# Barriers to and Incentives for Safety Event Reporting in Emergency Departments

Jeffrey R Brubacher, Garth S Hunte, Lynsey Hamilton and Annemarie Taylor


## Abstract

**Patient safety events (PSEs) are common in healthcare and may be particularly prevalent in complex care settings such as emergency departments (EDs). Systems for reporting, analyzing, learning from and responding to incidents are promoted as a means to reduce adverse events by facilitating feedback, learning and system change. However, only 4–50% of PSEs are reported. Under-reporting masks the true number of PSEs and may reduce our ability to learn from and prevent repeat events. The goal of this study was to identify barriers that prevent PSE reporting and incentives that encourage reporting.**

**Semi-structured interviews were carried out with front-line nursing staff and nurse managers in EDs across British Columbia to explore their perception of barriers to and incentives for PSE reporting. Interviews were recorded, transcribed, checked for accuracy and entered into NVivo 8 software. Data were analyzed thematically as they were acquired, and emerging themes were explored in subsequent interviews. One hundred six interviews were conducted with staff from 94 of the 98 EDs in British Columbia.**

**Six main barriers to PSE reporting were identified: (1) time constraints, (2) a sense of futility, (3) fear of reprisal, (4) a lack of education on PSE reporting, (5) reports being viewed as indicators of incompetence and (6) an inaccessibility of reporting forms. Incentives for reporting included valuing PSE reporting, the availability of alternative reporting pathways and feedback and visible changes resulting from PSE reports.**

**We identified barriers that restrain nurses from reporting PSEs and incentives that facilitate reporting. Our findings should be considered when developing systems to report and learn from PSEs.**


**The mean number** of reported PSEs was 140 per 100,000 visits (0.14%), suggesting marked under-reporting.

Patient safety events (PSEs) are unwanted or unexpected events occurring during medical care (Davies et al. 2003) and include near misses, no harm events and adverse events. In Canada, 7.5% of hospital admissions are associated with an adverse event, over a third of which are retrospectively deemed preventable (Baker et al. 2004).

Emergency departments (EDs) are complex healthcare environments that may pose a threat to patient safety (Croskerry and Sinclair 2001; Wears and Leape 1999). Between 1.5 and 5% of adverse events occurring during hospital admission are attributed to ED care (Fordyce et al. 2003; Wilson et al. 1995). EDs have been identified as having the highest proportion of "preventable adverse events" (Brennan et al. 1991; Fordyce et al. 2003; Thomas et al. 2000; Wilson et al. 1995).

The US Institute of Medicine promotes PSE reporting and learning systems for reducing PSEs (Kohn et al. 2000; Leape 2002). In order to be effective, the system must facilitate PSE reporting by staff and appropriate investigation and response from the organization. However, PSEs are under-reported throughout healthcare (Baker et al. 2004; Barach and Small 2000; Fordyce et al. 2003). Under-reporting reduces opportunities for shared learning and impedes the ability to implement system changes to prevent recurrence. Furthermore, under-reporting indicates that staff do not identify PSEs or choose not to report for other reasons.

This study explored PSE reporting in EDs in British Columbia. The goal was to explore barriers to and incentives for PSE reporting as perceived by front-line ED nurses and nurse managers.

## Study Setting

British Columbia's 4.1 million residents are spread across almost one million square kilometres, but 70% live in urban areas in the lower mainland or southern Vancouver Island. We defined an ED as a healthcare facility that accepts patients by ambulance for acute medical attention. Ninety eight facilities fit this definition and 94 participated in this study: 54 rural and 40 urban (serving a community of over 50,000). These ranged from small rural sites with one stretcher treating <800 patients per year to urban referral centres with 45 stretchers and 70,000 visits per year. One third (30/94) had no physician on site during some part of the day. At the time of the study, two sites had no PSE reporting form, one used an electronic reporting system and the rest used paper forms. Most forms had limited narrative space and used tick boxes to capture event information.

Managers reported that near misses, no harm events and minor injury events were rarely reported but that events associated with serious harm were "usually" or "always" reported. Pre-hospital events were not reported because they "wouldn't be our error" or "didn't happen on our site" but might be recorded in the medical record. Physicians seldom made PSE reports but might report an incident verbally to the charge nurse, write a letter or ask a nurse to report the event. Only eight sites had access to PSE statistics from the previous year. In these sites, the mean number of reported PSEs was 140 per 100,000 visits (0.14%), suggesting marked under-reporting. Several managers had not received any reports in the previous year, and most acknowledged that under-reporting was a problem.

## Methods

The research ethics boards of the University of British Columbia and all six BC health authorities approved this study.

Two phases of semi-structured telephone interviews were carried out with front-line ED nursing staff and nurse managers. In phase one (July 2007–April 2008), nurse managers were asked to describe the characteristics of their ED, their mechanisms for reporting PSEs, the content and format of current incident reporting forms, the estimated number of PSEs that were reported in a year, the person responsible for responding to incident reports, the typical trajectory and timeline of the response and how the reports were used for feedback learning.

