Sustaining the commitment to Patient Safety Huddles over the longer term: insights from eight acute hospital ward teams undertaking patient safety huddles over two years in the UK.

Abstract

Background
A recent initiative in hospital settings is the Patient Safety Huddle (PSH): a brief multidisciplinary meeting held to highlight patient safety issues and actions to mitigate identified risks.

Aim
We studied eight ward teams who had sustained PSHs for over two years in order to identify key contributory factors.

Methods
Unannounced observations of the PSH on eight acute wards in one UK hospital were undertaken. Interviews and focus groups were also conducted. These were recorded and transcribed for framework analysis.

Findings
A range of factors contribute to the sustainability of the PSH including a high degree of belief and consensus in purpose, adaptability, determination, MDT (multidisciplinary team) involvement, a non-judgemental space, committed leadership and consistent reward and celebration.

Conclusion
The huddles studied have developed and shaped over time through a process of trial and error and persistence. Overall our study offers insights into the factors that contribute to this sustainability.

Key words

Key words: patient safety huddle, patient safety, hospital wards, multidisciplinary team working.

Key points

Patient Safety Huddles (PSHs) are brief multidisciplinary meetings involving discussion of patient safety issues and actions to mitigate identified risks are increasingly undertaken in UK hospital wards.

PSHs are reported as versatile, relatively low cost interventions which have a positive impact on patient safety

What is less known, and what this study sought to understand, are the characteristics and behaviours that sustain a PSH over time especially where it is not a mandated initiative.

The study found that key factors for teams committed to the PSH, were a high degree of belief and consensus in purpose, adaptability, determination, a non-judgemental space, strong and committed leadership and consistent reward and celebration. A commitment to and from Multidisciplinary Teams (MDTs) – a clinical decision making team comprising of more than one healthcare professional – was essential.

Reflective questions

In what ways might a patient safety huddle contribute to an improved patient experience?

How might patient safety huddles improve team work and communication between health care professionals?

What are the barriers and facilitators to instigating and maintaining the patient safety huddle?

Introduction

Patient safety remains a key priority for healthcare globally. In the UK, efforts to reduce adverse events through patient safety and quality improvement initiatives have increased (Vincent & Amalberti 2015). Serious incidents (Berwick 2013; Francis 2013), higher expectations and unsafe staffing levels have led to quality improvements in NHS hospitals A recent study found that a quarter of NHS wards routinely operate at unsafe staffing levels that threaten patient safety (Ball et al. 2019) making such initiatives imperative.

A recent initiative, predominantly in the USA, but increasingly in the UK, is the patient safety huddle (PSH): a brief multidisciplinary meeting involving discussion of patient safety and action to mitigate identified risks. PSHs are intended to enhance situational awareness of safety concerns on the hospital ward in real time, and thereby reduce adverse events. They draw on the practice of High Reliability Organisations (HROs) such as the nuclear and aviation industries (Weick et al 1999). PSHs are reported as versatile, relatively low cost interventions which have a positive impact on patient safety (Sikka et al. 2014; Larsen et al. 2011). A major impetus for initiating the huddle is often to reduce patient harms – falls and pressure ulcers for example – although the evidence varies. More consistently, PSHs are reported as promoting improved communication, awareness and teamwork and have been shown to improve safety culture (Glymph et al. 2015; Goldenhar et al. 2013).

What is less known, is an understanding of the characteristics and behaviours that successfully sustain a PSH over time especially where it is not a mandated initiative. In this study we focused on ward teams who had sustained PSHs for over two years to identify key factors that contributed to their commitment. We examined the characteristics and context for each ward, the contribution of positive behaviours to implementation and sustainability and adaptations of the PSH approach to ensure continuity and overcome barriers.

