



**Joint British Diabetes Societies for In-Patient Care (JBDS-IP)**

**The Rowan Hillson Insulin Safety Award 2016**  
**Best joint pharmacy and diabetes team initiative to improve insulin**  
**and prescribing safety in hospital**

**How to enter:**

1. Email your completed entry to: Christine Jones, JBDS Administrator at christine.jones@nnuh.nhs.uk

**All entries must be emailed by: 31.01.17**

2. Please submit any supplementary materials to support your initiative, as these will be considered as part of the judging process.
3. **Please note this competition is only for projects undertaken in the last 3 years i.e. since 1.1.2013.**

**Your contact details:**

**Name:** Sallianne Kavanagh

**email:** Sallianne.kavanagh@sth.nhs.uk

**Post:** Health Education Leadership Fellow: Safer Diabetes / Lead Clinical Pharmacist-Diabetes

**Trust name and address where work was undertaken:**

Sheffield Teaching Hospital NHS FT

Herries Road

Sheffield

S5 7AU

**Additional contributors:**

**A Bain, J Elliott, F Creagh, R Gandhi, A Plummer, F Watson, C Nelson**

**Title of entry (10 words maximum)**

A pharmacist led initiative to support insulin self administration
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**Brief summary of entry**

Provide a short summary of your initiative in **no more than 200 words (The box will expand)**

The incumbent lead clinical pharmacist was successful in developing a secondment post, funded by Health Education England and the Pharmacy department. This post has afforded the opportunity to invest time and build upon projects undertaken as part of the directorate diabetes pharmacist role. Resource is being invested into numerous initiatives to understand the risk of being in hospital for people prescribed insulin. The focus of this submission will be the work undertaken to support insulin self-administration. The pharmacist has led a series of projects, including a trust wide audit to assess the self administration status and access to insulin for people prescribed insulin, review of the incident reporting system and interviews with people with diabetes. The results of the audit, in conjunction with a full risk assessment and options appraisal was presented to the trust Medicine Safety Committee. This resulted in a change of policy permitting patients to keep insulin in their possession and to continue self care. The pharmacist continues to offer both a governance assurance role reviewing incidents relating to insulin and has introduced a peripatetic clinical review role for people with Type 1 diabetes. Thus we hope less incidents will occur. This has the support of the inpatient diabetes team, the results are being regularly discussed and being incorporated into the governance agenda.

#### **Background/Situation analysis/Innovation (300 words maximum)**

Briefly provide the background and rationale for the initiative. From this the judges should be able to understand why there was a need for the initiative to be undertaken. Explain what makes your initiative innovative or pioneering.

Insulin is cited as one of the medicines commonly associated with incidents leading to severe harm or death<sup>1</sup>. An analysis of insulin reports by National Reporting and Learning System (NRLS) showed that 61% of errors occurred during administration. Incorrect dosing, omission and delay were commonly reported from an inpatient environment where insulin is administered by health care staff.<sup>2</sup>

In March 2012 the Joint British Diabetes Societies published their recommendations for the continued self-management of diabetes during hospital admission. Following this the Trust amended the self-administration policy to state that people taking insulin could continue to self-administer their insulin during the admission, with two important caveats, firstly that an assessment of competence was completed and secondly that the insulin be stored in a locked cabinet. The diabetes team felt that these caveats would hinder self-administration, and as such the pharmacist was asked to support the team. It was felt that the pharmacist was the most appropriate person to lead the project due to expertise in governance assurance, navigating trust wide policies and their specialist clinical knowledge in the area.

Despite the initial policy introduction, the team continued to experience anecdotal incidents of people not being able to self-administer their insulin, and insulin access being restricted. Concern was also raised that the policy was not deliverable due to lack of suitable storage. In areas that were none compliant with the policy, but permitted people to keep possession of their insulin there was concern that the Trust would not be able to support them in the event there were any clinical incidents.