Phase two interviews (March–December 2008) followed the "questerview" methodology, whereby participants complete a standardized questionnaire and their responses are used as prompts during an in-depth interview that explores the questionnaire domains in greater detail (Adamson et al. 2004). In this study, participants completed the Hospital Survey on Patient Safety Culture (HSOPSC). The HSOPSC is a standardized survey instrument developed by the Agency for Healthcare Research and Quality to measure hospital safety culture (Nieva and Sorra 2003). The interview explored participants' perceptions of their department's safety culture, including their perception of barriers to and incentives for PSE reporting. Additional details on PSE reporting and response were elicited with prompts and follow-up questions.

All interviews were audio-recorded, transcribed, checked for accuracy and entered into a qualitative computer software program (NVivo 8.0, QSR International Inc., Doncaster, Australia) to facilitate analysis for emergent patterns and themes. Data were analyzed as they were acquired, allowing themes that arose to be explored in subsequent interviews and emerging theories to be verified and refined. Two researchers independently listened to recordings and read transcripts noting emergent patterns and themes. Themes were compared, and different interpretations were resolved by consensus. Direct quotations from the interviews were used to illustrate these themes.

## Results

A total of 92 nurse managers (or designates) representing 94 of the 98 EDs were interviewed for an average of 25 minutes in phase one. Sixteen participants (11 front-line ED nurses, three nurse managers and two nurses in charge of quality assurance in their ED) completed phase two interviews, which lasted an average of 40 minutes. Thematic analysis of both sets of interviews identified six main barriers that discourage PSE reporting and three incentives that encourage PSE reporting.

### Barriers to PSE Reporting

The six barriers to PSE reporting were (1) time constraints, (2) a sense of futility, (3) fear of reprisal, (4) a lack of education on PSE reporting, (5) reports being viewed as indicators of incompetence and (6) an inaccessibility of reporting forms. Please refer to Table 1 for illustrative quotations.

#### Time Constraints

Time conflict between clinical workload and paperwork involved

**TABLE 1.**
**Barriers to patient safety event reporting**

**Time constraints**

Quotation one: "The doc and I agreed it was just too much paperwork." (Rural ED nurse)
Quotation two: "I don't want to do this. I'm already tired; it's the end of my shift. It was hell. This is an extra 15, 20 minutes of paperwork." (Urban ED nurse)
Quotation three: "There is a little blurb at the top where you can actually write in the specifics of the event, but then the rest is all dots. It's never-ending dots, and nobody ever fills it out right." (Urban nurse manager)
Quotation four: "Because, to be very honest, it's low on the priority unless it's a major event. I can have stacks of them sitting here, and it's when I can get a quiet moment to get to them." (Urban nurse manager)
Quotation five: "It can be so busy that they sit … if it is serious then it is a priority but small things could wait two months." (Urban nurse manager)
Quotation six: "It is up to the individual managers to decide if they are going to do something about it. Unfortunately, if you are really busy, you'll just fire it off to somebody else and then leave it as a statistic … you could actually let a pile of these things slide." (Rural nurse manager)

**Futility**

Quotation seven: "Because you get no response, you think, 'Why should I fill out a report?'" (Urban nurse manager)
Quotation eight: "But if it's something that's just negligent from the nurse, something that's just lack of judgment or attention, then we [other staff] usually wouldn't be advised of that." (Rural ED nurse)
Quotation nine: "[What] I've actually started doing this year is collecting my own data from the incident reports that I get, because I wasn't getting enough information back" (Urban nurse manager)
Quotation 10: "The ENCON [report form] to me just generates all these data that aren't all that useful. I don't see the use in it, and I just looked at it all." (Rural nurse manager)
Quotation 11: "I'm sure people wouldn't even notice if we didn't do them, if we threw them all in the garbage. You know, I don't know who's looking at them." (Urban nurse manager)
Quotation 12: "And I would like to see these come back to me; it seems like they go into a big void and you never hear anything back." (Rural nurse manager)
Quotation 13"Right now there is not a lot of satisfaction from filling out an incident report, other than their file is getting thicker." (Urban nurse manager)
Quotation 14:"Generally, I don't think we hear if there are changes made because, I don't know, I think things just probably get swept under the carpet, hoping that it won't happen again." (Urban ED nurse)