Background

Since June 2013 eight acute wards in one UK hospital have pioneered the use of PSHs. The PSH is seen as "…a 'vehicle' for daily, brief, frontline, non-hierarchical, multi-disciplinary, focussed discussion of a specific patient harm, led by senior clinical management and supported by quality improvement skills, coaching, data visualisation and feedback." see (Crosswaite, Faisal, et al. 2018). The operational definition of a PSH is as follows:

1. Takes place at the same venue and time every day
2. Is led by the most senior clinician
3. Includes a review of the number of days since the last harm
4. Includes a review of an improvement run chart
5. Includes a de-brief of any harms since the last huddle
6. Includes discussion of who is at risk today and what needs to be put in place
7. Participants are asked if anyone has any other concerns
8. Is short and sweet (≤0-15 minutes)

9. Is a non-judgemental and fear-free space.

The eight wards have sustained the use of PSHs for over two years. As such, they offered a unique opportunity for insights into the factors that contribute to their commitment.

Methods

The study involved a retrospective evaluation case study. It sought to address of the following questions:

1. What are the characteristics and context of each ward and of their PSH approach?
2. How have positive behaviours contributed to the successful implementation and sustainability of the PSH on each ward?
3. How have team leaders and multi-disciplinary healthcare teams adapted their PSH approach to ensure continuity and overcome barriers to sustainability?

A range of methods were utilised including:

1. Following an introductory meeting with ward or huddle leaders, unannounced visits to each ward (n=8) were undertaken over a two week period to observe huddles in action. Each observation was guided by the operational definition for the PSH and the Template for Interventions Description and Replication (TIDieR) checklist (Hoffmann et al. 2014). The aim of this checklist is to enable researchers to describe interventions in enough detail to permit their replication.

2. Interviews and focus groups with Multidisciplinary Teams (MDTs) and PSH leads.

   Healthcare team members (n= 13) voluntarily participated in either an interview or focus group. The roles of participants are shown in **Table 1.**

   Table 1: Roles of participants in interviews and focus groups (n=13)

Role in healthcare team	Number of participants
Consultants	2
Senior Registered Nurse e.g. Sister	8
Registered Nurse	2
Doctor's Assistant	1

   Interviews (semi-structured; 30-40 minutes) were conducted with ward or huddle leaders (n=9) by phone or face to face using a topic guide. Focus groups were conducted with members of the ward teams and guided by topics in line with the evaluation questions. Both were recorded and transcribed for framework analysis.

Results

(1) What are the characteristics and context of each ward and of their PSH approach? (Including the patient group, the multi-disciplinary healthcare team and description of the PSH).

(1a) Ward characteristics and context: observations

PSHs were observed in eight acute wards and included:

- Elderly Medicine – Admissions n=2
- Elderly Medicine n = 4
- Acute Medical Admissions n = 1
- General Medicine n =1

On one ward the PSH had been suspended – to accommodate a Virginia Mason Quality Improvement initiative - and was subsequently re-visited when it was reinstated. The PSHs observed were led by Consultants (n=2), Doctors (n=1), the Ward Sister (n=4) and a Senior Clinical Support Worker (CSW) (n=1). Across the eight PSHs there were 95 participants (an average of 12 participants per PSH). All of the PSHs had MDT participation (see Table 2).

Table 2: Participants in observed PSHs (lead role is highlighted in grey)

Ward	Consultant	Doctors	RN*	HCA/** CSW	Ward Clerk	House keeper	Discharge staff	AHP**	Other	**Total**
E2_01	1	4	**2**	-	-	-	-	2	-	**9**
E2_02	-	6	**4**	-	-	-		2	2	**14**
E2_03	**1**	4	3	-	-	-	2	1		**11**
E2_04	**1**	2	3	2	-	1	1	3	2	**15**
E2_05	1	**3**	4	4	1	-	1	2	-	**16**
E2_06	-	3	**4**	-	-	-	-	3	2	**12**
E2_07	-	-	2	**4**	-	-	-	1	-	**7**
E2_08	1	3	**4**	-	-	-	-	2	1	**11**

*Registered Nurses; ** Health Care Assistants/Clinical Support Workers; ***AHP- Allied Health Professionals

The PSH took place in different venues: at the nurses' station (n=3); the ward corridor (n=1); staff room (n=1) and doctors' office (n=3).

