

Report on the National Diabetes Inpatient Audit (NaDIA) Quality Improvement Collaboratives

The National Diabetes Audit Quality Improvement programme aims to help services to improve care and outcomes for people with diabetes across four of the National Diabetes Audit workstreams. This work is being undertaken through creating Quality Improvement Collaboratives (QICs) focused on:

- Inpatient care - National Diabetes Inpatient Audit (NaDIA)
- Pregnancy and pre-conception care - National Pregnancy in Diabetes Audit (NPID)
- Foot care - National Diabetes Foot Care Audit (NDFA)
- Transition from young peoples' to adult diabetes services - Transition Audit

(See Appendix 1 for map of QIC sites across all four audit workstreams)

Quality Improvement Collaboratives can support healthcare improvement (Schouten et al, 2008). The collaborative design features may affect the extent to which teams improve. Those features that may be associated with greater improvement were built into the NDA quality improvement collaboratives:

- Leadership support
- Teamwork
- Teams that remain intact and continue to gather data
- Facilitators perceived as being helpful
- The sharing of improvement ideas
- The use of Plan-Do-Study-Act
- Interactive learning sets and conference calls.

This report details the aims, interventions tested, lessons learnt, results and conclusions of the National Diabetes Inpatient Audit (NaDIA) Quality Improvement Collaborative commissioned to run from 2017-18.



National Diabetes Inpatient Audit

Since it was established in 2010, the National Diabetes Inpatient Audit has evidenced unacceptable levels of medication errors and diabetes management errors. Consultation with health care professionals and people with diabetes clearly identified that the focus for the National Diabetes Inpatient Audit Quality Improvement Collaborative (NaDIA_QIC) should be on reducing rates of severe hypoglycaemia and diabetic ketoacidosis (DKA) / hyperglycaemic hyperosmolar syndrome (HSS) in hospitals as a priority for improvement. The NaDIA_QIC aims to help services to reduce inpatient hypoglycaemia and DKA/HSS.

Specifically, NaDIA_QIC focuses on reducing:

- medication errors on wards
- insulin errors on wards
- hypoglycaemia due to the timing/choice of meals

NHS Digital and Diabetes UK invited services in England and Wales, who wanted to set local improvement aims related to the above aspects of care to apply to become part of the NaDIA_QIC. Each service was asked to identify a multidisciplinary team relevant to their local improvement aim(s) including, for example, a consultant diabetologist, a senior nurse, pharmacist, catering lead and/or a quality improvement professional. Teams were also asked to provide evidence of support from their Trust Chief Executive and to make a commitment to meet monthly.

39 teams applied. Selection was based upon diverse team membership, demonstrable executive support, geographical spread and measurable aims articulating what they wanted to improve and by how much. Twenty teams from across England and Wales were successful in their applications to become a part of the NaDIA_QIC, although one chose to withdraw prior to the initial workshop due to local organisational changes. The teams that formed the NaDIA QIC were:

- Ashford & St Peters Hospitals NHS Foundation Trust
- Barts Health NHS Trust
- Bedford Hospital NHS Trust
- Calderdale & Huddersfield NHS Foundation Trust
- Colchester Hospital University Foundation Trust
- Cumbria Partnership NHS Foundation Trust
- Dartford and Gravesham NHS Trust
- Doncaster & Bassetlaw Teaching Hospitals
- Dorset County Hospital NHS Foundation Trust
- Gloucestershire Hospitals NHS Foundation Trust
- Hywel Dda NHS Trust
- Ipswich Hospital NHS Trust

- North Bristol NHS Trust
- Oxford University Hospitals NHSFT
- Royal Liverpool and Broadgreen NHS Trust
- Royal United Hospitals Bath NHS Foundation Trust
- St Helens and Knowsley Teaching Hospitals NHS Trust
- Taunton and Somerset NHS foundation Trust
- University Hospitals of Leicester NHS Trust

The NaDIA_QIC teams:

- attended a workshop (Appendix 2) to develop the skills to improve the quality of care and outcomes, share practice and develop a tailored improvement plan to address local needs
- took part in facilitated webinars and teleconferences
- received coaching to deliver the developed local improvement plan(s)
- shared resources such as, patient information sheet regarding self-administration, self-administration risk assessment, self-administration procedure and protocol, staff lanyard and checklist for the treatment of hypoglycaemia, hypoglycaemia pathway, dashboards and care pathways.
- were given the opportunity to showcase improvements and share lessons





We received 40 responses to the evaluation of the initial workshop. 100% rated the workshop good or excellent, with 90% indicating both that the topics were useful and that their knowledge had increased. Comments received included: *“Well presented. Engaging speakers. Deadlines will force us to achieve otherwise we could potentially continue to drift”*; *“Very large group - felt like it was difficult to have a conversation as a group - perhaps smaller groups would be better”*; *“Great content. Fuelled to succeed”*; *“Excellent training day. Very high relevance. Thank you for organising a very productive day”*; *“Having experienced several similar workshops the clarity of the presentation of the processes involved was excellent and covered such a complex agenda very succinctly”*

Each NaDIA_QIC team identified and tested interventions to achieve their aims of reducing medication and insulin errors on wards, reducing hypoglycaemia due to the timing/choice of meals. Broadly, these interventions fell into six main types:

Engaging staff across medical and surgical wards

Examples of this include:

- Staff surveys pre- and post-intervention
- Sharing messages with existing governance and quality improvement meetings
- Collaborating with pharmacy and catering colleagues

Introducing more frequent audits to measure and provide timely feedback on improvement

Examples of this include:

- Audits of hypo management case notes
- Audits of DKA management
- Audit of insulin administration compliance and on the spot feedback to nursing staff
- Regular feedback sessions for staff
- Regular communication with colleagues e.g. insulin safety emails

Educational approaches

Examples of this include:

- Virtual learning, brief face to face learning and accredited training courses
- Providing written information and putting posters in areas which health care professionals use frequently
- Delivery of rolling teaching programmes
- Development of educational resources e.g. prompt cards, posters, online modules
- Simulation based training for management of hypoglycaemia and DKA
- Additional ad hoc training

Introducing self-administration of insulin

Examples of this include:

- Creating and initiating an insulin self-administration policy and pathway
- Roll out of insulin storage boxes
- Promotion of self-administration amongst staff and patients

Considering timing and availability of meals/snacks

Examples of this include:

- Assessing timing of medication administration and food delivery
- Dieticians providing education to catering staff
- Evening snacks prescribed for elderly patients

Use of technology

Examples of this include:

- Roll out of wireless blood glucose monitors
- Optimising electronic prescribing system
- Trialling use of wireless lockable bedside cabinets for insulin
- Use of data management system
- Easy access to relevant guidelines and algorithms on intranet

Presented below are exemplar case-studies from 10 of the 20 sites which formed the NaDIA QIC.