**Fear of reprisal**

Quotation 15: "Because you look at the piece of paper and, it's like, "Oh God, I screwed up again," you know? And none of us like to admit that." (Rural ED nurse)
Quotation 16: "I've filled in a form *against* a colleague, but it's a really hard thing to do. You really feel like you're hurting the team." (Urban ED nurse)
Quotation 17: "If it would be just me reporting on a particular set of events, I would feel like, 'Oh, maybe I'm stirring the pot,' and I wouldn't necessarily want to be placed in that role." (Rural ED nurse)
Quotation 18: "Well, I think a lot of it, I hate to say it, but actually has to do with those working … the actual people part. They're careless. Some are just careless and seem not to care. Or maybe they just don't think." (Urban ED nurse)
Quotation 19: "It is OK to make a mistake, but you need to come forward and admit to it." (Rural nurse manager)
Quotation 20: "If it is very serious, we would be bringing that person back in right away." (Urban nurse manager)
Quotation 21: "[The purpose of incident reporting is] to find the lack of knowledge, to identify the learning needs." (Rural nurse manager)
Quotation 22: "People are afraid to fill it out because they think it is a reflection of them." (Urban nurse manager)
Quotation 23: "There's still … this feeling that incident reports are blaming someone; it's taken many years to get peoples' heads around that it's not blaming." (Urban nurse manager)

**Lack of education**

Quotation 24: "I think when it [the incident form] first came out, there was an in-service on how to use it, but none since then." (Rural nurse manager)
Quotation 25: "I've not had any training on how important this (incident reporting) is. I'm sure it's important to someone higher up, but it is almost irrelevant to us." (Rural nurse manager)
Quotation 26: "So I think that managers do things by the seat of their pants and just learn by talking to other managers." (Urban nurse manager)
Quotation 27: "Well, I think that [training in PSE investigation] would depend on what you mean. We all got shown how to fill in those forms and how to do the follow-up [form]." (Urban nurse manager)
Quotation 28: "I think they feel it's small peanuts in the scheme of things." (Urban ED nurse)
Quotation 29: "I think it [whether a near miss is reported] depends on the nurse and how frightened she is by what almost happened." (Rural nurse manager)
Quotation 30: "I think there's not enough of a focus on reporting. I've even heard of incidents where a staff member has filled out a report and another one says, 'Oh you don't need to do it because the patient didn't die,' and they throw it away." (Urban nurse manager)

**Reports viewed as indicators of incompetence**

Quotation 31: "Everyone's for reporting. The problem is that when you start reporting, everyone then thinks you are running a bad unit." (Urban nurse manager)
Quotation 32: "And when he filled out the incident report and gave it to the manager in the morning, she tore it up in front of him." (Urban ED nurse)

in event reporting was the most frequently cited reason for not reporting a PSE. This factor is especially important during those times when nurses are most busy, which may also be when PSEs are most likely to occur (quotations one and two).

The PSE reporting forms contributed to the time barrier. Staff preferred to write a brief synopsis of the incident without taking the time to read the different check boxes and choose the most applicable option. Many managers noted that their form was complicated (quotation three).

Time constraints also impeded the ability of managers to investigate events promptly. Events resulting in a major injury were generally handled rapidly, but minor injury events sometimes waited weeks or months before being reviewed and often were simply "fired off as statistics" without any investigation, feedback or learning. There was no incentive to investigate reports in a timely manner, and other aspects of the managers' jobs were considered more pressing (quotations four to six).

**Several managers commented** that they had never been told what to do with reports and did not know if there was any system within the hospital or health region for dealing with reports.

### Futility

Many front-line nurses and nurse managers felt that incident reporting was ineffective. This sense of futility arose from (1) a lack of feedback from local managers to front-line nurses who filed a report, (2) a lack of feedback to managers who investigated a report and forwarded it higher levels of management or quality assurance departments and (3) a lack of visible changes or action in response to reports. Many front-line staff had never been contacted by their manager after submitting a PSE report and viewed this as an indication that reporting was unimportant (quotation seven). Often feedback was reserved for the individual staff member closest to the event (usually deemed "responsible"). This might include additional education or simply a reminder to be more careful. The rest of the staff did not learn from events in which they were not involved (quotation eight).

Often the only feedback that managers received was statistical reports that were received infrequently, were out of date, contained generalized data that did not apply to the department in question and were often considered irrelevant (quotations nine and 10).

Some managers reported that they simply filed incident reports and did not forward them on to a hospital or regional quality assurance department. Several commented that they had never been told what to do with reports and did not know if there was any system within the hospital or health region for dealing with reports. Some who did send them on to quality assurance departments noted that the only time they heard anything back was when a form was incorrectly completed and was returned for correction (quotations 11 and 12).

Front-line staff complained that there were few visible actions taken in response to incident reports, and managers noted that it was hard to encourage reporting when no obvious improvements resulted from reports (quotations 13 and 14).

### Fear of Reprisal

Front-line staff had negative associations with PSE reporting ranging from feelings of guilt for "writing up" a colleague to worry that they would be viewed as a complainer or could lose their job or their licence by "owning up" to a mistake. Others worried that the manager would hold the error against them or that other staff would treat them differently. Some front-line nurses believed that incidents were caused by careless individuals rather than by systemic problems (quotations 15–18).

Although managers stated that PSE reporting was not about assigning blame, some still used language that implied that they felt that the reporter was "responsible" for causing the event or required individual remedial education (as opposed to addressing system problems or treating an incident as a learning opportunity for the entire department) (quotations 19–21). Some managers acknowledged that front-line nurses still worried about being blamed (quotations 22 and 23).

