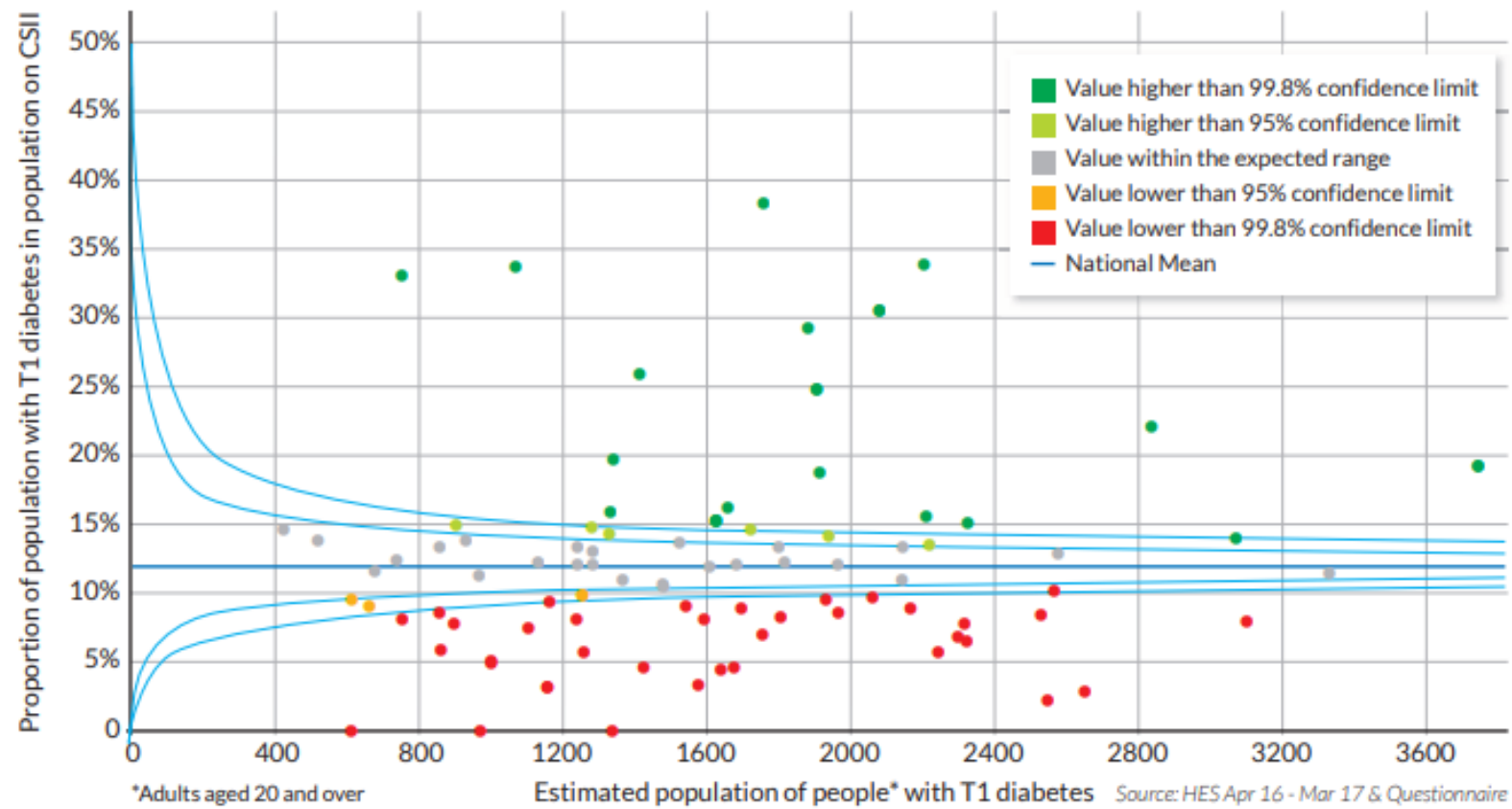
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- Commercial exercise ongoing
- Wide access
- 5 year delivery plan
- “Super”- centres?
- Focus on deprivation and ethnicity gaps



# The problem....

Figure 3: Proportion of people\* with T1 diabetes in population on CSII, by trust





CGM access /  
Dexcom One /  
Freestyle Libre



What else?

Young Type 2 Diabetes or  
T2DaY programme

GIRFT Paediatrics Diabetes

The future...

# Reducing Variation in Diabetes Care through National Programmes

## Conclusion

The GIRFT Diabetes team working with NHS England and a variety of specialist societies has made significant inroads in improving the care of

- People with type 1 diabetes and young people in transition care
- Inpatients with diabetes
- Those with diabetic foot disease

**These national programmes which assess variation based on audit data are key in driving improvements in care**



# Thank you for listening

Special thanks to:

- **GIRFT Delivery Team**
- **NHSE Diabetes Programme Board**
- **DiabetesUK**
- **Royal College of Physicians**
- **ABCD and JBDS**
- **Ipswich Hospital Diabetes Charity Funds**