

# Improving reporting of critical incidents through education and involvement.

Peter Donnelly  
Belfast Health & Social Care Trust.

## Abstract

Critical incident reporting involves highlighting events and near-misses which have a potential impact on patient care and patient safety. Reporting of critical incidents is a recognised tool in improving patient safety. Within the community paediatric setting in the Belfast Health & Social Care Trust (BHSC) there is a paucity of incident report forms. The purpose of this quality improvement project was to establish the barriers to reporting critical incidents and to implement plan-do-study-act (PDSA) cycles to create a climate for change.

The methodology for this project was to firstly perform a baseline audit to review all submitted critical incident reports for the Community Paediatric team in the BHSC for a six month period. A questionnaire was distributed to staff within the multidisciplinary team to establish examples of barriers to reporting. Interventions performed included introducing an agreed definition of a critical incident, distributing/presenting questionnaire findings to senior members of the various management teams and providing feedback to healthcare workers after presentation of a critical incident presentation. A review of incident reports was performed over the subsequent six month period to assess how the interventions impacted on incident reporting.

Over 12 questionnaires 28 barriers to reporting critical incidents were reported which fell into five separate categories. Staff members were twice as likely to report negativity after reporting a critical incident. Overall critical incident reporting within the BHSC Community Paediatric team improved from 11 incident reports (1.8 per month) to 22 incident reports (3.7 per month) after completion of the quality improvement project. This represents an increase of 100%.

## Problem

The Community Paediatric Team in BHSC-Northern Ireland carried out a review of incident reports for the period of February to August 2014. The purpose of this review was to identify areas for improvement and to enable the development of various quality improvement projects. A baseline audit was performed reviewing the incident reports submitted electronically for this period. This review identified a total of eleven incident reports. The peak month for incident reporting was March.

Due to the paucity of incident reports it was difficult to highlight a specific shortfall in practice in order to design a quality improvement project. As a result of this review it was decided to perform a quality improvement project to encourage incident reporting.

## Background

One Cochrane Review analysed four separate studies with the aim of reviewing interventions designed to increase clinical incident reporting in healthcare settings 1. This study reviewed the implementation of different reporting systems and found mixed results. The conclusion of this study found that it was 'not possible to draw conclusions for clinical practice'.

This quality improvement project differs as it does not rely on the introduction of a new reporting system but rather to create

improvements within an established system.

As a result of this review it was decided to conduct a quality improvement project aiming to improve the use of an existing system through education and feedback, exploring facilitators and barriers which may or may not include acceptability of the reporting systems. The author of this quality improvement was unable to find any research specific to incident reporting within the community paediatric population.

## Baseline measurement

For this project incident reports were reviewed from a database of incident reports submitted via an online reporting system used within the BHSC. Exclusion criteria confined the search to the community paediatric sites within the BHSC and subsequently highlighted 21 incident reports between December 2012 and August 2014. Further exclusion criteria was then applied to include only those forms submitted over a six month period between February and August 2014. This highlighted a total of 11 forms over a six month period. The 11 incident reports were further subdivided into the following categories; appointments (n=1), consent/confidentiality (n=1), patient information (n=6), IT/Infrastructure (n=2), Other (n=1).

## Design

A driver diagram was constructed to address how to approach improving incident reporting. Primary drivers identified for this project included a review of the definition of a critical incident and improving the culture of reporting through staff education and involvement. Secondary drivers included reviewing local policy and the literature to identify an agreed definition. A staff questionnaire was designed to identify barriers to incident reporting and to give an overview of staff awareness and the education that may be needed to improve incident reporting. The alteration of the system for reporting incidents was outside the remit for this project.

Clarifying an agreed definition of a critical incident was the starting intervention. It was felt that this would provide a sense of clarity in explaining the purpose of the project. This also opened up discussion amongst the community paediatric team and started the process of raising awareness and providing education.

The staff questionnaire facilitated fact finding among various multidisciplinary team members. This qualitative method was used to explore facilitators and barriers to incident reporting. This questionnaire also highlighted educational shortfalls within various departments which were relayed to senior management as one of the PDSA cycles.

It is hoped that exploring barriers to change will facilitate the introduction of interventions that will create a climate for change and the resulting change in ethos will lead to sustainable improvement.

## Strategy

**PDSA Cycle 1.** A literature review was performed to establish an agreed definition of a critical incident. Information came from various sources including other hospital trusts and the Royal College of Anaesthetists. The Belfast Trust was also contacted to supply an agreed definition. These definitions were discussed among the paediatric team and an agreed definition was agreed.