### Lack of Education

Few sites had active education regarding patient safety and PSE reporting other than instructions on how to fill out the PSE form. This likely conveys the message that PSE reporting is unimportant (quotations 24 and 25). Few managers had specific training in PSE reporting and investigation. Some came to the job with experience in event investigation, often from an occupational health and safety perspective. Several had attended short training sessions as part of their own professional development. Most were unaware of official guidelines regarding follow-up processes and feedback to reporters, and some were unsure what they were supposed to do with the event reports they received (quotations 26 and 27). Lack of clarity on the purpose of reporting near-miss and no harm events likely contributes to under-reporting. Although some managers encourage near-miss reporting, such events were more often viewed as inconsequential (quotations 28–30).

### Reports Viewed as Indicators of Incompetence

If PSE reporting and learning systems were viewed as tools to improve patient safety, then reports would be valued as opportunities for feedback learning. However, some managers worried that

if they took steps to improve PSE reporting in their department, the increased number of reports would be viewed as evidence that they (or their team) were incompetent (quotation 31). Similarly, some front-line nurses felt that their manager discouraged reporting because the manager viewed PSE reports as being directed against the manager or department. One nurse witnessed her manager destroying an incident report (quotation 32).

### Inaccessibility of Forms

While most sites kept their forms in general use areas such as at nurses' station, some stored theirs in a locked nurses' room, rendering them inaccessible to non-nursing staff. One nurse manager kept PSE reporting forms in her office, and staff had to ask her for a copy. At several sites, staff didn't know where the forms were kept and had to ask others for help finding them.

An electronic PSE reporting system may make reporting more accessible. However, some managers and front-line nurses commented on the lack of privacy that computers in public spaces would provide to staff filling in electronic reports. Other sites noted that computer access in their department was already limited and that staff might find it difficult to find a computer that was available for the time required to complete an electronic incident form.

## Incentives for PSE Reporting

Incentives for reporting included valuing PSE reporting, the availability of alternative reporting pathways and feedback and visible changes resulting from PSE reports. Please refer to Table 2 for illustrative quotations.

### Valuing Reporting

Improving PSE reporting requires that the organization value this activity and provide resources to facilitate support reporting. This includes educating staff members on patient safety, the value of PSE reporting and on what to report (i.e., include near misses and no harm events) and providing staff with time to report incidents. This also requires training managers in how to respond to PSE reports and providing them with the resources to do so in a timely fashion (quotations 33 and 34).

Some departments encourage all staff to attend safety rounds that reinforce the importance of patient safety and the shared responsibility that all staff have in creating a safer environment (quotation 35). Other sites initiated "executive safety walk-arounds" (Budrevics and O'Neil 2005), where upper levels of hospital management visit the ED and listen to the safety concerns of front-line staff. Walk-arounds were considered to be an effective means of communicating safety concerns and typically resulted in concrete action plans. These events also demonstrate to front-line staff that hospital management wants to hear about safety problems and is concerned with what is happening in the ED.

### Availability of Reporting Pathways

Many departments provide informal alternatives for PSE reporting. Given the time barrier to reporting and the issues

**TABLE 2.**
**Incentives for patient safety event reporting**

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|---|
| **Valuing reporting** |
| Quotation 33: "We are building a culture here that says this is important. We want to hear about events that could prevent others." (Rural nurse manager) |
| Quotation 34: "We are trying to shift the culture to a non-blaming culture and deal with things right away, and also we have 'care chats' where we talk about mistakes or near misses." (Rural nurse manager) |
| Quotation 35: "Our safety round that we hold once a week, it's five minutes and it's the whole healthcare team, so that includes doctors, nurses, unit clerks, porter aids and housekeeping." (Urban nurse manager) |
| **Availability of reporting pathways** |
| Quotation 36: "Usually it's pretty informal. I gather them around the desk. A good time is shift changes – at least I have four of them there." (Rural nurse manager) |
| **Feedback and visible changes** |
| Quotation 37: "Even if I couldn't do anything, it was imperative that I talked to that staff member, to tell her the process I went through, if there was a roadblock or, "yes, I managed to do this, and this is how we could operationalize it." (Urban nurse manager) |
| Quotation 38: "What I've found is that – because they see something done right away on what they bring up, because we act on it, it's positive reinforcement – they've got things to tell me every week. At first they were like, "Oh, nothing's going to change. I'm not going to bother," but when they saw that changes were being made, they became more enthusiastic." (Urban nurse manager) |
| Quotation 39: "Well, in the paper [reporting] system, it's so difficult, and we used to call it our dirty little secret, because in our office we would have these stacks of incident reports … from a follow-up perspective, it's horrible. And so that's why something like safety huddles is fantastic because you are actually able to be in the moment." (Rural nurse manager) |
| Quotation 40: "So, I think the people who were there then when that change took place said, 'You know you guys, this does work and it's not negative; you don't have to be negative to fill out this form, you just have to be proactive.' That's the hardest thing to get across to people." (Urban ED nurse) |