Following the success of driving the policy change there was insufficient resource to offer widespread education of the change. The later introduction of the fellowship pharmacist has supported re-audit and a pilot to directly support people with insulin self-administration.

#### **Objectives (200 words maximum)**

State clearly the objectives of the initiative(s).

#### Aim

To support people prescribed insulin to continue to self-administer insulin whilst in hospital if they are willing and capable.

#### Objectives

To undertake an audit to determine if appropriate inpatients are self-administering insulin

To measure compliance with the trust self-administration policy

To evaluate if the current policy supports people to self-administer insulin in hospital

To complete a risk assessment of current practice and the considered solution

To undertake an options appraisal of potential storage options

To review the trust incident reporting system to consider the impact of self-administration

To undertake a patient focus group to determine their requirements for any further work

To implement any recommendations from the audit and governance review

#### **Project plan/methods (400 words maximum)**

Please outline the method(s) you used to achieve your objectives. The judges will also be looking for a clear rationale for your method(s).

##### Baseline Audit

A trust wide audit was undertaken by the clinical pharmacy team. This was performed as a one day snap shot assessment of all prescriptions for subcutaneous insulin. For all insulin prescriptions, data was collected on a standardised data collection form, including; the patients' self-administration status at home and in hospital, patients' suitability to self-administer in line with the trust policy. The storage conditions were also recorded to determine if the insulin was accessible to the patient.

##### Risk assessment submission to Medicine Safety Committee

A full risk assessment was undertaken (see appendix I)- considering the current policy and the potential clinical implications to patient care, including the risk of hypoglycaemia, hyperglycaemia and potential errors of picking the wrong insulin from the fridge. The risk assessment was contextualised in the national agenda to support patient empowerment and continue self-administration in hospital. The completed risk assessment was submitted to the Trust Medicines Safety Committee (MSC) for review and recommendations. The pharmacist presented the case for change to the MSC.

##### Options appraisal

A set of criteria that must be assessed when choosing an appropriate storage solution were defined:

- Security: portability, type of lock
- Infection control: easy to clean with standard procedures
- Suitable for use in all areas
- Nurse accessibility: available at all bed spaces, portable product that can be stored on ward in easily accessible area
- Patient accessibility: poor mobility, neuropathy, poor sight

A review of the NHS supplies catalogues was manually reviewed in July 2014 to identify medication storage options. An internet based search was undertaken during the same time period, using search terms medication lockers, self-administration lockers, medication storage, secure personal storage.

The options were then submitted to the MSC for consideration.

#### Datix review

The incident reporting system (DATIX) was reviewed for all reported insulin incidents within the Trust for the period of 1 year to identify if insulin self-administration had been related to any incidents, or if there were any incidents of misappropriated insulin.

#### Patient focus group

The pharmacist attended a local diabetes UK meeting to discuss potential concerns people had about insulin management in hospital.

#### Introduction of a self-administration focussed service

The pharmacist undertook a pilot assessment of all people with type 1 diabetes admitted to one of the hospital sites. The assessment included a full review of suitability to self-administer in hospital, documentation of competence, review and supply of insulin where required. Following this trust documentation was updated to meet the governance requirements.

### **Evaluation and results (400 words maximum)**

Use this section to report the results and demonstrate how you measured the success of your initiative/project

#### Baseline Audit

On the day snapshot subcutaneous insulin was prescribed for 71 patients, 41 of which had been self-administering insulin at home. Four patients were not suitable for continued self-administration, five expressed a wish not to, 30 were administering their own insulin and importantly two wanted to self-administer, but were not being supported to do so. Of the 30 people self-administering their insulin, 23 were keeping it amongst their possessions, which at the time did not meet Trust requirements.