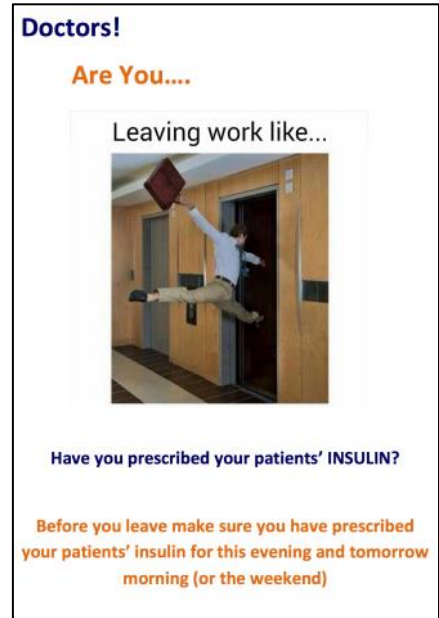
Case study 1: Gloucester Hospitals NHS Foundation Trust

Aims:

On 2 wards initially (1 medical and 1 surgical on different sites), by the end of 2018 we aim to reduce insulin prescription errors by 20% and reduce delays in insulin dosing by 20%

Interventions tested:

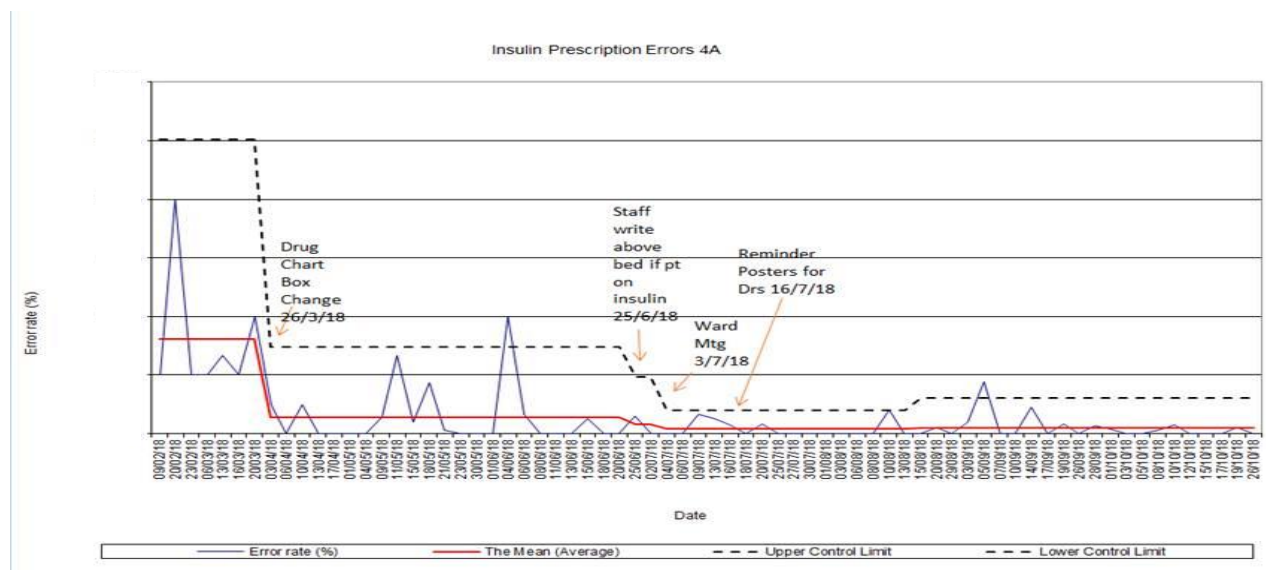
- Introduced insulin prescription 'tray'
- Nursing staff identified patients requiring insulin above the bed, including dose times
- Attended ward staff meeting to aid staff engagement and present results, including of types of errors identified
- Posters on doors to act as aide memoirs



Key lessons:

- Simple interventions can be highly effective
- Self-engagement is key to success
- Improvements can be made without lots of additional training
- Pharmacy were an under-utilised resource in projects relating to drug errors

Results:



Conclusions and next steps:

The team achieved a successful and apparently sustained reduction in insulin drug error rates of all causes using simple, non-labour intensive interventions on a busy acute/short stay general medical ward.

Further work is required to achieve the same outcomes in our surgical directorate. The team are currently identifying baseline data on a second surgical ward before seeking to roll it out Trust wide.

Case study 2: Hywel Dda University Health Board

Aims:

- Reduce inpatient hypos on medical wards by 30%, concentrating on 2 general medical wards
- Improve management of DKA, concentrating on the acute medical admissions unit
- Improve staff knowledge and confidence in inpatient diabetes management

Interventions tested:

- Staff surveys and education on DHA / HHS management
- Virtual college education module
- Pocketmedic videos
- Handouts with information
- Snapshot audits of hypo management-case notes
- Hypo box audit and feedback
- DKA management audit and feedback
- Resource files for the wards with key information
- Access to physical and online learning materials

Key lessons learned:

- Significant need for regular staff education, especially in context of junior doctor rotation
- Ensure hypoglycaemia boxes are kept up to date

Conclusions and next steps:

- Hypo boxes to be updated in all clinical areas
- Hypo awareness week and insulin safety week
- Face-to-face and virtual education including DKA teaching sessions and improving knowledge of hypoglycaemia and its management and encourage uptake of e-modules by medical, nursing and support staff.