that many staff had with their current reporting forms, it seems likely that these alternatives would encourage PSE reporting. Several sites used "safety huddles," which are especially suited for reporting near-miss events. These usually occurred weekly and were scheduled at the time of shift change to involve as many staff members as possible (quotation 36). Other alternatives included a whiteboard or flipchart in the staff area on which anyone could write concerns, and a drop box for anonymous reports. These alternative reporting pathways were generally parallel to and independent of the "formal" incident reporting system. One site implemented a telephone call centre where PSEs could be reported verbally to operators who would then enter the details into the formal reporting system. Incidents and safety concerns were sometimes also mentioned to the manager or nurse educator in informal conversations. Executive safety walk-arounds (discussed above) also provide an opportunity to report safety concerns. Managers felt that these alternatives provided an easy way for staff to share concerns that they felt did not warrant a formal incident report.

### Feedback and Visible Changes

Prompt feedback and changes implemented as a result of reports reinforces the value of reporting and generates awareness in patient safety (quotations 37 and 38). Feedback on reported incidents was sometimes provided to all staff during staff meetings or in special "debriefing sessions." In-service training was sometimes provided to all staff in response to a PSE report. Safety problems raised during safety huddles (see above) could often be addressed immediately (quotation 39). Warnings or reminders arising from PSEs were often circulated via e-mail, newsletters, in a communication book, on a dedicated "safety" flipchart or on posters around the ED. Several managers used point-of-care notices or warnings at locations where events had occurred or could occur. For example, several sites posted alerts about new drug packaging in the medication room. In a few instances, lessons learned from safety events at one hospital site were shared with other hospitals in the same health region. Staff at some sites viewed event reporting as a mechanism for advocating for their patients or for improved working conditions. These nurses expressed optimism and satisfaction with the process (quotation 40).

## Discussion

We have identified six barriers and three facilitators for ED PSE reporting (see Tables 1 and 2). Our findings are consistent with previous research conducted in other clinical domains where PSE reporting was found to be hampered by time constraints, a lack of feedback, fear of reprisals and a lack of patient safety education. Evans et al. (2006) surveyed 186 physicians and 587 nurses working in the intensive care unit (ICU), ED or in-patient wards in six Australian hospitals and found that the most frequently stated barriers to reporting were a lack of feedback, the belief that the incident form was too long, staff forgetting to make a report when busy and the belief that many incidents were too trivial to report. Kingston et al. (2004) conducted focus groups with medical and nursing staff from three Australian public hospitals and found that PSE reporting was hindered by time constraints, a lack of knowledge about what constitutes an incident, inadequate feedback following a report, a fear of legal risk, a culture of blame and a perceived lack of value in the process. Jeffe et al. (2004) conducted focus groups with staff nurses, nurse managers and physicians working in 20 US hospitals. Barriers to reporting included fear of reprisals, a lack of confidentiality, time constraints and a lack of feedback. Vincent et al. (1999) administered a questionnaire to 42 obstetricians and 156 midwives working in two UK obstetrical units and found that the main reasons for not reporting were fears that junior staff would be blamed, a high workload and the belief that the circumstances or outcome of a particular case did not warrant a report. Waring (2004) found that physicians had greater confidence in reporting systems when reports were clearly linked to service improvements. Chamberlain (2008) commented on the mixed message being sent when an institution claims to promote PSE reporting, while individuals fear retribution for making a report and units with more reports are viewed as less safe than those with fewer reports. Edmondson (2004) noted that departmental level efforts to improve the "climate of learning" must be supported at the top in order to succeed. Regular discussion of PSEs appears to increase staff awareness and encourage reporting. Pronovost et al. (2006) studied ICU PSE reporting and found that 22% (5/23) of participating ICUs contributed almost 60% of PSE reports in his study. All five of these ICUs discussed and reported incidents in their daily rounds.

### Implications

PSE reporting and learning systems have been advocated as means to improve patient safety by allowing feedback, learning and system change to prevent future events (Kohn et al. 2000; Leape 2002). For this to occur, incidents need to be reported, reports analyzed, feedback provided to all staff and appropriate and visible system changes implemented in response to PSE reports. The first step in this process is to encourage reporting by overcoming barriers to incident reporting and providing incentives. Our findings suggest strategies to improve PSE reporting that can be implemented at the departmental, hospital and health authority levels (Tables 3 and 4).