The PSHs all considered one or more of the key harms (falls, pressure ulcers and deteriorating patient) alongside a wide range of other harms or patient risks as shown in Table 3

Table 3: Harms and other risks reviewed as part of observed PSHs

	Ward E2_01	**E2_02**	**E2_03**	**E2_04**	**E2_05**	**E2_06**	**E2_07**	**E2_08**
Length of PSH (minutes)	14	5	5	10	10	8	4	10
Falls	✓	✓	✓	✓	✓	✓	✓	
Deteriorating Patient (NEWS or 2222 calls)	✓	✓	✓	✓	✓			✓
Pressure Ulcers			✓			✓	✓	
Skin condition				✓	✓			

Nutrition	✓			✓		✓	✓	
Infection/source isolation				✓			✓	✓
Cognition	✓			✓				
Discharges (and eDANs*)					✓	✓	✓	✓
Referrals					✓	✓		✓
Moving patients				✓				
New patients				✓				✓
Cannulas	✓				✓			
Insulin					✓			
Parkinson's Disease					✓			
Diabetes							✓	
Antibiotics review								✓
Pain management						✓		
Mental health	✓							
Total number of harms/risks	**6**	**2**	**3**	**8**	**8**	**6**	**6**	**6**

*Electronic Discharge Advice Note

While falls and deteriorating patient were the most frequent harms reviewed, identification of patients for discharge and infection control activities were also often included. The fidelity score for each ward is shown in Table 4 below along with the most prevalent characteristics across wards:

Table 4: PSH observation scores

Criteria	**Ward E2_01**	**Ward E2_02**	**Ward E2_03**	**Ward E2_04**	**Ward E2_05**	**Ward E2_06**	**Ward E2_07**	**Ward E2_08**
1. PSHs take place at the same time every day	✓	✓	×	✓	✓	✓	✓	✓
2. Led by most senior clinician	×	×	✓	✓	×	×	×	×
3. Review of number of days since last harm	×	✓	✓	✓	×	✓	×	✓
4. Review of improvement run chart	×	×	×	×	×	×	×	×
5. Debrief of any harm since last PSH	×	×	✓	✓	×	✓	×	×
6. Discussion of who is at risk today and what needs to be put in place	✓	✓	✓	✓	✓	✓	✓	✓
7. Participants asked if anyone has any other concerns about a patient(s)	✓	✓	✓	✓	✓	✓	✓	✓
8. PSH 'short and sweet'	✓	✓	✓	✓	✓	✓	✓	✓

9. Non-judgemental 'fear free' space	✓	✓	✓	✓	✓	✓	✓	✓
Observation score (ward specific):	**5**	**6**	**7**	**8**	**5**	**7**	**5**	**6**

The top scoring components were:

- discussion of who is at risk and what needs to be put in place,
- any other concerns about a patient(s),
- PSH 'short and sweet',
- Non-judgemental 'fear free' space.

The lowest scoring components were:

- Review of an improvement run chart
- PSH is led by the most senior clinician

Template for Intervention Description and Replication (TIDieR) checklist

The TIDieR Checklist was used to extend the information collected through each of the Evaluation Fellow observations. This provided further insights into fidelity and scope for replicating successful huddles. The results are shown below. They offer a more detailed overview of the characteristics of the PSHs observed.

Box 1: TIDieR Comments and Observations

TIDieR Category	**Details**	**Comments and observations**
Name	*PSH or other name*	Five out of the seven wards observed referred to the PSH as a Safety Huddle. Alternatives included 'Daily Safety Briefing' and 'Safety Briefing' and 'handover'.
Why	*Rationale e.g. improving patient safety, Teamwork and communication.*	In all wards review or overview of patients was the purpose of the huddle. Patients at risk, harms and discharge status (eDANs* or ready for discharge) were predominant concerns. Some of the PSHs observed included aspects of clinical care e.g. referrals, Parkinson's disease, Diabetes, and pain relief. Additional risks considered included: cognition, mental health issues, infections and source isolation, antibiotics, new patients and cannula.
What	*a. Materials used*	There was variation in the materials used. Six of the seven wards observed utilised whiteboards, with varying degrees of added measures (highlighting tools for example). The information on the whiteboards was sometimes aligned with the colour coded names of nursing teams. Most huddles