Case study 3: Royal United Hospitals Bath

Aims:

To reduce the incidence of hypoglycaemic events by 50% through reducing insulin and gliclazide errors on five wards (medical wards and surgical wards)

Interventions tested:

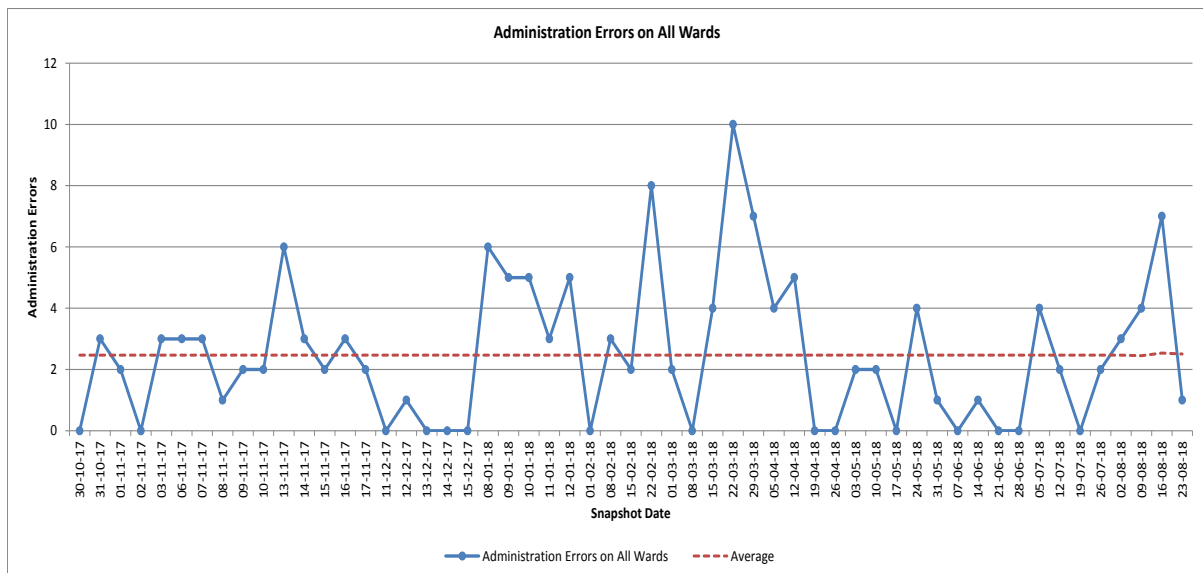
- Initiate insulin self-administration policy/risk assessment/care plan on the five wards
- Wireless access to FPP blood glucose meters roll out across the hospital- UNIPOC reviews
- Insulin storage boxes for patients
- Link nurse teaching rolling programme
- Enteral feeding hypoglycaemia policy

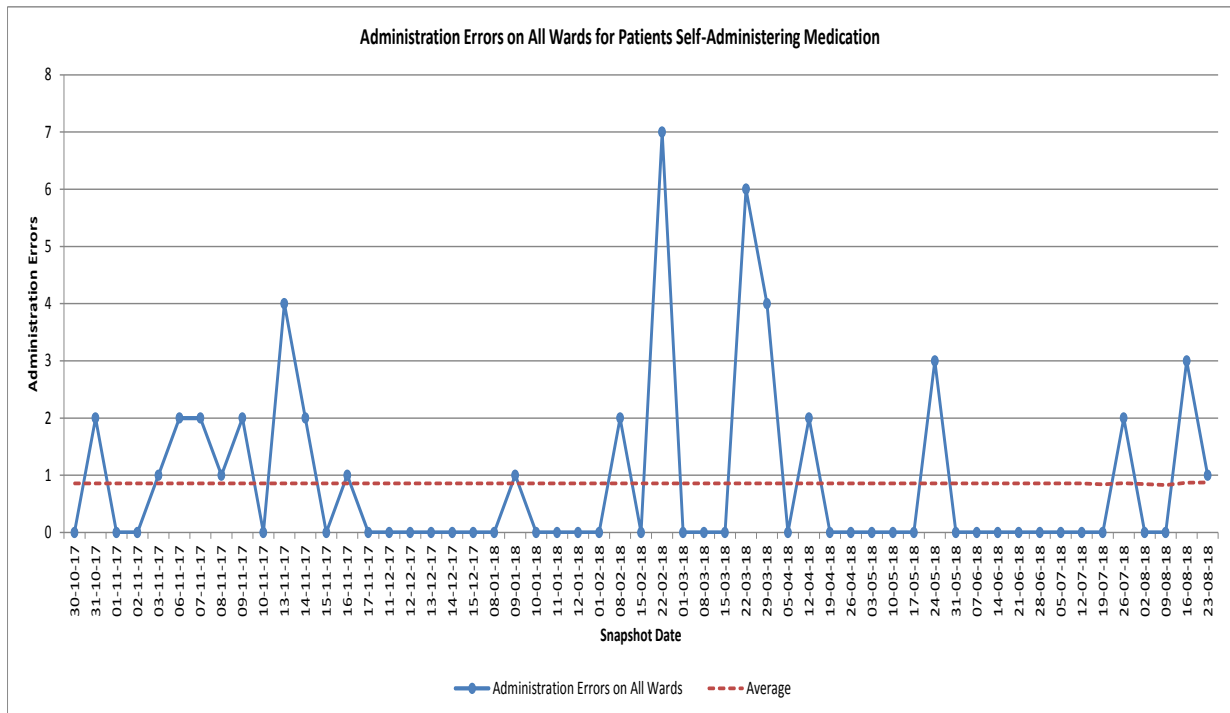
Key lessons:

- The pressure on ward staff continues to have an impact on ability to engage with some of the projects
- Improved patient satisfaction from self-administration

Results:

- Achieved a reduction in hypoglycaemia and insulin errors by 50% in patients on our pilot wards.
- The results were not as impressive with gliclazide where the same reduction was not observed.





Conclusions and next steps:

- Roll out project aims across the trust with main focus on insulin self-administration policy.
- Further work is required to achieve the same outcomes with gliclazide administration errors. The inpatient diabetes team is currently focusing on cardiac ward to try to impact on the gliclazide errors by implementing new policies and intensive nurses education.

Case study 4: East Suffolk and North Essex NHS Foundation Trust (Ipswich Hospital)

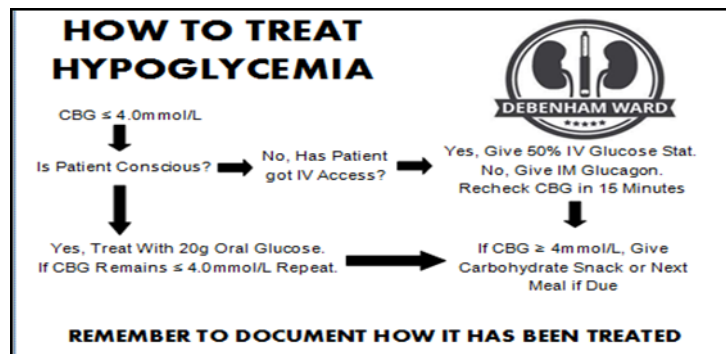
Aims:

To reduce harm to patients across four wards (two medical and two surgical) by:

- Reducing insulin errors by 20%
- Reducing overall medication errors by 10%
- Reducing hypoglycaemia (≤ 3.9) by 10%
- Reducing severe hyperglycaemia (≥ 17) by 10%