Within the individual department, managers can provide their staff with education on patient safety, the value of PSE reporting as a tool for positive change and what to report, how to report and what to expect when they do report. This education is likely to send the message that incident reporting is a

**TABLE 3.**
**Suggested solutions to help overcome barriers to reporting**

| Barrier | Solutions |
|---|---|
| Time constraints | Streamline PSE reporting process<br>Simplify reporting forms<br>Provide alternative reporting pathways (see Table 4)<br>Provide staff with time for reporting |
| Sense of futility | Ensure prompt investigation and feedback |
| Fear of reprisals | Have reports investigated by a "safety manager" not involved with staff hiring or discipline<br>Allow option of anonymous reporting |
| Lack of education | Provide education on the value of PSE reporting and on what events should be reported (i.e., including near-miss and no-harm events) |
| Viewing PSE reports as indicators of failure | Ensure reports are valued and units with more reports are viewed positively rather than as unsafe<br>Ensure that front-line staff and managers at all levels know that reporting is "safe" and that reports are for learning and not used to assess a department's safety performance.<br>Have statistical reports focus on learning and change rather than number of PSEs |
| Inaccessibility of reporting forms | Provide alternative reporting methods<br>Ensure reporting forms are readily accessible for all staff |

PSE = patient safety event.

valued activity. Prompt investigation, feedback in the form of visible system changes and communication with all staff to share learning from PSE reports all demonstrate that PSE reports result in positive changes and may overcome the futility barrier.

Alternative reporting pathways are often easy to implement and were identified as an incentive to reporting. Some alternative pathways, such as safety huddles, informal verbal reporting and telephone hotlines, may also overcome the time and access barriers. Although anonymous PSE reporting may limit the subsequent investigation (since the reporter cannot be contacted for additional information), offering the option of anonymous reporting (e.g., providing a drop box) may help overcome the fear barrier.

Despite stating that incident reporting is not about blame, some managers in this study used language that suggests that blame is still part of incident reporting. This sends a mixed message and may suggest that some managers perpetuate the "shame and blame" culture without even being aware that they are doing so. Overcoming the fear barrier may therefore be difficult. If resources permit, having reports handled by independent safety managers who are not involved with staff hiring, scheduling or discipline may reduce the fear of reprisal (Evans 2007). However, this is not likely to be sufficient unless managers view incident reports as valued learning opportunities and effectively communicate this message to their staff. This message may be conveyed more effectively if managers receive training on how to communicate with staff about difficult issues such as PSEs in ongoing leadership/manager training programs.

Higher levels of management will encourage PSE reporting if they view PSE reporting as favourable indicators of organizational safety performance rather than indicators of a safety problem. Units with more reports should be viewed favourably and initiatives to increase reporting celebrated and shared between departments and healthcare sites. Identification of "safety stars" (e.g., staff who report near misses) is a good way to demonstrate the value the organization puts on safety and reporting.

Prompt investigation of reports and appropriate feedback is a powerful incentive for incident reporting. To facilitate this, higher levels of management can ensure that safety managers receive training on how to investigate and follow-up on PSE reports, that they are given sufficient time and resources for this activity and that they know they are expected to investigate PSE reports promptly. At a hospital level, quality assurance teams can ensure that safety managers themselves receive a timely response to each PSE report they submit. Timely and appropriate response to PSE reports and a clear link between reporting and this response will help overcome the sense that incident reporting is futile.

Feedback from quality assurance teams to department managers is often in the form of statistical summaries. Without

**TABLE 4.**
**Examples of incentives for incident reporting**

| Incentives for Reporting | Examples |
|---|---|
| Feedback and visible change | Newsletters<br>E-mails<br>Communication books<br>Posters<br>Verbal feedback during safety huddles or rounds<br>Point-of-care warnings |
| Valuing reporting | Encourage reporting as a learning opportunity<br>Praise units that successfully increase reporting rates<br>Provide education to front-line staff on reporting as a component of patient safety<br>Provide education to upper-level management (leaders, executive, hospital boards) on increased reporting volume as a positive indicator of safety culture<br>Provide resources for reporting, report investigation and feedback<br>Employ executive walk-arounds |
| Alternative reporting pathways | Telephone safety reporting "hotlines"<br>Anonymous drop boxes<br>Whiteboards<br>Informal verbal communication<br>Safety huddles<br>Executive walk-arounds |

careful explanation, statistics on the number and type of incident reports are naturally interpreted as showing that units with more reports are less safe than those with fewer. If statistical summaries are distributed, they should be presented in a relevant manner with an emphasis on learning and system change, rather than on the number of events. This will help overcome the negative connotations associated with incident reporting or the view that incident reporting is a futile data-collecting exercise. Making reports available to front-line staff as well as managers may demonstrate that reporting is valued. Viewing reports through a lens that applies local context and interpretation is key to using the reports to drive improvement and learning. A central person or group cannot easily offer this perspective; having someone with patient safety expertise sit down to review the data with the local manager to allow a discussion within context is invaluable and promotes learning about safety and quality on the part of the manager.