	b. Procedures undertaken	referred to paper patient lists. One ward had a poster on the wall that stated the time of the PSH and the role of the lead for each day of the working week. The majority of huddles were standalone events. One followed an MDT**meeting.
Who	*Participants (proportion contributing)*	The proportion of participants contributing to the huddle discussion varied from 40 to 100%. This included consultants, doctors, physiotherapists, nurses, discharge staff, doctor's assistants, pharmacists, housekeeping staff, Clinical Support Worker/Healthcare Assistants, students or apprentices and occupational therapists.
How	*Modes of delivery (verbal/written)*	All huddles were conducted verbally. Patient lists were referred to in most cases. Four wards incorporated an introduction of all participants.
Where	*Location*	The most popular locations for the huddle were the doctors' office or at the reception/nurses' station. One ward met in the corridor (site of whiteboard) and one in the staff room.
When and how much	*Number of times delivered, start time and duration*	The majority of huddles met between 9am and 10am every day. There was an even mix of wards that met five days/ week and seven days/week. One ward had no fixed time but it usually occurred following the MDT** meeting.
Tailoring	*Any adaptations made*	Changes made over time mostly related to length and content/scope of the huddle. One ward introduced a whiteboard and one ward sought to encourage shared leadership amongst all members of the team.
Modifications	*How has it been modified since first introduced*	This hadn't happened frequently. Time and focus had been modified in one ward's huddle, and time and harms approach in another. On one ward the huddle had been moved and merged with a handover meeting (the PSH had previously taken place before the Board Round).
How well	*Fidelity score*	Fidelity scores ranged from 5/9 (three huddles) to 8/9 (two huddles).
Intervention planned	*Delivered as planned on observation*	The majority of huddles – all except two - were delivered as planned.

*Electronic Discharge Advice Note

**Multi-disciplinary team

(1b) <u>Ward characteristics and context: interviews and focus groups</u>

Participants served to confirm that all observed PSHs on the embedded wards were consistently faithful to four of the components of the operational definition as identified from the observations.

These were:

'who is at risk today and what needs to be put in place?'

so everybody (at the PSH) knows who the unwell patients are.. E2_08 Sister

…. it's a time to …discuss any risks that might be happening for patient safety as a (multi-disciplinary) team. E2_05 Consultant

'any other concerns'

…I think the earlier you highlight stuff or there's concerns or [you] bring anything to light then it gets addressed quicker. E2_08 Focus group participant.

'short and sweet';

…direct, straight to the point…because there's no point going on and on because people will then lose track of what needs to be said. E2_07 Sister

'non-judgmental space'.

*I think the doctors are so supportive [of the PSH] the team are so supportive that no one feels that they can't speak up and lead the huddle.*E2_03 Sister

Staff found that the highly focussed nature of the huddle and the creation of a non-judgemental space ensured that rapid identification of risk (and action) was possible. Collaboration and open communication was prevalent. This was viewed as positive and so contributed to its sustainability.

The majority of PSHs began by focusing on falls and/or pressure ulcers but, over time, have added a wide and diverse range of additional harms to their check lists, including cardiac arrest calls (2222)

I think we started off with falls but we've add the pressure sores and we've added the 2222. E2_03 Sister

…..the Safety Briefing, [so] it just prompts the doctors when they're reviewing the patients to look [at] the antibiotics. E2_08 Sister

Multidisciplinary team (MDT) involvement was high:

I think [it's] very important that everyone's there, because you share different ideas, you have different opinions. E2_03 Sister

The use of materials/resources such as whiteboards, checklists and prompts demonstrate an established and sophisticated level of operation.

…everyone can see what bed number they're in and the other information's all there on the whiteboard now. E2_08 Sister

(2) How have positive behaviours contributed to the successful implementation and sustainability of the PSH on each ward?

The role of positive behaviours in ensuring successful and sustainable huddles was identified from ward or huddle leader interviews and the focus group discussions.

Huddle leaders play an important part in modelling the approach and facilitating the participation of new staff.