Interventions tested:

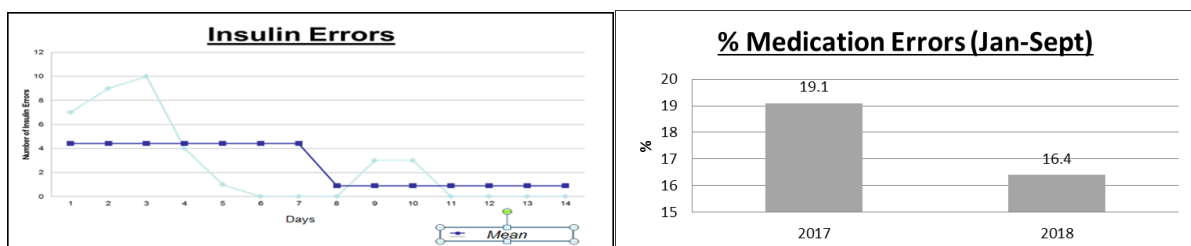
- Ward led initiatives e.g. Education board on oral medications, promoting self-administration through education in the daily huddle and 'opt out' rather than 'opt in' and hypo/hyper card created
- Prioritising medicine reconciliation for patients on insulin



Key lessons:

- Importance of engagement with front line staff- their ward, their patients, their project
- Sustainability is more difficult – good leadership is needed

Results:



	Baseline Audit	Audit 1
Patient Days	202	107
Insulin Errors	33.3%	5.9%
Oral Meds omitted correctly	89%	100%
Appropriate Patients SAMing	83%	89%
SAM Charts Signed/Documented	23%/61%	88%/88%
Treated for Hypoglycaemia	9.2%	8.8%

Conclusions and next steps:

The reduction in medication and insulin errors suggest the initial improvement interventions seemed to be effective. Engaging the ward staff to take ownership and to be involved in audit worked well in the first few months . However sustaining diabetes as a priority has been more difficult recently due to a number of factors including staffing issues. It is hoped that the next steps will help further achieve our aim of reducing harm to patients.

Next steps include:

- Re-audit
- Blood glucose alert
- Simplify hyperglycaemia protocol
- Roll out initiatives to other wards

Case study 5: North East Essex Diabetes Service (NEEDS) on behalf of East Suffolk and North Essex NHS Foundation Trust (Colchester General Hospital)

Aims:

- Reduce medication errors within two wards
- Improve the inpatient food menu to include carb content for all meals

Interventions tested:

- Weekly audits carried out each Friday
- Collaborative working with the Lead Pharmacist Champions and the pharmacy department
- Education of staff via the link nurse meetings and on ward 1 to 1 training
- A review of all timings when medication is administered

Key lessons:

- Audits supported by pharmacists reduce errors
- Having the manufacturer support the link nurse meetings is key to giving the staff the opportunity to questions manufacturers directly
- Analysis of when insulin was administered relative to when food was available identified the opportunity to reduce episodes of hypoglycaemia
- Having matrons/consultants on board helped drive positive results

Results:

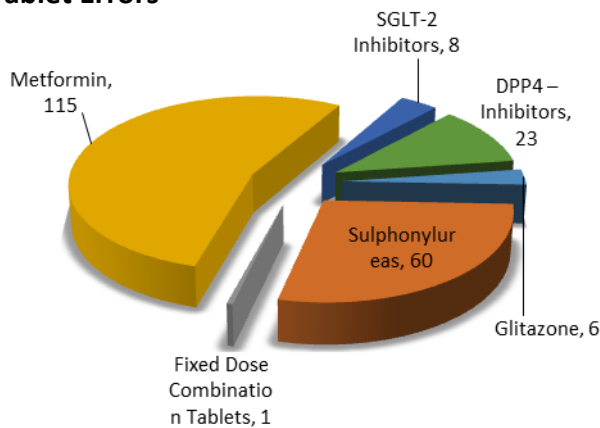
Insulin Errors by Month

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
■ Insulin (Prandial/pre-mixed) not given with meal							2		
■ Insulin given by Night Staff	1	2	1						
■ Insulin given/prescribed at the wrong time		4	2	1	1	1	1		1
■ Insulin not signed as given	1	1			1				
■ Insulin not written up			2		1	2	2		2
■ Name of insulin incorrect (e.g. Humalog)	1		1		2	1			1
■ Number (dose) unclear		1			1		2		

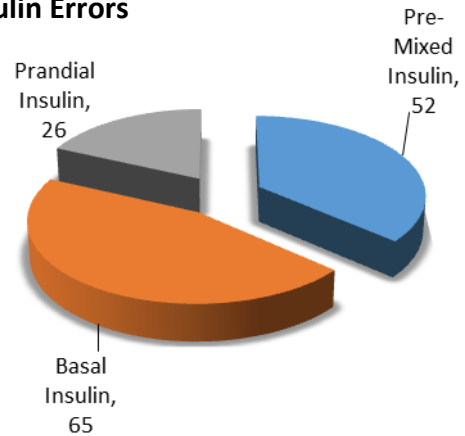
OA-DA Prescription errors

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
■ OA-DA (SU/Metformin) not given with meal		1	1	1					
■ OA-DA given by night staff	1	4							
■ OA-DA no written up		2	4			1	1		
■ OA-DA prescribed at the wrong time	1	3	3	5	1	3	5	3	
■ OA-DA Wrong dose		1							

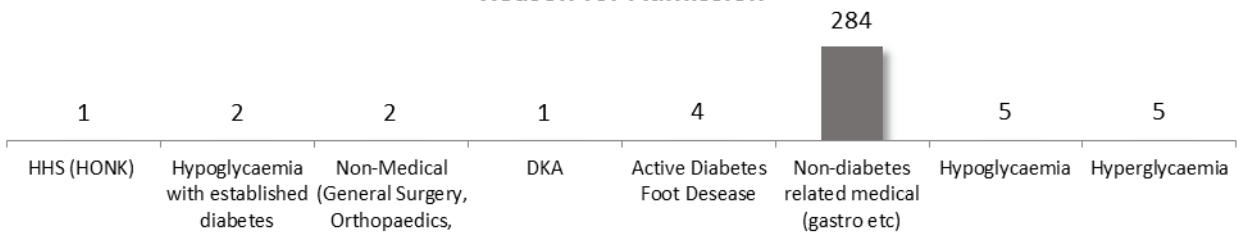
Tablet Errors



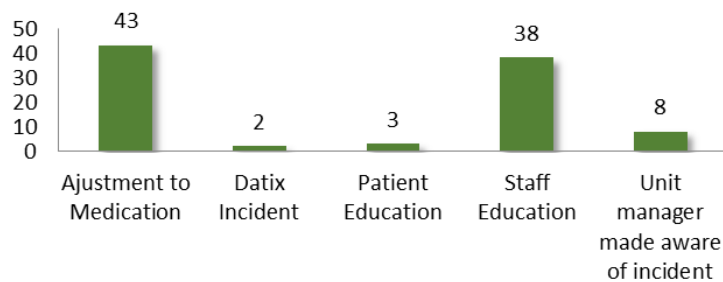
Insulin Errors



Reason for Admission



Action Taken



Conclusions:

- 284 of the 304 patients sampled were admitted with non-diabetes related ailments.
- Pharmacists Champions have improved the accuracy of diabetes medication prescriptions.
- Link nurse meetings are attended by over 50 members of staff each month.
- Aligning medication to meals has stopped departmental hypoglycaemia episodes.
- 150 nursing staff to be trained on the diabetes course at Essex University. Funding support has been provided by manufacturers.
- Carbs now reflected on patient menus. Menu reviewed 6 monthly.

Next Steps

- Link Nurses to take ownership of errors on their wards in terms of Datex reporting and being responsible for 'Think Glucose' reporting.
- University course graduates, will be given a badge identifying them as Diabetes facilitators.

Case study 6

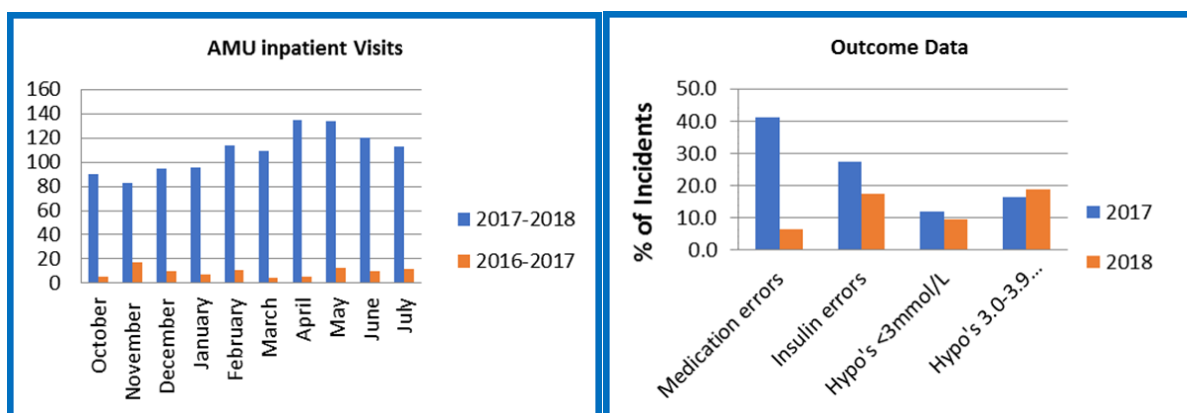
Aims:

To reduce hypoglycaemia in hospital inpatients by 25% and reduce insulin/medication errors

Interventions tested:

- Daily ward rounds on the acute admission units
- Reviewing inpatients daily identified from the electronic blood glucose system that have capillary blood glucose < 4mmol/L.
- Staff Education - aim to increase staffs adherence in treating hypoglycaemia as per Trust guidelines

Key lessons:



Conclusions and next steps:

- Medication and insulin errors appear to have improved.
- There has been no significant change in the amount of inpatient hypoglycaemia episodes.
- Medication and insulin errors appears not to be the cause of hypoglycaemia in our inpatients
- Bedtime snacks to be offered to inpatients if capillary blood glucose are <10 mmol/L before bed.
- Provide ward based education for nurses and health care assistants

Case study 7: Oxford University Hospitals NHS Foundation Trust

Aims:

To reduce the number of inappropriately omitted regular subcutaneous insulin doses by 40% on target wards as monitored by electronic prescription administration document

Interventions tested:

- Providing staff education on different insulin types, duration of action and when to delay or omit doses in the form of 'espresso' teaching
- Review electronic prescribing system features to optimise insulin prescribing and documentation, providing technical training on how to reschedule doses and what key information to consider
- Trialling self-administration of insulin, with insulin kept in a wireless lockable bedside cabinet

Top three improvement suggestions (as voted for by ward staff)
Develop and deliver education to those who prescribe and administer insulin, improving knowledge of insulin types, their action and when to administer, delay or omit
Establish a self-management procedure, allowing patients to self-manage and administer insulin, keeping insulin safely stored at the patient bedside
Ensure that any decisions made during ward round are communicated effectively to appropriate ward staff

Key lessons:

- Nursing shortages have prevented full engagement by front line staff, requiring a fully supported approach, resulting in the need to extend the project deadline
- There have been no clear standards on when to administer, omit or delay subcutaneous insulin doses but nurses have been expected to make these decisions on a daily basis
- Documentation of delayed or omitted subcutaneous insulin doses on the electronic prescription is inadequate to reliably and consistently determine whether actions were appropriate – this is only made possible by reviewing the full electronic patient record

Conclusions and next steps:

- Training is a valued intervention, ward staff greatly appreciate the opportunity to engage with the diabetes team and receive specific training based on their everyday experience. We will continue timely and personalised teaching based on learning needs
- Setting up a project steering group did not prove to be the most effective way to communicate and engage with frontline staff due to severe staffing issues. Visiting wards/staff directly has been shown to be less time consuming overall and significantly more productive
- Ward staff are keen to implement self-administration of insulin. Next steps is to set up self-administration policy, install lockers and provide training to ward staff and patients
- Create a strategy to improve communication of ward round decisions to appropriate ward staff

Subcutaneous Insulins in Adults

When to administer, when to omit and when to get advice

Always give:

- Long acting (non-mealtime) insulins* where:
 - Patient is not eating or drinking, e.g. NBM**
 - Patient is on a variable or fixed rate intravenous insulin infusion
 - When CBG results are low or following treatment for a single episode of hypoglycaemia
- Short, rapid, pre-mixed or intermediate insulins* following treatment for an episode of hypoglycaemia (give 50% of the dose – if concerned about the risk of further hypo please ask for review by the clinical team)

If insulins are not immediately available on the ward, an emergency supply should be obtained through pharmacy

Always omit:

- Short, rapid, intermediate or pre-mixed insulin* where patient is not eating or drinking, e.g. NBM or patient vomiting
- Short, rapid, intermediate or pre-mixed insulins where patient is on a variable or fixed rate intravenous insulin infusion