#### Risk assessment and options appraisal

The options appraisal identified ten different storage options, two of which met all the criteria identified as important considerations. A business assessment of these options identified that the trust wide implementation would be prohibitively expensive, and would still not truly meet the needs of the patient, the nursing teams or the Trust. It was also identified that a pilot of providing additional lockers had failed on a ward of engaged staff due to failure to allocate the storage facility.

#### Datix® review

The system was interrogated for all insulin related incidents for the twelve months previous to the review. 51 insulin and self-administration related incidents were reported; ten omitted doses, two cases of the patient administering the correct dose, but the prescription was wrong, 20 incidents that would have been preventable if the patient had administered their own insulin, two cases of duplication (both the nurse and patient gave a dose, four cases of the patient giving themselves the wrong dose). There were no incidents of misappropriation or unintended administration to the wrong patient.

In conjunction with the risks identified in the formal risk assessment, and review of the Datix® reports the medicine safety committee recommended that the self-administration policy be amended. The policy amendment includes the statement that insulin can be kept upon the person, and removes the requirement to complete a formal assessment of competence.

#### Patient focus group

The discussion identified that the main concerns about coming into hospital were not having access to their insulin and doses not being given at the correct time, especially in relation to meals. The most powerful story was from a gentleman who had experienced numerous severe hypoglycaemic episodes in hospital due to not having access to his insulin himself and the doses being given at a prescribed time that did not correlate to the meal time or carbohydrate content.

#### Impact (300 words maximum)

Describe the impact of the initiative(s) for in patients with diabetes and how this was measured.

The policy change was made with the intention that the trust systems would no longer be a barrier to self-administration, and that staff would support people to continue self-administering their insulin.

A one day re-audit of self-administration status of patients prescribed insulin on the diabetes wards (56 beds) was undertaken. 15 patients were prescribed insulin, seven patients met the criteria to self-administer, three of which were fully independent and had access to their insulin, one patient who was calculating her doses, but the nurse was witnessing the injection as the patients therapy had changed, and two were new to insulin and being supported by the nurse and one who wanted support whilst unwell.

To assess the impact of the policy change and to scope the potential impact of the pharmacy team further supporting the inpatient diabetes service, a two week pilot of a peripatetic pharmacist reviewing all Type 1 admissions to a single site was undertaken. Twenty seven patients with Type 1 diabetes were admitted, 17 were reviewed by the pharmacist, seven were discharged prior to review, two were not on the pilot site and one patient was absent. Actions undertaken by the pharmacist included updating the self administration status on the charts (n=12) and assessment of competence to self-administer (n=7). Of the seven competent patients 5 were fully self-administering and had access to the insulin, 2 were being supported by the nurse due to recent confusion and re-establishing confidence for discharge. Other interventions made by the pharmacist for the patient cohort (not just those self-administering) included prescribing the basal insulin (n=1), requesting blood glucose levels, requesting that insulin be administered and ketones tested for an incident of no insulin administration for 24 hours (n=1), hence preventing severe harm.

The policy change is meeting the needs of the patients, and the nurse teams by removing the administrative burden of supporting patients.

#### Adaptability, Cost and Sustainability (300 words maximum)

How easily could your initiative(s) be adapted to other hospital Trusts? Please state whether any other Trust(s) has adapted your initiative(s) and/or any steps you have taken to promote wider dissemination of your initiative(s).

Please demonstrate the sustainability of your initiative(s). Include the cost incurred and the source of funding i.e. acute trust or CCG or any other means. Describe the process by which the funding has been sought and the challenges experienced.

The integration of a pharmacist into the diabetes team is fully adaptable across all trusts. The work undertaken to support the self-administration agenda has been well accepted by the diabetes team and trust. The baseline self-administration audit was presented at DUK

2014 as both a poster and short oral presentation, and the options appraisal and Datix® analysis were presented as a poster at the United Kingdom Clinical Pharmacy Association (UKCPA) conference (2015). The pharmacist is in regular correspondence with other pharmacist's via professional forums (UKCPA) and email support networks.