**PDSA Cycle 2.** A qualitative questionnaire was designed. The questionnaire was distributed amongst the multidisciplinary team within community paediatrics. The areas covered by the questionnaire included experience of reporting, use of the online reporting system, barriers to reporting, and feedback. This PDSA cycle provided the information for the subsequent PDSA cycle.

**PDSA Cycle 3:** Information leaflets and posters were introduced on notice boards as a further intervention. These posters gave team members instructions on how to use and access the incident reporting system. The purpose of this PDSA cycle was to address one of the barriers to reporting - 'unfamiliar with the reporting system'. Four of ten questionnaire respondents had identified this as a barrier to reporting.

**PDSA Cycle 4.** A critical incident reporting presentation was given to the management team and senior clinical team members of the multidisciplinary team. Junior medical staff were also present. Information from this presentation was filtered through to junior colleagues within the multidisciplinary team ensuring all members of

the team were fully informed of the findings. This presentation addressed attitudes and suggestions for improvement. Presenting data by itself was able to raise awareness of the issue of poor reporting.

**PDSA Cycle 5:** One of the main findings of the questionnaire was that team members did not receive feedback (eight of ten questionnaire respondents). Seven of the ten respondents reported they would like to receive feedback. To address this barrier to reporting increased emphasis was placed on providing feedback. This feedback was provided in the form of regular team meetings chaired by the Children's Network Manager for Community Paediatrics. At these meetings every incident report (including actions) are discussed. To ensure involvement with the multidisciplinary team and junior colleagues the minutes from these meetings were circulated to all staff. The purpose of this intervention was three-fold. Firstly to provide the feedback requested by the questionnaire respondents and secondly to address respondents concerns that completing incident reports was 'just another paper exercise'. The provision of subsequent actions taken after review of incident forms was an intervention aimed to address staff members apathy to incident reporting. This was highlighted as a key barrier to reporting.

**PDSA Cycle 6:** It was clear that education and involvement is key to improving incident reporting. To facilitate this the senior members of the multidisciplinary team set out to ensure 100% of staff have received training on the use of the incident reporting system. This intervention consisted of a short training session and aimed to address the fact that eight questionnaire respondents had reported not receiving any training at the beginning of this project. Having training on the reporting system will help ease the process of completing the incident form and address the barrier to reporting of 'time pressures'.

## Results

Incident reports were reviewed subsequent to the interventions over a six month period to allow comparison with the previous time period. As previously mentioned eleven incident reports were submitted from February to August 2014. Only two reports were submitted over the latter three months.

Incident reporting largely improved during the course of this quality improvement project. In August only one incident report was submitted. During this month the BHSC definition of a critical incident was agreed upon for use within the Community Paediatric Setting (PDSA cycle 1).

The agreed definition from the Belfast Health and Social Care trust was " Any event or circumstance that could have or did lead to harm, loss or damage to people, property, environment, or reputation."

A staff questionnaire was distributed in September 2014 (PDSA cycle 2).

In total 12 questionnaires were returned from specialties including

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physicians, occupational therapists, speech and language therapists, and nursing colleagues. Only four staff members reported observing a critical incident over the previous three months, three of whom submitted an incident report. This information tallies with the audit data which highlighted one incident report for each of the preceding three months. Of the three staff members who reported submitting incident forms, two reported feeling negative afterwards. One staff member felt 'unsure' and a second felt 'worried others would get in trouble'. Only one of the staff members reported feeling positively about submitting an incident report writing when she wrote 'I had done my job'. Two of the twelve questionnaire respondents revealed they were unaware of the online reporting system and half of respondents revealed they had never used it. This suggests that the majority of incident reports are being completed by a minority of staff. Awareness of the reporting system was targeted through the introduction of posters in staff areas (PDSA cycle 3) and also through ensuring all staff were trained in the use of completing incident reports (PDSA Cycle 6).

Eight members of staff revealed they had not had training on the use of the reporting system - this was a key part of the fourth PDSA cycle when feedback was given to senior colleagues and also PDSA cycle 6.

In terms of barriers to incident reporting there were 28 barriers selected within the 12 forms. These reasons can be divided into five categories as follows: time pressures (n=9), unsure of what constitutes a critical incident (n=7), apathy about reporting (n=5), unfamiliar with the reporting system (n=4), and scared of getting someone in trouble (n=3). Eight respondents reported never receiving feedback from incident reports. Seven respondents specifically commented that feedback on incident reports would be of benefit to improve patient care in the future. As a result of these barriers we implemented tests of change to address staff concerns. Ensuring staff members were trained on the use of the reporting system facilitated educating staff on how to complete the incident report in a timely manner - thereby addressing time pressures, as well as ensuring staff members were now familiar with the reporting system itself. The education session also explained what constitutes a critical incident as determined by our agreed definition (PDSA cycle 1). Apathy on incident reporting was addressed by providing regular feedback. This feedback was facilitated by PDSA cycle 5 whereby regular feedback of incident reports and subsequent actions was provided.