> *I don't think it needs to be led by the most elite, senior clinician every day, but I think it's important that sort of modelling of like, "this is what the purpose is and this is how we do it." But then we let the more junior …doctors often have a go. But I think you need that modelling.* E2_05 Consultant

> *...I don't do anything officially (to train new staff for the huddle) it's just more of a coaching type thing and just to encourage them really.* E2_06 Sister

Trial and error and the willingness to test operational aspects (for example, timing and location) were viewed as important at the beginning.

> *So we changed the time quite a few times to try to fit it in for everybody, because otherwise I found that is you were just getting very limited people present, people were treating it as a handover as opposed to a safety huddle.* E2_07 Sister

The commitment and persistence of huddle leaders at the point of implementation as well as the involvement of consultants and senior team served to reinforce and legitimate the huddle. Their ongoing participation then motivated staff and this helped shape and sustain it.

> *…some doctors weren't keen on leading it every day, but [the consultant] was like, "No, we've got to do it every day, let's try it in the morning, let's try it in between ward round, let's try it after MDT" so we did try it.* E2_03 Sister

> *…when you have a senior clinician there we have order in the room, …*E2_03 Sister

Recognition of the importance of MDT involvement for enhanced communication and teamwork was seen as vital for continuity and sustainability.

> *I think communication and awareness of who's the poorly patients on the ward is lost if you don't do the huddle.* E2_05 Consultant

> *That nurse from that team can come out and say "Can I ask for an opinion of the OT? Can I ask the doctor did you review this?"*E2_03 Sister

> *One of the housekeepers had said to the doctors "oh you know this [patient] has not eaten her breakfast and she keeps complaining of a hiccup pain"…and later on that day she was diagnosed with this really severe liver condition and the doctor said "I wouldn't have gone down that route if [the housekeeper] had not described [the] symptoms [the patient] mentioned this morning"* E2_06 Sister

This was regarded as contributing to promoting patient wellbeing and hence patient safety.

> *If I've got any concerns I raise them (with the doctors)…and then they prioritise and go and see them because obviously that patient will be more [of a] priority at the time.* E2_08 Sister

> *I think overall it's about the patient - it's a good patient experience. So the patients, what they need when they need it and there's less of a delay for them.* E2_03 Sister

Finally, reward and celebration (sharing reductions in harms data for example and showcasing the PSH to external personnel) supports the continued success and sustainability of the huddle.

> *So I think the fact that it worked (reduced falls), that was the driver.* E2_05 Consultant

> *…anyone who comes along to watch goes away often and says "Oh gosh that was really good, that was informative and that was quite inspiring*. E2_08 Sister

(3) How have team leaders and the multi-disciplinary healthcare team adapted their PSH approach to ensure continuity and overcome barriers to sustainability?

The longer huddles are embedded the more likely they are to be sustained. An important element of this is an emphasis on the reliability of their occurrence including the MDT's acceptance and recognition that the huddle is simply an everyday part of ward practice.

> *"This (the daily PSH) is what we do"* E2_03 Sister

> *…as new staff join, we explain to them that that's [the PSH] part of our daily ward round process, that this is how we do it*. E2_01 Sister

This mitigates and guards against disruption and change for example, in leadership, staffing and/or the imposition of alternative quality improvement initiatives.

> *I suppose if a new initiative came along, you'd question it, is it more valuable than what you've got? We initially were told that we should have our main meeting at the same time as the huddle. And I stood my ground and I put my foot down and said "No, this is how this works on this ward and this is what we want to do on this ward."* E2_08 Sister

Strong and committed leadership is a further sustaining factor and contributes to ensuring an effective and efficient huddle.

> *We found at the beginning, that actually [to] have a consultant lead it, was the most successful way to do it because they obviously have the respect of their junior doctor colleagues and it was an easier way of doing it. I think as time has rolled on, the nurse in charge has taken on that role much more because of how it's been seen to be successful.* E2_01 Sister

Discussion

Overall our study highlights a range of factors that contribute to PSH sustainability. These include a high degree of belief and consensus in purpose, adaptability, determination, a commitment to and from MDT involvement, a non-judgemental space, strong and committed leadership and consistent reward and celebration. Huddles are not mandated and so the commitment and sustainability observed in this study is testimony to the belief and confidence in its aim and purpose.