The change of policy to support self administration was cost neutral, however, it is recognised that this would have been best supported with training and ward level support. The pilot of ward based support for self-administration ranged from 30 minutes to three hours per day for cover to one site of the hospital. The continued support of this service cross site would be anticipated to be one whole time equivalent and could be expanded to include a wider range of patients prescribed insulin.

A financial review of the insulin spend within the trust has identified the potential to change practice, releasing the funds to potentially continue this role.

### **Learning (300 words maximum)**

One of the main aims of the competition is to enable learning and sharing of initiatives for the benefit of inpatients with diabetes. Use this section to outline any learning(s) that can be taken from the initiative(s) and/or challenges faced along the way that could be transferred to other Trusts looking at introducing similar initiatives.

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The main challenge was overcoming the preconceptions of the governance teams about the potential risk of a patient or visitor misappropriating insulin and causing harm to themselves or another patient. This was overcome by analysing the incident reporting system and communication with the national medicines safety officers. The confirmation that their concerns had not been a reality appeased this misconception. The other barrier that has been faced was concern from nurses about 'what if the patient gives the wrong dose', this is covered in the policy which details the action to be taken, and states that the responsibility does not lie with the nurse if the correct procedures for ensuring competence had been followed. The on-going concern is that patients are not assessed for competence or access to their insulin, that it is a passive process by which self-administration happens. The introduction of the pilot pharmacy service highlighted this, and this pilot is going to be expanded to investigate the continued acceptance and value of this service.

### **Feedback from staff and patients (300 words maximum)**

Please include a summary of any patient feedback and evaluations of the initiative(s). It will be helpful if you can provide (as supporting materials) the tools used to gather this information. If available please include summary of staff feedback to demonstrate their perspective on the initiative(s)' impact on the care of inpatients with diabetes in relation to improved insulin and prescribing safety.

During the focus group discussion and the informal discussion with self-administering patients they are very supportive of being able to continue administering their own insulin (see supporting materials).

Discussion between the pharmacist and patients during the audit and clinical reviews

indicated that this was a valued service. Future review will include a patient satisfaction survey.

Evaluation of the National Inpatient Diabetes Audit (NADIA 2010-2015), patients who were able and willing were asked to provide information on the management of their diabetes while they were in hospital. In 2015, 140 Patient Experience forms were returned. One site is below the national average for patient overall satisfaction with diabetes treatment whilst in hospital (79.8% vs 84.3%) and below the national average for doctors and nurses knowledge of diabetes enough to meet their needs (62.6% vs 65.5%). NaDIA 2013 identifies that 18.5% of patients prescribed insulin experience at least one prescription or management error. The results clearly indicate there is still much to be done to improve patient satisfaction and this will continue to be assessed.

Continual review of the Datix® reports will also be undertaken to assess impact of the pharmacist service. This work has been commenced in conjunction with Huddersfield University- part of the project has been submitted as a separate project.

The diabetes team have commented that this work will contribute to fewer harm events.

### **Supporting materials**

The judges' core assessment of your initiative will be based on this entry form. However, we do recommend that you **support your entry** with relevant materials, as these will be made available to the judges and are often the deciding factor in short listing the finalists.

Supporting materials could include: IT based programmes, pamphlets, booklets, audits, events, reports, journal articles, evaluation documentation, websites etc.

Supporting materials along with your entry form should be submitted by email to [christine.jones@nnuh.nhs.uk](mailto:christine.jones@nnuh.nhs.uk).

### **Closing date: 31.01.2017**

The winners of the Rowan Hillson Insulin Safety Award 2016: "Best joint pharmacy and diabetes team initiative to improve insulin and prescribing safety in hospital" will be published on the Association of British Clinical Diabetologists (ABCD), Diabetes UK and DISN UK Group websites and will appear and be referred to in future journal articles. By submitting your entry, you will be consenting to your initiative being used for these purposes.