Improving incident reporting requires a multi-faceted approach targeting different management levels. Evans et al. (2007) studied an intervention to improve PSE reporting in 10 control and 10 intervention units in six Australian hospitals. The intervention consisted of (1) education for front-line staff, (2) simplification of the incident reporting form, (3) provision of a call centre for PSE reporting, (4) improved feedback and (5) an effort to reduce fear of reprisals by allowing anonymous reporting and by having reports reviewed by a patient safety manager rather than the unit manager. Within participating EDs, this intervention resulted in an additional 39.5 reports per 10,000 visits. Pronovost used a similar multi-faceted approach that engaged executive leaders, team leaders and front-line staff to improve safety culture and reduce the rate of catheter-associated infections in ICU patients (Pronovost et al. 2006; Timmel et al. 2010).

## Limitations

Our data did not include direct observation, and we have no way of confirming the veracity of participant responses. In phase one, we recruited nurse managers or "designates" because they had the best understanding of PSE reporting in their department. Although managers may have a more positive view of safety culture in their department than other staff, many provided a critical assessment of the problems around PSE reporting. All interviews may be subject to a *response bias*, where participants choose what they feel is a socially acceptable response rather than stating what they actually believe. Because interviews were conducted by telephone, we were less able to pick up on non-verbal cues that this was happening. We facilitated in-depth responses by phrasing questions in a neutral way and by exploring responses with probes and follow-up questions. Finally, we chose to interview nurses since they do the vast majority of incident reporting in the departments we studied. This means that our findings may not apply to physicians or ancillary staff.

## Conclusion

Our interviews of ED nurses demonstrated multiple barriers

**TABLE 4.**
**Examples of incentives for incident reporting**

| Incentives for Reporting | Examples |
|---|---|
| Feedback and visible change | Newsletters<br>E-mails<br>Communication books<br>Posters<br>Verbal feedback during safety huddles or rounds<br>Point-of-care warnings |
| Valuing reporting | Encourage reporting as a learning opportunity<br>Praise units that successfully increase reporting rates<br>Provide education to front-line staff on reporting as a component of patient safety<br>Provide education to upper-level management (leaders, executive, hospital boards) on increased reporting volume as a positive indicator of safety culture<br>Provide resources for reporting, report investigation and feedback<br>Employ executive walk-arounds |
| Alternative reporting pathways | Telephone safety reporting "hotlines"<br>Anonymous drop boxes<br>Whiteboards<br>Informal verbal communication<br>Safety huddles<br>Executive walk-arounds |

careful explanation, statistics on the number and type of incident reports are naturally interpreted as showing that units with more reports are less safe than those with fewer. If statistical summaries are distributed, they should be presented in a relevant manner with an emphasis on learning and system change, rather than on the number of events. This will help overcome the negative connotations associated with incident reporting or the view that incident reporting is a futile data-collecting exercise. Making reports available to front-line staff as well as managers may demonstrate that reporting is valued. Viewing reports through a lens that applies local context and interpretation is key to using the reports to drive improvement and learning. A central person or group cannot easily offer this perspective; having someone with patient safety expertise sit down to review the data with the local manager to allow a discussion within context is invaluable and promotes learning about safety and quality on the part of the manager.

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## Conclusion

Our interviews of ED nurses demonstrated multiple barriers

that inhibit staff from reporting PSEs: time constraints, the sense that reporting is futile, fear of reprisals, lack of patient safety education, a negative connotation associated with reports and inaccessibility of reporting forms. These barriers may be overcome by providing the incentives for incident reporting that we identified: valuing and encouraging incident reports, providing alternative reporting pathways and responding to reports with prompt feedback and visible change. These strategies can be implemented at several managerial levels including the individual department level. For these changes to be implemented effectively, PSE reports need to be valued as opportunities for learning and as a marker of a safety conscious unit, rather than viewed as indicators of failure. HQ

**Acknowledgments:**

This study was funded by a grant from the Canadian Patient Safety Institute.

Dr. Brubacher's research is supported by a Clinician Scientist Award from the Vancouver Coastal Health Research Institute.

## References

Adamson, J., R. Gooberman-Hill, G. Woolhead and J. Donovan. 2004. "'Questerviews': Using Questionnaires in Qualitative Interviews as a Method of Integrating Qualitative and Quantitative Health Services Research." *Journal of Health Services and Research Policy* 9: 139–45.

Baker, G.R., P.G. Norton, V. Flintoft, R. Blais, A. Brown, J. Cox et al. 2004."The Canadian Adverse Events Study: The Incidence of Adverse Events among Hospital Patients in Canada." *Canadian Medical Association Journal* 170: 1678–86.

Barach, P. and S.D. Small. 2000. "Reporting and Preventing Medical Mishaps: Lessons from Non-medical Near Miss Reporting Systems." *BMJ* 320: 759–63.

Brennan, T.A., L.L. Leape, N.M. Laird, L. Hebert, A.R. Localio, A.G. Lawthers et al. 1991. "Incidence of Adverse Events and Negligence in Hospitalized Patients. Results of the Harvard Medical Practice Study I." *New England Journal of Medicine* 324: 370–76.