Check with the clinical team if:

- Patient refuses to take insulin
- Erratic CBGs
- Patient has had three or more episodes of hypoglycaemia in previous 24 hours and is prescribed long acting insulin
- Insulin has not been prescribed or the prescription is incorrect

Request specialist team review if needed. Criteria and referral details for the Diabetes Specialist Team are available on the Diabetes – Adults [intranet site](#)

*Types of insulin:
 Short acting insulins – e.g. Actrapid, Humulin S
 Rapid acting insulin analogues – e.g. Novorapid, Humalog, Fiasp
 Pre-mixed insulin & analogues – e.g. Novomix 30, Humalog Mix 25 or Mix 50, Humulin M3
 Intermediate acting insulin – e.g. Humulin I, Insulatard (also called biphasic insulin)
 Long acting insulin analogues – e.g. Levemir, Lantus, Treplos, Abrogaster, Trivada
 **Make sure the patient also receives glucose at the same time, e.g. glucose infusion, 50% feed, 10%

C. Levin, C. Crowley, M. Maginness, A. Lumby, G. Yebra, S. Little, NADA 08 project team, Oct 2018

Case study 8

Aims:

To reduce by 20% the prevalence of inpatient hypoglycaemia, as recorded on the ward capillary blood glucose charts of patients with diabetes on 3 wards

Interventions tested:

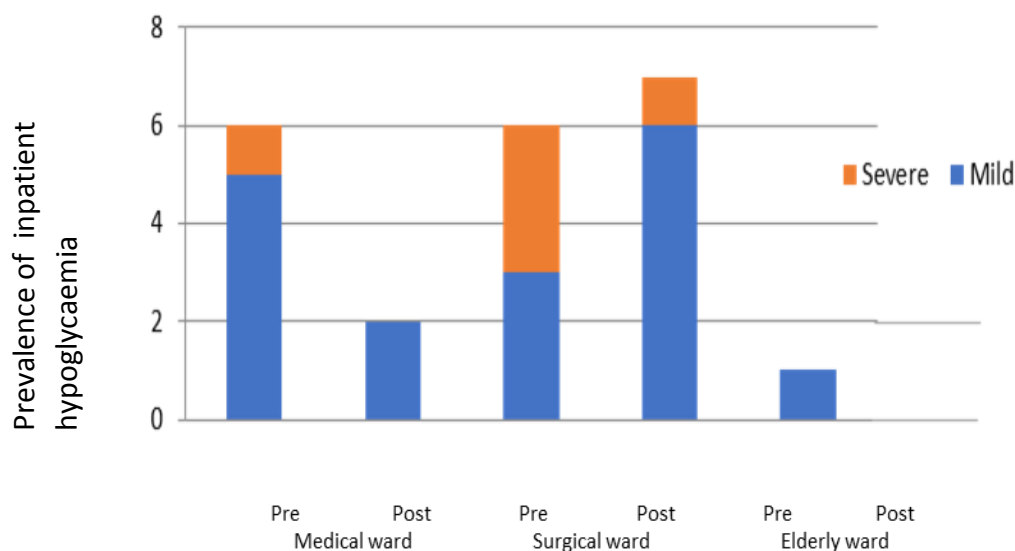
- Rolling programme of ward nursing staff education
- Multidisciplinary ward team simulation
- Dietitian-provided education to catering and healthcare assistants
- Evening snack prescribed routinely for patients aged > 65 years
- UniPOC data management system has enabled viewing of all point of care blood glucose results online

Key lessons:

Inpatient hypoglycaemia was reduced after introducing:

- A variety of tailored staff educational methods including simulation
- An evening snack for all elderly patients with diabetes
- UniPOC data management system to help identify wards with high prevalence of hypoglycaemia

Results:



Conclusions and next steps:

- Continue hypoglycaemia data collection facilitated by UniPOC system.
- Provide regular MDT simulation, nursing and dietician education programmes, initially targeting those wards with higher hypoglycaemia prevalence

Case study 9

Aims:

To test interventions on two wards in order to

- Reduce insulin prescribing errors by 50%
- Reduce insulin administration errors by 50%
- Reduce the incidence of in hospital DKA by 75%
- Reduce the incidence of in hospital severe hypoglycaemia by 75%

Interventions tested:

- Weekly email safe insulin prescribing tips (SIP) for doctors
- Monthly feedback sessions for doctors facilitated by a multi-professional team
- Multi-professional high-fidelity simulation based training for management of hypoglycaemia and DKA
- Weekly diabetes teaching for nursing staff supported by DSNs
- Production and implementation of safe insulin use and hypoglycaemia management pocket cards
- Audit of insulin administration compliance and on the spot feedback to nursing staff

Key lessons:

- Designing interventions based on current interventional theory can increase the likelihood of success
- Inter-professional collaboration, with senior engagement, has been critical to the success of this project
- We believe that these practical interventions could be adopted by similar organisations to support safe insulin practice

Results:

- An overall improvement in change in insulin prescription error rates of 89.7% between control and intervention groups ($P < 0.005$) was reported
- Feedback was valued, considered feasible and essential for professional development through reflective practice. Doctors reported increased team-work and error awareness following feedback
- SBT improved knowledge of participants in the management of hypoglycaemia and DKA. Pre-test mean scores were 4.6 ± 1.88 . Post-test, mean scores were 7.33 ± 1.45 , an improvement of 2.73 (CI 1.72 to 3.75) $t(14) = 5.78$, $p < 0.0001$
- Doctors unanimously valued the SIPs and reported using them frequently to inform their prescribing practice
- 100% of participants agreed that the SIPs were useful, supported practice and should be developed for other prescribing areas. Doctors agreed the SIPs enhanced their confidence in the prescribing of insulin

Conclusions and next steps:

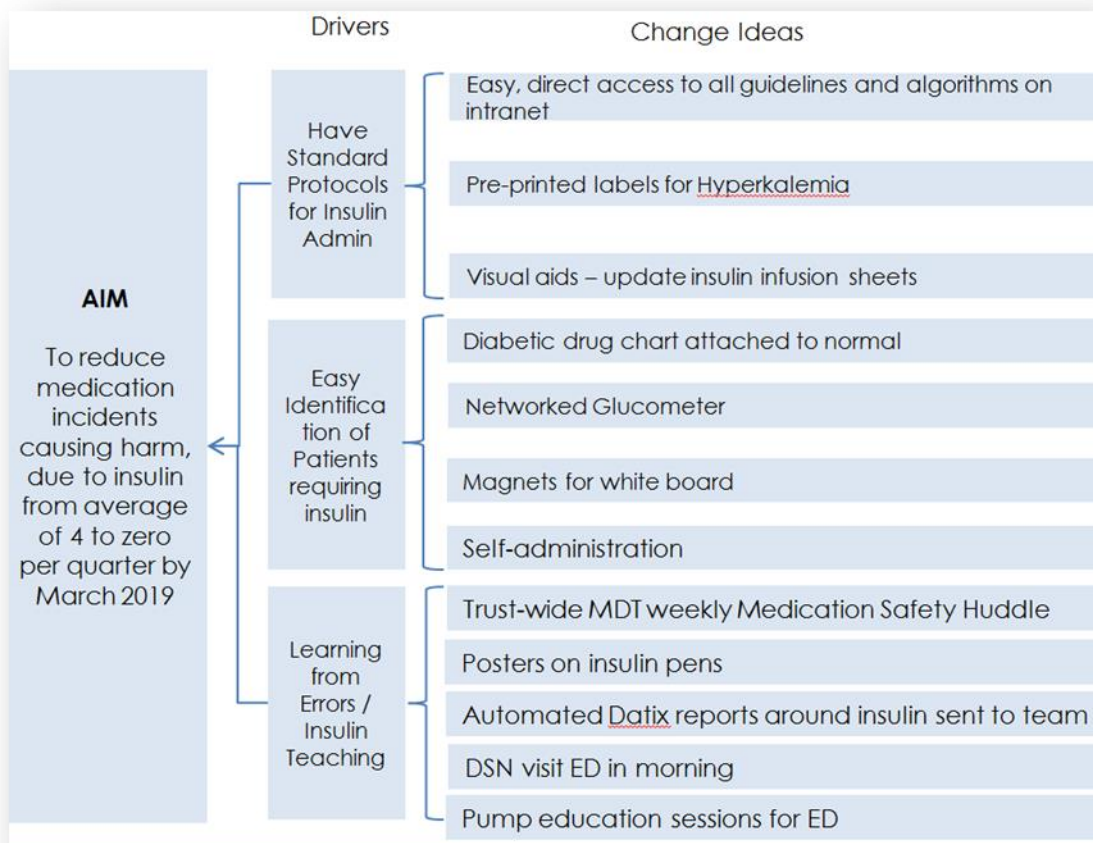
- Provision of feedback on insulin prescribing has the potential to positively influence prescribing outcomes
- Simulation based training is valued by participants and can improve knowledge in staff in the management of hypoglycaemia and DKA
- These practical interventions show promise to optimise the management of insulin in patients with diabetes in a hospital setting
- Continue to collaborate with the working group to innovate practice
- Continue to evolve the SBT programme and support staff in its completion
- Implement prescribing tips across the organization
- Continue to evaluate and develop interventions

Case study 10

Aims:

To reduce medication incidents causing harm, due to insulin, from an average of 4 per quarter to zero

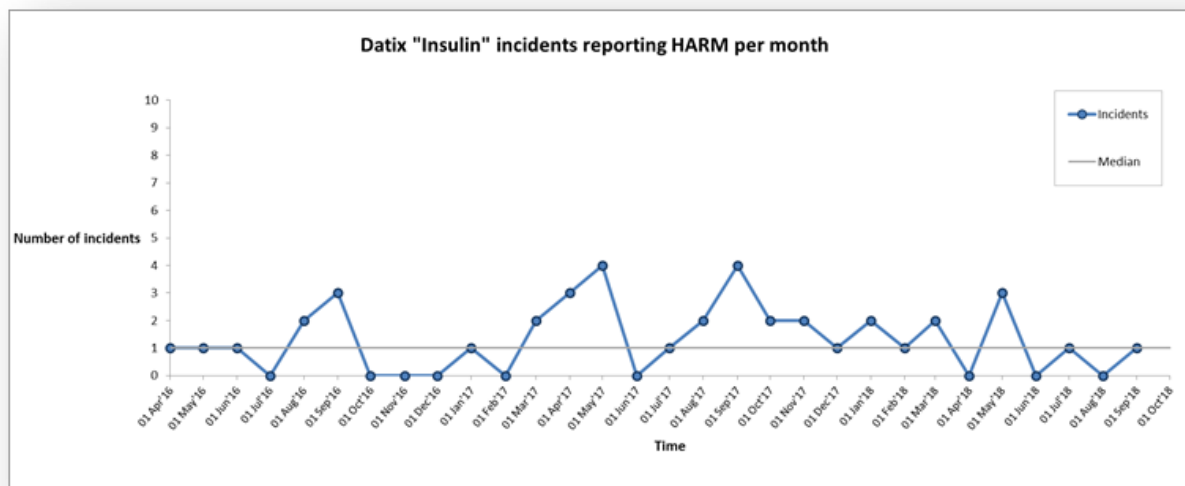
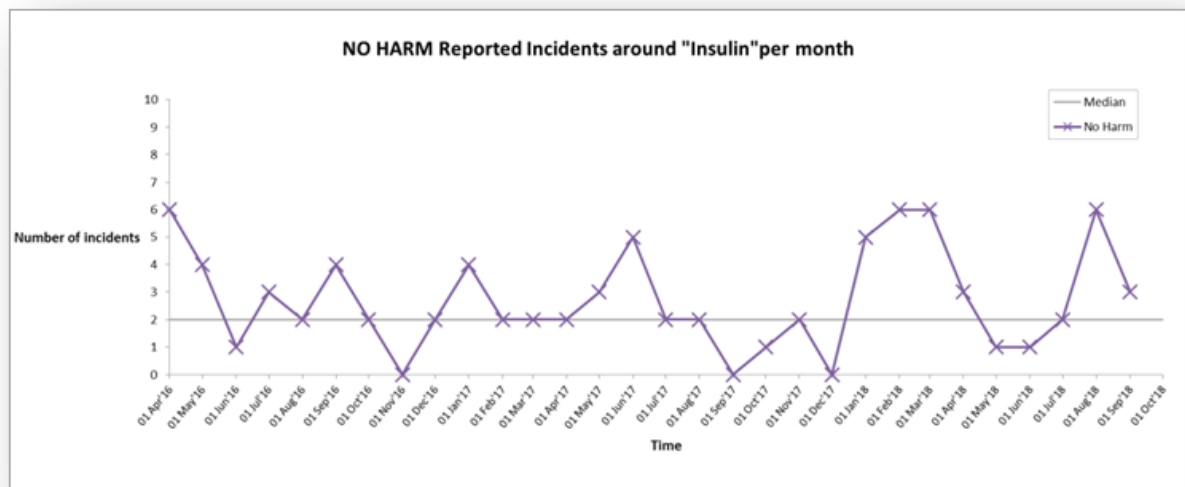
Interventions tested:



Key lessons:

- Keep every test of change small
- Try to introduce process measures to show the impact of small tests of change, as well as outcome measures
- Have very brief and regular update meetings

Results:



Conclusions and next steps:

- All the interventions in the driver diagram have been introduced to reduce the risk of insulin related medication errors however it is too early to demonstrate improvement.
- Anecdotally however there is increased engagement and awareness around insulin medication error/near-miss reporting
- Introduce the self administration patient assessment into Trust policy and implement Trust-wide
- Continue to work with ward staff and diabetes team to introduce safer and more user-friendly insulin infusion protocols

The NaDIA Quality Improvement Collaborative

The next steps:

During the teleconferences participants requested a further face-to-face meeting where they could get more detail about each other's projects. During this meeting members of the collaborative said they were keen to continue to collaborate. Diabetes UK have agreed to pilot a 12-month teleconference based structure that mirrors the multi-site calls during the funded collaborative.

The collaborative provided a structure whereby teams could work together on a common challenge. This showed that they were willing to ask for and share resources and lessons. There remains an opportunity to consider how similar support might be provided to those teams that participate in the in-patient audit but were not able to be part of NaDIA_QIC.

Lessons learnt:

Teams were selected from those that applied, it is therefore possible that those teams that were part of the collaborative were different from those that were not. Nevertheless, a summary of the activity of teams is provided here to enable others seeking to reduce hypoglycaemia and medication / insulin errors on wards to consider whether the tested interventions might be beneficial to them.

Participating teams identified a number of lessons, these included:

- Staff engagement is key, going to them helps with this.
- Studying the causes of the problem is vital, such as when is insulin being given relative to the timing of food
- Small changes can be hugely effective
- Educational approaches need to be sustained to reflect staff turnover
- Sharing resources and advice is valued by participants

Teams involved in the collaborative were keen to remain as part of a facilitated collaborative for longer than one year and to have more than a single opportunity for face-to-face discussion. However, it must be recognised that only ten of the participating teams attended the additional workshop, with some non-attenders citing difficulty in travelling.

This document provides an overview of work undertaken and self-reported outcomes. Future collaboratives would benefit from a formal evaluation of both the outcomes and process of participation in the quality improvement collaborative.

For further information on this work, contact: nda@diabetes.org.uk

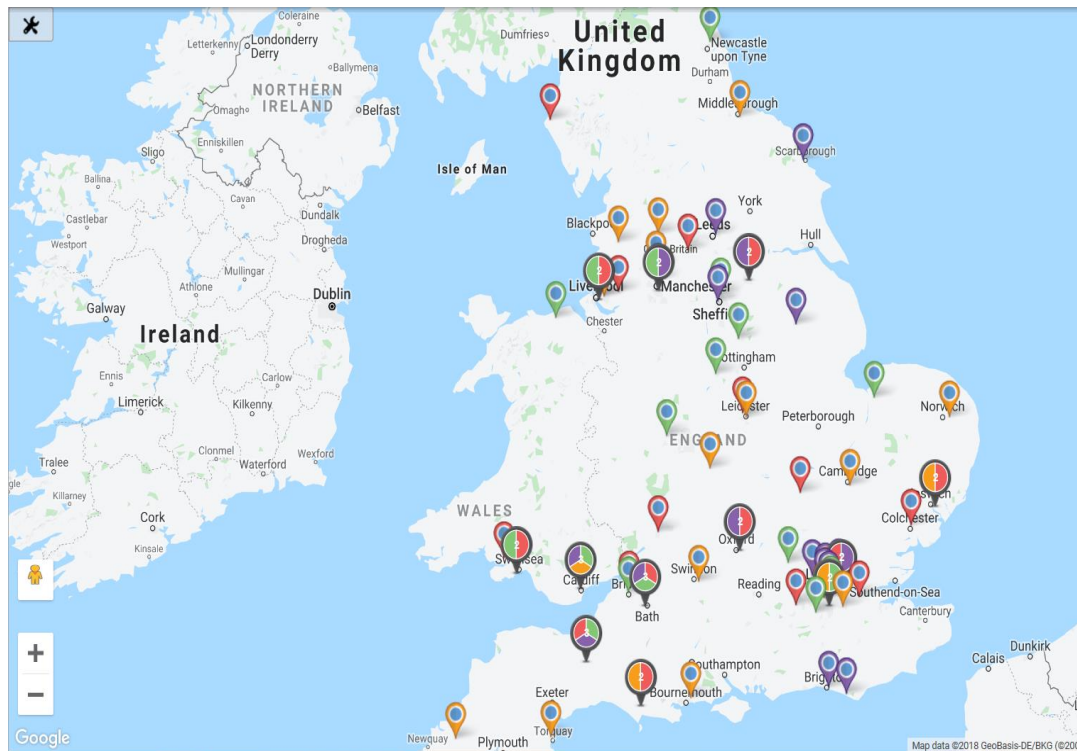
Acknowledgements

We would like to thank all the teams who participated in the collaborative for their willingness to share their experience.

Appendix 1:

National Diabetes Audit

Quality Improvement Collaborative 2018-2020 sites



Appendix 2: Workshop programme

9.30 – 9.45	Welcome and background
9.45 – 10.15	An improvement story <i>Describing the steps taken by selected, diverse providers in order to improve diabetes care.</i>
10.15 – 10.45	Setting aims <i>Building upon the application and post-application support to set measurable aims.</i>
10.45 – 11.00	TEA/COFFEE
11.00 – 11.30	Engaging others and building an executable strategy <i>Patients, carers and colleagues on the team. The use and population of driver diagrams.</i>
11.30 – 12.30	Tracking improvement and capturing plans <i>Reviewing data over time and developing a sustainable, local measurement plan.</i>
12.30 – 1.15	LUNCH
1.15 – 1.30	Patient story <i>A story of how medicines management can affect a patient.</i>
1.30 – 2.30	Analysing local practices and capturing plans <i>Developing process maps and using reliable design to improve care</i>
2.30 – 3.30	PDSA & COM-B <i>The place and development of plan-do-study-act cycles within the model for improvement, and how they can be integrated with behaviour change theory.</i>
3.30 – 4.00	Driver action diagram <i>Extending local driver diagrams and making commitments about the next steps.</i>
4.00 - 4.30	Present driver diagrams and describe next steps <i>An opportunity to practice your kettle speech.</i>
4.30 – 4.45	Next steps for the Collaborative