The PSH initiative has been sustained in the eight wards studied for at least two years. Staff were consistently clear about the aim, nature and purpose of PSHs. Complete fidelity with the operational definition of huddles was not always achieved but this did not undermine their use. There was a general consensus as to what the most important operational features are and a *high degree of belief* in the venture. This is something that has been identified in other, mostly US, studies (Goldenhar et al. 2013; Verschoor et al. 2007; Freitag & Carroll 2011; Donnelly et al. 2017; Glymph et al. 2015; Wagner et al. 2015). These characteristics are not fixed however. The huddles studied changed over time in the face of both internal and external disruption, and as a result of trial and error. This demonstrates a second key factor: the *adaptability and flexibility* of the huddle (Cracknell et al. 2016). Staff commitment to the PSH is high and so change is embraced rather than viewed as a threat.

A *determination* to 'get it right' accounted for some of these changes. This was illustrative of the commitment of huddle leaders to ensure the optimum conditions for its successful operation. Part of this involved *engaging high numbers of the multi-disciplinary team*.

The buy-in from MDTs was seen as key to ensuring patient safety. Including as many healthcare staff – clinical and non-clinical – as possible was seen as valuable in supporting and maintaining this (Menon et al. 2017). An important and related contributory factor was a commitment to *ensuring a non-judgemental and safe space* for all staff to speak up in. This is also identified by Cooper & Meara 2002, Provost & Mcdaniel 2012 and Goldenhar et al. 2013.

Strong and committed leadership is a key contributory factor in sustaining commitment to the huddle. Cooper and Meara (2002) suggest that it is imperative for someone to assume a leadership role, not in order to performance manage, but in order to facilitate its operation. This is at both the implementation phase and to secure ongoing participation and success. It is leaders who 'keep going' in the face of challenges, and who direct and encourage the nature and shape of the huddle. This is a significant factor in staff buy-in and in the high degree of belief that was identified.

A final factor is *celebrating success and offering reward*. An important element in this is the routine use of harms data to evidence their reduction (Cracknell et al. 2016; Crosswaite, Faisal, et al. 2018; Crosswaite, Montague, et al. 2018). This demonstrates the benefits for patient safety. External approval – senior management, outside visitors – supplements the 'feel good' factor and maintains belief in what staff are doing.

There are several limitations to our study. We have only studied those wards where huddles have been sustained and therefore our findings are necessarily limited. Secondly, this is only a small study; the original scaling up project involved 136 wards across five hospitals. It may be that there are wards where the huddle has not been sustained. We do not have insight into this. Finally, despite various attempts to recruit a wide range of health professionals for our focus groups – using posters, flyers, personal approaches and prompts - our numbers were small. Given the current health services pressure in the UK, this is perhaps not surprising. It does mean however that a wider range of health care professionals' perspectives is lacking.

Conclusion

Patient Safety Huddles in the eight wards studied were sustained for periods of over two years. Key factors for teams committed to the PSH were a high degree of belief and consensus in purpose, adaptability and determination. Additional factors included commitment to and from MDT involvement, a non-judgemental space, strong and committed leadership and consistent reward and celebration. We would recommend these as key considerations for any ward team seeking to introduce a PSH. The huddles studied have developed and shaped over time through a process of trial, error and persistence. This has required belief in the value of it in promoting patient safety. Overall our study offers insights into the factors that contribute to this sustainability.

Ethics Statement

The evaluation protocol was reviewed by the Research Governance Manager at Leeds Teaching Hospitals NHS Trust (February 2018). The proposal was categorised as 'service evaluation' and as such there was no requirement for submission to the NHS Research Ethics Committee or Health Research Authority for review or approval.

The evaluation protocol was also submitted to the Chair of the University of Bradford Ethics Committee for review as a supplement to the main HUSH evaluation. Approval was granted for the evaluation or go ahead (as outlined in the protocol) without revisions (20/02/2018).

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