Budrevics, G. and C. O'Neil. 2005. "Changing a Culture with Patient Safety Walkarounds." *Healthcare Quarterly* 8(Special Issue): 20–25.

Chamberlain, N. 2008. "The Folly of Rewarding Silence While Hoping for Open Reporting of Adverse Medical Events – How to Realign the Rewards." *New Zealand Medical Journal* 121: 58–66.

Croskerry, P. and D. Sinclair. 2001. "Emergency Medicine: A Practice Prone to Error?" *Canadian Journal of Emergency Medicine* 3: 271.

Davies, J.M., P. Hebert and C. Hoffman. 2003. *The Canadian Patient Safety Dictionary.* Ottawa, ON: The Royal College of Physicians and Surgeons of Canada.

Edmondson, A.C. 2004. "Learning From Failure in Health Care: Frequent Opportunities, Pervasive Barriers." *Quality and Safety in Health Care* 13(Suppl. 2): 3–9.

Evans, S.M., B.J. Smith, A. Esterman, W.B. Runciman, G. Maddern, K. Stead et al. 2007. "Evaluation of an Intervention Aimed at Improving Voluntary Incident Reporting in Hospitals." *Quality and Safety in Health Care* 16: 169–75.

Evans, S.M., J.G. Berry, B.J. Smith, A. Esterman, P. Selim, J. O'Shaughnessy et al. 2006. "Attitudes and Barriers to Incident Reporting: A Collaborative Hospital Study." *Quality and Safety in Health Care* 15: 39–43.

Fordyce, J., F.S. Blank, P. Pekow, H.A. Smithline, G. Ritter, S. Gehlbach et al. 2003. "Errors in a Busy Emergency Department." *Annals of Emergency Medicine* 42: 324–33.

Jeffe, D.B., W.C. Dunagan, J. Garbutt, T.E. Burroughs, T.H. Gallagher, P.R. Hill et al. 2004. "Using Focus Groups to Understand Physicians' and Nurses' Perspectives on Error Reporting in Hospitals." *Joint Commission Journal on Quality and Safety* 30: 471–79.

Kingston, M.J., S.M. Evans, B.J. Smith and J.G. Berry. 2004. "Attitudes of Doctors and Nurses towards Incident Reporting: A Qualitative Analysis." *Medical Journal of Australia* 181: 36–39.

Kohn, L., J. Corrigan and M.S. Donaldson; Committee on Quality of Health Care in America. 2000. *To Err is Human: Building a Safer Health System.* Washington, DC: National Academy Press.

Leape, L.L. 2002. "Reporting of Adverse Events." *New England Journal of Medicine* 347: 1633–38.

Nieva, V.F. and J. Sorra. 2003. "Safety Culture Assessment: A Tool for Improving Patient Safety in Healthcare Organizations." *Quality and Safety in Health Care* 12(Suppl. 2):17–23.

Pronovost, P.J., D.A. Thompson, C.G. Holzmueller, L.H. Lubomski, T. Dorman, F. Dickman et al. 2006. "Toward Learning from Patient Safety Reporting Systems." *Journal of Critical Care* 21: 305–15.

Thomas, E.J., D.M. Studdert, H.R. Burstin, E.J. Orav, T. Zeena, E.J. Williams et al. 2000. "Incidence and Types of Adverse Events and Negligent Care in Utah and Colorado." *Medical Care* 38: 261–71.

Timmel, J., P.S. Kent, C.G. Holzmueller, L. Paine, R.D. Schulick and P.J. Pronovost. 2010. "Impact of the Comprehensive Unit-Based Safety Program (CUSP) on Safety Culture in a Surgical Inpatient Unit." *Joint Commission Journal on Quality and Patient Safety* 36: 252–60.

Vincent, C., N. Stanhope and M. Crowley-Murphy. 1999. "Reasons for Not Reporting Adverse Incidents: An Empirical Study." *Journal of Evaluation in Clinical Practice* 5: 13–21.

Waring, J.J. 2006. "A Qualitative Study of the Intra-Hospital Variations In Incident Reporting." *International Journal for Quality in Health Care* 16: 347–52.

Wears, R. and L.L. Leape. 1999. "Human Error in Emergency Medicine." *Annals of Emergency Medicine* 34: 370–2.

Wilson, R.M., W.B. Runciman, R.W. Gibberd, B.T. Harrison, L. Newby and J.D. Hamilton. 1995. "The Quality in Australian Health Care Study." *Medical Journal of Australia* 163: 458–71.

## About the Authors

**Jeffrey R Brubacher**, MD, MSc, is a member of the Department of Emergency Medicine, Faculty of Medicine, University of British Columbia

**Garth S Hunte**, MD, PhD, is a member of the Department of Emergency Medicine, Faculty of Medicine, University of British Columbia

**Lynsey Hamilton**, MSc, works at the University of British Columbia

**Annemarie Taylor**, RN, MA, is provincial director, British Columbia Patient Safety & Learning System