The agreed definition of a critical incident (PDSA cycle 1) was completed in August 2014. Following completion of the questionnaire during September (PDSA cycle 2) the number of incident reports increased to seven. This is felt to be a direct effect of increased awareness and education surrounding incident reporting. In October the level of incident reporting was sustained at five reports. Posters were positioned in staff areas at this time (PDSA cycle 3). There was concern regarding sustainability of results over November and December (two reports and three reports respectively) and as a result of this a feedback presentation was given in January 2015 (PDSA cycle 4). This presentation outlined earlier provided feedback and education to management and senior colleagues facilitating dissemination to junior staff. This

presentation halted the decline of incident reporting and the number of incident reports submitted was maintained at three for that month. It is important to note that the incident report itself was not adjusted in the course of this project as it was an agreed form already approved for use within the Trust. The purpose of this project was to facilitate improved compliance with the existing system.

PDSA Cycles 5 and 6 were long term tests of change and have aimed to provide long term ongoing education to the multidisciplinary team. Addressing staff training was completed in February 2015 after making senior multidisciplinary team members aware that staff had reported a lack of training in incident reporting. These PDSA cycles are long term strategies to improve reporting and as such have not provided a rapid increase in incident reporting. They may be considered unsuccessful PDSA cycles as they have not improved incident reporting however the aim of these interventions is to provide a longer term climate for change.

Each PDSA cycle was implemented with varying degrees of success in terms of improving incident reporting, however, in total 22 incident reports were submitted over the six months from August 2014 to February 2015. This represents an increase of 100% and shows that this quality improvement project has resulted in a global improvement.

See supplementary file: ds5601.png - "A run diagram showing the number of incidents reported during the project."

### Lessons and limitations

We learnt a lot of lessons during this project. It was interesting to read variations of a definition of a critical incident. It was certainly felt to be beneficial to highlight an agreed definition for future use within community paediatrics.

The main challenge faced during this project was regarding addressing apathy among the multidisciplinary team. Questionnaires were slow to be returned and this was encouraged via email reminders and personal request. In the future it would be of benefit to have an increased return of questionnaires to provide more suggestions for improvement however in terms of qualitative data we achieved an acceptable response rate.

The main limitation of this study is the short study period. Although incidents were reviewed over a considerable period it is perhaps optimistic to expect a change in ethos across a large range of health care professionals and across a range of sites in a health care trust. Sustainability can only be achieved through involvement of senior colleagues and that was the purpose behind our third PDSA cycle. Junior colleagues rotate into different clinical areas after a six month period and this can also impact on sustainability.

### Conclusion

This quality improvement project has resulted in increased reporting of critical incidents. This paves the way for future quality

improvement projects to be performed targeting areas of concern which will help improve patient safety across various disciplines.

Anecdotally the multidisciplinary team report being more confident in reporting critical incidents. This anecdotal evidence was evaluated further by completion of a post-project questionnaire. This questionnaire was completed by 10 members of the multidisciplinary team. A Likert scale was used during this questionnaire and established that eight questionnaire respondents 'strongly agreed' that they now felt more confident in reporting critical incidents. In addition to this seven questionnaire respondents felt they were now 'more aware of what constitutes a critical incident'. This shows that members of the multidisciplinary team have had benefit from this quality improvement project. Senior colleagues have taken useful information back to their various departments to ensure all staff are trained in reporting incidents using the current reporting system. It is clear from reviewing barriers to reporting that time constraints is a significant concern for those who complete incident forms however with experience of the system this may improve. There are barriers and difficulties with every reporting system and we must ensure staff are aware of the obligation to report incidents to facilitate a climate for change and improvement in patient safety.

It is difficult to assess the scale of improvement over a short period of time however it is hoped that leadership from senior colleagues will be of benefit in achieving sustainability.

## References

1. Parmelli E, Flodgren G, Fraser SG et al. Interventions to increase clinical incident reporting in health care. *Cochrane Database Syst Rev*. Author manuscript; available in PMC 2014 September 22. Published in final edited form as: *Cochrane Database Syst Rev*. 2012; 8: CD005609. Published online 2012 August 15.

## Declaration of interests

Nothing to declare

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## Ethical approval

This project was deemed an improvement study and not a study on human subjects, and ethical approval was not required.